Universities

Research Journal

Universities

Research Journal

Universities Research Journal 2020
Vol.13, No. 2

Educational Psychology, Educational Methodology, Educational Theory, Physical Education and School Health, Linguistics, Chinese, French, Russian, Japanese & Thai

Editorial Board

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Follow up Studies for Diagnostic Assessment Procedure

Khin Hnin Nwe [*]

Abstract

The purpose of the study was to conduct follow up studies for learning diagnostic assessment procedure. This procedure is second phase of diagnostic assessment model proposed in 2006. A mix method was used with quantitative and qualitative perspectives. 10 case studies in 2009, 100 teacher educators for 2010 study, 1085 high school students in 2012 study, 36 grade 10 students for 2013 study, 400 primary students for 2016 study, and 1000 grade 10 students for 2019 study were participated. It was found that the diagnostic assessment was the most effective and advantageous approach for slow learners and error pattern analysis was an effective tool for remediation. Based on the findings the second phase of diagnostic assessment model has been improved. Including error pattern analysis, it should enable the teachers to identify the special weaknesses of students and then, to promote teaching learning situation for every grade and every subject.

Keywords: Assessment, Diagnostic Assessment, Learning, Slow Learner, Remediation

Introduction

It is evident that assessment is a critical component of education. To get the necessary information about students, the teachers need to select or create assessing procedure. Using a diagnostic assessment procedure, the educator may find that the students already know a concept in the current course and can demonstrate good skills with that concept before receiving instruction. A proper diagnostic assessment procedure will even suggest what kind of instruction is most likely to be effective.

Purpose of the Study

The purpose of the present study is to conduct follow up studies for learning diagnostic assessment procedure.

[*] Professor and Head, Dr., Department of Educational Psychology, Yangon University of Education

Definitions of Key Terms

Diagnostic Assessment. Diagnostic assessment is an evaluation of a learner's skills, strengths and weaknesses (ERIC, 2002).

Slow Learners. Slow learners, who are defined as "children who are doing poorly in school, yet are not eligible for special education". They want to learn new things but have to face difficulty in learning and remembering new concept quickly (Shaw, Grimes & Bulman, 2005).

Slow Learners. Slow learners are the students who find difficult to keep pace with their classmates. Slow learners are not mentally retarded, but are capable of achieving academic success at a slower rate compared to normal or regular class students only (Singh , 2004).

Remediation. Remedial teaching concerned with the correction of faulty study habits and the raising of a pupil's general competence (Syariful Anwar, 1986:1.2)

Diagnostic Test. Diagnostic test can be defined as an assessment mainly used to identify strengths and weaknesses towards any subjects of learning (Zhao, 2013).

Error Pattern. Categorization of errors having significant element in common. Error patterns taken for study are namely regrouping, directional, attention to sign, placement, omission, guessing (Joshi, 2011).

Error Analysis. Error analysis is an effective assessment approach that allows ones, especially teachers, to determine whether students are making consistent mistakes when performing computation (Egodawatte, 2009). Error analysis is a type of diagnostic assessment that can help a teacher determine what types of errors a student is making and why. More specifically, it is the process of identifying and reviewing a student's errors to determine whether an error pattern exists - that is, whether a student is making the same type of error consistently (Brown, Skow K & the IRIS Center, 2016).

Error Pattern Analysis. Error pattern analysis is an assessment approach that allows the teacher to determine whether students are making consistant mistakes when performing basic computation. By pinpointing the pattern of an individual student's error, she/he can then directly teach the correct procedure for solving the problem. While there are common errors that

students with learning problems make, students may demonstrate error patterns that are individual specific (Kroll & Schafer, 1978).

Review of Related Literature

The proposed diagnostic assessment model includes four phases: identification, diagnosis procedure, remediation, and evaluation. For each phase of the diagnostic assessment process, the model explains strategies and instruments needed to use in practice. Feedback is also linked with all phases of the model (Khin Hnin Nwe, 2007).

The initial phase is identification. It is concerned with the question: whether a problem exists. When a student or students are displaying problems or having difficulties, the problem may arise. It may be noticed from formal assessment or informal assessment or from both. This first section addresses identifying or selecting students who need remediation.

Second phase indicates an investigation and identification of the cause or nature of the problem. The teachers can select or create and apply assessing instruments such as diagnostic tests, observation, interview, and case study. When the teachers can target the specific academic weaknesses of their students they can make personal plans for effective remediation.

After diagnosis procedure third phase, remediation comes. Based on the diagnostic assessment results, each student who has a deficit is given required remediation. Effective remediation depends on how well the teacher plans. Remediation may be made or can be made as a remedial class, or group remediation or individualized remediation. At least, even individual attention increases the slow learner's learning. In 2005-2006 study, individualized remediation was the most effective way.

Fourth phase, evaluation is essential for determining effectiveness of any remedial instruction. Through evaluation it can determine the extent to which objectives are attained, and the effectiveness of learning experiences providing in the remediation.

Last feature, feedback is also linked with all phases of the model. The learners, teachers, parents and all participants will be provided with their progress. It is tended to that classroom teachers can apply this model. Teacher-made instruments are emphasized.

Formal Assessment

IDENTIFICATION

Informal Assessment

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Diagnostic tests

Observ
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DIAGNOSIS PROCEDURE

Intervie
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Case study

Individualized Remediation

Group
Remediation

EMEDIATION

Remedial
Class

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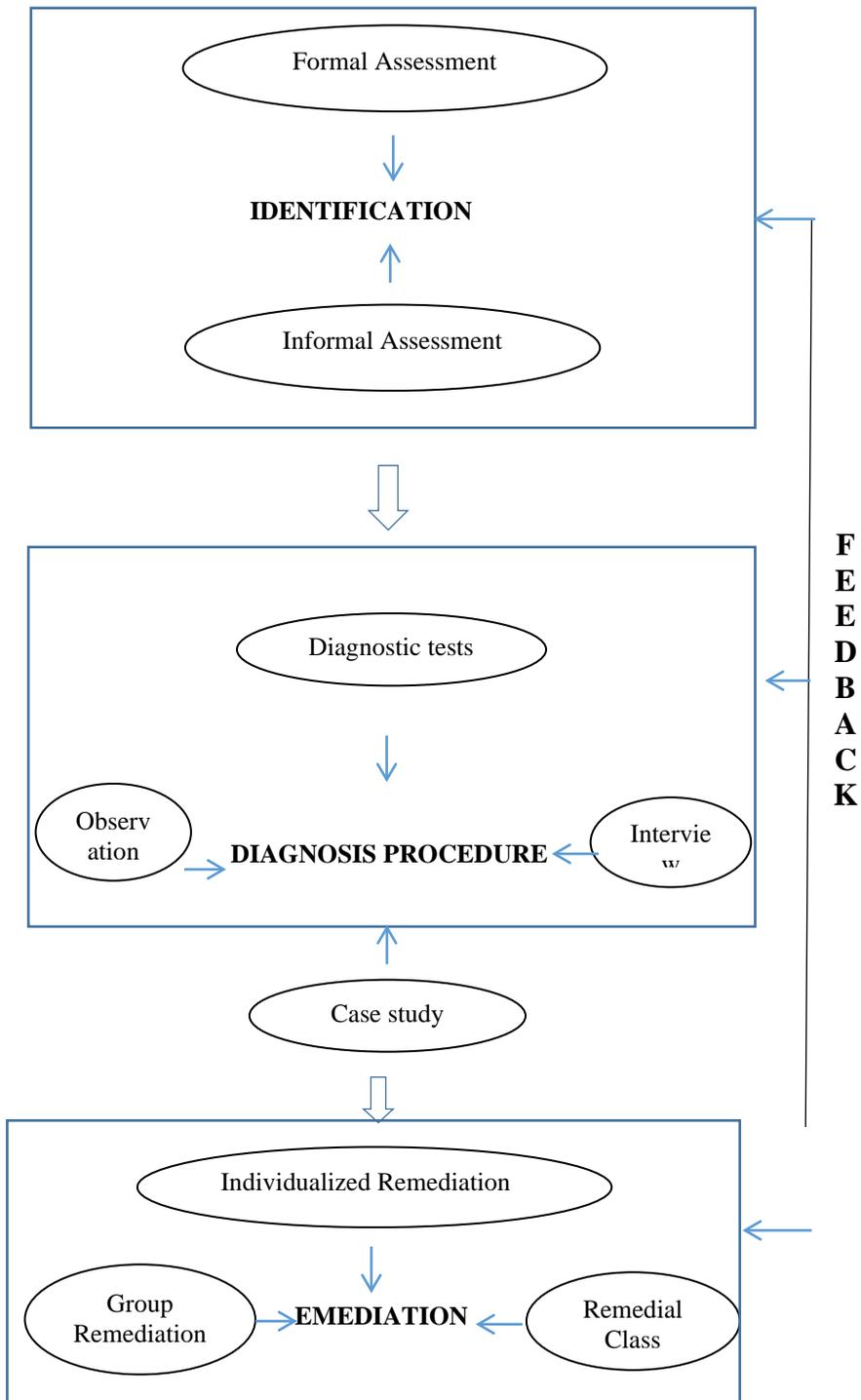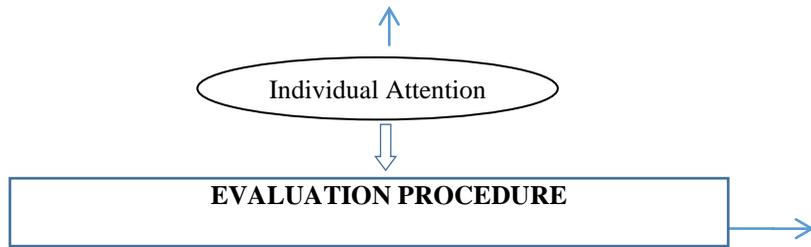
A Diagnostic Assessment Model for Learning

Method and Procedure

A mix method was used in this study with quantitative and qualitative perspectives. In model validation, the researcher identified students who need remediation, using inference of their parents, teachers, and family members. For diagnosis procedure, attitude scale, diagnostic tests, observation, interview, documentary analysis, error pattern analysis and case studies were used. To make remediation, remedial class, remedial group, and individualized remediation were applied. The opinions on the diagnostic assessment model were acquired from the experienced teacher educators (professors, associate professors, lecturers, and assistant lecturers) of Universities of Education.

Participants

The first follow up study was conducted by 10 case studies in 2009. The opinionnaires was used to collect data from 100 experienced teacher educators for 2010 study. 1085 high school students were participated in 2012 study, 36 grade 10 students for 2013 study, 400 primary students for 2016 study, and 1000 grade 10 students for 2019 study.

Instruments

In this study attitude scale, diagnostic test, remediation procedure, observation, interviewing, error pattern analysis, opinionnaires and case study outlines were used to collect data.

Results and Findings

In the one year (2009) case studies, all available data about 10 selected students were surveyed, and the significant items were assembled, organized, and studied in order that the nature and the causes of difficulties could be discovered and that treatment designed to remove these difficulties could be planned and carried out. After one year the findings were substantiated, revised, and reconfigured three factors; cognitive, motivational and affective.

In 2010, 100 teacher educators from Yangon University of Education and Sagaing University of Education gave responses to opinionnaires. 90% of them had positive attitude and good opinions towards the Diagnostic Assessment Model and the said that the model would be helpful for teachers in assessing all school subject areas.

The 2012 study was to examine the effect of Diagnostic Assessment for Grade 10 slow learners in Physics. The number of respondents was 1085 students (491 males and 594 females). The slow learners were identified by using three screening methods: attitude scale, teacher's assessment and academic achievement test. After identification of the slow learners, the diagnostic test was used to explore their background knowledge and the nature and causes of difficult areas. And then, remediation was implemented, and qualitative follow up study (36 slow learners in 2013) was conducted by semi-structured interview and continuous assessment. In these studies, it was found that the diagnostic assessment was the most effective and advantageous approach for slow learners and error pattern analysis was an effective tool for remediation.

The 2016 study is to analyze the error patterns for diagnostic assessment in primary mathematics learning, especially in addition and subtraction of fractions. The sample was the 400 (207 males & 193 females) Grade 5 students from Yangon Region. It was found that the students demonstrated with the highest percentage of the error related to the converting the whole number to improper fraction (21.9%), followed by the error related to the reducing of fraction (20.5%), and 12.5% of converting the improper fraction to mixed fraction. The other errors were random error (9.5%), careless error (6.6%), the error of converting from mixed fraction to improper fraction (5.1%), and the error related to the finding lowest common denominator (4.5%) respectively. The results of the error analysis revealed an overall lack of experience with basic fraction concepts. Then,

the results of this analysis magnify the existence of a problem in the learning of mathematics that must be rectified.

In 2019 study the sample consists of 1000 Grade 10 students (500 males and 500 females). Based on the analysis of errors in Physics Diagnostic Test, six types of common errors have been identified as a whole. The errors included were conceptual error, communication error, operational error, error by insufficient information, mathematical error, and algorithmic error. These errors were related to a student's lack of knowledge or a misunderstanding, lack of translational skill to communicate the required concepts with the respective item, insufficient knowledge, operating incorrect procedure in employing the appropriate concepts and misunderstanding or erroneous applications of mathematical rules.

Improving the Second Phase, Diagnosis Procedure

Based on the findings of the follow up studies, the Diagnosis Procedure, the second phase of the Diagnostic Assessment Model has been improved as following figure.
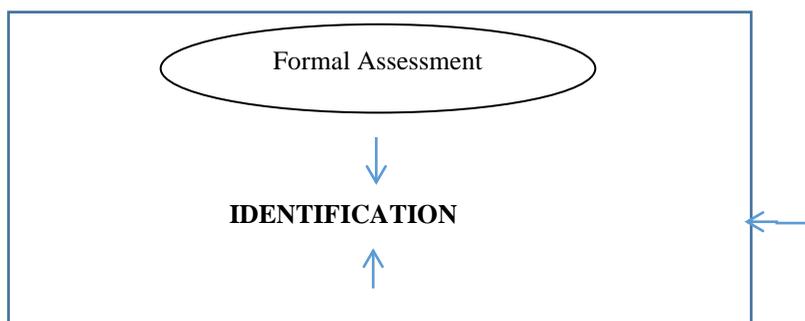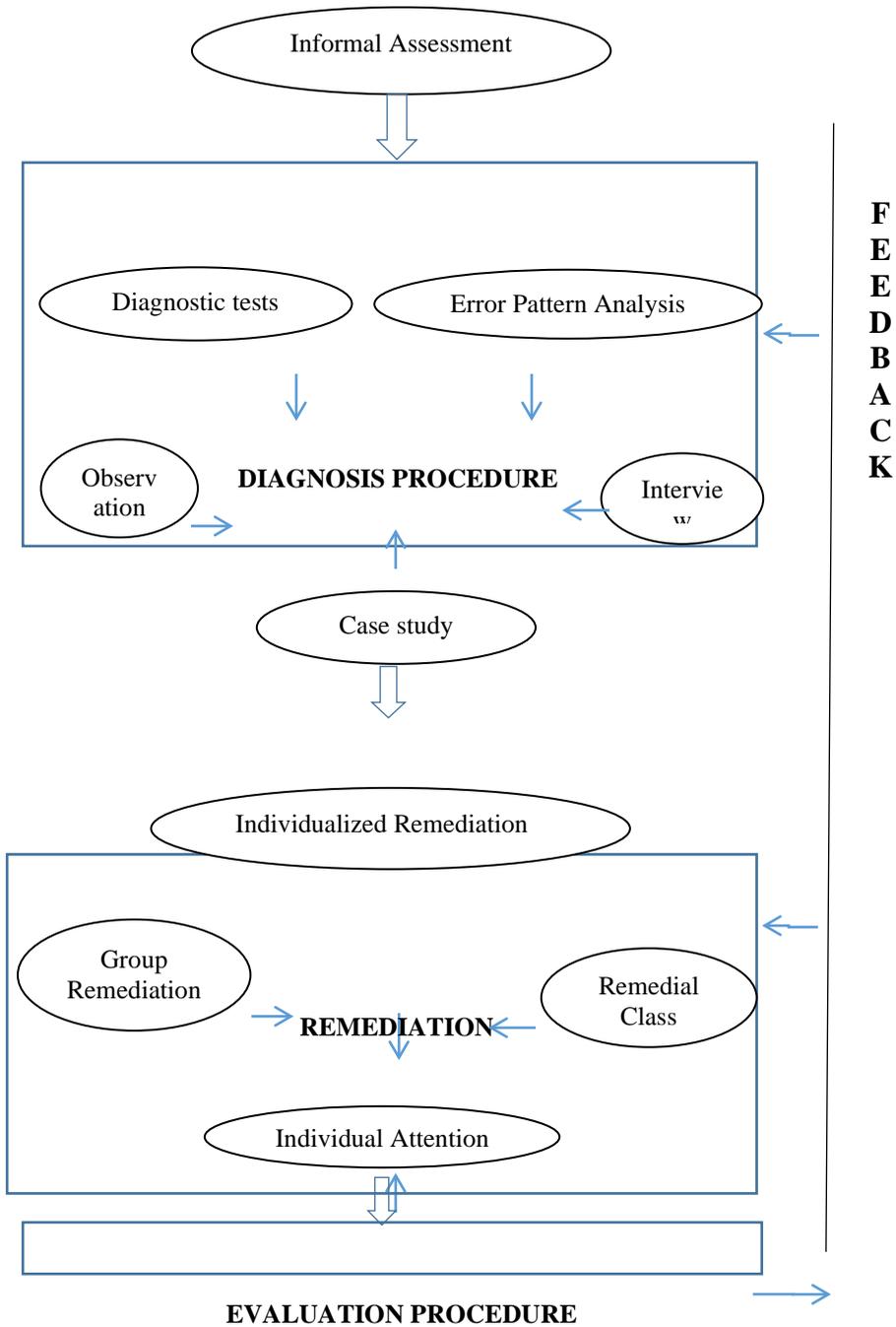
A Diagnostic Assessment Model for Learning (Improved & Modified)

Conclusion

Because of proper diagnosis procedure, the diagnostic assessment model developed in this study, could address the so many questions for learning difficulties. Using it the classroom teachers would become to know what topics are causing the most difficulty for the student, which materials seem to help and which inhibit, whether or not the teachers modify assessment procedures, what conditions effect the learning process, how the classroom environment influences the achievement of students' learning, how the school climate and structure affect the students' desire to participate in the learning activities, and so on. Therefore, the Diagnostic Assessment Model would enable the classroom teachers to improve their pedagogical skills, especially assessment skill.

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Test Anxiety of High School Students Having Different Mental Abilities

Khaing Thiri Mon[1] & Myint Myint Mar[2]

Abstract

This study was designed to investigate test anxiety of high school students having different mental abilities. The sample comprised 741 (313 males and 428 females) Grade 10 students from eight Basic Education High Schools in Yangon Region and Ayeyawaddy Region. They were administered by using two instruments: Test Anxiety Inventory (Spielberger, 1980) and Otis Self-mental Administering Test for Mental Ability (Otis, A.S.; 1928). Based on the results from these instruments, descriptive statistics, independent sample t-test, One-way ANOVA were used to analyze the data. The result of high school students' test anxiety in different intelligent groups were compared by gender, schools and regions. According to the results, it was found that test anxiety of male and female students was different. According to the different intelligence groups, there were significant differences between male and female students for the test anxiety.

Keyword: Test Anxiety, Mental Abilities, High School Students

Introduction

Education is vital for every country in the world. Effective education can help boost the development of the country. It is a fact that a nation's progress depends upon its students' academic achievements and development. That's why every nation emphasizes students' academic achievements. The academic achievements of the students are badly affected due to increase in test anxiety. There is no denying to the fact that test anxiety has increased in the society it not only affects education but also students' personalities which linger throughout their lives.

Today, anxiety is a common phenomenon of every day's life. It plays an important role in human life because all of us are the victims of anxiety in different ways. Generally, anxiety can either be a trait anxiety or a state anxiety. Trait anxiety is a stable characteristic or trait of the person.

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[1] Lecturer, Department of Educational Psychology, Pathein Education Degree College
[2] Lecturer (Retired), Department of Educational Psychology, Yangon University of Education

State anxiety is one which is aroused by some temporary condition of the environment such as examination, accident, punishment etc. Test anxiety is a kind of state anxiety which relates to the impending danger from the environment of the academic institutions including teachers, certain subjects like Mathematics, English etc. (Rohen, 2012).

Tests and examinations at all stages of education are an important and powerful tool for decision making in competitive society, with people of all ages being evaluated with respect to their achievement, skills and abilities. Test and examination stress is thought to prevent some individuals from reaching their academic potential. Students consistently perceive examination as a source of increase in anxiety and a situation engulfed with uncertainty/unfairness in letting them demonstrate their true achievements (Zollar & Ben-chain, 1990; Spielberger, 1985). Therefore, it is a measurement error towards measuring student achievement as tests are not meant to measure student achievement under intimidating situation but to know their level of achievement in an environment fair enough to let them demonstrate their abilities to the fullest.

Test anxiety is a situation-specific form of anxiety in response to taking tests. It is not easy to study test anxiety because of anxiety such as stress, tension and arousal are not observable conditions. The present study aimed to investigate test anxiety of high school students having different mental abilities among high school students. It is expected that the result of this study may provide information for teachers and students about test anxiety of high school students having different mental abilities and may help teachers to guide and motivate students for improving their learning.

Purposes of the study

The major purpose of this research is to investigate test anxiety of high school students having different mental abilities. The specific objectives of this research are;

1. To investigate test anxiety of high school students by gender and school

2. To investigate test anxiety of high school students having different mental abilities by gender and school

3. To investigate test anxiety of high school students having different mental abilities by region.

Definitions of key terms

Test Anxiety: Test anxiety is an emotional state that has psychological and behavioral concomitants, and that is experienced in formal testing or other evaluative situations (Duesek, 1980).

Mental Ability: Mental ability can be referred to as human intelligence or an individual ability to constructively solve problems in the environment without much instruction or assistance from another individual (U.S. Office of Personnel Management, 2016).

Literature Review

Test Anxiety

Test anxiety is an emotional state that has psychological and behavioral concomitants, and that is experienced in formal testing or other evaluative situations (Duesek, 1980). Test anxiety as a widely studied personality variable in part because it provides a measure of the personal salience of one important definable class of threating situations in which people are evaluated (Sarason, 1984). According to Liepmann et al. (1992), test anxiety is always developed among students due to results of failure, and it is communicated through early interactions of judgments of parents of those students who are performing in the tests (Liepmann et al., 1992). Spielberger and Vagg (1995) have described that test anxiety is an element of general anxiety. According to them, "test anxiety is composed of cognitive attention processes that interfere with performance in academic situations or examinations (Spielberger & Vagg, 1995). Zeidner (1998) described that test anxiety is the set of phenomenological, physiological and behavioural responses that accompany concern about possible negative consequences or failure on the examination or similar evaluative situation. On the other hand, Hong (1998) has given the definition of test anxiety as "complexes multidimensional construct involving cognitive, physiological, and behavioral reactions to evaluative situations" (p. 51). It is a degree of anxiety immediately faced by students in a particular test situation (Zeidner, 1998). Sapp, Durand, and Farrel (1995) have given the concept of test anxiety as "…….special case of a general anxiety disorder related to taking examination" (Sapp, Durand & Farrel, 1995).

Components of Test Anxiety

According to Liebert and Morris (1969), there are two components of test anxiety i.e., worry and emotionality (Liebert, R. M., & Morris, C. W. (1969). But according to Sarason (1984), there are four components of test anxiety: worry, test irrelevant thinking, tension and bodily symptoms (Sarason, I. G. (1984). Unruh and Lowe (2010) have also mentioned four components of test anxiety which are worry, cognitive interference, emotionality and lack of self-confidence. But worry and emotionality are the major components of test anxiety (Unruh, S. M. & Lowe, P. A. (2010). According to Morris, Davis, and Hutchings (1981), test anxiety is a broader concept and differences in worry and emotionality as components of test anxiety have made many developments in this field (Morris, L. W., Davis, M. A., & Hutchings, C. H., 1981). Sharma and Sud (1990) have explained that worry is a cognitive component which concerns about one's achievement for the consequences of failure. Emotionality is a self-perceived arousal or the reactions of autonomic nervous system (Sharma, S. & Sud, A., 1990). Lufi et al. (2004) have distinguished between worry and emotionality. Worry is cognitive distress which has effects on tests while emotionality is the affective distress on physical reactions as fear of tests (Lufi, D., Okasha, S. & Cohen, A., 2004).

Mental Ability

Mental ability can be referred to as human intelligence or an individual ability to constructively solve problems in the environment without much instruction or assistance from another individual. Measurement of mental ability of students is a process of measuring the intelligence or cognitive ability of an individual because the brain has different compartments, each hogged to a specific ability upon which a test can be measured. The mental ability of any student can be measured by conducting cognitive ability tests. Cognitive ability tests assess abilities that involved thinking (e.g. reasoning, perception, memory, verbal and mathematical ability, and problem solving). Such tests pose questions designed to estimate applicants' potential to use mental processes to solve work related problems or to acquire new job knowledge (U.S. Office of Personnel Management, 2016). Traditionally, the general trait measured by cognitive ability tests is called `intelligence' or `general mental ability'. However, an intelligence test often includes various item types which

measure different and more specific mental factors often referred to as specific mental ability.

Method and Procedures

Participants

The sample consists of 741 Grade 10 students (313 males and 428 females) from five selected Basic Education High School in Yangon Region and three selected Basic Education High Schools in Ayeyawaddy Region The sample of Yangon Region were 477 students (206 males and 271 females) and the sample of Ayeyawaddy Region were 264 students (107 males and 157 females). These students were selected as the sample for this study by using random sampling method.

Instruments

Two instruments were used for data collection. These include Test Anxiety Inventory (TAI) (Spielberger, 1980) for measuring students' test anxiety and Otis self-mental Administering Test for Mental Ability (Otis, A.S.; 1928) for measuring students' intelligence level. The original research and development of the Test Anxiety Questionnaires was conducted by Mandler and Sarason (1952). The Test Anxiety Inventory (TAI) was developed by Spielberger (1980). According to Spielberger, Test Anxiety Inventory was especially designed to measure the test anxiety of high school and college students. By using Test Anxiety Questionnaires (Mandler & Sarason, 1952) and Test Anxiety Inventory (TAI) (Spielberger, 1980), were modified to check the test anxiety level of Grade10 students.

Procedure

Firstly, literature review was done from several available books, projects, journals, previous research papers and internet sources. To conduct this study, permission was obtained from all authorities from related schools. Otis self-mental Administering Test for Mental Abilities and Test Anxiety Inventory (TAI) (Spielberger, 1980) were translated to Myanmar version and adapted to accommodate to Myanmar high school students. For content validity and face validity, draft instruments were reviewed by experts. Pilot testing was conducted with sixty Grade10 students from Basic Education High School No.5 South Dagon, in Yangon Region by using these two instruments. Then, these two instruments were adapted according to pilot results. After pilot study, these tests were administered to 741 Grade

10 students from eight selected Basic Education High Schools in Yangon Region and Ayeyawaddy Region. The responses of students are scored and made data entry in SPSS program. Data analysis is made to solve my research questions with Microsoft Excel 2010, SPSS software program (Version 20) and findings and interpretations were made.

Results of the Study

Table 1 showed that the number of high school students in different intelligent groups. It could be said that average intelligence students were the largest, high intelligence students were the middle and low intelligence students were the smallest.

Table 1. Descriptive of High School Students by the Intelligence Level

Students	Frequency	Percentage
Low intelligence	21	2.8
Average intelligence	603	81.4
High intelligence	117	15.8
Total	741	100

Table 2 showed that there was significant difference between male and female students with regard to test anxiety. It can reasonably be said that high school students' test anxiety depends on gender.

Table 2. Results of independent sample t-test for high school students' test anxiety by gender

Test Anxiety	Gender	N	Mean%	SD	t	p
	Male	313	62.84	7.66	-3.873	.000
	Female	428	65.06	7.71		

Table 3 showed that there were significant differences in high school students' test anxiety by schools. It can be said that high school students' worry, emotion, thinking, expectation and reflection may differ upon the school.

Table 3. ANOVA results of high school students' test anxiety by schools

Test Anxiety		Mean Square	F	p
Worry	Between Group	1555.305	13.358	.000
	Within Group	116.431		
Emotionality	Between Group	1723.662	12.081	.000
	Within Group	142.678		

Table 4. showed that results of independent sample *t*-test for high school students' test anxiety in different intelligent groups by gender.

Table 4. Results of independent sample *t*-test for high school students' test anxiety in different intelligent groups by gender

Group	Gender	N	Mean(%)	SD	t	p
Low Intelligence	Male	11	73.92	11.33	-.526	.605
	Female	10	76.31	9.28		
Average Intelligence	Male	252	72.92	8.57	-3.537	.000
	Female	351	75.46	8.77		
High Intelligence	Male	51	67.49	8.03	-1.931	.056
	Female	66	70.36	7.92		

In low and high intelligent groups, there was no difference between male and female students in test anxiety. It can be concluded that test anxiety may not affect on low and high intelligent students by gender. In average intelligent groups, there was a significant difference between male and female students in test anxiety. It can be concluded that test anxiety may depend on gender in average intelligent students.

Table 5. ANOVA results of high school students' test anxiety in different intelligent groups by schools

   Table 5 showed that ANOVA results of high school students' test anxiety in different intelligent groups by schools. The selected samples are from different schools (eight high schools). In low intelligent students, there was no significant difference in high school students' test anxiety by school.

Student		Mean Square	F	p
Low Intelligence	Between Group	126.657	1.305	.314
	Within Group	97.034		
Average Intelligence	Between Group	781.925	11.400	.000
	Within Group	68.588		
High Intelligence	Between Group	1874.956	13.872	.000
	Within Group	135.165		

   In average and high intelligent groups, there were significant differences in test anxiety of high school students by school. It can be concluded that average and high intelligent students are more anxious for their test by school.

Table 6. Results of independent sample t-test for high school students' test anxiety by region

Test Anxiety	Region	N	Mean%	SD	t	p
	Region 1	477	62.42	7.94	-8.420	.000
	Region 2	264	67.21	6.36		

   Table 6 showed that there was a significant difference between high school students in two regions with regard to test anxiety. This meant that high school students in these two regions have test anxiety with distinct difference.

Conclusion

The present study aimed to investigate test anxiety of high school students having different mental abilities. The results revealed that there was significant difference in test anxiety of high school students by gender and by school. It can be said that male students' test anxiety is significantly different from female students' test anxiety. The female students can be more affected in test anxiety than male students. This finding is consistent with the findings of the result of Mousavi, Haghshenas & Alishahi, (2008); Lashkaripour (2006) and Mehregan, Najjarian & Ahmadi (2001).

In different intelligent groups, the results showed that different evidences on test anxiety of high school students. Test anxiety does not depend on gender in low and high intelligent high school students. Average intelligent students' test anxiety may differ by gender. Female students can be more significantly affected by test anxiety in average intelligent group. This finding is also assistant with the findings of the result by Fiore (2012).

When comparing different intelligent students' test anxiety by schools, the results revealed that there were significant differences in average and high intelligent students' test anxiety. Average and high intelligent students' test anxiety may differ from school to school. Low intelligent students' test anxiety does not depend on school. When comparing high school students' test anxiety by region, it was found that there was a significant difference.

Discussion and Recommendation

As the information age continues to evolve, test scores will become even more important than they are today in evaluating applicants for demanding jobs and candidates for admission into highly competitive educational programs.

Test-anxiety had impact on adolescent's academic achievement and it decreases adolescents' learning capabilities and hinders excellent academic performance. Test-anxiety decreases motivation towards the ability for attention, concentration and worst, it leads to academic failure. Schools, teachers and family must assist students in managing their test-anxiety through counselling, relaxation and behavioural techniques. Suggestions to overcome must be given at high schools on students with academic problems. Teachers ought to understand the nature of student's

test anxiety causing factors so that they are able to address the same as part of anxiety management skill acquisition process.

Test anxiety is a type of worry which can appear in test situations having symptoms as common anxiety. There are two good indicators which will help students identify whether their concern about exams might be something greater than the usual unease which most people feel: (1) students will be aware of a history of nerves at various times before and/or during exams, (2) students will be aware that they begin to feel uncomfortable during the run up period, or even at random times.

Therefore, test anxiety plays an important role in students' everyday life. Moreover, test anxiety is found to be different according to different mental abilities. Generally, this study would be great helpful to teachers in producing students with high achievement and low anxiety according to the different mental abilities. Teachers should try to give suggestions to overcome anxiety and improve academic achievement of students who would become good citizens for Myanmar in the future.

Suggestion for Further Research

Findings of this present study should not be generalized to all high school students, not even to the overall Grade 10 students. This study was limited to only Grade 10 students in eight selected high schools in Yangon Region and Ayeyawaddy Region. So, the further research should be done with the more population.

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An Investigation into the Cognitive Abilities of Middle School Students in Chanmyatharsi Township

Paing Thet Win[1] & Myo Ko Aung [2]

Abstract

The main aim of this study was to investigate the cognitive abilities of middle school students in Chanmyatharsi Township, Mandalay Region. Descriptive research design and survey method were used. In this study, simple random sampling method was conducted. The participants were totally 900 students (Male=446, Female=454), (Grade6=446, Grade7=454) and the mean age of participants was 10.99 years (*SD*= 0.95) in 2012-2013 academic year. The Cognitive Abilities Test for Middle School Students (CAT) developed by Jim Barrett and Geoff Williams (2007) was used in measuring students' cognitive abilities. Internal consistency reliability with Cronbach's Alpha of mathematics cognitive abilities was 0.81. According to the results, there was no significant difference in students' cognitive abilities by gender. But, gender difference existed in perceptual reasoning ability. And, there was significant difference in cognitive abilities of middle school students by grade (*t*=6.72, *p*<.001) according to independent sample *t* test. The findings of this study provide opportunities for students to improve their cognitive abilities and by strengthening deficient or weak cognitive abilities, the performance of students in learning process can be improved.

Keywords: Cognitive Abilities, Verbal Reasoning Abilities, Numerical Reasoning Abilities, Perceptual Reasoning Abilities

Introduction

To improve students' cognitive growth is considered as a highly desirable educational goal. For this goal, most of the curricula for students' learning are designed to develop students' particular cognitive abilities. Cognitive abilities are a determining factor of an individual's learning ability and they are mental skills that are used in the process of acquiring knowledge. Among numerous abilities, studying each student's cognitive abilities is a major assistant in the advancement of their learning

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[1] Lecturer, Department of Educational Studies, Meikhtilar Education Degree College

[2] Professor and Head, Dr., Department of Educational Psychology, Sagaing University of Education

process. So, it is inevitable that investigation of the students' cognitive abilities is necessary in the field of education.

Significance of the Study

First, an important educational function or a teacher's work is to guide the learner toward the cognitive development. To reach cognitive development, the improvement of students' cognitive abilities is fundamental factor and extremely important for gaining success in their future life.

For the purpose of developing students' cognitive thinking abilities, many educators have studied different subjects such as planning and developing instructional programs, classroom activities, laboratory activities, teaching materials, measurement-assessment methods and pre-service teacher education strategies (Özsevgeç; 2002). Similarly, it is also needful to investigate Myanmar students' cognitive abilities by using proper cognitive abilities tests to contribute in teaching learning situations well.

Second, most applied researches largely examine general cognitive ability as the summation of verbal, quantitative and sometimes spatial scales or as a general mental ability test that include such content areas (Schmidt, 2002). In general, cognitive abilities of a person can be explored by testing his verbal productivity, visual-perceptual reasoning, language comprehension, spatial abilities or numerical problem solving abilities. Therefore, it can be explored students' cognitive abilities by measuring these three abilities particularly.

Moreover, verbal reasoning ability is important for any work involving the communication of ideas or the interpretation of written material. Thus, it is important to study verbal ability, one of the cognitive abilities, of students as a predictor for their future success.

Besides, numerical reasoning ability is one of the most basic skill areas and one that exists in small children well before they are taught mathematics in school. It is a higher-order thinking skill and an important factor in assessing work performance. The researchers Gustin and Corazza (1994) found that a composite of verbal and numerical reasoning ability was the most powerful predictor of students' science achievement (cited in Lawson, 2000). Therefore, it is growing into requirement to study the students' verbal and numerical reasoning abilities systematically.

Then, the science researcher Butcher (2004) said that effective perception, one of the specific cognitive processes, is fundamental to acquire visual resources successfully in students' learning process. Moreover, people with high perceptual reasoning tend to be very good at assembling furniture and other objects, map reading, drawing designs and locating objects at home or in the office (Burgemeester, 2011). Thus, it is also needful to improve students' perceptual reasoning ability because of its powerful assistant in their learning process.

In short, the students' total cognitive abilities can be derived from a combination of the verbal reasoning, numerical reasoning and perceptual reasoning abilities. So, in this study, cognitive abilities of middle school students will be investigated by categorizing into three subtests: verbal reasoning ability test, numerical reasoning ability test and perceptual reasoning ability test. It can therefore be predictive of both academic success and success in further training whilst in employment. Hence, it is inevitable that testing the cognitive abilities of students is useful in promoting the individuals not only in educational fields but in all other occupational and social situations where one studies to go higher on the ladder. By viewing the above reasons, it cannot be denied that the investigation of the students' cognitive abilities is timely requirement in the field of education.

Aims of the Study

The main aim of this study is to investigate the cognitive abilities of middle school students in Chanmyatharsi Township, Mandalay Region. The specific objectives are:

1. To find out the cognitive abilities of middle school students by gender

2. To analyze the cognitive abilities of middle school students by grade

Scope of the Study

The study is limited to investigate cognitive abilities of Grade 6 and Grade 7 students from the selected high schools, branch high schools, middle schools, branch middle schools, post primary schools, and monastic education school in Chanmyatharsi Township, Mandalay Region.

Definitions of the Key Terms

Cognitive abilities are the capabilities related to the acquisition and application of knowledge in problem solving, orientation, concentration, recent and remote memory, abstract reasoning, judgment, visual perception, and constructional ability (Sahoo, 2012).

Then, cognitive abilities of middle school students in this study mean mental or intellectual activities associated with reasoning – verbal reasoning, numerical reasoning, and perceptual reasoning.

Verbal reasoning ability: Verbal reasoning is the ability to understand, analyze and interpret complex verbal information.

Numerical reasoning ability: It is the ability to understand such things as number series, numerical transformations, the relationships between numbers and the ability to perform numerical calculations.

Perceptual reasoning ability: Perceptual reasoning is the ability to find relationships between non-verbal stimuli and as well as testing their reasoning skills.

Middle school students are Grade 6 and Grade 7 students from Chanmyatharsi Township, Mandalay Region in the academic year of 2012-2013.

Method

Participants of the Study

Participants of this research were Grade 6 and Grade 7 students from Chanmyatharsi Township in Mandalay Region. They were selected by using random sampling technique according to the school types in the academic year of 2012-2013. The total number of participants were 900 students (Male=446, Female=454), (Grade6=446, Grade7=454) and the mean age of participants was 10.99 years (*SD*= 0.95). Participants were 21% from high school, 16.3% from branch high school, 16.9% from middle school, 17% from branch middle school, 16.6% from post primary school and 12.2% from monastic education school.

Research Method

Quantitative approach was used in this study. Survey method and descriptive research design were used to investigate the cognitive abilities of middle school students.

Instrumentation

The Cognitive Abilities Test for Middle School Students (CAT) developed by Jim Barrett and Geoff Williams (2007) was used in measuring students' cognitive abilities. A questionnaire was used to collect demographic information of the participants such as gender, grade, and name of the school, date of birth, parent's job, and parent's education. The CAT consists of 72 items and was categorized into three subtests: verbal reasoning ability test (25 items), numerical reasoning ability test (22 items), and perceptual reasoning ability test (25 items). Each test is constructed with multiple choice items which provided participants to attain one score for the correct answer and zero for no correct answer.

Data Analysis

After collecting the required data, data analysis process was conducted. The quantitative data were analyzed descriptive statistics and the independent sample t test on with the help of Statistical Package for the Social Science (SPSS) version 24.0 software.

Findings

According to descriptive statistics analysis, the mean and standard deviation of the whole sample were 34.2 and 8.62. The minimum score of the whole scale was 11 and the maximum score was 63. The mean score was almost medium value and the cognitive abilities scores can be interpreted to be approximately normal and satisfactory result.

Students' cognitive abilities were classified by three subscales: verbal reasoning ability, numerical reasoning ability, and perceptual reasoning ability. The mean, standard deviation, minimum score and maximum score of each subscale can be clearly seen in Table 1.

Table 1. Descriptive Analysis of Each Subscale

Cognitive abilities subscales	N	Mean	% of Mean	SD	Minimum	Maximum
Verbal reasoning ability	900	14.15	56.60	4.226	3	23
Numerical reasoning ability	900	7.18	32.66	3.02	0	19
Perceptual reasoning ability	900	12.87	51.48	3.834	2	23

Gender differences in Students' Cognitive Abilities

Gender based analysis was conducted to find out the differences in cognitive abilities among male and female students by using *t* test was used.

Table 2. Gender Differences in Students' Cognitive Abilities

Gender	Mean	SD	t	df	p
Male	34.62	8.68	1.45	898	.149
Female	33.79	8.56			

Table 2 showed that males were not significantly different from females on cognitive abilities scores, (*p*=.149). This result was congruent with the result of Ehinderos (1982) and Mwamwenda (1993). Again, to find out the gender differences on each subscale specifically, independent sample *t* test was followed again (see Table 3).

Table 3. Gender Differences in Three Subscales of Cognitive Abilities

Subscales	Male (n=446)		Female (n=454)		t	df	p
	Mean	SD	Mean	SD			
Verbal reasoning ability	14.15	4.36	14.15	4.091	-.02	898	.982
Numerical reasoning ability	7.26	3.12	7.11	2.917	.79	898	.430
Perceptual reasoning ability	13.21	3.79	12.53	3.849	2.66	898	.008

According to Table 3, it revealed that male students were significantly different from female students only in perceptual reasoning ability. In comparing mean scores for perceptual reasoning ability between two groups, the mean scores of male students (Mean=13.21) were slightly higher than female students (Mean=12.53, $p<.05$). The effect size ($d=.18$) was small or smaller than typical according to Cohen (1988).

Moreover, this result was congruent with the result of Linn & Petersen (1985) which reported a male advantage in visualization or perception. However, concerning in two subscales – verbal reasoning ability and numerical reasoning ability, male and female students did not differ significantly. Besides, the mean scores of males and females in these two subtests were nearly the same. Thus, it can be said that male and female students were equally performed in verbal reasoning ability and numerical reasoning ability.
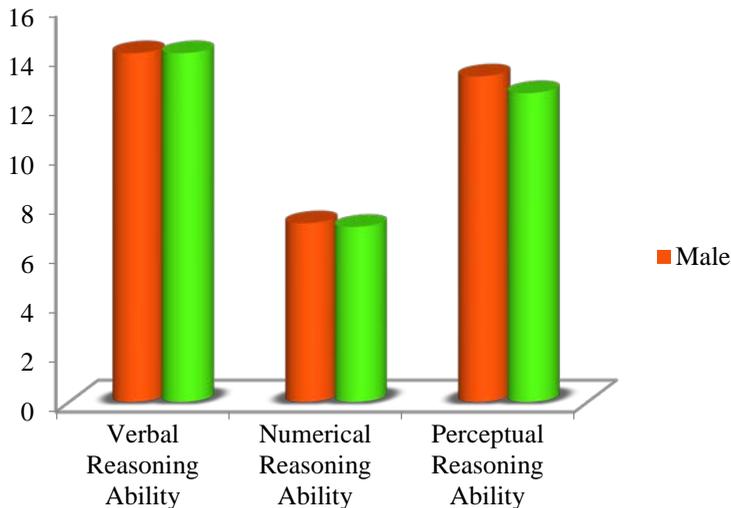
Figure 1. Mean Comparison of Three Subscales of Cognitive Abilities by
        Gender

Next, to compare middle school students' cognitive abilities by grade was calculated by using *t* test. The results of *t* test were presented in Table 4.

Table 4. Grade Differences in Students' Cognitive Abilities

Grade	Mean	SD	t	df	p
Grade 6	32.30	7.91	6.72	898	.000
Grade 7	36.07	8.90			

Based on the result of *t* test, there was a significant difference in cognitive abilities between Grade 6 and Grade 7 as (t=6.72, p<.001) and the effect size (d=.45) was small to medium or typical (Cohen, 1988). The comparison of the mean scores revealed that Grade 7 (Mean=36.07) had higher mean scores in cognitive abilities than Grade 6 (Mean=32.3).

Therefore, it can be concluded that Grade 7 students were significantly higher in cognitive abilities compared to that of Grade 6 students. Then, in order to find out differences in three subscales of

students' cognitive abilities significantly, independent sample t test was conducted again (see Table 5).

Table 5. Grade Differences in Three Subscales of Cognitive Abilities

Cognitive abilities	Grade 6 (*n=446*)		Grade 7 (*n=454*)		*t*	*df*	*p*
	Mean	*SD*	**Mean**	*SD*			
Verbal reasoning ability	13.2	4.03	15.09	4.21	-6.90	898	.000
Numerical reasoning ability	6.87	2.62	7.49	3.34	-3.09	898	.002
Perceptual reasoning ability	12.24	3.83	13.49	3.74	-4.98	898	.000

Table 5 revealed that there were significant differences between Grade 6 and Grade 7 on each subscale of cognitive abilities. In verbal reasoning ability, the mean score of Grade7 (Mean=15.09) was higher than that of Grade6 (Mean=13.2, $p<.001$). The effect size ($d=.46$) was small to medium or typical according to Cohen, 1988. Next, Grade 7 students had higher mean score (Mean=7.49) on numerical reasoning ability than that of Grade 6 students (Mean=6.87, $p<.05$) and the effect size ($d=.02$) was small or smaller than typical (Cohen, 1988).

Also in comparing perceptual reasoning ability by grade, Grade7 students were higher in mean score (Mean=13.49) than that of Grade6 students (Mean=12.24, $p<.001$). The effect size ($d=.33$) was small to medium or typical according to Cohen (1988). As the consequences, it can be said that Grade7 students outperform in each subscale of cognitive abilities than Grade6 students. This result supports the findings of Falch (2011) in which it was indicated that one year of schooling increases IQ by 2.8-3.5 points (about 0.2 standard deviations).
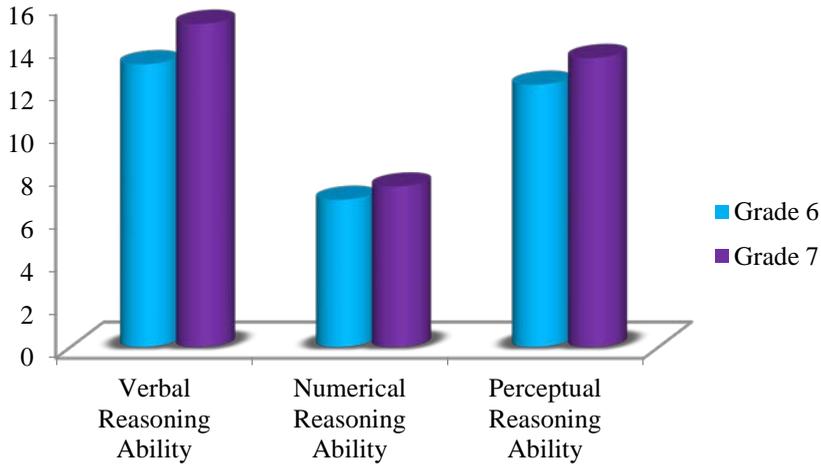
Figure 2. Mean Comparison of Three Subscales of Cognitive Abilities by
        Grade

Conclusion

The transition from primary to middle school period is marked by
the enhanced ability to perform logical operations with concrete materials,
like math manipulative. In this period, children begin using abstract
concepts more often and adeptly but still do so rarely. Meanwhile,
children's cognitive abilities can become more pronounced and
recognizable. To improve these abilities properly, educators, public
policymakers and teachers continue to pay close attention to the ways in
which parents can foster children's cognitive development and, by
extension, academic achievement. Besides, in order to optimal development
of students' cognitive abilities, the teaching methodology, teaching
materials, and the learning activities should be those that are appropriate to
each of the cognitive developmental stages of the learners. To sum up, the
findings of this study provided opportunities for students to improve their
cognitive abilities and by strengthening deficient or weak cognitive
abilities, the performance of students in learning process can be improved.

Acknowledgements

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Reading Motivation: A Descriptive Survey on Undergraduate Students in Sagaing University of Education

Yar Zar Chit*

Abstract

This study aimed to study the reading motivation of undergraduate students in Sagaing University of Education. A total of 300 undergraduate students attending in Sagaing University of Education participated in this study. Descriptive research design and survey method were used. Reading Motivation Scale was adapted and used to collect the required data. Findings from questionnaire surveys revealed that mean value of curiosity is highest, the second is grades-compliance, the third is involvement and that of work avoidance is lowest. It was also found that there were significant differences in students' reading for social and reading for recognition from someone by gender. Moreover, in the comparison of students' reading motivation by grade, second year students' reading motivation was best, first year students' reading motivation was second best and fourth year students' reading motivation was lowest. Finally, the results revealed that there were commonly positive high correlations between total reading motivation and each factor. Moreover, there were inter-correlations among reading motivation factors. This study hopes to give some ideas to support students' reading motivation.

Key Terms: reading, motivation, curiosity, grades-compliance

Introduction

Reading is an activity that is done by the people even being a hobby for every people because with reading can improve the quality of themselves and increase their insight in education or the other things. Therefore, Rraku (2013) said that reading is one of the main activities in daily life such as read a newspaper, article or even just read the label of a bottle of medicine; everyone will be involved in reading activity.

Moreover, Aksan & Kisac (2009) stated reading as "a fundamental of learning that helping individual for getting knowledge" because it can shape the thinking and knowledge of human and improve reasoning skills to

* Lecturer, Dr., Department of Educational Psychology, Sagaing University of Education

distinguish between right and wrong phenomena in daily life of human being.

However, nowadays, reading can be said as an unpopular activity and most of the students lost their willingness in reading, besides with reading will facilitate them in learning process. Kweldju as cited in Yuliandari (2016) said that learners are not willing to read their reading material, however, they aware of the usefulness.

From that statement, it can be concluded that students have no interest in reading and tend to abstain from reading class because they felt that reading class is a boring. One way to make learners have more willingness into reading is through motivation. Motivation has an important role in increasing the desire of the learner in reading. Therefore, it can be said that building motivation toward learner is the effective way to gain the willingness of the learner to read (Anderson, 1985).

For the above-mentioned reasons, this study becomes to focus on examining the reading motivation of undergraduate students in Sagaing University of Education.

Purpose of the Study: The main aim of this study is to investigate the reading motivation of undergraduate students in Sagaing University of Education. The specific objectives are as follows:

➢ To evaluate the reading motivation of students by factor

➢ To compare the differences of students' reading motivation by gender

➢ To examine the differences of students' reading motivation by grade

➢ To explore the inter-correlations among reading motivation factors

Related Literature Review

Concept of Reading Motivation: Readers read for different purposes. Sometimes they read for pleasure. Sometimes they read for information. Marinak & Gambrell (2008) and Guthrie et al (2000) said that the central key point for student reading is motivation. It can largely impact on student as an inner force to take part in reading. Therefore, very motivated students join and engage in reading activity whereas those who have less motivation do not join and are not interested in reading.

Factors of Reading Motivation: Therefore, Guthrie, Wigfield, et al. (2006) and Watkins & Coffey (2004) mentioned that "reading motivation assumed as a complex and multidimensional construct that can be influenced by internal and external factors". Wang & Guthrie (2004) also stated that "curiosity, preference for challenge, and involvement are internal factors that influence reading motivation" while "recognition, competition, and grades considered as external factors". Generally, reading motivation divided in two parts; there are intrinsic reading motivation and extrinsic reading motivation.

Moreover, Guthrie et al (2006) stated that student who engage in reading activity is has motivated to read. Further, they also described that engage reader have a motivation to do reading activity, including involvement, curiosity, and social aspects, but not necessarily compliance for an assignment. According to researches under reading motivation, researchers were identified some factors that influenced reading motivation of students. Various studies indicate that basically reading motivation is influenced by the complex interaction of intrinsic and extrinsic factors.

Therefore, Murniasih (2013) also concluded that reading motivation is a kind of internal drive that boosts someone to read and it could come from internal and external.

Method

Sampling: The participants of the research were taken from Sagaing University of Education by using simple random sampling technique. The participants were 300 students (150 males and 150 females) from first year to fifth year and they were chosen 60 students from each academic year.

Research Method: Descriptive research design and survey method were used.

Instrument: *Reading Motivation Scale* was administered to assess the participants' motivation on reading. The scale is a 40-item self-reported measure developed by Wigfield and Guthrie (1997). It comprises eight factors (Grades-Compliance, Involvement, Social, Competition, Work Avoidance, Curiosity, Recognition, Efficacy). Each factor has 5 items. The scale applied three-point Likert-scale. The internal consistency is $\alpha = 0.78$.

Data Analysis and Results

Descriptive Statistics of Students' Reading Motivation: According to Table 1, mean value of "curiosity" is highest ($\bar{X}$=13.36), second is "grades-compliance" ($\bar{X}$=11.94), third is "involvement" ($\bar{X}$=11.44) and that of "work avoidance" is lowest ($\bar{X}$=9.61). This results indicated that students want to read books for inquiry and their grades. Sometimes, they think themselves as the characters in the books and so they read deeply them. Since "work avoidance" factor is lowest, they may not want to avoid reading about problems such as puzzles and games. However, sample mean score (89.55) is larger than theoretical mean score (80). Therefore, it can be concluded that students from Sagaing University of Education have higher motivation to read books or their favorite ones.

Table 1. Descriptive Statistics for Students' Reading Motivation

	Minimum	Maximum	Mean	Std. Deviation
Grades-Compliance	5	15	11.94	2.23
Involvement	5	15	11.44	2.17
Social	5	15	10.88	2.61
Competition	5	15	10.19	2.63
Work Avoidance	5	15	9.61	2.87
Curiosity	5	15	13.36	1.89
Recognition	5	15	10.77	2.33
Efficacy	6	15	11.36	1.92
Total Reading Motivation	63	110	89.55	10.17

Comparison of Male and Female Students' Reading Motivation: To find out gender differences in students' reading motivation, descriptive analysis was made. The results showed that there was slight difference in mean scores by gender in students' reading motivation factors. Again, to find out difference significantly, independent samples *t*-test was used. It was reported in Table 2.

Table 2. Descriptive Results and Independent Samples *t*-test Results for Students' Reading Motivation by Gender

	Gender	Mean	t	df	p
Grades-Compliance	Male	11.76	-1.145	298	.254
	Female	12.12			
Involvement	Male	11.57	.848	298	.397
	Female	11.31			
Social	Male	10.53	-1.882*	298	.048
	Female	11.22			
Competition	Male	10.03	-.834	298	.406
	Female	10.34			
Work Avoidance	Male	9.53	-.393	298	.695
	Female	9.69			
Curiosity	Male	13.38	.112	298	.911
	Female	13.35			
Recognition	Male	10.40	-2.274*	298	.024
	Female	11.14			
Efficacy	Male	11.20	-1.178	298	.240
	Female	11.52			
Total Reading Motivation	Male	88.40	-1.599	298	.111
	Female	90.69			

* Significant difference at the 0.05 level (2-tailed).

According to Table 2, it was found that there were significant differences in students' reading for social and reading for recognition from

someone by gender. For other factors, there were no significant differences. Therefore, it can be concluded that female students like to talk to their parents, siblings and friends what they are reading and they want recognition from someone about their readings.

Comparison of Students' Reading Motivation by Grade: Table 3 showed the comparison of students' reading motivation by grade. According to the results, there were slight differences among grades.

Table 3. Mean Comparisons of Students' Reading Motivation by Grade

Grade	N	Mean	Std. Deviation
First Year	60	90.43	8.51
Second Year	60	96.30	6.68
Third Year	60	89.02	9.95
Fourth Year	60	84.50	11.10
Fifth Year	60	87.48	10.47
Total	300	89.55	10.17

However, to explore the significant differences among grades, one-way analysis of variance (ANOVA) was conducted. ANOVA results showed that there were significant differences in reading motivation among the grades at 0.05 level (see Table 4).

Table 4. ANOVA Results of Students' Reading Motivation by Grade

Reading Motivation	df	Mean Square	F	p
Between Groups	4	764.117	8.511	.000
Within Groups	295	89.780		

To obtain more detailed information of which particular group had the differences, Post-Hoc test was executed by Tukey HSD method. It was found that second year students' reading motivations are significantly

higher than the first, third, fourth- and fifth-year students at 0.05 level and 0.001 levels (see Table 5).

Table 5. The Result of Tukey Test for Students' Reading Motivation by
Grade

(I) Grade	(J) Grade	Mean Difference (I-J)	p
Second Year	First Year	5.875[*]	.047
	Third Year	7.275[**]	.006
	Fourth Year	11.800[**]	.000
	Fifth Year	8.825[**]	.000

* The mean difference is significant at 0.05 level.

** The mean difference is significant at 0.001 level.

According to results, it can be concluded that the longer the student life span, the lower and more complex the students' reading motivation.

Intercorrelations Among Reading Motivation Factors: Table 6 pointed out that there were commonly positive high correlations between total reading motivation and each factor at α =0.05 levels. Moreover, there were intercorrelations among reading motivation factors. Therefore, it can be noted that eight reading motivation factors were interchangeably affected and depended on each other. This result shows that the students needed to fulfill all of these factors to get motivation on reading.

Table 6. Intercorrelations Among Reading Motivation Factors

	GC	I	S	Co	WA	Cu	R	E	Total
Grades-Compliance (GC)		.075	.333[**]	.316[**]	-.042	.229[**]	.473[**]	.465[**]	.629[**]
Involvement (I)			.060	.190[**]	.071	.107	-.006	.218[**]	.374[**]

	GC	I	S	Co	WA	Cu	R	E	Total
Social (S)				.366**	-.151*	.293**	.207**	.369**	.566**
Competition (Co)					.098	.257**	.366**	.428**	.702**
Work Avoidance (WA)						-.165*	.149*	.014	.281**
Curiosity (Cu)							.284**	.405**	.495**
Recognition (R)								.413**	.652**
Efficacy (E)									.716**

   ** Correlation is significant at the 0.01 level (2-tailed).

    * Correlation is significant at the 0.05 level (2-tailed).

Conclusion

      The main aim of this study was to investigate the reading motivation of undergraduate students in Sagaing University of Education. Therefore, to study the students' reading motivation, descriptive statistics of students' reading motivation, comparisons of students' reading motivation by gender, grade and intercorrelation among factors were analyzed. This study provided a clear picture about students' reading motivation. The results indicated that students want to read books for inquiry and their grades. Sometimes, they think themselves as the characters in the books and so they read deeply them. Since "work avoidance" factor is lowest, they may not want to avoid reading about problems such as puzzles and games.

      Again, it was found that there were significant differences in students' reading for social and reading for recognition from someone by gender. For other factors, there were no significant differences. Therefore, it can be concluded that female students like to talk to their parents, siblings and friends what they are reading and they want recognition from someone about their readings. Besides, in the comparison of students' reading motivation by grade, second year students' reading motivation was best,

first year students' reading motivation was second best and fourth year students' reading motivation was lowest. According to the results, it can be concluded that the longer the student life span, the lower and more complex the students' reading motivation.

Finally, the results pointed out that there were commonly positive high correlations between total reading motivation and each factor. Moreover, there were intercorrelations among reading motivation factors. According to this study, it was found that students from Sagaing University of Education generally have high motivation to read books from any available sources.

Discussion and Recommendation

The development of students' reading ability and competencies in reading should be carried out at an early age that is at the primary school level. When student' interest to read is high then there is motivation to read and be engaged in reading. Teachers can motivate their students by providing an array of reading materials. They should bring books and other reading materials to class and introduce the materials and books to their students.

It is important to remember to provide students with books that they can and want to read. It is suggested to have more fiction books that provide textual, realistic characters, readable and convincing text that would interest and fulfill the students' need. This could arouse the students' interest to read more about the subject. The selection of books brought to class ought to be carefully figured out and chosen to boost the students' interest to read them.

It is suggested that teachers or lecturers try to improve students' reading motivation by improving their intrinsic motivation. This would mean enhancing activities that increase the dimensions such as challenge, involvement, social and self-efficacy. By doing so, the students can become active readers. Active readers would be more engrossed and engaged in their reading.

Once they have become engaged in the reading, they would be more intrinsically motivated to read. They will use strategies such as self-monitoring and inferencing to understand text. On the other hand, students who are fewer active readers or those who merely have extrinsic motivation

will ultimately decrease in the number of their reading and this would decrease the chance to be active readers.

According to this study, the following suggestions would be given.

1. Teachers should encourage students to engage in reading for knowledge and pleasure.

2. Students should use their leisure time by reading, discussing with peers about literature and joining with reading associations.

3. Administrators of university should always manage the university library to be fulfilled with up to date books and references.

4. Librarians and library staffs need to manage and serve for convenience in students' reading.

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The Locus of Control and Academic Achievement of Grade 10 Students

Pa Pa Nyein[1] & Khin Thuza Saw[2]

Abstract

The main aim of this study was to examine locus of control and academic achievement of Grade 10 students in Shwebo Township. In this study, the sample was taken 750 Grade 10 students (male=360, female=390) from three high schools in Shwebo Township. Locus of control Questionnaire was used. Academic achievement was determined by teacher-made test scores. According to the data obtained, there was no significant difference between male and female in locus of control, but female students were more superstitious than male students. Furthermore, there was no significant difference in students' locus of control by their fathers' job, but there was a significant difference in students' locus of control by their mothers' job. Then, this study found that the effect of parents' education exist on students' locus of control. This finding indicated significant relationship of all components with academic achievement. Moreover, this study revealed that locus of control is rather strongly correlated with academic achievement. According to the findings of this study, students' locus of control plays a vital role in promoting and predicting academic achievement.

Keywords: Locus of Control, Internal Locus of Control,   External Locus of Control

Introduction

The main aim of education is to bring all round development of the students. The desire to become students with good personality has been a great concern for educators in the education setting. According to Boone and De Brabander (1993), there is ample evidence that locus of control is a fundamental and stable personality trait, with clear behavioral consequences. Moreover, academic achievement is an important thing that every parent wishes for their child. In reality, determining exactly what factors cause students to achieve is not easy. However, several studies have shown that locus of control is closely related with academic achievement of students.

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[1] Lecturer, Department of Educational Psychology, Sagaing University of Education
[2] Retired Principal, Dr., Thingankyun Education Degree College

Moreover, individual's perceived locus of control is extremely important for gaining success in life. Locus of control plays an interesting role in education. Studying students' locus of control in school can be a valuable help for teachers. By recognizing their students' perceived locus of control, teachers will encourage students to take a more internal position. Because of this encouragement, students will control of in their lives, psychologically healthier or more successful at studies. Additionally, studies have shown locus of control is a significant predictor of academic achievement. Thus, it is necessary to study how locus of control relates to students' academic achievement. There is little research in locus of control and students' academic achievement in Sagaing University of Education. So, the result of the study will contribute to the teaching-learning process and will support the field of Educational Psychology.

Purpose of the Study

The main aim of the study was to study locus of control and academic achievement of Grade 10 students in Shwebo Township. The specific objectives of this study are;

1. To measure the difference in Grade 10 students' locus of control by gender,

2. To explore the difference in Grade 10 students' locus of control by their parents' job and education,

3. To find out the relationship between locus of control and academic achievement.

Definitions of Key Terms

Locus of control : Locus of control is the internal-external control as the perception of a connection between one's action and its consequences (Nowicki & Strickland**,** 1973; Rotter, 1966, cited in Zadeh & Kiran Boashir Ahmad, 2013).

Internal locus of control: Internal locus of control refers to an individual's belief that an event or outcome is contingent on his or her own behavior or on relatively permanent characteristics such as ability (Stipek & Weisz, 1981).

External locus of control: The belief that an event is caused by factors beyond the individual's control (e.g., luck, task difficulty, powerful other) has been labeled as external locus of control (Stipek & Weisz, 1981).

Academic achievement: Academic achievement is a term usually employed to mean an individual's performance in subjects taught and tested in schools (Gbonee, 2014).

Review of Related Literature

Rotter's Social Learning Theory: Social learning theory includes many interesting concepts, with one of them being locus of control (Miller, 2005). The locus of control construct was borne out of Rotter's social learning theory. Rotter's theory represents an attempt to integrate the reinforcement approaches of the behaviourists with the field theories of cognitive psychology (Chance and Phares, 1972, cited in Mohammad Khayyer, 1994).

In social learning theory, Rotter (1966) suggested that individuals' expectations are established and strengthened via reinforcements. He emphasized that behavior is influenced not only by the reinforcement itself, but more importantly by the individual's perception of the relationship between his/her behavior and the reinforcement. According to Rotter, "locus of control," therefore, refers to whether an individual can acquire a reinforcement through his/her own abilities and efforts (i.e., internals), or if it flows from un-controllable external factors (i.e., externals) (cited in Stewart, 2012).

Method and Procedure

Sample

The sample for this study was chosen 750 Grade 10 students from Shwebo Township. There are 360 male and 390 female students of the total sample.

Method

Descriptive survey research design was used in this study. Also, quantitative research method was used to find out the results.

Instrument

In this study, questionnaire of locus of control was developed from Nowicki-Strickland Locus of Control Scale for Children. Based on Finch

and colleague (1981), this questionnaire of locus of control was grouped into four categories: ability to protect oneself (11 items), social power (8 items), lack of superstition (5 items) and lack of passivity (4 items). The total number of items in this study were 28 items.

The answer of the questionnaire are coded on a five-point Likert scale ("never", "seldom", "sometimes", "often", "always"). In assigning the response of each item, the numerical values 1, 2, 3, 4, 5 were used in the case of positive statements. The scoring was reversed in the case of negative statements. The reliability coefficient (Cronbach alpha) was .685. Academic achievement was determined by mid-term exam scores of the students which were obtained from their teacher-made test with the help of their classroom teachers.

Procedure

First, the literature survey was started by reading intensively from a variety of sources. The necessary information was gathered by reading the reference materials, by using the library sources and by browsing the Internet. Then, the research instrument was prepared under the guidance of the supervisor. For the validity of the instrument, the questionnaire was assessed by the experts. According to the suggestion of them, the questionnaire was modified. After that, the pilot testing was done. After conducting the reliable questionnaire, the necessary research data were collected. And then, the collected data were analyzed and interpreted. Finally, the conclusion of the research was drawn.

Results and Findings

To explore the locus of control and academic achievement of grade 10 students, the data analysis was carried out.

Locus of control of students was identified by using the four components: ability to protect oneself (APO), social power (SP), lack of superstition (LS) and lack of passivity (LP). The descriptive statistics was computed to analyze data.

Table 1. Descriptive Statistics for Locus of Control of Students

No	Components	N	Minimum	Maximum	Mean	Mean %	SD
1	APO	750	26	53	42.15	79.52	4.645
2	SP	750	11	38	27.08	71.26	4.231
3	LS	750	5	25	15.41	61.64	3.389
4	LP	750	4	20	11.97	59.85	2.871
5	Total	750	47	122	96.48	-	9.509

Table 1 showed the total mean score per components of locus of control of students. Descriptive statistics showed that the mean and standard deviation for the whole sample were 96.48 and 9.509 respectively. According to the above table, ability to protect oneself had the highest mean scores 79.52% and the standard deviation of 4.645. This result revealed that Grade 10 students were able to protect themselves in their life events. There was 71.26% mean score per item in social power with standard deviation of 4.231. The result showed that students were capable to influence others in social environment. The mean score per item on lack of superstition was 61.64% and standard deviation, 3.389. Thus, lack of superstition in students was slightly high. As mentioned in Table 4.1, lack of passivity had the lowest mean scores 59.85% and the standard deviation of 2.871. Thus, it can be interpreted that most of the students did not feel passivity and superstition.

Gender Differences in Locus of Control of Students

The mean, standard deviation and the result of t test on locus of control by gender were presented in Table 2.

Table 2. Comparison of Mean, Standard Deviation and the Result of t test on Locus of Control by Gender

No	Components	Male($N=360$)		Female($N=390$)		t	df	p
		Mean	SD	Mean	SD			
1	APO	42.19	4.783	42.10	4.520	.262	748	.793
2	SP	26.91	4.061	27.23	4.382	-1.008	748	.314

No	Components	Male(N=360)		Female(N=390)		t	df	p
		Mean	SD	Mean	SD			
3	LS	15.67	3.511	15.18	3.260	1.960*	748	.049
4	LP	12.16	2.757	11.80	2.964	1.737	748	0.83
5	Total	96.91	9.481	96.08	9.530	1.189	748	.235

Note: *The mean difference is significant at the 0.05 level.

According to the Table 2, there is no significant difference in overall locus of control between male and female. But, male students were significantly higher than female students in lack of superstition ($p<.05$). This result revealed that male students were less superstitious than female students. This result was agreed with the result of Wiseman and Watt (2004).

The Difference in Locus of Control by Father's Job

Based on John Holland Theory, parent's job was categorized three groups as realistic worker, enterprising worker and conventional worker. Realistic worker consists of laborer, farmer, carpenter, engineer and machine operator. Enterprising worker consists of salespeople, business man, politics and promotional workers. Conventional workers are banker, clerks, book keeper, office workers and housekeeper. To find out the differences of Grade 10 students' locus of control among three types of father's job, one way analysis of variance (ANOVA) was conducted. The result can be seen in Table 3.

Table 3. ANOVA Result for Locus of Control by Father's Job

Locus of Control	Sum of Squares	df	Mean Square	F	p
Between Group	498.335	2	249.168	2.769	.063
Within Group	67228.824	747	89.998		
Total	67727.159	749			

In Table 3, the ANOVA result showed that there was no significant difference in locus of control according to father's job. Thus, in this study, it can be interpreted that Grade 10 students' locus of control did not depend on their fathers' job.

The Difference in Locus of Control by Mother's Job

To explore the difference of locus of control among three groups of mother's job, one way analysis of variance (ANOVA) was conducted.

Table 4. ANOVA Result for Locus of Control by Mother's Job

Locus of Control	Sum of Squares	df	Mean Square	F	p
Between Group	1003.974	2	501.987	5.620**	.004
Within Group	66723.185	747	89.322		
Total	67727.159	749			

Note: **The mean difference is significant at 0.01level.

By studying the Table 4, the ANOVA result showed that there was significant difference among the three groups of mother's job on locus of control, F (2,747) = 5.620, $p<.01$. Post-Hoc test was executed by Tukey HSD. The results were presented in Table 5.

Table 5. The Result of Tukey Tests for Locus of Control by Mother's Job

Variable	Mother's Job (I) Group	Mother's Job (J) Group	Mean Difference (I-J)	p
	Enterprising worker	Realistic worker	3.668**	.007
		Conventional worker	1.369	.401
	Conventional worker	Realistic worker	2.299*	.017

Note: * The mean difference is significant at the 0.05 level.
      ** The mean difference is significant at the 0.01 level.

As presented in Table 5, the results revealed that the mean difference between enterprising worker and realistic worker was 3.668. Thus, the result revealed that students that their mothers' job as enterprising workers had more internal locus of control than those of their mothers' job as realistic workers. There was a significant difference between conventional worker and realistic worker ($p<.01$). Consequently, it can be assumed that locus of control of enterprising workers' children was significantly better than both realistic and conventional workers' children. Thus, students' locus of control was affected by mother's job.

The Differences in Locus of Control by Father's Education Level

Parent's education was categorized as primary, lower secondary, upper secondary and graduate level. One way analysis of variance (ANOVA) was computed. The findings were described in Table 6.

Table 6. ANOVA Result of Locus of Control by Groups of Father's Education Level

Locus of Control	Sum of Squares	df	Mean Square	F	p
Between Group	1677.951	3	559.317	6.317***	.000
Within Group	66049.208	746	88.538		
Total	67727.159	749			

Note: ***The mean difference is significant at 0.001level.

The ANOVA result showed that there was significant difference in locus of control by their father's education level, $F(3,746) = 6.317$, $p<.001$. To obtain detailed information of a particular group, Post-Hoc test was executed by Tukey HSD. The results were mentioned in Table 7.

Table 7. The Result of Tukey Test for Locus of Control among Levels of Father's Education

Variable	Education Level (I) Group	Education Level (J) Group	Mean Difference (I-J)	p
Locus of Control	Graduate	Primary	4.323**	.003
		Lower Secondary	4.706***	.000
		Upper Secondary	2.561	.208

Note: ** The mean difference is significant at 0.01level.
*** The mean difference is significant at 0.001level.

As mentioned in Table 7, the results revealed that the mean difference between graduate and primary level was 4.323. There was a significant difference between graduate and primary level ($p<.01$). Similarly, there was a significant difference between graduate and lower secondary level ($p<.001$). The mean difference was 4.706. According to Table 7, there was no significant difference between graduate and upper secondary level. The mean difference was 2.561. Consequently, it can be assumed that locus of control of graduate fathers' children was significantly better than that of other three groups. Thus, locus of control was affected by father's educational level.

The Difference in Locus of Control by Mother's Education Level

To investigate the differences of Grade 10 students, locus of control among four groups of mother's education level, one way analysis of variance (ANOVA) was used. The results were mentioned in Table 8.

Table 8. ANOVA Result of Locus of Control by Mother's Education Level

Locus of Control	Sum of Squares	df	Mean Square	F	p
Between Group	2354.381	3	784.794	8.956***	.000
Within Group	65372.778	746	87.631		
Total	67727.159	749			

Note: *** The mean difference is significant at 0.001level.

By studying Table 8, the ANOVA result showed that there was significant difference among the four groups of mother's education on locus of control, F (3,746) = 8.956, $p<.001$. Post-Hoc was executed by Tukey method. The results were presented in Table 9.

Table 9. The Result of Tukey (HSD) Test for Locus of Control among Groups of Mother's Education Level

Variable	Education Level (I) Group	Education Level (J) Group	Mean Difference (I-J)	p
Locus of Control	Upper Secondary	Primary	2.875*	.046
	Graduate	Primary	5.506***	.000
		Lower Secondary	5.029***	.000
		Upper Secondary	2.631	.244

Note: * The mean difference is significant at the 0.05 level.
      ***The mean difference is significant at the 0.001 level.

As presented in Table 9, the result revealed that there is a significant difference between graduate and primary level ($p<.001$). The mean difference between graduate and primary level was 5.506. Thus, the result revealed that students who mother's education was graduate level were more significantly internal than those who mother's education was primary level. Similarly, there was a significant difference between graduate and lower secondary level (p<.001). The mean difference was 5.029. The result showed that students who mother's education was graduate level were more internal than those who mother's education was lower secondary level. According to Table 9, there was no significant difference between graduate and upper secondary level. The mean difference was 2.631. Then, there was no significant difference between lower secondary and primary level and the mean difference was .477. There was a significant difference between upper secondary and primary level (p<.05), the mean difference was 2.875. There was no significant difference between upper secondary and lower secondary level, the mean difference was 2.398. Consequently, it can be assumed that locus of control of graduate mothers' children was significantly better than that of other three groups. Thus, locus of control was affected by mother's educational level.

The Relationship between Locus of Control and Academic Achievement of Students

In order to find out how the students, locus of control and academic achievement were related, Pearson correlation coefficient was used. The correlation coefficient between locus of control (four components) and academic achievement was shown in Table 10.

Table 10. Intercorrelations for Locus of Control and Academic Achievement of Grade 10 Students

Components	1	2	3	4	5	6
1.Ability to Protect Oneself	-					
2.Social Power	.167**	-				
3.Lack of Superstition	.071*	.198**	-			
4.Lack of Passivity	.101**	.211**	.294**	-		
5.Overall Locus of Control	.616**	.642**	.554**	.548**	-	
6.Academic Achievement	.444**	.294**	.269**	.209**	.506**	-

Note: **Correlation is significant at the 0.01 level (2-tailed).
         *Correlation is significant at the 0.05 level (2-tailed).

Table 10 showed the correlation between locus of control and academic achievement of Grade 10 students. It indicated that all variables of locus of control were significantly correlated with academic achievement of Grade 10 students. Moreover, the result of Pearson correlation revealed that overall locus of control was positively correlated with academic achievement ($r=.506$, $p<0.01$). The strength of correlation was rather strong.

The result described that there was a positive correlation between academic achievement and locus of control. This finding was agreed with the finding of Bozorgi (2009).

Conclusion

Based on the results of this study, most of the students have high internal locus of control. So, Grade 10 students in Shwebo Township are able to protect themselves in their life events and capable to influence on others. And they did not feel passivity and superstition. It can be concluded that the socioeconomic status of parents influence on students' locus of control. According to the result, locus of control and academic achievement are positively correlated and the strength of correlation is rather strong. That is why, students' perceived locus of control play a crucial factor that predicts academic achievement.

Acknowledgements

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An Investigation into Emotional Intelligence of Student Teachers from Loikaw Education College

Toe Toe[1] & Ohmmar Tin[2]

Abstract

The main purpose of this study was to investigate the emotional intelligence of first year and second year student teachers from Loikaw Education College in (2016-2017) Academic Year. A total of 314 student teachers (165 first year and 149 second year student teachers) were selected in this study. Student teachers' emotional intelligence was measured by using Bar-On Emotional Quotient Inventory (EQ-i). Emotional intelligence questionnaire was comprised of 40 items which is composed of five subscales: intrapersonal, interpersonal, adaptability, stress management and general mood. In this study, descriptive research design and survey method were used. According to descriptive statistics, first year and second year student teachers were high in emotional intelligence because the observed mean scores were higher than theoretical mean score (120). The result of independent sample *t* test showed that there was no significant difference in emotional intelligence of student teachers by gender but there was significant difference for all subscales of emotional intelligence by grade. First year students were higher emotional intelligence than that of second year student teachers.

Keywords: Emotion, Emotional intelligence, Student teachers

Introduction

The desire of any education system is to be able to cultivate the students who can perform effectively in various fields for the development of the country. In Myanmar, the developing country, human resource development is essential. For nurturing students, the role of teachers plays a major role since they always keep in touch with the students in school.

In schools, the students' current success is determined by their academic achievement. According to Merriam Webster, "achievement may be defined as the quality and quantity of a student's work". It can determine the student status in the class. It gives children an opportunity to develop

[1] Lecturer, Department of Educational Psychology, Sagaing University of Education

[2] Associate Professor, Department of Educational Psychology, Sagaing University of Education

their talents, improve their grades and prepare for the future academic challenges. Their academic achievement can be predicted according to their Intellectual Quotient (IQ) level. Intelligence is a set of cognitive abilities which allow us to acquire knowledge, to learn and to solve problems.

Daniel Goleman in 1995 argues that IQ alone is no more the only measure for success and IQ contributes only about 20% to success in life, and other forces contribute the rest. It is inferred that other forces include emotional intelligence, social intelligence and the luck (cited in Stys & Brown, 2004).

In human Psychology, emotion is often defined as a complex state of feeling that results in physical and psychological changes that influence thought and behavior. For educating students in the classroom, emotions take a major role for two major reasons. As the first reason, emotions have an impact on learning. Most of the students can learn and perform more successfully when they feel secure, happy and excited about the subject matter (Hammond & et al, 2005). So the teacher needs to create emotionally safe classroom environment to be able to provide the optimal learning for students. Because learning to know how to manage feelings and relationships constitutes a kind of emotional intelligence that enables people to be successful. The model of emotional intelligence (EI) was firstly defined by the psychologists John Mayer from the University of New Hampshire and Peter Salovey from the University of Yale in 1990. They distinguished the emotional intelligence as ability model which focus on the interaction of emotion and intelligence and as mixed model which include the compound conception of intelligence such as mental abilities and other traits.

In 1997, Bar-On defined emotional intelligence as a concept of non-cognitive capabilities, competencies and skills that helps individuals to become more efficient in facing with environmental demands and pressures. Bar-On (1997) proposed a mixed model of non-cognitive intelligence that includes five board area of emotional intelligence functioning relevant to success.

These five board areas include intrapersonal skills (emotional self-awareness, assertiveness, self-regard, self-actualization, independence), interpersonal skills (empathy, social responsibility, interpersonal), adaptability (reality, flexibility, problem solving), stress management (stress tolerance, impulse control) and general mood (optimism, happiness).

Understanding emotional abilities will be significant that the students exhibit as they progress to the higher. The emotionally intelligent students might be able to manage their lives better and might gain ability through emotional and social learning to incorporate emotional information into decision making as well as into behavioural aspects of their personalities Bar-On, 1997). The study will also enhance the understanding and importance of emotional intelligence in facilitating learning process, improving career choices, and increasing possibility of success in every aspect of an individual's life. It will explain that the students who use emotional intelligence in managing their emotions adjust well to school settings, build confidence towards learning and exhibit appropriate social behaviour.

Enhancing emotional intelligence skills will help students to improve their learning in various situations of classrooms. There is no need to say that how emotional intelligence is important for students to enhance their social behaviour. So, the educators in schools will expand their knowledge concern with the five dimensions of emotional intelligence and the effect of emotional intelligence. In educational institutions, emotional intelligence could be helpful in protecting students from those behaviours that fail to conform to the social norms. Emotional intelligence trains students to be more facilitate in educational practices. This might be helpful in making the students successful in day to day life by enhancing emotional intelligence and teaching moral values. Therefore, emotional intelligence is the vital roles to be more effective in teaching and learning process. For this reason, it is necessary to study emotional intelligence in all educational fields of the life.

Aim of the Study

The main aim was to study the emotional intelligence of student teachers.

Definitions of Key Terms

Emotion   : Emotion is a complex affective experience that involves diffuse physiological changes and can be expressed overtly in characteristic behaviour patterns (Morris, 1979, cited in Mangal, 2010).

Emotional Intelligence: Emotional intelligence as a concept of non-cognitive capabilities, competencies and skills that helps individuals to

become more efficient in facing with environmental demands and pressures (Bar-On, 1997).

Student Teachers   : Student who is studying to be a teacher and who, as part of the training, observes classroom instruction or does closely supervised teaching in an elementary or secondary school (cited in Wikipedia, the free encyclopedia).

Methodology

Sample of the Study

The participants for this study were from Loikaw Education College. The total numbers of the sample were 314 students (132 = males, 182 = females).

Research Design and Method

In this study, descriptive research design and survey method were used and quantitative method was conducted for analyzing the data.

Instrumentation

Emotional Quotient Inventory (EQ-i) by Bar-On (1997) was used in this study. The detail of composite scales of EQ-i is given in the following table.

Table 1. Scales and Subscales of EQ-i

No	Scales of EQ-i	Subscales
1.	Intrapersonal	Emotional Self-awareness, Assertiveness, Self-regard, Self-actualization and Independence
2.	Interpersonal	Empathy, Interpersonal Relationship and Social Responsibility
3.	Adaptability	Problem Solving, Reality Testing and Flexibility
4.	Stress Management	Stress Tolerance and Impulse Control
5.	General Mood	Happiness and Optimism

Data Analysis and Findings

In table 2, descriptive analysis of emotional intelligence of the students was computed.

Table 2**.** Descriptive Statistics for Emotional Intelligence of Students

Variable	N	Mean	Median	SD	Minimum	Maximum
Emotional Intelligence	314	140.77	141.00	16.042	95	186

The mean score of emotional intelligence was 140.77, the standard deviation was 16.042. As the observed mean score was higher than that of the theoretical mean score 120, it can be said that the students from Loikaw Education College had high emotional intelligence.

Comparison of Emotional Intelligence of the Students by Gender

To investigate the difference in emotional intelligence by gender, the mean and standard deviation of gender were presented in Table 3.

Table 3. Mean and Standard Deviation of Students' Emotional Intelligence by Gender

Gender	N	Mean	SD
Male	132	142.19	16.827
Female	182	139.75	15.412

According to table 3, there was a difference between mean scores of males and females. Hence, by using the independent sample *t* test, the difference in emotional intelligence by gender was examined more specifically.

To analyze the difference in student teachers' emotional intelligence by gender, the independent sample *t* test was performed and whether it was significant or not. The result of *t* test was described in Table 4.

Table 4. Result of *t* test for Students' Emotional Intelligence Subscales by
Gender

Subscales	Gender	*N*	*t*	*df*	*p*
Emotional Intelligence (total)	Male	132	1.333	312	.183
	Female	182			
Intrapersonal	Male	132	-.073	312	.942
	Female	182			
Interpersonal	Male	132	-.881	312	.379
	Female	182			
Adaptability	Male	132	1.198	312	.232
	Female	182			
Stress management	Male	132	3.096	277.921	.002
	Female	182			
General mood	Male	132	1.441	312	.151
	Female	182			

In Table 4, there was no significant difference in total emotional intelligence but there was significant difference in one of subscales of the students by gender. Five subscales of emotional intelligence were intrapersonal, interpersonal, adaptability, stress management and general mood. Among them, stress management skill was significant at 0.05 level. So, male students were better than female students in this subscale.

Comparison of Emotional Intelligence of the Students by Grade

To explore the mean and standard deviation of emotional intelligence by grade, the descriptive analysis was computed and the result was described in Table 5.

Table 5. Mean and Standard Deviation for Emotional Intelligence of

        Students by Grade

Student Teachers' Grade	N	Mean	SD
First Year	165	144.08	16.845
Second Year	149	137.11	14.284

       According to Table 5, the mean score of first year students was 144.08 and that of second year students was 137.11. So, the mean score of emotional intelligence for first year students was higher than that of second year students.

       To analyze the difference in student teachers' emotional intelligence by grade, the independent sample *t* test was conducted. The following table showed the result.

Table 6. Result of *t* test for Students' Emotional Intelligence Subscales by

       Grade

Subscales	Student Teachers' Grade	N	t	df	p
Emotional Intelligence (**Total**)	First Year	165	3.970	310.796	.000
	Second Year	149			
Intrapersonal	First Year	165	3.486	309.609	.001
	Second Year	149			
Interpersonal	First Year	165	2.097	304.769	.037
	Second Year	149			
Adaptability	First Year	165	3.263	304.298	.001
	Second Year	149			
Stress Management	First Year	165	2.735	311.999	.007
	Second Year	149			

Subscales	Student Teachers' Grade	N	t	df	p
General Mood	First Year	165	3.324	292.808	.001
	Second Year	149			

Table 6 indicated that there was significant difference in emotional intelligence of students between first year and second year. There was significant difference for total subscales of emotional intelligence of students between first year and second year at 0.001 level. For intrapersonal subscale, adaptability subscale and general mood subscale, there was significant difference at 0.001 level and there was significant difference in interpersonal subscale and stress management subscale at 0.05 level. So, it was found that emotional intelligence of first year students from Loikaw Education College was higher than that of second year students.

Summary of Findings and Conclusion

Emotional intelligence involves the capacity to carry out reasoning in regard to emotions, and the capacity of emotions to enhance reasoning. More specifically, emotional intelligence is said to involve the ability to perceive and accurately express emotion, to use emotion to facilitate thought, to understand emotions, and to manage emotions for emotional growth (Mayer & Salovey, 1997). Emotional intelligence is an outgrowth of two areas of psychological research that emerged over forty years ago. The first area, cognition and affect, involved how cognitive and emotional processes interest to enhance thinking (Bower, 1981; Isen, Shalker, Clark, & Karp, 1978; Zajonc, 1980). Emotions like anger, happiness and fear as well as mood states, preferences and bodily states, influence how people think, make decisions and perform different tasks (Salovey & Birnbaum, 1989). The second was an evolution in models of intelligence itself. Rather than viewing intelligence strictly as how well one engages in analytic tasks associated with memory, reasoning, judgment, and abstract thought, theorists and investigators began considering intelligence as a broader array of mental abilities (Gardner, 1983 / 1993; Sternberg, 1985).

In line with the research objectives, a survey study was conducted in (2016-2017) academic year to explore first year and second year students'

emotional intelligence. A total of 314 students; 165 first year students and 149 second year students from Loikaw Education College participated in this study. The students' emotional intelligence was measured by Bar-On Emotional Quotient Inventory (EQ-i).

Based on students' responses to questionnaire, descriptive data analysis was firstly computed to explore the mean and standard deviation of emotional intelligence. Accordingly to the results, students in Loikaw Education College had satisfactory emotional intelligence to some extent because the sample mean and standard deviation of emotional intelligence were 140.77 and 16.042. Therefore, it can be said that first year and second year students in Loikaw Education College were high in their emotional intelligence.

Gender Differences: Based on the mean comparison for emotional intelligence by gender, the mean scores of male and female were 142.19 and 139.75. Based on the result of t test by gender, there was no significant difference in emotional intelligence that they were approximately equally responses to these. But the mean score of the male students was slightly higher than the female students. Daniel Goleman (1998) asserts that no gender differences in emotional intelligence in exist, admitting that while male and female may have difference profiles of strengths and weaknesses in different areas of emotional intelligence, their overall levels of emotional intelligence are equivalent.

Again, emotional intelligence's subscales were computed by t-test. Based on the result of t-test by gender, there was significant difference in stress management scale of emotional intelligence at 0.05 level. So, the male students were higher in stress management scale than the female students. It is suggested that the male students are more convenient in stress management skill of social situations and they can adjust well with the conditions they undergo than the female students.

Grade Differences: Based on the mean comparison for emotional intelligence by grade, the mean scores of first year and second year students were 144.08 and 137.11. Based on the result of t-test by grade, there was significant difference for total subscales of emotional intelligence of students between first year and second year at 0.001 level. Therefore, the emotional intelligence of first year students was higher than that of second year students from Loikaw Education College. The samples of this study were different in their academic performance at their previous BEHS level

because the cut off scores for passed marks of Matriculation Examination of first year students (2015-2016 Academic Year) was higher than that of second year students (2014-2015 Academic Year) to enter Loikaw Education College. Rode et al. (2007) reasoned that individuals with high emotional intelligence would perform better academically. Besides, Johnson (2009) agreed that emotional healthy is fundamental to effective learning. The most critical element of a students' success is an understanding of how to learn. Students with self-awareness, the element of emotional intelligence will definitely have very high of academic performance. So, this finding was corresponded to those.

Suggestions

The results of the present study provide the considerable insight into the students' emotional intelligence that can create for their better life. Based on the results, second year students from Loikaw Education College should be trained to become a person who is high emotional intelligence by teachers. Moreover, it is important for every student to have the skills in emotional intelligence in order to succeed in their academics, to face the challenges of the knowledge age and to be able to create the nation with the full of energy and enthusiasm. According to researchers, since a person who has good healthy emotional intelligence is more successful in life than a person who is high intelligence, everybody should not only keep their emotional intelligence level but also try the best it. In Loikaw Education College, female students are low emotional intelligence in stress management scale. So, the teachers should nurture their emotional intelligence of stress management scale to develop and to be able to face the problems in their real life situation. And then, as second year students in Loikaw Education College have lower emotional intelligence than that of first year students, they also need to cultivate the best of it. Although all students in Loikaw Education College have high emotional intelligence, every student needs to enhance it better than the previous. Enhancing emotional intelligence skills will help students to improve their learning in various situations of classrooms. So, the teachers in schools should have their knowledge concerned with the five dimensions of emotional intelligence and the effect of emotional intelligence. Emotional intelligence trains students to be more facilitated in educational practices. This might be helpful in making the students successful in day to day life by enhancing emotional intelligence and teaching moral values. Therefore, emotional

intelligence is the vital roles to be more effective in teaching learning process. For this reason, emotional intelligence is useful not only in the field of education but also in every sector of the life.

Acknowledgement

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Self-regulated Learning of Undergraduate Students and Postgraduate Students in Universities of Education

Myat Su Hlaing[1] & Kyaw Zan Hla[2]

Abstract

This study explored self-regulated learning of undergraduate and postgraduate students. A total of 1258 students from Yangon University of Education and Sagaing University of Education were involved in this research. The Motivated Strategies for Learning Questionnaire, developed by Pintrich, was modified into Myanmar version and used to measure students' self-regulated learning. It is a self-report Likert Type Instrument and composed of value component, expectancy component, cognitive and metacognitive strategies, resource management strategies and test anxiety. Data analysis included multiple regression, Pearson product moment correlation and independent sample t-test. Findings provided evidence that the strongest effect on academic achievement appears due to resource management strategies. The second strongest effect on academic achievement is cognitive and metacognitive strategies. The result from intercorrelation analyses showed that the resource management strategies variable and the cognitive and metacognitive strategies variable are significantly intercorrelated at ($p <$ 0.001) level. Independent sample t-test results revealed that undergraduate students are more than postgraduate students on value component and on expectancy component. Undergraduate students are less anxious for tests than postgraduate students.

Keywords: self-regulated learning

Introduction

Importance of the Study

Nowadays, teachers are pressed to extend their craft to prepare more diverse students for the challenge of work and life beyond school. They are challenged to provide more authentic instructional contexts and activities Thus, teachers need to be much more thoughtful and reflective about their teaching and about their students. Prospective teachers are generally assumed to possess metacognitive skills to self-regulate their learning.

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[1] Lecturer, Department of Educational Psychology, Yankin Education Degree College
[2] Associate Professor (Retired), Dr., Department of Educational Psychology, Yangon
  University of Education

Self-regulated learning is a vital aspect of learning and achievement in academic contexts. Self-regulated students are more likely to possess higher levels and to become successful. So, it is very important for schools and classrooms to attempt to foster the development of expertise in self-regulated learning. In these days, the explosion of information and multiple ways of learning is greatly increasing. It will become more important for individuals to self-regulate their learning. Even so, fostering self-regulated learning plays a crucial goal for all education systems. Teachers have the responsibility to teach students not just what to learn but more importantly how to learn. Teaching students of self-regulated learning strategies is reflective of the life-long goal of education which is teaching students the will as well as the skill in learning (Pintrich & De Groot, 1990).

Teaching requires problem-solving and invention. Therefore, understanding the notion of self-regulation is essential for teachers. Self-regulated teachers can gain a deeper understanding of the learning experiences that face their students. The more the teachers understand about their own thinking, the better they can model for students. Understanding self-regulation and how it is nurtured opens up a world of possible roles and relationships between teachers and students. Thus, this study tries to highlight the self-regulated learning of prospective teachers in order to be able to impart a metacognitive curriculum to students that is thought-provoking and stimulating.

Purpose

The main purpose of the study was to examine the self-regulated learning of undergraduate and postgraduate students in Universities of Education.

Method

Sample of the Study

In this study, B.Ed. students: first year, second year, third year and fourth year, participated as undergraduate students. M.Ed. first year students and second year students were selected as postgraduate students. A sample of 1258 students (undergraduate=1112 and postgraduate=146) was selected from both Yangon University of Education and Sagaing University of Education.

Instrumentation and Pilot Testing

The Motivated Strategies for Learning Questionnaires was revised and checked by ten educational experts. The questionnaires were modified according to their suggestions and recommendations. In order to examine validity and reliability, a pilot testing was conducted in December, 2011, with forty B.Ed. fourth year (junior) students in Yangon University of Education. The questionnaires were re-modified again to be more accomplished by correcting misunderstandings, requisites and inappropriate uses.

Final Test Administration

A survey study was conducted with undergraduate students as well as postgraduate students from Yangon University of Education and Sagaing University of Education. As for the reference of academic achievement, scores for Educational Psychology were collected together with their questionnaires. Collecting data was completely conducted in January, 2012.

The data were entered into a computer data file and were analyzed using the Statistical Package for the Social Science (SPSS) software version 16. In order to examine the responses in the categories such as value component, expectancy component, cognitive and metacognitive strategies and test anxiety, Descriptive, Multiple regression analysis, Pearson product moment correlation and Independent sample t-test were used. Multiple regression analysis was used to investigate the best predictors of self-regulated learning affecting upon students' academic achievement. Independent sample t-test was used to examine whether there were significant differences between undergraduate students and postgraduate students. It was also used to investigate the differences of undergraduate students' self-regulated learning between Yangon University of Education and Sagaing University of Education.

Data Analysis and Findings

Self-Regulated Learning between Undergraduate Students and Postgraduate Students

In order to investigate whether there was a significant difference between undergraduate students and postgraduate students on self-regulated learning strategies, independent sample t-test was conducted.

Table 1. Comparison of Undergraduate and Postgraduate Students from
Universities of Education

Variable	Mean	Standard Deviation	*t*	*df*	*p*
Value Component					
Undergraduate	44.4451	4.19449	4.928	1256	.000
Postgraduate	42.6164	4.37431			
Expectancy Component					
Undergraduate	34.7878	4.14693	3.222	1256	.001
Postgraduate	33.6301	3.54092			
Cognitive and Metacognitive Strategies					
Undergraduate	71.8103	6.66013	.076	1256	.946
Postgraduate	71.7671	4.81526			
Resource Management Strategies					
Undergraduate	50.1978	5.47891	.000	1256	.774
Postgraduate	50.3356	5.26704			
Test Anxiety					
Undergraduate	13.5072	4.03829	-.287	1256	.000
Postgraduate	15.3973	2.74045			

According to the results, undergraduate students were significantly different from those from postgraduate students on value component, expectancy component and test anxiety (t=4.928, t=3.222, t=-.287, p <.001). On the other variables, there was no significant difference between them. It was found that postgraduate students were more anxious than undergraduate students.

Table 2. Mean Percentage of Students with Self-Regulated Learning
         Strategies by Grade Level

Self-Regulated Learning Strategies	B.Ed. First Year	B.Ed. Second Year	B.Ed. Third Year	B.Ed. Fourth Year
Value Component	83.33%	79.40%	80.21%	80.83%
Expectancy Component	80.44%	78.23%	78.67%	76.29%
Cognitive and Metacognitive Strategies	75.54%	75.66%	79.42%	76.46%
Resource Management Strategies	73.17%	71.19%	72.08%	71.46%
Test Anxiety	66.67%	70.15%	65.95%	67.76%

According to Table 2, B.Ed. first year students take the greatest effort in self-regulated learning strategies on value component. They are also the highest performance on expectancy component and on resource management strategies. B.Ed. third year students use the most effective cognitive and metacognitive strategies. Moreover, the table shows that B.Ed. second year students are the most anxious for tests in self-regulated learning. Generally, it can be said that undergraduate students from Universities of Education are good at using self-regulated learning strategies.

In order to investigate the best predictors of students' academic achievement, simultaneous multiple regression was conducted. When the

combination of variables to predict academic achievement included value
component, expectancy component, cognitive and metacognitive strategies,
resource management strategies and test anxiety, it is found that significant
difference exits among the variables; $F(5, 1252)=6.252$, $p<0.001$.

Table 3. Inter-correlations for Academic Achievement and Predictors
         Variables (N=1258)

Variables	Value Component	Expectancy Component	Cognitive, Metacognitive Strategies	Resource Management Strategies	Test Anxiety
Academic Achievement	.83**		.094**	.134**	
1.Value Component		.417**	.140**	.346**	
2.Expectancy Component			.085**	.217**	
3.Cognitive, Metacognitive Strategies				.169**	
4.Resource Management Strategies					.160**
5.Test Anxiety					

Note: $p**<0.01$, $p*<0.05$

Table 3 shows that the resource management strategies variable is
the best predictor to determine students' academic achievement. It can be
assumed that the students who can manage their resource can possess high
marks in their subject. It is not surprising that the resource management
strategies variable is a significant contributor to the prediction of learning in
the subject. Besides, the cognitive and metacognitive strategies variable is
also the predictor to determine students' academic achievement. It means
that the students who are good at rehearsal, elaboration, organization,
critical thinking and metacognitive self-regulation can achieve more marks
in the subject. Therefore, research on academic self-regulation suggests that

students who get success in academic settings tend to possess and use effective self-regulative learning strategies such as resource management, and cognitive and metacognitive.

Table 4. Simultaneous Multiple Regression Analysis Summary

Variable	B	SEB	Beta	Sig
Value Component	.009	.009	.032	.318
Expectancy Component	.002	.009	.007	.823
Cognitive and Metacognitive Strategies	.013	.005	.070**	.013
Resource Management Strategies	.024	.007	.110*	.000
Test Anxiety	-.001	.008	-.004	.878
Constant	3.361	.518		

Note: R^2=.020; F (5, 1252) =6.252, p**<0.01, p*<0.05

The adjusted R squared value was .020. This indicates that approximately 2% of the variance in academic achievement was explained by the model.

The produced multiple regression equation for cognitive and metacognitive strategies, resource management strategies and academic achievement of undergraduate students and postgraduate students was;

Academic Achievement=3.361+.013 CMS+.024 RMS

Where, CMS = cognitive and metacognitive strategies

RMS = resource and management strategies

Discussion, Limitation and Further Research

Consistent with the past research, this study investigated the self-regulation in academic learning of undergraduate students and postgraduate students in Universities of Education and how it differs between undergraduate students and postgraduate students. Moreover, the difference of undergraduate students' self-regulated learning between Yangon University of Education and Sagaing University of Education was also examined. Among the five variables of self-regulation: value component, expectancy component, cognitive and metacognitive strategies, resource management strategies and test anxiety, the resource management strategies variable was the best predictor of self-regulation. Students who were more cognitively engaged in trying to learn through the use of effort management, ability to control their effort, performed better than students who tended not to use these strategies.

It was found that students' challenge, curiosity and mastery could affect their academic performance. Grades and rewards were important for getting high academic achievement as well as high task value led to more involvement in one's learning. The finding suggests that the use of cognitive and metacognitive strategies, such as rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, is important for academic performance. Therefore, it is not surprising that the use of resource management strategies, such as effort regulation, managing time and study environment, help seeking and peer learning, is essential for academic learning. Test anxiety is found to be negatively and significantly associated with academic achievement.

According to Pintrich and Roeser (1994), anxiety is the effective dimension of motivational beliefs. Anxiety could be beneficial to learning. A moderate amount of anxiety can increase motivation, produce a heightened state of alertness as well as concentration; consequently improve performance. It could be related to academic achievement negatively because more anxious students can make more mistakes when facing examinations. The comparison of undergraduate students and postgraduate students was examined that the undergraduate students were higher in value component than the postgraduate students. Concerning with test anxiety, it was found that the postgraduate students were more anxious than the undergraduate students.

Teachers should improve students' resource management strategies, value component as well as cognitive and metacognitive strategies and reduce their anxiety level. Students need to have both the "will" and "skill" to be successful in the courses they take. Students should be taught how they select, organize, or create advantageous learning environment for themselves, and how they plan, control the form and amount of their own instruction. Being beneficial for life-long learning, self-regulated learning skills should be caught by teachers. Therefore, the self-regulated teachers can create better learning environment for the students to develop their self-regulatory competencies.

There is no doubt to take additional research on the self-regulated learning of in-service teachers. In the future, more researches are needed on the self-regulated learning of university students across disciplines. Future research needs to emphasize on the tendency for the development of self-regulated learning according to grade level. It also needs to focus on equal numbers of participants of different genders.

Conclusion

In summary, the importance of considering both resource management strategies and cognitive, metacognitive strategies in the model of academic performance is provided as valid empirical evidence from the results. Students' involvement in self-regulated learning is closely tied to their strategies to perform their task and to their perceptions of their course material in terms of interest, importance and utility.

Acknowledgements

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Number Sense and Mathematics Achievement of Grade 8 Students in Monywa Township

Zu Zu Tun Maw*

Abstract

The aim of the study was to investigate the number sense and mathematics achievement of Grade 8 students in Monywa Township. The test applied in the study consists of five subscales based on McIntosh, Reys & Reys Model of Number Sense (1992). These subscales are: number concepts, multiple representations, effect of operation, equivalent expression and counting and computing. The 63 items pilot test was administered and p-value and point-biserial correlation of the items were analyzed by using Bilog-MG Software. After analysis, a total of 40 items number sense test was administered on 521 students from three different schools in Monywa Township. The mathematics achievement scores were defined as the scores of Semester test from October. The quantitative research design was used. According to correlational analysis, the achievement of the students in mathematics are significantly correlated with their number sense (r=.903, p<.01). And the number sense subscales had significant effect on mathematics achievement by regression analysis.

Keywords: number sense, mathematics achievement

Introduction

Importance of the Study

The last two decades of research have seen dramatic changes in the way that the developmental psychologists characterize the earliest stages of cognitive development. The foundation of cognitive development includes Spatial relationships, Problem solving, Imitation Memory Classification, Symbolic play, Attention and Number sense (Mikeconneell, 2012). To better appreciate and more effectively cultivate young children's cognitive capacities that too often are underestimated or even neglected, the researcher were aimed at exploring the development of number sense.

* Lecturer, Department of Educational Studies, Yankin Education Degree College, Yangon

Understanding of number and the number system is a major dimension of mathematics curricula. Moreover, a strong sense of number serves as a framework for the development of algebraic thinking. This kind of sense of number refers as number sense. Number sense is difficult to define and express simply. Many researchers and educators had looked for better and more expansive descriptions about number sense.

Number sense is a relatively a new term as far as the mathematics curriculum is concerned (Mohamed & Johnny, 2010). According to Witzel (2012), the term "number sense" means different things to different people. Moreover, number sense can be described as a good intuition about numbers and their relationships. It develops gradually as a result of exploring numbers, visualizing them in a variety of contexts, and relating them in ways not limited by traditional algorithms (Howden, 1989, cited in Kaminski, 2002). People with good number sense are able to understand numbers and use them effectively in everyday living.

Number sense is an intermediate ability which operates unconsciously. Fostering number sense ultimately improves a learner's acquisition of future concepts. It can be promoted by ensuring that students learn to calculate in various ways written, mental, approximates and electronic methods (Pilmer, 2008).

An application for mathematics assumes a perception of the properties of numbers and the relationship between them, sometimes called a "number sense", and it is difficult to imagine developing a general skill in mathematics without it. Teachers can encourage this growth through instruction and classroom activities, but acquiring a good number sense is to a large extent an individual process. Manipulating numbers with rote methods of arithmetic does little to develop capability, as these universal methods treat numbers as simply collections of digits (Doerfler, 2006).

Number sense is a valid and powerful measure that can be used to predict which children are likely to have trouble learning mathematics. Ejersbo (2013) proposed that number sense needs to be integrated into mathematics teaching and learning on all levels and for all children. Moreover, number sense is also the general goal for mathematics in Kindergarten to Grade Nine. Now, the role of the development of number sense is becoming greater for the individuals when encountering in number problems and tools than the last years (McIntosh, Reys & Reys, 1992).

With well-developed number sense knowledge, students can use flexible ways to make mathematical judgments and develop useful strategies for solving complex problems. Students can make connections and improve their own understanding of mathematics through the wealth of number sense knowledge.

In the 21st century, helping children develop number sense is being considered on a global scale as a key task in mathematics education. Moreover, since the number sense is an intuitive ability of an individual, it is possible to investigate not only the students' mental arithmetic ability but also their mathematical thinking and reasoning. Thus, this study aims at studying the number sense of Grade 8 students from selected schools in Monywa Township related to their mathematics achievement.

Purpose

The main purpose of this study was to investigate the number sense and mathematics achievement of Grade 8 students in Monywa Township. The specific objectives are as follows;

1. to explore the group differences between males and females' performance in number sense.

2. to investigate if there is a relationship between student performance in number sense and mathematics achievement.

3. to predict the effect of number sense on mathematics achievement if there is a significant relationship between number sense and mathematics achievement.

Method

Sample of the Study

This study was geographically limited to investigate into number sense and mathematics achievement of Grade 8 students in Monywa Township. A total of 521 students (male= 258, female= 263) from three selected schools in Monywa Township were randomly selected.

Instrumentation and Pilot Testing

In this study, 83 items number sense test was developed based on McIntosh, Reys and Reys Model of Number Sense (1992). Most of the items of the test to every component of number sense were collected from the item bank of McIntosh et at. (1997) and some items were adopted from the study of McIntosh, B. Reys, R. Reys, Bana and Farrell as cited in Singh (2010).With respect to ambiguity of meaning and conformity with middle students' level, the editorial review of items by experts in the field of educational psychology from the Universities of Education were done. Based on their reviews, 63 items were selected and utilized for pilot testing.

Pilot testing was administered to 105 Grade 8 students during the first week of November in 2014. After that, the analysis was performed for the construct validity of the test. At this stage, p-value (difficulty index in Classical Test Theory) and point-biserial correlation (the discrimination index) for each item were calculated by using BILOG-MG software. The p-value is the proportion of examinees who answer the item correctly and its value may range from 0 to +1. The point-biserial correlation reflects item test correlation when a discrete binary variable is correlated with a continuous variable and its value may range from -1 through 0 to +1 (Nu Nu Khaing,2011). After conducting the item analysis, 40 items were left for final test administration. When analyzing for test reliability, the internal consistency reliability (Cronbach's alpha coefficient) was 0.82. So, the internal consistency of this test was high and it can be said fairly reliable.

For mathematics achievement, the mathematics test scores of Semester test from October were collected from each school in this study.

Final Test Administration

After pilot testing, the remaining test of 40 items were administered to a sample of 521 students from the selected schools in the first week of December, 2014. All of test items were multiple-choice items with four options and a single correct answer. The limited time was forty minutes length for the completion of the whole test.

Then, the students' responses were scored. In scoring the test, the students were provided 40 marks for the completion of 40 multiple-choice items and the scoring method was 1 for correct answer and 0 for the incorrect answer.

After collecting the actual survey, the quantitative data analysis was conducted by using the SPSS 16.0 Version (Statistical Package for Social Science). Finally, results from SPSS were carefully interpreted and prepared the findings.

Data Analysis and Findings

Number Sense of Grade 8 Students

Number sense of Grade 8 students was measured by five subscales. Students' number sense scores and the correct percent in order to assess the students' performance of number sense were described by descriptive statistics.

Table 1. Descriptive Statistics of Students' Number Sense

Subscales	No. of Items	Mini-mum	Maxi-mum	Mean	Mean (%)	Correct (%)	Std. Deviation
Number Sense	40	4	36	19.09	53.03%	53.03%	6.76

According to the correct percent of students' performance on number sense, since around the 50% of the students on number sense test were correct, their performance was to be say good.

Gender Comparison of Number Sense

To examine whether gender differences exist within number sense, the independent sample t-test was conducted.

Table 2. Result of Independent Sample t-test for Number Sense by Gender

Variable	Gender	N	t	df	p	Mean Difference
Number Sense	Male	258	-4.206*	519	.000	-2.45
	Female	263				

Note: * The mean difference is significant at 0.05 level.

The result mentioned that there were significant differences in number sense by gender at 0.05 level. And female students were higher than male students ($p=.000$).

The Relationship Between Number Sense and Mathematics Achievement

The Pearson Product-Moment Correlation was used to find the correlation between number sense and mathematics achievement.

Table 3. The Correlation Matrix Between Number Sense and Mathematics Achievement

	Number Sense	Mathematics Achievement
Number Sense	1	.903**
Mathematics Achievement	.903**	1

Note: ** Correlation is significant at the 0.01 level (2-tailed).

According to the above table, the result revealed that there was a relationship between number sense and mathematics achievement because the correlation coefficient was statistically significant (r=0.903, $p<.01$).

The Effect of Number Sense on Mathematics Achievement

The regression analysis was utilized in order to investigate how well the number sense predicts mathematics achievement.

Table 4. Multiple Regression Analysis for Predicting Mathematics Achievement from Number Sense Subscales

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std. Error	Beta		
1	(Constant)	20.618	1.436		14.357	.000
	Multiple Representations	4.423	.240	.532	18.433	.000
	Counting and Computing	3.433	.373	.269	9.197	.000
	Number Concept	2.156	.350	.152	6.156	.000
	Equivalent Expression	1.360	.247	.137	5.495	.000

According to the data of Table 4, 53.2% of the variance in mathematics achievement was affected by multiple representations (MR). Next, counting and computing (CC) was able to predict 26.9% and number concept (NC) was able to predict 15.2% of the variance in mathematics achievement. Besides, equivalent expression (EE) was being able to account for 13.7% of the variance in mathematics achievement. Then the multiple regression equation can be defined as follow:

$$MA = 20.62 + 4.423\ MR + 3.433\ CC + 2.156\ NC + 1.36\ EE$$

From these findings, it was found that multiple representations, counting and computing, number concept and equivalent expression were the predictors of mathematics. Moreover, if all of the number sense subscales were over looked, multiple representation was the largest effect and equivalent expression was the smallest effect on mathematics achievement. Besides, it was also found that there was no significant effect on mathematics achievement by the effect of operation.

Discussion, Limitation and Further Research

The major purpose of this study was to investigate the number sense of Grade 8 students. Moreover, gender differences of the number sense were also examined. In addition, the relationships between number sense and mathematics achievement of students and the effect of number sense on mathematics achievement were also investigated.

It was found that the number sense of Grade 8 students from three selected schools in Monywa Township were enough for only to be say good but it was not being able to say well. Because the result showed that the average percentage of the participants who answered the items correctly in the whole test was around 50%. The fact that these students had   poor performance in number sense may be due to the students having few chances to solve this kind of number sense tests in their textbooks and the traditional teaching focusing on the written tests in every schools.

Moreover, the result of independent sample t-test also assured that there was significant difference between male and female students in number sense. Therefore, it may be concluded that female students had high number sense in comparison with male students in this present study. This may be due to the fact that although male students are bright in natural, most of the female students concentrate on the study than males and then females always ask for the suggestions from the teachers.

Besides, it was found the significant relationship in number sense and mathematics achievement and significant effect of number sense subscales on mathematics achievement. Therefore, it can be concluded that if the students have high number sense, their mathematics achievement will also be good.

The researcher gives some suggestions for further studies. Since the number sense is the key predictor of mathematics achievement, the studies of number sense should be conducted increasingly for the students' mathematics achievement. Then, further researchers should use the other subscales and the next number sense model. Hence, the participants of the study should be increasingly selected as much as possible. Further investigations are needed to identify the causes of students' poor number sense and the solutions to effectively address this problem. To enable better understanding of the difficulties faced in each number sense subscales, an

in-depth interview concerning each item should be conducted among the respondents selected at random.

Conclusion

From this study, it can be concluded that there are many ways in developing students' number sense such as, giving some activities that can support students' connection skills, exploring and discussing the concept, making sure that the order already suits the concepts, and connecting the problems to students' reality. Nowadays, Ministry of Education or even the world is promoting the teaching with understanding in a higher order way. Teaching of number sense is higher order thinking. Well-designed instructional lessons not only help children develop number sense, but actually promote the development of critical thinking and reasoning about numbers and operations. But, most of the students were found to apply the rote algorithms in their number sense test in this study. Teachers should emphasize on looking for the strategies that students may use in estimation, and appreciate and encourage students to use different strategies to make a reasonable estimate. Finally, if the teachers want their students to have a better number sense, the teaching of numerical estimation or other measurement estimation should start from primary school so that more students could have enough time to develop their number sense.

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A Study on the Concept Attainment of Grade Eight Students in Geometry

Aye Su Myat[1] & Naing Naing Thein[2]

Abstract

The main purpose of this research is to study the concept attainment of Grade Eight students in Geometry. Quantitative research method was used in this study. For quantitative research, an experimental study was conducted. One of the quasi-experimental designs, viz., the nonequivalent control group design, was used in this study. There were (607) Grade Eight students in the experiment. The instruments used in this study were pretest, posttest, and questionnaire. Learning materials for this study were selected from Grade Eight mathematics textbook, Volume 2. According to the pilot testing, the internal consistency of pretest question was 0.778. The data were analyzed by using independent samples *t* test and one-way analysis of covariance (One-Way ANCOVA). According to results, differences in mathematics achievement and mathematics process skills were significantly found between the two selected groups. Finally, research findings proved that this study has positive contribution to middle school mathematics teaching.

Keywords: Concept, concept attainment, geometry

Introduction

In the words of Young (n.d., cited in Zubair, 2012), mathematics is the subject that encourages and develops logical thinking. It enables students to discriminate between essential and non-essential. Therefore, knowledge of mathematics is extremely important for training rational, trustworthy, and useful citizens in a democratic society. Geometry is a branch of mathematics. If a student has a wrong concept in Geometry, he will find the difficulty to make progress. Weakness of students in mathematics at lower stage hinders their progress in learning mathematics at higher stage of mathematics.

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[1] Lecturer, Dr., Methodology Department, Yangon University of Education.
[2] Associate Professor, Dr., Methodology Department, Yangon University of Education.

Objectives of the Research

The main objective of the research is to study the concept attainment of Grade Eight students in Geometry.

Specific objectives are as follows.

1. To construct a new concept attainment model for middle school mathematics teaching

2. To create learning activities based on the proposed concept attainment model for middle school mathematics teaching

3. To assess concept attainment of Grade Eight students in Geometry

4. To make suggestions and recommendations for the improvement of mathematics teaching

Research Hypotheses

The hypotheses of this study are as follows.

H_1: There is a significant difference between the mathematics achievement of students who are taught with the proposed concept attainment model of teaching mathematics and that of students who are taught with formal instruction.

H_2: There is a significant difference between the mathematics process skills of students who are taught with the proposed concept attainment model of teaching mathematics and those of students who are taught with formal instruction.

H_3: Students who are taught with learning activities based on the proposed concept attainment model may have positive attitudes towards mathematics learning.

H_4: Teachers who taught the experimental groups may have positive attitudes towards the proposed concept attainment model.

Definition of Key Terms

Definitions of key terms are presented as follows.

Concept. A concept is simply a label of a set of things that something in common (Archer, 1969, cited in Zubair, 2012).

Concept attainment. Concept attainment is the search for and identification of attributes that can be used to distinguish examples of group or category from non-examples (Santrock, 2006).

Geometry. Geometry is the science of space and extent (Sidhu, 1995).

Proposed Concept Attainment Model for Middle School Mathematics Teaching

In proposed concept attainment model, there are five main components.

1. Planning for concept attainment activities

2. Assessing prerequisite skills

3. Implementing concept attainment activities

4. Testing attainment of the concept

5. Providing feedback or reflecting

Research Method

Quantitative research method was used to analyze students' mathematics achievement and mathematics process skills. One of the quasi-experimental designs, viz., the nonequivalent control group design was used. Grade Eight students from the selected schools were selected as the subjects. There were (607) Grade Eight students in the quantitative study. Pretest and posttest were used as quantitative research instruments. The pretest question consists of (30) multiple choice items. Test items were constructed based on Grade Seven mathematics textbook (Volume 2). The total score for pretest is (30) marks. Time duration is (45) minutes. In the posttest question, there are two main parts. The first part contains (30) multiple choice items and the second contains (10) short questions. They were constructed from prescribed mathematics textbook (Volume 2) for Grade Eight. The total score for posttest is (60) marks and time duration is one and a half hours. To construct learning activities for concept attainment, (17) concepts were selected from Grade Eight mathematics textbook (Volume 2). Firstly, a pilot study was conducted and the internal consistency of pretest question was 0.778. And then, full-scale study was

conducted from July 2017 to January 2018. In full scale study, only (16) periods were taken to give treatment in accordance with the monthly course. A pretest was conducted before the experimental groups were given treatment. In full scale study, (16) concepts were selected to give treatment. After that, posttest was administered in the last week of January 2018. The data were analyzed by using the independent samples t test and one-way analysis of covariance (One-Way ANCOVA). Five-point Likert scale with '5' stands for strongly agree and '1' stands for strongly disagree, was used to indicate the attitudes towards each item. The questionnaires were distributed to the participants in the last week of the experiment. It took the students about (20) minutes and the teachers about (30) minutes.

Findings

Quantitative Research Findings for Pretest

Table 1 shows t values for pretest scores of Grade Eight students. The results showed that there were significant differences between entry behaviour of the two selected groups in S1, S2, S3, and S4. Therefore, their posttest scores will be analyzed by using one-way analysis of covariance (One-Way ANCOVA). But in S5 and S6, there were no significant differences between the pretest scores of the two groups. Therefore, their posttest scores will be analyzed by using the independent samples t test.

Table 1. t Values for Pretest Scores

School	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
S1	Experimental	53	12.51	3.49	2.20	3.53	102	.001**
	Control	51	10.31	2.81				
S2	Experimental	30	12.33	2.89	2.30	4.07	57	.000 ***
	Control	29	10.03	1.09				
S3	Experimental	52	11.00	2.52	1.31	3.06	105	.003**
	Control	55	9.69	1.82				
S4	Experimental	87	13.21	3.58	1.93	4.08	170	.001**
	Control	85	11.28	2.53				

School	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
S5	Experimental	35	11.40	2.88	0.57	0.74	68	.462 (ns)
	Control	35	10.83	3.55				
S6	Experimental	48	12.02	3.00	1.11	1.69	93	.094 (ns)
	Control	47	10.91	3.67				

Note. S1 = BEHS Phado; S2 = BEHS (Branch) Quarter 2 Phado; S3 = BEHS (Branch) Myoe Chaung; S4 = BEHS Myoe Ma; S5 = BEHS (Branch) Hnget Thike; S6 = BEHS (Branch) La-Ka-Ya 3; ns = not significant.

***p < .001. **p < .01.

Quantitative Research Findings for Posttest

Table 2 presents *t* values for posttest scores of Grade Eight students in S5 and S6.

Table 2. *t* Values for Posttest Scores of Grade Eight Students in S5 and S6

School	Skill	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
S5	PS	EG	35	6.91	1.83	2.34	5.14	68	.000***
		CG	35	4.57	1.98				
	RP	EG	35	4.57	1.84	2.14	5.75	68	.000***
		CG	35	2.43	1.20				
	CM	EG	35	5.71	1.82	0.82	1.65	68	.103 (ns)
		CG	35	4.89	2.34				
	CN	EG	35	3.94	1.55	0.80	2.12	68	.038*
		CG	35	3.14	1.61				
	RE	EG	35	6.14	1.52	0.68	1.78	68	.080 (ns)
		CG	35	5.46	1.70				
	MA	EG	35	27.29	5.13	6.80	6.17	68	.000***
		CG	35	20.49	4.04				

School	Skill	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
S6	PS	EG	48	7.48	3.18	0.18	0.13	93	.566 (ns)
		CG	47	7.30	2.75				
	RP	EG	48	4.83	1.73	1.23	0.03	93	.000***
		CG	47	3.60	1.38				
	CM	EG	48	8.67	2.05	1.16	0.36	93	.003**
		CG	47	7.51	1.64				
	CN	EG	48	5.29	1.43	1.31	0.79	93	.000***
		CG	47	3.98	1.57				
	RE	EG	48	6.35	1.86	0.50	0.03	93	.138 (ns)
		CG	47	5.85	1.38				
	MA	EG	48	32.63	6.89	4.57	3.74	93	.000***
		CG	47	28.06	4.83				

Note. PS = Problem-Solving; RP = Reasoning and Proof; CM = Communication; CN = Connection; RE = Representation; MA = Mathematics Achievement; ns = not significant.

***$p < .001$. **$p < .01$. *$p < .05$.

According to the results presented in Table 2, the mean scores of problem-solving, reasoning and proof, connection skill, and mathematics achievement of the experimental group of S5 were significantly higher than those of the control group. It showed that the use of the proposed concept attainment model had a significant influence on those skills. But there were no significant differences between the communication skill and the representation skill of the two groups.

In S6, the mean scores of reasoning and proof, communication, connection, and mathematics achievement of the experimental group were significantly higher than those of the control group. But there were no significant differences between the problem-solving skill and the representation skill of the two groups.

Table 3 shows summary of ANCOVA results for the problem-solving skill on posttest of Grade Eight students in S1, S2, S3, and S4.

Table 3. Summary of ANCOVA Results for Problem-Solving Skill on Posttest of Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	4.05	.047	.03	5.81	4.62
	Group	1	4.29	.041*	.04		
	Error	101					
S2	Pretest	1	41.71	.000	.43	5.49	5.22
	Group	1	0.14	.708	.00		
	Error	56					
S3	Pretest	1	4.05	.047	.04	7.64	6.60
	Group	1	30.06	.000***	.22		
	Error	104					
S4	Pretest	1	0.81	.370	.01	8.07	6.76
	Group	1	13.33	.000***	.07		
	Error	169					

Note. ***$p < .001$. *$p < .05$.

According to the results presented in Table 3, there were significant differences between problem-solving skills of the two groups in S1, S3, and S4. But, in S2, there was no significant difference between the problem-solving skill of the two groups

Table 4 describes ANCOVA results for skill of reasoning and proof on posttest of Grade Eight students in S1, S2, S3, and S4.

Table 4. Summary of ANCOVA Results for Skill of Reasoning and Proof on
          Posttest of Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	0.01	.916	.00	7.31	5.25
	Group	1	8.37	.005**	.08		
	Error	101					
S2	Pretest	1	23.63	.000	.30	7.10	5.04
	Group	1	16.47	.000***	.23		
	Error	56					
S3	Pretest	1	0.05	.818	.00	8.10	6.16
	Group	1	27.55	.000***	.21		
	Error	104					
S4	Pretest	1	0.95	.331	.01	7.89	6.01
	Group	1	37.46	.000***	.18		
	Error	169					

Note. ***$p < .001$. **$p < .01$.

According to the results presented in Table 4, there were significant differences between the skill of reasoning and proof of the two groups in S1, S2, S3, and S4.

Table 5 presents ANCOVA results for communication skill on posttest of Grade Eight students in S1, S2, S3, and S4.

Table 5. Summary of ANCOVA Results for Communication Skill on Posttest of Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	0.53	.470	.01	9.07	8.24
	Group	1	4.07	.044*	.04		
	Error	101					
S2	Pretest	1	23.34	.000	.30	6.29	5.84
	Group	1	0.63	.432	.01		
	Error	56					
S3	Pretest	1	0.01	.911	.00	10.98	10.25
	Group	1	11.67	.001**	.10		
	Error	104					
S4	Pretest	1	10.82	.001	.06	6.60	5.56
	Group	1	17.85	.000***	.10		
	Error	169					

Note. ***$p < .001$. **$p < .01$. *$p < .05$.

According to the results presented in Table 5, there were significant differences between the communication skill of the two groups in S1, S3, and S4. But in S2, there was no significant difference between the communication skill of the two groups.

Table 6 shows ANCOVA results for connection skill on posttest of Grade Eight students in S1, S2, S3, and S4.

Table 6. Summary of ANCOVA Results for Connection Skill on Posttest of
Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	0.19	.665	.00	6.45	6.26
	Group	1	0.32	.576	.00		
	Error	101					
S2	Pretest	1	4.84	.032	.08	5.68	4.16
	Group	1	12.67	.001**	.19		
	Error	56					
S3	Pretest	1	0.68	.412	.01	8.94	7.81
	Group	1	57.35	.000***	.36		
	Error	104					
S4	Pretest	1	5.21	.024	.03	6.20	5.47
	Group	1	7.93	.005**	.05		
	Error	169					

Note. ***$p < .001$. **$p < .01$.

According to the results presented in Table 6, there were significant differences between connection skill of the two groups in S2, S3, and S4. But in S1, there was no significant difference between the connection skill of the two groups.

Table 7 shows ANCOVA results for representation skill on posttest of Grade Eight students in S1, S2, S3, and S4.

According to the results presented in Table 7, there were significant differences between the representation skill of the two groups in S1, S2, S3, and S4.

Table 7. Summary of ANCOVA Results for Representation Skill on Posttest of Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	0.67	.416	.01	8.13	7.14
	Group	1	5.48	.021*	.05		
	Error	101					
S2	Pretest	1	22.07	.000	.28	8.31	7.09
	Group	1	5.61	.021*	.09		
	Error	56					
S3	Pretest	1	0.00	.987	.00	10.37	9.02
	Group	1	61.56	.000***	.37		
	Error	104					
S4	Pretest	1	0.01	.907	.00	9.04	7.08
	Group	1	45.59	.000***	.21		
	Error	169					

Note. ***$p < .001$. *$p < .05$.

Table 8 shows ANCOVA results for the mathematics achievement on posttest of Grade Eight students in S1, S2, S3, and S4.

Table 8. Summary of ANCOVA Results for Mathematics Achievement on Posttest of Grade Eight Students in S1, S2, S3, and S4

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S1	Pretest	1	1.35	.249	.01	36.77	31.53
	Group	1	9.13	.003**	.08		
	Error	101					

School	Tests of Between-Subjects Effects					Adjusted Mean	
	Source	df	F	Sig. (2-tailed)	Partial Eta Squared	EG	CG
S2	Pretest	1	63.33	.000	.53	32.87	27.34
	Group	1	11.18	.001**	.17		
	Error	56					
S3	Pretest	1	0.87	.353	.01	46.03	39.84
	Group	1	103.87	.000***	.50		
	Error	104					
S4	Pretest	1	4.11	.044	.02	41.00	32.39
	Group	1	91.51	.000***	.35		
	Error	169					

Note. ***$p < .001$. **$p < .01$.

According to the results presented in Table 8, there were significant differences between the posttest scores of the two groups in S1, S2, S3, and S4.

Attitudes of Students and Teachers

Students' responses towards the learning activities based on the proposed concept attainment model expressed that the students in the experimental groups developed positive attitudes towards their learning. Teachers' responses towards the proposed concept attainment model expressed that they had positive attitudes.

Findings from open-ended responses

At the end of attitude questionnaires for teachers, three open-ended questions were added. The first one is about the contributions of the proposed model towards the development of mathematics teaching. The second one is about the difficulties they met while implementing learning activities through this model. The last one is to write down their opinions and attitudes towards this model. According to their responses, all teachers

propounded that this model made provision for teaching of mathematics. Some students could not participate along with the activities at the beginning and the common difficulty was time limitation. In addition, prepared learning activities based on this model and teaching aids were very excellent. And students were very interested in teaching through this model.

Discussion

According to the statistical results, the students' performance had significant difference on the achievement of mathematics process skills and on overall mathematics achievement. Quantitative research findings show that students' true attainment of mathematics concept make them acquire mathematics process skills. According to the responses of teachers and students, they had positive attitude towards the proposed model.

Suggestions

In developing students' mathematics achievement and mathematics process skills, teachers should create effective classroom environment with many opportunities. Further research should be carried out for the rest states and regions for replication. It partially provides to improve middle school mathematics teaching methodology to some extent. The results of this study do not represent to crowded classrooms. So, new mathematics teaching approach for large classrooms should be developed. According to time limitations, this research was conducted for only five units from mathematics Volume 2. Further research should be carried out for mathematics Volume 1. In this study, the effectiveness of the proposed model was evaluated through five mathematics process skills. It can also be evaluated according to Bloom's taxonomy of instructional objectives.

Conclusion

Quantitative findings supported its major hypotheses. According to these findings of the research, this proposed model can be useful to some extent for mathematics teaching. Through the proposed model, the students will attain mathematics concepts easily and happily. This study will hopefully serve as a future reference for researchers in other subject areas. Based on these findings, it can be concluded that Grade Eight students

receive high level of concept attainment in Geometry through the proposed model.

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A Study of the Impact of Inquiry-based Learning on Students' Biology Achievement at the High School Level

Moh Khet Khet Oo[*]

Abstract

The main purpose of this research was to study the impact of inquiry-based learning (IBL) on students' biology achievement at the high school level. The experimental design adopted in this study was quasi-experimental design, namely, nonequivalent control group design. This study was conducted in four basic education high schools from Yangon Region. Simple random sampling method was used. From each school, two groups of students from Grade Ten were randomly selected as participants. The instruments were pretest, posttest, lesson plans, materials and questionnaires. The research findings include three main parts. Firstly, the experimental groups who received IBL were significantly higher than the control groups who did not. Secondly, the stronger the attitudes towards IBL and the impact of resources, classroom management and systemic restrictions were established, the higher the biology achievement. Thirdly, the best predicting factor was attitudes towards IBL and the second predictor was the impact of resources. But, the impact of classroom management and systemic restrictions were not the predicting factors. Therefore, IBL contributes a positive impact on teaching high school biology. The research findings suggested that IBL should be used in teaching and learning high school biology in Myanmar.

Keywords: Inquiry-based Learning, Biology, Achievement

Introduction

According to National Education Strategic Plan (2016-2021), quality, equitable and relevant education is essential to provide children with creativity and critical thinking skills and contribute to Myanmar's socio-economic development in the 21st century (Ministry of Education, 2016). The education system is extremely important because the welfare of any culture depends on it. A culture is no stronger than its capacity to transmit its skills, beliefs and practices to the next generation, and this responsibility belongs to education (Skinner, 1953, cited in Gredler, 2001).

[*] Assistant Lecturer, Department of Methodology, Yangon University of Education

According to the nature of education presented above, the process of education needs to be adapted to the changing needs of the society and the aim of education must be to equip the individual or the nation for the struggle so as to ensure survival. Therefore, this research is conducted with more emphasis on learner-centered rather than teacher-centered education.

In Myanmar, pedagogues and teachers need to learn the methodology of teaching students to improve students' thinking skills. With this in mind, this research is an attempt to develop higher-order thinking skills with the practical aspects of inquiry-based learning suggested in this research.

Statement of the Problem

According to NESP (2016-2021), it is the education system that enables every citizen to meet the minimum learning standard at the national level and to learn to think critically and creatively (Ministry of Education, 2016). The major challenges for teachers in Myanmar are to meet the minimum learning standard at the national level and to learn to think critically and creatively. The problem is 'how to teach' to develop the thinking skills. This research emphasizes biological concepts by using inquiry-based learning to develop higher-order thinking skills rather than memorization of biological concepts.

Objectives of the Research

1. To investigate the applicability of inquiry-based learning in teaching and learning high school biology.

3. To explore the attitudes and opinions of students who participate in this study.

4. To analyze the impact of inquiry-based learning and give suggestions for the improvement of teaching and learning biology.

Research Questions

1. Are there any significant differences in biology achievement of the students who received IBL and those who did not?

2. Are there any significant relationships between students' biology achievement and their attitudes towards IBL and the impact of resources, classroom management and systemic restrictions?

3. Do attitudes towards IBL and the impact of resources, classroom management and systemic restrictions predict biology achievement?

Scope of the Research

1. This study is geographically restricted to Yangon Region.

2. Participants in this study are Grade Ten biology students from the selected schools in the academic year (2018-2019).

3. As valid content areas, this study is limited only seven topics prescribed in Grade Ten biology textbook.

Definition of Key Terms

Inquiry-based Learning. Inquiry-based learning is a process where students are involved in their learning, formulate questions, investigate widely and then build new understandings, meanings and knowledge (Alberta learning, 2004).

Biology. Biology (bios, life; logos, knowledge) is a science devoted to the study of living organisms (Taylor, Green & Stout, 1997).

Achievement. Achievement can be defined as the students' grasp of some body of knowledge or proficiency in certain skills (Tinambunan, 1988).

Review of Related Literature

Naturalism, pragmatism and constructivism are deeply taken into philosophical considerations for inquiry-based learning.

Firstly, education finds its purpose, its process, and its means wholly within the child life and the child experience from the naturalistic point of view. True education takes place with a minimum of guidance. The naturalistic educator allows the child to follow the lines of natural interests and to have free choices of activities, with no interference or thwarting. Schools seek to provide the ideal environment of freedom for the development of the growing child (Ross, 1941).

Secondly, pragmatism is a philosophy that stresses the intimate relation between thought and action by defining the meaning of the conceptions in terms of the practical effects and the truth of the beliefs in terms of how successfully they guide the actions (Lawhead, 2011). Schools

should foster habits of thought, invention and initiative that will assist people in growing in the right direction; that is towards democratic living (Ozmon & Craver, 1986).

Finally, knowing is an adaptive activity from the constructivist perspective (Steffe & Gale, 1995). The task of education is not to pour information into student's head, but to engage student's mind with powerful and useful concepts. For students to really understand and be able to apply knowledge they must construct knowledge in their own mind and they must work to solve problems, to discover things for themselves and to wrestle with ideas (Slavin, 2006).

Inquiry-based learning is an educational strategy in which students follow methods and practices similar to those of professional scientists in order to construct knowledge (Keselman, 2003). Dewey (1933) outlined several important aspects of inquiry-based learning, such as defining a problem, formulating a hypothesis and conducting tests.

In inquiry-based learning, the teacher first plans, assesses, then implements those plans and finally evaluates the achievement of inquiry activity. There are six essential steps in implementation: posing area of investigation, identifying investigated problem, formulating hypotheses, testing hypotheses, deriving conclusions and applying conclusions.

Research Method

Research Design. The research design used in this study was nonequivalent control group design.

Population and sample. Table 1 shows population and sample for the study.

Table 1. Population and Sample for the Study

Division	District	Township	Name of School	No. of Population	No. of Sample
Yangon	East	Yankin	No. (2) BEHS, Yankin	201	107
	West	Kamayut	No. (5) BEHS, Kamayut	178	105
	South	Kyauktan	No. (2) BEHS, Kyauktan	142	107
	North	Hlegu	BEHS, Hlegu	145	100
Total				666	419

Instruments. Pretest, materials or sample lesson plans based on IBL, posttest and questionnaires were used as instruments.

Analysis of Data. The Statistical Package for the Social Sciences (SPSS) Version 22 was used to analyze the data. The data were analyzed by using one-way analysis of covariance, Pearson correlation and multiple regression.

Findings

Analysis of the Posttest Scores

The first research question of this study is: "Are there any significant differences in biology achievement between the students who received IBL and those who did not?" To answer this research question, one-way ANCOVA was used to analyze the data from posttest.

From each school, the two intact groups were selected as the experimental group who received IBL and the control group who did not. As pointed out by Pallant (2013), ANCOVA is used when the study has been unable to randomly assign the participants to the different groups, but instead has had to use existing groups or intact groups.

Table 2. shows the results of pretest scores in the four selected schools.

Table 2. Results of Pretest Scores in Four Schools

School	Group	N	M	SD	MD	MS	*F*	*p*
S 1	Experimental	53	25.92	2.04	−.62	10.04	1.691	.196 (ns)
	Control	54	26.54	2.77				
S 2	Experimental	52	23.08	4.23	.93	22.51	1.489	.225 (ns)
	Control	53	22.15	3.52				
S 3	Experimental	54	26.15	2.26	1.23	40.05	8.715	.004**
	Control	53	24.92	2.02				
S 4	Experimental	50	22.88	4.22	−.22	1.69	.098	.755 (ns)
	Control	50	23.14	4.09				

Note. S1 = No. (2) BEHS, Yankin; S2 = No. (5)BEHS, Kamayut; S3 = No. (2) BEHS, Kyauktan; S4 = BEHS, Hlegu. **$p < .01$. ns = not significant.

Analysis of the Posttest Scores in Four Schools. Table 3 shows the analysis of covariance results for posttest scores in the four selected schools.

Table 3. ANCOVA Results for Posttest Scores in Four Schools

School	Group	N	M	SD	MD	MS	*F*	*p*
S 1	Experimental	53	45	1.77	9.63	2497.80	284.678	.000***
	Control	54	35.37	3.81				
S 2	Experimental	52	34.13	3.66	5.30	693.19	36.166	.000***
	Control	53	28.83	5.01				
S 3	Experimental	54	39.74	3.88	7.38	1261.79	81.364	.000***
	Control	53	32.36	4				
S 4	Experimental	50	42.68	3.84	17.16	7370.33	228.498	.000***
	Control	50	25.52	7.02				

Note. S1 = No. (2) BEHS, Yankin; S2 = No. (5)BEHS, Kamayut; S3 = No. (2) BEHS, Kyauktan; S4 = BEHS, Hlegu. ***$p < .001$.

According to the result of the Table 3, the experimental groups who received IBL performed significantly higher than the control groups who did not received it. Thus, it can be generally interpreted that the application of IBL develops students' higher-order thinking skills in the four selected schools.

Relationship between Biology Achievement and Attitudes towards IBL and the Impact of Resources, Classroom Management and Systemic Restrictions

The second research question of this study is: "Are there any significant relationships between students' biology achievement and their attitudes towards IBL and the impact of resources, classroom management and systemic restrictions?" To answer this research question, Pearson product-moment correlation was used. The correlation between biology achievement and four variables are shown in Table 4.

Table 4. Correlation between Biology Achievement and Attitudes towards
IBL

	Biology Achievement	IBL	Resources	Classroom management	Systemic restrictions
Biology Achievement	1	.712**	.635**	.458**	.500**
IBL		1	.363**	.315**	.336**
Resources			1	. 728**	.744**
Classroom management				1	.887**
Systemic restrictions					1

Note. ** Correlation is significant at the 0.01 level (2 – tailed).

According to Table 4, biology achievement was significantly correlated with attitudes towards IBL (r = .712, $p < .01$), resources (r = .635, $p < .01$), classroom management (r = .458, $p < .01$) and systemic restrictions (r = .500, $p < .01$). Therefore, it could be generally interpreted that the stronger the attitudes towards IBL and the impact of resources, classroom management and systemic restrictions were received, the higher the biology achievement.

Regression Analysis of Predictions of Attitudes towards IBL for Biology Achievement

To answer the third research question: "Do attitudes towards IBL and the impact of resources, classroom management and systemic restrictions predict biology achievement?" multiple regression analysis was used.

Table 5. Regression Analysis Summary for the Variables Predicting
Biology Achievement

Variables	B	β	t	R	R^2	Adj R^2	F
Biology Achievement	22.795		22.760***	.821	.674	.667	105.203***
Predictor Variables							

Variables	B	β	t	R	R^2	Adj R^2	F
IBL	1.155	.556	12.886***				
Resources	.529	.467	7.486***				
Classroom management	_.217	_.124	_.395				
Systemic restrictions	.109	.075	.824				

Note. Constant = Dependent variable: Biology Achievement. ***$p < .001$.

The results in Table 5 stated $R^2 = .674$, F = (4, 204) = 105.203 and p <.001. The adjusted R square value was .667. This indicated that approximately 66.7% of the variance in biology achievement can be predicted from IBL and the impact of resources. Based on the research findings of multiple regression analysis, the equation can be defined as follows: BA = 22.795 + 1.155 X1 + .529 X2

Where: BA = Biology Achievement

X1 = Attitude towards IBL

X2 = Attitude towards Resources
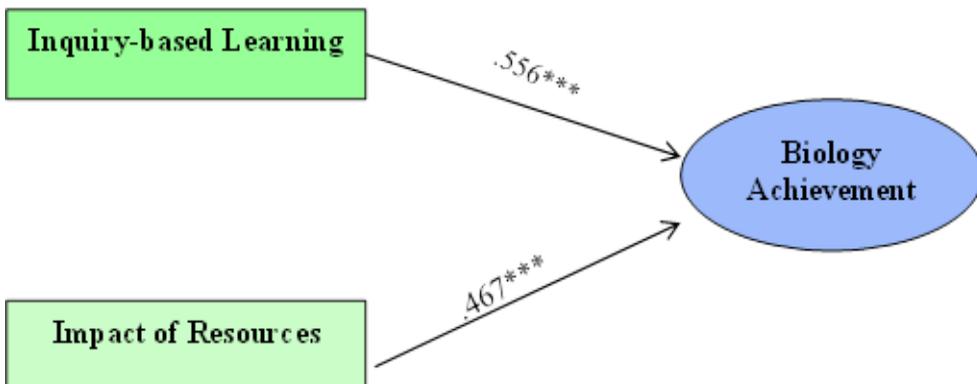
Figure 1. Multiple Regression Model of Predicting Attitudes towards IBL and Impact of Resources for Biology Achievement

According to the multiple regression analysis, the beta coefficients are presented in Table 5. The best predictor was attitudes towards IBL (β = .556***, $p < .001$) and the second predictor was resources (β = .467***, $p <$

.001). But, the classroom management and systemic restrictions were not the predicting factors because they were not significant.

Discussion

Concerning the first research question, the experimental groups who received IBL were significantly higher than the control groups who did not in all schools. This result shows that the experimental groups could perform biology achievement more than the control groups. Thus, it can be interpreted that IBL had a significant effect on the biology achievement in all schools.

Regarding the second research question, biology achievement was significantly correlated with attitudes towards IBL and the impact of resources, classroom management and systemic restrictions. So, it can be interpreted that the stronger the attitudes towards IBL and the impact of resources, classroom management and systemic restrictions established, the higher the students' biology achievement.

The result of this study was consistent with the findings of the previous related studies. According to Reynolds and Walberg (1992), achievement is the casual factor affecting attitudes towards science. Moreover, Cimer (2012) pointed out that one of the reasons why students find biology difficulty is their negative attitudes towards biology. So, attitudes towards learning biology are one of the factors that influence students' achievement in biology as a subject.

Concerning the third research question, the best predictor was attitudes towards IBL and the second predictor was the impact of resources. Thus, the students who had high in attitudes towards IBL and the resources had the high biology achievement. Based on the discussion obtained, it can be concluded that IBL had a positive impact on students' biology achievement at high school level.

Suggestions

The first portion is suggestion for students. Concerning students' attitudes towards IBL, it was found that students developed positive attitudes towards IBL. They are very interested in IBL because they taught biology lessons by relating real plants and animals in real-life situations.

Therefore, it is suggested that biology students should be provided with real plants and animals, preserved specimens and inquiry-oriented materials, especially electron microscopes.

The second portion is suggestion for teachers. According to Liu, Lee and Linn (2010), teachers who use inquiry learning can produce students who have a high level of knowledge. Therefore, it is suggested that teachers should use inquiry learning to develop biological concepts among students.

The third portion is suggestion for school administers. Regarding the impact of resources, classroom management and systemic restrictions, resources was significant and it was a predicting factor. But, classroom management and systemic restrictions were not predicting factors because they were not significant. Therefore, it is suggested that students should be supplied with real teaching and learning materials and IBL worksheets with relation to resources. Concerning classroom management, the teacher-student ratio should be reduced because class size is large. As regards systemic restrictions, it is suggested that the assessment system should encourage thinking skills.

Recommendations

All data in this research were collected from Yangon Region. Further research should be carried out in the other states and regions. The participants were only Grade Ten students. Therefore, further research should be carried out in Grade Eleven. According to time frame, this research was conducted for only seven topics. Further research should attempt to cover more topics from biology textbook.

Conclusion

Inquiry-based learning makes a significant contribution to the students not only by means of classroom instruction but also by means of experiments in a laboratory. According to the results of research findings, the students who received IBL developed higher-order thinking skills. Therefore, it is concluded that IBL is an effective teaching model for teachers and students to develop higher-order thinking skills in teaching and learning biology.

Acknowledgements

Firstly, I would like to express my gratitude to Dr. Pyone Pyone Aung and Dr. Kay Thwe Hlaing (Pro-Rectors, Yangon University of Education). Especially, I am deeply grateful to Dr. Khin Mar Khine (Professor & Head of Department, Methodology Department, Yangon University of Education) for her valuable support and suggestions throughout the study.

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A Study of the Effects of Conceptual Change Approach on the Achievement of Grade Ten Physics Students

Su Mon Aung[1] & Thida Wai[2]

Abstract

The major purpose of this research was to study the effects of conceptual change approach on the achievement of Grade Ten physics students. The experimental design adopted in this study was a quasi-experimental design, namely, nonequivalent pretest-posttest control and comparison group design. In this experimental study, the subjects were Grade Ten students selected from No. (1) BEHS Dala and No. (1) BEHS South Okkalapa. For this study, four physics teachers and (220) Grade Ten students were selected from both schools by random sampling method. These students were divided into two groups: control and experimental. After pretesting, the experimental group was treated with conceptual change approach and the control group was taught with formal instruction. After that, a posttest was administered to two groups. Independent samples *t*-test was used to test whether there was a significant difference between these two groups. According to *t*-test results, there were significant differences between students who were taught by conceptual change approach and those who were taught with formal instruction. Research findings proved that conceptual change approach had positive contribution to the physics teaching at the high school level.

Keywords: Conceptual Change Approach, Achievement, Physics

Introduction

In Myanmar society, education is traditionally valued as a key determinant for social mobility and it is widely recognized as a critical building block for nation building, national unity and sustainable development (Ministry of Education, 2016). In building a modern developed nation, science education is also essential for Myanmar. Physics lies at the heart of science education. The main goals of physics instruction are to help students achieve a deep conceptual understanding of the subject, to help students develop powerful problem-solving skills and to support student motivation. Thus, it is the teachers' responsibility to cultivate a

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[1] Assistant Lecturer, Department of Methodology, Yangon University of Education
[2] Associate Professor, Department of Methodology, Sagaing University of Education

problem-solving attitude of mind in their students instead of merely transmitting information to student.

In order to understand the advanced scientific concepts, the students must learn how to restructure the naïve, intuitive theories based on everyday experience and lay culture. In other words, the students must undergo conceptual change. Since students develop conceptions of everyday events, teachers can similarly be expected to develop conceptions of teaching based on their own experiences. And it is also the teacher's responsibility to be aware of students' conceptions and to teach in ways that are likely to facilitate conceptual change on the part of the students. Of course, all of physics concepts are inextricably together and are closely related to everyday activities. In addition, education should provide students that opportunity to confront and challenge their misconceptions (Stephans, 2006). Therefore, in this study, experiences that are stimulated using the conceptual change approach are intended to challenge the students to become aware of their misconceptions and transform them in a meaningful and positive way. It also aims to study the effects of conceptual change approach on students' understanding of physics concepts.

Purposes of the Study

The purposes of the study are as follows:

1. To study the effects of conceptual change approach on the achievement of Grade Ten physics students.

2. To compare physics achievement between students who are taught by conceptual change approach and those who are with formal instruction.

3. To make suggestions for improving physics teaching based on the data obtained from this study.

Research Hypothesis

There is a significant difference in physics achievement between Grade Ten students who are taught with conceptual change approach and those who are taught with formal instruction.

Scope of the Study

The following points are the scope of the study.

1. This study is geographically restricted to Yangon Region.

2. Participants of this study are (220) Grade Ten students and four physics teachers from selected schools in the academic year (2018-2019).

3. The content area covers four chapters from the prescribed physics textbook for Grade Ten.

Definition of Key Terms

Conceptual Change Approach: The conceptual change approach is a rational process of theory replacement which can be promoted through cognitive conflict and can take place in a short period of time (Vosniadou, 2006).

Achievement: Achievement can be defined as the students' grasp of some body of knowledge or proficiency in certain skills (Tinambunan, 1988).

Physics: Physics is defined as the scientific study of matter and energy and the relationships between them, including the study of forces, heat, light, sound, electricity and the structure of atoms (Hornby, 2015).

Review of Related Literature

Educational philosophies related to this study are pragmatism, progressivism, and constructivism. The pragmatist believed that change is the only thing that is permanent and that truth, reality and values are all relevant to circumstances (Hessong & Weeks, 2007). Pragmatists see education as the reconstruction and reorganization of human experience. The progressives believe that education can and should be related to the interests of the child. The teacher's role is an adviser, not a dictator or director of learning. Similarly, in conceptual change approach, the role of the teachers is an adversary and a model of scientific thinking. The main emphasis of conceptual change is also change. Students' premature beliefs about many topics in physics do not stand the test of scientific analysis. Thus, these beliefs need to be reconstructed and changed. In this way, students' learning in physics will be meaningful.

For constructivists, meaningful understanding results from relating new learning to prior learning, from integrating concepts within and between disciplines, from being able to represent knowledge in different forms, and from reflecting on the nature of their own knowledge. And in also conceptual change approach, students are challenged with a problem and are asked to elicit their ideas for this problem. Then their prior knowledge is connected with the new knowledge. In this way, students can retain the newly acquired knowledge longer.

Conceptual Change Approach

Conceptual change is the mechanism underlying meaningful learning. Conceptual change occurs when a student moves from not understanding how something works to understanding it. It have been recognized that conceptual change is the heart of meaningful learning (Mayer, 2002). Conceptual change for students and teachers is viewed not just as a process of replacement of old ideas but also as a process of learning to relate ideas to appropriate contexts. Concepts mean a lot in physics. Misconceptions obstruct the structuring of the acquired knowledge. To avoid that and for meaningful learning, it is needed to revise the old information and replace the wrong one with the right on. This is called conceptual change approach (Smith, 2010).

Theory of Conceptual Change Approach

The theory of Conceptual change approach is based on Piaget's (1929, 1930) ideas of assimilation and accommodation. Conceptual change is viewed as epistemology, initially involved only an understanding of how student's conceptions evolved. Posner, Strike, Hewson and Gertzog (1982) stated that inquiry and learning occur against the background of the students' current concepts. Whenever the students encounter a new phenomenon, they must rely on their current concepts to organize their investigation. Without such concepts it is impossible for the students to ask a question about the phenomenon, to know what would count as an answer to the question or to distinguish relevant from irrelevant features of the phenomenon.

Even in a major conceptual reorganization, however, not all concepts are replaced. Students will retain many of their current concepts, some of which will function to guide the process of conceptual change. Changes in conception can also occur as a consequence of changes in

students' ontologies –the ways they view reality (Chi et al., 2008, cited in Treagust & Duit, 2009). The another focus of conceptual change is the affective domain, particularly involving emotions, motivation and social aspects such as group work. While the classical conceptual change approach implicitly included affective variables as influential factors facilitating conceptual change, that not only involves cognitive factors but is also influenced by motivational and affective variables, such as personal beliefs and attitudes, as well as by the physical and social/cultural environment (Vosniadou, 2002).

Posner et al.'s Conceptual Change Model

Posner, Strike, Hewson and Gertzog (1982) proposed a model to describe the substantive dimensions of the process by which students' central, organizing concepts change from one set of concepts to another set, incompatible with the first. This model is fundamentally based on four conditions. They are (1) dissatisfaction, (2) intelligibility, (3) plausibility, and (4) fruitfulness. The stages in conceptual change model are as follows.

(1) Commit to an Outcome- provides an opportunity for students to become aware of their own preconceptions by making predictions about the result of an activity.

(2) Expose Beliefs- provides an opportunity to test ideas in small groups and then with the whole class.

(3) Confront Beliefs- provides an opportunity to test ideas and discuss them in small and large groups.

(4) Accommodate the concept- provides an opportunity to resolve any discrepancies between their existing ideas and their observations or newly acquired information and to develop formal understanding of the concept.

(5) Extend the Concept- provides an opportunity to make a connection between their formal understanding of the concept from their class experience and new situations.

(6) Go Beyond- provides an opportunity to pursue additional questions or problems related to the concept.

This model has direct implications regarding how to construct instruction to achieve conceptual change. In this study, instructional activities are designed based on this model.

Research Method

The quantitative research method of this study constitutes choosing subjects, data collection techniques and procedures for gathering the data.

Research Design and Procedure

The design adopted in this study was one of the experimental designs, namely, the quasi-experimental design. Specifically, one of the quasi-experiment designs, nonequivalent pretest-posttest control and comparison group design was adopted. Based on Posner et al.'s conceptual change model, the sample lessons were firstly developed. Then, the intact classes from the sample schools were selected and randomly assigned as experimental and control groups. These groups in each school were administered a pretest simultaneously. After that, the experiment groups received conceptual change approach and the control groups received formal instruction. At the end of the treatment period, all the sample groups were administered a posttest to compare their achievement.

Instrumentation

When already formed groups are compared in the study, a pretest should be administered to check for initial equivalence (Gay & Airasian, 2003). In order to determine the effectiveness of the treatment, students' achievement in physics is needed to compare. Thus, a posttest was constructed to measure students' achievement in physics.

Population and Sample size

In order to obtain a representative sample, one of the probability sampling strategies, simple random sampling method was used to select two townships from Yangon Region. The selected schools are provided in Table 1.

Table 1. Population and Sample Size

Name of School	No. of Population	No. of Sample
BEHS (1) Dala	310	115
BEHS (1) South Okkalapa	205	105
Total	515	220

Findings

This section is concerned with findings of the selected students' achievement on the pretest and posttest questions, the summary of the findings and interpretations of the study.

Quantitative Research Findings

The data obtained from the pretest scores were analyzed by using independent samples *t*-test to compare the difference between experimental groups and control groups. The following table shows the results of *t*-test, the mean scores, standard deviations and mean differences of both groups.

Table 2. Results of Pretest Scores

School	Group	N	M	SD	MD	*t*	Sig. (2-tailed)
S 1	Experimental	57	28.53	6.32	1.35	1.22	.227 (ns)
	Control	58	27.17	5.62			
S 2	Experimental	53	28.49	6.29	.89	.86	.389 (ns)
	Control	53	27.60	4.07			

Note. S1 = No. (1) Basic Education High School, Dala; S2 = No. (1) Basic Education High School, South Okkalapa

**p* < .01. ns = not significant

According to the results of Table 2, it was found that there were no significant differences between the experimental groups and the control group in both schools. Therefore, the posttest scores were analyzed by using independent samples *t*-test. The results of independent samples *t*-test for posttest scores in the selected schools are as follows.

Table 3. Results of Posttest Scores for Knowledge Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Knowledge	S 1	Experimental	57	2.14	.95	.19	1.02	.311 (ns)
		Control	58	1.95	1.06			
	S 2	Experimental	53	2.77	1.47	.601	2.65	.009**
		Control	52	2.17	1.99			

Note. **$p < .01$. ns = not significant.

Table 4. Results of Posttest Scores for Comprehension Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Comprehension	S 1	Experimental	57	10.00	1.46	.89	2.74	.007**
		Control	58	9.10	1.99			
	S 2	Experimental	53	9.85	1.47	1.00	2.93	.004**
		Control	52	8.85	1.99			

Note. **$p < .01$.

Table 5. Results of Posttest Scores for Application Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Application	S 1	Experimental	57	8.11	3.67	1.61	2.60	.010*
		Control	58	6.50	2.89			
	S 2	Experimental	53	8.09	3.70	2.36	3.42	.001**
		Control	52	5.73	3.35			

Note. *$p < .05$. **$p < .01$.

Table 6. Results of Posttest Scores for Analysis Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Analysis	S 1	Experimental	57	2.79	1.26	.75	3.72	.000***
		Control	58	2.03	1.87			
	S 2	Experimental	53	2.81	1.24	.715	3.30	.001**
		Control	52	2.10	.95			

*Note. **p < .01. ***p < .001.*

Table 7. Results of Posttest Scores for Synthesis Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Synthesis	S 1	Experimental	57	2.75	1.18	.74	3.55	.001**
		Control	58	2.02	1.03			
	S 2	Experimental	53	2.92	1.08	.73	3.5	.001**
		Control	52	2.19	1.05			

*Note. **p < .01.*

Table 8. Results of Posttest Scores for Evaluation Level Questions

Level	School	Group	N	M	SD	MD	t	Sig. (2-tailed)
Evaluation	S 1	Experimental	57	2.74	1.23	.72	3.59	.000***
		Control	58	2.02	.88			
	S 2	Experimental	53	2.94	1.08	.79	3.99	.000***
		Control	52	2.15	.93			

*Note. ***p < .001.*

Table 9. Results of Overall Posttest Scores

Level	School		Group	N	M	SD	MD	t	Sig. (2-tailed)
Overall	S 1		Experimental	57	28.53	6.32	4.91	4.68	.000***
			Control	58	23.62	4.82			
	S 2		Experimental	53	29.40	5.61	7.43	6.73	.000***
			Control	52	21.96	5.70			

Note. ***$p < .001$.

As shown in tables, every mean score of the experimental group is higher than that of control group. It can be interpreted that conceptual change approach had significant effects on the physics achievement of the students. Therefore, conceptual change approach had positively effected in learning physics.

Discussion

Based on the results from posttest, the students who received new treatment, conceptual change approach can respond more precisely than the other students concerning description of subject terms, relevant concepts and laws, and drawing illustration diagrams. It also supported to the research hypothesis, "There is a significant difference in the achievement between Grade Ten physics students who receive conceptual change approach and those who do not". So, this finding pointed out that conceptual change approach had positively contributed to the achievement of the students in physics learning.

Suggestions

An important part of the teachers' responsibility in teaching for conceptual change approach is to help students create the dissatisfaction with their own ideas about the topic being studied. For conceptual change approach, teachers should consider what types of homework problems would create the kind of cognitive conflict necessary as preparation for an accommodation, and whether labs could be used to help students experience

anomalies (Stavy & Berkowitz, 1980, cited in Posner et al.,1982). In addition, teacher should help students make sense of science content by representing content in multiple modes and by helping students translate from one mode of representation to another. And finally, the teacher should develop evaluation techniques to help him or her track the process of conceptual change in students.

Conclusion

The main purpose of this study is to study the effects of conceptual change approach on the achievement of Grade Ten physics students. The quasi-experimental design was adopted. To avoid misconceptions in physics and for meaningful learning, it is needed to revise the old information and replace the wrong one with the right on. To learn many areas in physics, such as concepts of matter and density, Newtonian mechanics, electricity and relativity, students must go through a conceptual change. Thus, teachers must find ways to enhance individual students' motivation by creating a social classroom environment that supports the creation of intentional learners who can engage in the deep and enduring comprehension activities required for the revision of conceptual knowledge.

This study is specially contributed to physics teaching at high school level. Although this research was concerned with physics teaching, it can be applied into other subject matter contexts and the various school levels including primary school level and middle school level. In this study, sample schools were randomly selected from Yangon Region. Therefore, it is recommended to conduct a similar research in every Basic Education High School.

Acknowledgements

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The Effect of Science A Process Approach (SAPA) on Students' Achievement in Science at the Middle School Level

Ma Kyi Swe[1] & Kay Khine Oo [2]

Abstract

The main purpose of this study is to investigate the effect of Science A Process Approach (SAPA) on students' achievement in science at the middle school level. Both quantitative and qualitative research methods were used in this study. A quantitative research method was used to compare the science achievement between the experimental group and the control group. The students from the experimental group were taught by using Science A Process Approach (SAPA) and the students from the control group were taught by using formal instruction. A qualitative research method was used to find out the students' attitude towards SAPA. The design adopted in this study was the posttest only control group design which is one of the true experimental designs. Two samples schools in Yangon Region were selected by simple random sampling method. The sample size for this study was (120) Grade Six students from the selected schools. The instruments used in this study were a posttest question and an attitude questionnaire. Learning materials were selected from Grade Six Science Textbook and the content areas were Chapter (9) Elements, Compounds and Mixtures, and Chapter (10) Forms of Energy. Independent samples t test was used to analyze the data whether there was a significant difference between the two groups. The results of No (4), BEHS, Hlaingtharyar (Branch) was ($t = 7.23$, $p < .001$) and that of No (1), BEHS, Manyangone was ($t = 6.99$, $p < .001$). These results showed that the use of SAPA can improve students' academic achievement and the acquisition of science process skills. According to the findings of qualitative research, the students who learnt by SAPA had positive attitude towards learning in science. The research findings proved that SAPA had a positive contribution to the improvement of science teaching at the middle school level and the improvement of higher order thinking skills.

Keywords: Effect, science a process approach (SAPA), achievement

Introduction

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[1] Professor, Dr., Methodology Department, Yangon University of Education
[2] Senior Assistant Teacher, B.E.H.S Yedashe, Yedashe Township, Bago Region

The quality of science education is crucial for nations to shape and nurture the future to match with the current global trend and development in science and technology. A nation's progress is determined by its quality of education and also the high quality of science education. The National Science Teachers Association (1982, cited in Collette & Chiappetta, 1989) stated that scientific literacy should be the primary aim for science education in the future. Science A Process Approach (SAPA) makes students promote scientific literacy. SAPA includes hands-on activities based on science processes. The purpose of the SAPA is to understand the nature of science and acquire the process inquiry skills or the science process skills. The science process skills are the key factor for scientific literacy. The process inquiry skills are: observing, measuring, classifying, inferring, predicting hypothesizing and finding patterns. Thinking skills such as observing, inferring and hypotheses are necessary skills for youths in 21st century. So, it is necessary that SAPA plays an important role to be effective in promoting scientific literacy and to fulfill the needs of the 21st century education.

Purpose

The main purpose of this study is to investigate the effect of Science A Process Approach (SAPA) on students' achievement in science at the middle school level.

Hypotheses

1. There is a significant difference in the achievement of science between students who are taught by SAPA and those who are not.

2. There is a significant difference in Basic Science Process Skills between students who are taught by SAPA and those who are not.

3. The students who are taught by SAPA have positive attitudes, experiences, and opinions in learning science.

Definition of Key Terms

Effect: Effect means having power to produce, or producing a desired result (Cruickshank & Bainer, 1990).

Science A Process Approach (SAPA): SAPA can be defined as a quality of science program based on the systematic teaching of the process skills (Cain & Evans, 1990).

Achievement: Achievement is the result of what an individual has learned from some education experiences (Travers, 1970).

Review of Related Literature

Learning is a relatively permanent change in knowledge or behavior as a result of experience.

Science A Process Approach (SAPA)

Science A Process Approach (SAPA) refers to a systematic program for science teacher that emphasizes the development of students' science process skills and understanding science information.

SAPA uses three-step strategy.

1. Introduction: the teacher introduces the concept through a discussion or demonstration.

2. Activities: the students do the activities described in the teacher's guide following the teacher's instructions.

3. Appraisal and Evaluation: A group activity determines if the students have acquired the behaviors expected of them. Tests items or questions are provided that can be administered to individual students for further evaluation of progress.

In this study, the procedure for Science A Process Approach (SAPA) in teaching science is as follows:

- Introduction
- Activities
  - Observing
  - Communicating

> ➢ Classifying

> ➢ Measuring

> ➢ Inferring

> ➢ Predicting

- Appraisal and Evaluation

Introduction - The teacher introduces the concepts through a discussion or demonstration.

Activities - The students do the activities described in the teacher guide following the teacher instructions. The basic process activities are identified to be used for Science A Process Approach (SAPA) in this study.

1- Observing

In this activity, children are provided objects or materials and then they list at least five or ten properties of the object that they can observe. Children learn to use their five senses (by seeing, hearing, touching, tasting, smelling) to determine properties of an object.

2- Communicating

This activity is designed to extend the skills acquired in the observing activity. Communicating in science refers to the skill of describing simple phenomena. Children learn that they can use graphs, diagrams, maps, and mathematical equations as well as oral or written words to communicate.

3- Classifying

In this activity, children will separate the materials or contents into group. Children are to identify and label each group according to the property they used to separate the groups. Children learn to use classification schemes to impose order on collections of objects or events.

4- Measuring

This activity will involve the process of measuring. Children will make linear measurements, liquid measurements, and mass and weight measurements. Children learn that they can quantify their observations by using the proper measuring device.

5- Inferring

In this activity, children will make inferences about the objects or events. Inferring is interpreting or explaining what is observed. Inferring is the process of carefully examining the observed data and suggesting relationships between objects or events. Children learn that an inference is an explanation of an observation and that more than one inference may be made in order to explain an observation. The conclusions, children draw from a set of observations are inferences.

6- Predicting

In this activity, children will make forecast of future events or conditions might be. Children learn to make predictions based on observations, measurements, and certain inferences. Predicting is an excellent example of one process skill being dependent on other process skills. The ability to construct reliable predictions depends on careful observations and inferences made about the relationships among observed events.

Appraisal and Evaluation - Evaluation is an honest effort to find out what a child knows or can do. Constant feedback allows the teacher to judge the students' progress and to determine the students' needs. Tests items or questions are provided that can be administered to individual students.

Research Method

Learning materials were chosen from Grade Six Science Textbook and the content areas were Chapter (9) Elements, Compounds and Mixtures, and Chapter (10), Forms of Energy. One of the true experimental designs, the posttest only control group design, was adopted to investigate the effect of Science A Process Approach (SAPA) on students' achievement in science. The participants were selected according to their Mid-Term marks by using simple random sampling method to get initial equivalency. The treatment period lasted from 4th to 29th November. The total experiment time lasted for four weeks for each school. Instructional time was 45 minutes per day. At the end of the treatment period, all selected students had to sit for posttest in both schools. The allocated time for the posttest was (45) minutes and the given marks were (25) marks. Then, students had to answer a questionnaire. A questionnaire was used to interpret students'

attitudes, feelings, experiences and opinions about Science A Process Approach (SAPA).

Instruments

In this study, a posttest (achievement test) and an attitude questionnaire were used to investigate the effect of SAPA on students' achievement in science. The posttest was used to measure the science achievement of the students. The test items were constructed based on the Basic Science Process Skills. The test items were constructed for (25) marks. It consists of (5) completion items, (5) multiple choice items, (5) short questions and (5) long questions based on the content area of Chapter (9) Elements, Compounds and Mixtures and Chapter (10) Form of Energy from Grade Six Science Textbook. The allocated time for posttest was 45 minutes.

To examine the students' attitudes, feelings, experiences, and opinions, a questionnaire was constructed according to the literature. It consists of (15) items of four-point Likert-scale. The questionnaires are divided into three dimensions: attitude towards learning, attitude towards science process activities and attitude towards science. Each dimension includes (5) items.

<div align="center">

Findings

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For quantitative research findings, data were recorded systematically. These data were analyzed by using the independent samples *t* test to compare the differences between the experimental and the control groups. The mean scores of the students' science achievement on the posttest question were presented in Table 1.

Table 1. *t* Values for Posttest Science Achievement Scores

School	Group	N	M	SD	MD	*t*	*df*	Sig. (2-tailed)
S1	Experimental	30	18.42	2.38	4.45	7.23	58	.000***
	Control	30	13.97	2.38				
S2	Experimental	30	20.50	1.69	3.33	6.99	58	.000***
	Control	30	17.17	1.98				

*Note.****p< .001

The mean scores of the experimental group were significantly higher than that of the control group in each school (see Table 1). It showed that there was a significant difference on the overall science achievement between the experimental group and control group in each school.

According to the findings, it can be interpreted that the use of Science A Process Approach (SAPA) has significant effect on the overall science achievement of the students (See Figure 1, 2, 3, 4, 5 and 6).
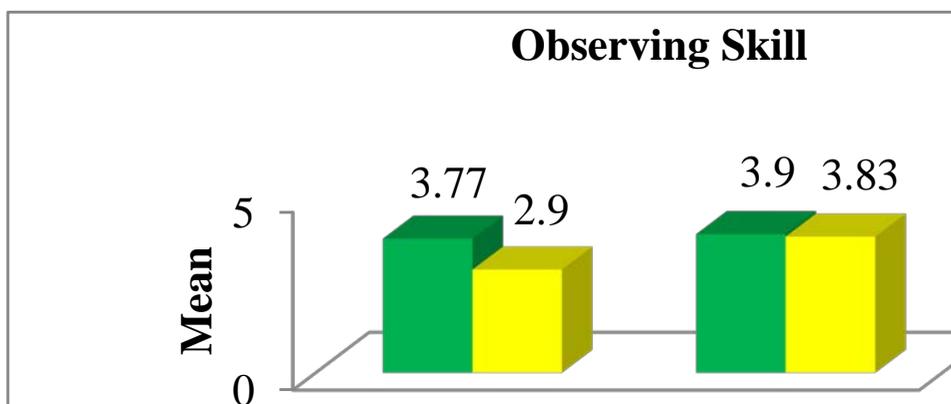
Figure 1. The Comparison of Mean Scores on the Questions of Observing Skill

According to the result, it can be interpreted that teaching by Science A Process Approach (SAPA) improves students' observing skill to determine the properties of objects and find out the events.
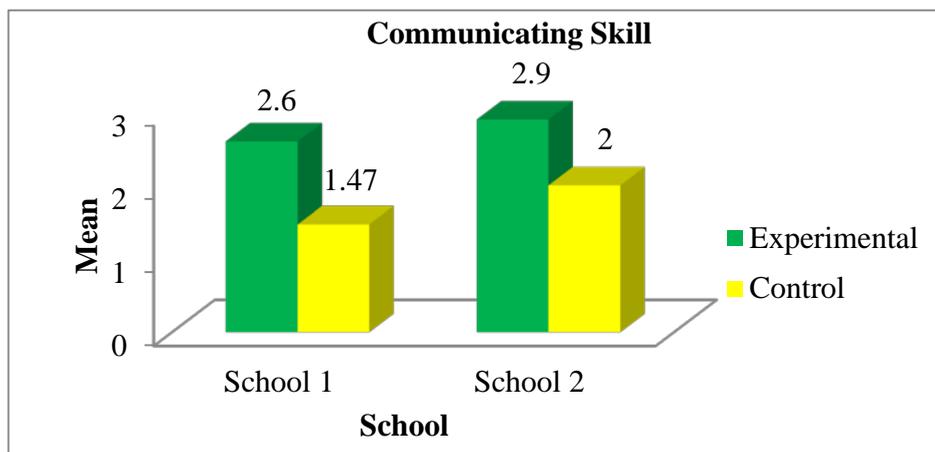
Figure 2. The Comparison of Mean Scores on the Questions of
           Communicating Skill

It can be interpreted that SAPA could bring about the improvement
of students' communicating skill to give and receive information each other.
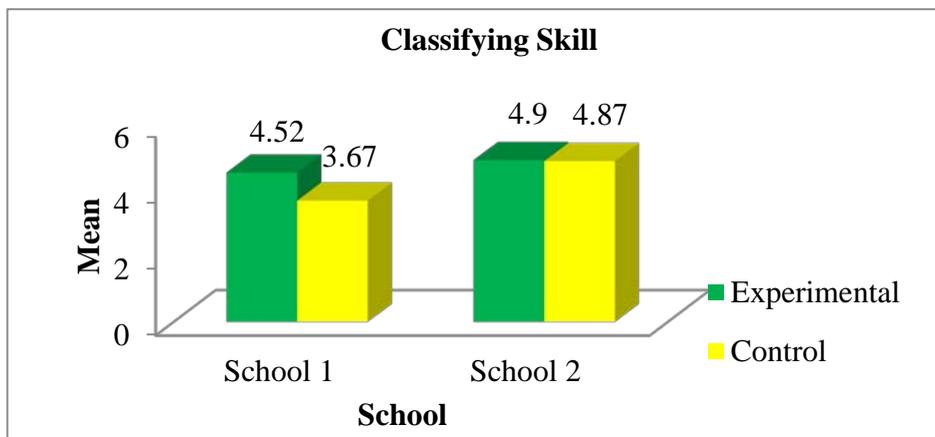
Figure 3. The Comparison of Mean Scores on the Questions of Classifying
           Skill

It can be interpreted that the use of SAPA can promote students'
using classification schemes to impose the objects or events.
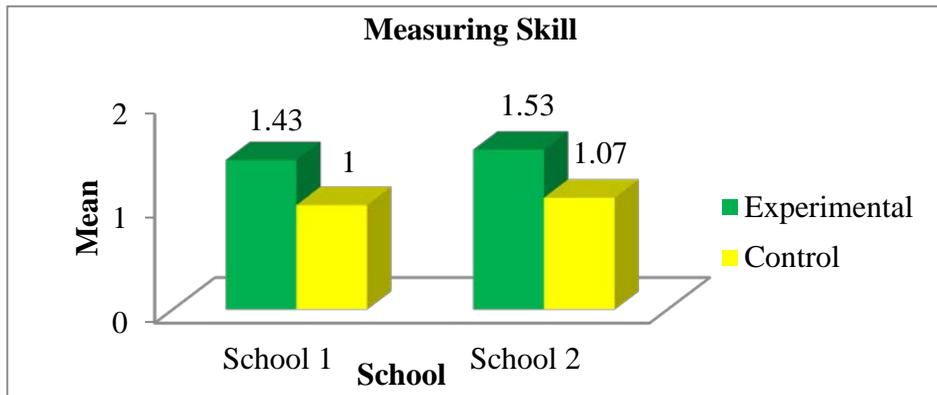
Figure 4. The Comparison of Mean Scores on the Questions of Measuring
        Skill

As regards with the scores on the questions of measuring skill, it can be interpreted that students' measuring skill can be developed by using SAPA.
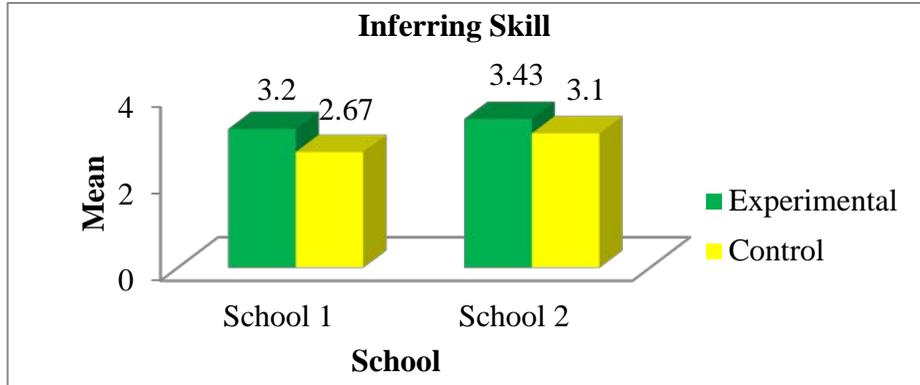
Figure 5. The Comparison of Mean Scores on the Questions of Inferring
        Skill

It can be interpreted that students' inferring skill can be improved by using SAPA. As the result, the participants of the experimental groups can infer the findings and draw the conclusion based upon the observations.
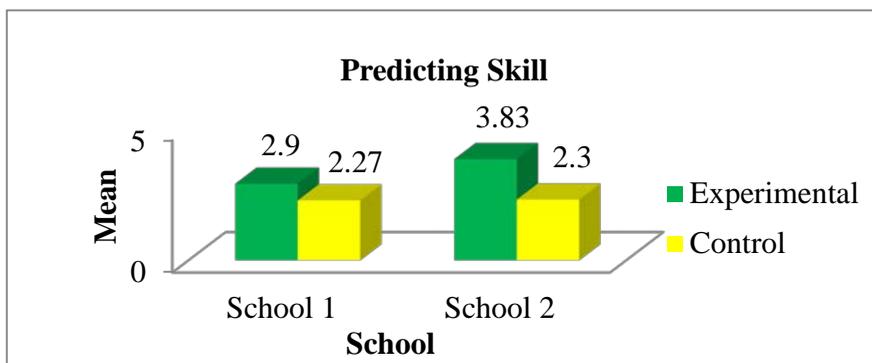
Figure 6. The Comparison of Mean Scores on the Questions of Predicting
         Skill

        It can be interpreted that the use of SAPA can develop students'
making forecasts of conditions. With regard to the scores of predicting skill,
the experimental groups can make predictions based on observations,
concepts and experiences in both schools.

Qualitative Research Findings

        In order to find out the attitude, feeling, experiences and opinions of
the students who learned by Science A Process Approach (SAPA), the
questionnaires concerned with their attitude on SAPA were used in this
study. A questionnaire consists of (15) items with four point Likert-scale
(strongly disagree, disagree, agree and strongly agree). The questionnaires
were described in terms of three dimensions: students' attitude towards
learning, students' attitude towards science process activities and students'
attitude towards science.

        The total of (60) students respond to the attitude questionnaire. The
responses obtained from the students are noted and tabulated based on their
responses for three dimensions (see Table 2).

Table 2. Students' Attitude towards Science Teaching after Using Science A
Process Approach (SAPA)

No	Dimension	No. of Item	Percentages	
			Strongly Disagree and Disagree	Agree and Strongly Agree
1	Dimension 1	5	3%	97%
2	Dimension 2	5	7.67%	92.33%
3	Dimension 3	5	4%	96%
	Average	15	4.89%	95.11%

According to the results of the total items, 95.11% of the students
have positive attitude and 4.89% of the students do not have positive
attitude towards Science A Process Approach (SAPA) (see Figure 7).
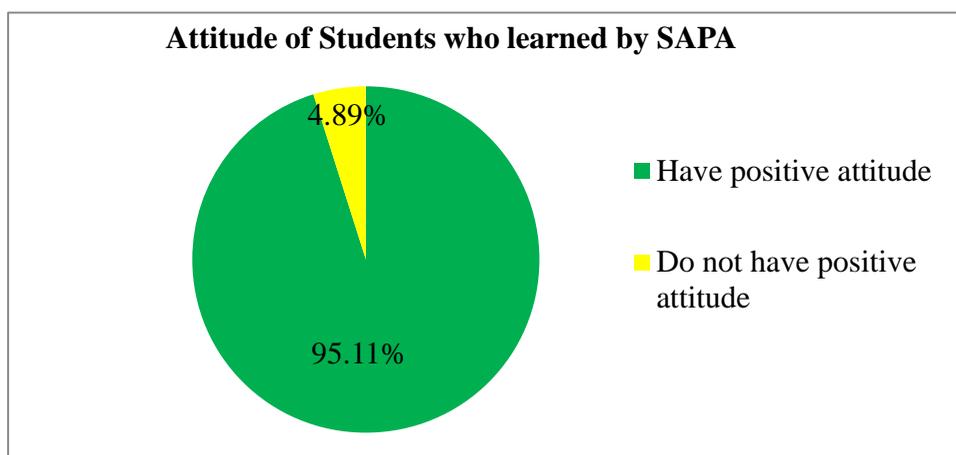
Figure 7. Overall Percentage of Students' Attitude towards Science
Teaching after Using Science A Process Approach (SAPA)

Conclusion

This study places emphasis on students' mastery of content
knowledge and the basic science process skills. The results of the study
support its main research hypotheses. This means that there were significant
differences in science achievement between the students who received

SAPA and those who did not. Most students in SAPA class had a positive attitude on SAPA in their science learning. They enjoyed in hands-on process activities. They felt happy in SAPA class because they had good relationships with teacher and each other. It was satisfying that students who did not get good scores in previous science test can present and discuss their ideas and views by doing practical work. They answered the questions well based on their observations and findings by themselves without memorizing the facts. Their positive attitudes had great effects on their achievement.

In this study, observing, communicating, classifying, measuring, inferring and predicting were used in science process activities. Using these process activities in teaching science can give students valuable experiences, science concepts and thinking skills to solve problems in both academic and everyday situations. These experiences and skills lead to higher order thinking skills and 21st century skills.

Acknowledgements

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Teachers' Perceptions of Constraints on Improving Student Thinking at Basic Education High Schools

Thinzar Khaing[1] & Khin Thant Zin[2]

Abstract

This study was conducted to study the teachers' perceptions of constraints on improving student thinking at Basic Education High Schools in Natmauk Township, Magwe Region. The study population was comprised of all Basic Education High and Branch High Schools in Natmauk Township. There are nine Basic Education Branch High Schools and seven High Schools in Natmauk Township. And the total numbers of teachers from these schools were 382. But the number of teachers participated in this study were 348.The sample size was made up of 348 teachers at different levels (Primary Assistant Teachers, Junior Assistant Teachers and Senior Assistant Teachers). The instrument was used to collect required data for the study. The collected data were analyzed using descriptive statistics (means, standard deviations, frequency counts and percentages) and inferential statistics (*t* test for independent samples, one -way analysis of variance (ANOVA)). It was found that there is no significant difference in three dimensions and overall except both curriculum-related constraints (F (2, 97) = 4.233) at the 0.05 significance level and external factors as constraints (F (2, 97) = 8.207) at the 0.001 significance level in all High Schools.

Keywords: Thinking, Thinking Skills, Improving Thinking Skills Constraint, Teacher perceptions

Introduction

Importance of the Research

Teachers' perceptions are important to help certain issues in educational process. Mesfer Alwadai (2014) defined the teacher's perceptions as beliefs, thoughts, insights, opinions, and awareness toward specific educational concerns such as thinking, student academic performance, social problems and changing behaviors. The goal of every teacher is to develop their students' understanding of the content being taught in the class, as well as to assist them in their development to become independent and thoughtful problem solvers (Bransford, Brown, &

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[1] Senior Teacher, B.E.H.S (1) Natmauk Township
[2] Lecturer, Department of Methodology, Sagaing University of Education

Cocking, 2000, cited in Myers & Dyer, 2006). Identifying the best means by which to accomplish this goal has been the aspiration of educational researchers for many years (Myers & Dyer, 2006).

Developing individuals [critical thinking] from childhood is considered an important objective of education in order to solve problems in today's already complicated physical and social environment and thus to adapt. On the other hand, one of the reasons why [critical development] should gain importance in education is the need of the child to reach original solutions and realize his/her full potential (Zeteroglu et al., 2012, cited in Alwadai, 2014). The priorities of our educational system are to equip pupils with the foundation skills, attitudes, and expectations necessary to prosper in a changing society and to encourage thinking and ambitions. Therefore the current situation in our nation needs to be studied in order to understand whether there have similar or different constraints in high schools in terms of improving thinking skills.

Aim

The aim of this research is to study teachers' perceptions of constraints on improving student thinking at Basic Education High Schools in Natmauk Township.

Objectives

The objectives of this study are as follows:

1. to state the teachers' perceptions of constraints on improving student thinking at Basic Education High Schools in Natmauk Township.

2. to compare the teachers' perceptions of constraints on improving student thinking in terms of qualification, teaching experience, position and gender.

3. to give suggestions and recommendations regarding the teachers' perceptions of constraints on improving student thinking.

Research Questions

The research questions for the study are as follows.

1. How do teachers perceive constraints on improving student thinking at Basic Education High Schools in Natmauk Township?

2. Is there any significant difference in teachers' perceptions of constraints on improving student thinking in terms of their qualification, teaching experience, position and gender?

Definitions of Key Terms

Thinking : The process of applying, analyzing, synthesizing and evaluating knowledge. Thinking is considered to be a complex skill or a collection of skills, which can be done poorly or well, efficiently or inefficiently (Bloom, 1956, cited in Ozkan-Akan, 2003).

Thinking Skills : Thinking skills involve mental processes used in cognitive functions that enable people to make meaning from, and create with, information, solving problems, making decisions, critical thinking, planning and organizing job tasks, using a significant amount of memory, and finding, synthesizing and analyzing information (Mherzog, 2012).

Improving Thinking Skills : The effort to develop and expand students' thinking skills which may take place through a direct skill teaching approach or an indirect content teaching approach (Ozkan-Akan, 2003).

Constraint : Something that limits or restricts someone or something. Control that limits or restricts someone's actions or behavior (Merrian-Webster dictionary).

Teacher Perceptions   **:** Susuwele-Banda (2005) defined perceptions as personal understanding and opinions about a specific topic believed by an individual that are generated from life experience, educational practice, or external influential factors (Susuwele-Banda, 2005, cited in Alwadai, 2014),

Scope

Due to the limitations of time, money, and resources, the subjects were confined to the all teachers in all Basic Education High Schools and Branch High Schools, Natmauk Township, in Magwe Region. Participants in this study are all teachers from Basic Education High Schools and Branch High Schools in (2015 – 2016) Academic Year. They all were selected to respond to the questionnaires as the sample.

Research Method

Method

In this paper Teachers' perceptions of constraints on improving student thinking at Basic Education High Schools in Natmauk Township', questionnaire survey method which is one of the descriptive methods was used. Descriptive research involves collecting data in order to test hypotheses or answer questions concerning the current status of the subjects of the study (Gay, 1992).

Subjects

The study was concerned to investigate the teachers' perceptions of constraints on improving student thinking at Basic Education High and Branch High Schools in Natmauk Township. There were seven Basic Education High Schools and nine Basic Education High Schools (Branch) in Natmauk Township. All the teachers from these schools were selected to carry out the research work. The total numbers of teachers in these schools were 382. But the number of teachers participated in this study were 348, male teachers were 93 and females were 255.

Instrument

As for the instrument, a questionnaire for the teachers' perceptions of constraints on improving student thinking in high schools that would be as attractive, brief, and easy to respond as possible was constructed on the basis of Teachers' perceptions of constraints on improving student thinking of Ozkan-Akan (2003).

Findings

Descriptive Statistics for Constraints on Improving Student Thinking Perceived by All Teachers in All Schools

Table 1 presents descriptive statistics for constraints on improving student thinking perceived by all teachers in all schools.

Table1. Descriptive Statistics for Constraints on Improving Student Thinking Perceived by All Teachers in All Schools

Constraints	Mean	Standard Deviation
Teacher-related constraints	3.05	0.44
Student-related constraints	3.35	0.38
Curriculum-related constraints	**3.54**	0.39
External factors as constraints	3.22	0.47

Table 1 showed descriptive statistics for teachers' perceptions of constraints on improving students thinking at all Basic Education High and Branch High Schools in Natmauk Township. According to the teachers' perspectives, they seem to display a higher level of agreement with curriculum- related constraints than the other three (mean=3.54). Following that the student- related constraints are perceived as the second most agreed one (mean=3.35). Lastly, teachers' level of agreement is lower with teacher-related and external factors to the classroom than curriculum- related and student- related constraints (mean=3.05and 3.22 respectively).

Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Qualification

Table 2. Descriptive Statistics for Teachers' Perceptions of Constraints on Improving Student Thinking in All Schools in Terms of Qualification

Qualification	N	Mean	SD
TTC	8	3.32	0.19
B.A/B.Sc	207	3.38	0.23
B.Ed	65	3.37	0.23
B.A,B.Ed/B.Sc,B.Ed	58	3.40	0.26
M.A/M.Sc/M.Ed	10	**3.50**	0.19

As indicated in Table 2, teachers' perceptions mean score is 3.32 (SD=0.19) for teachers who had only certificate from Teacher Training College, 3.38 (SD=0.23) for teachers who had Bachelor of Art or Science, 3.37 (SD=0.23) for teachers who had the degree of Bachelor of Education, 3.4(SD= 3.40) for teachers who possessed both the Bachelor of Art or Science and Bachelor of Education, and 3.50(SD =0.19) for teachers who had the Master degree.

Table 3. ANOVA Results for Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Qualification

Dimension	Qualification	Mean Square	F	Sig
General perception	Between Group	0.276	1.836	0.105
	Within Group	0.150		
Teacher-related constraints	Between Group	0.085	0.434	0.825
	Within Group	0.196		
Student-related Constraints	Between Group	0.212	1.515	0.184
	Within Group	0.140		

Dimension	Qualification	Mean Square	F	Sig
Curriculum-related constraints	Between Group	0.283	1.863	0.100
	Within Group	0.152		
External factors as constraints	Between Group	0.449	2.092	0.066
	Within Group	0.215		
Overall	Between Group	0.026	0.492	7.82
	Within Group	0.054		

The results in Table 3 revealed that the difference in teachers' qualification cannot cause   significant difference in teachers' perceptions of constraints on improving student thinking. Teachers' perceptions were not different significantly due to their qualification. The researcher concluded that the teachers' qualification cannot cause difference on overall components.

Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Teaching Experience

Table 4. Descriptive Statistics for Teachers' Perceptions of Constraints on Improving Student Thinking in All Schools in Terms of Teaching Experience

Teaching Experience	N	Mean	SD
Under 5	67	3.40	0.23
5-9	35	3.36	0.26
10-14	57	3.41	0.23
15-19	26	3.39	0.22
20-24	52	3.41	0.24
25-29	64	3.34	0.21
30 and over	47	3.35	0.25

Table 5. presents ANOVA results for teachers' perceptions of constraints on improving student thinking in terms of teaching experience.

Table 5. ANOVA Results for Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Teaching Experience

Dimension	Teaching Experience	Mean Square	F	Sig
General perception	Between Group	0.205	1.357	0.232
	Within Group	0.151		
Teacher-related constraints	Between Group	0.333	1.735	0.112
	Within Group	0.192		
Student-related Constraints	Between Group	0.142	1.006	0.421
	Within Group	0.141		
Curriculum-related constraints	Between Group	0.278	1.830	0.092
	Within Group	0.152		
External factors as constraints	Between Group	0.094	0.429	0.860
	Within Group	0.220		
Overall	Between Group	0.052	0.978	0.440
	Within Group	0.053		

The results in Table 5 revealed that the difference in teachers' teaching experience cannot cause significant difference in teachers' perceptions of constraints on improving student thinking. Teachers' perceptions were not different significantly due to their teaching experiences.

Teachers' Perceptions of Constraints on Improving Students Thinking in Terms of Position

Table 6. Descriptive Statistics for Teachers' Perceptions of Constraints on Improving Student Thinking in All Schools in Terms of Position

Position	N	Mean	SD
Senior Assistant Teacher	140	3.39	0.24
Junior Assistant Teacher	176	3.37	0.23
Primary Assistant Teacher	32	3.41	0.19

As indicated in Table 6, teachers' perception mean score is 3.39 (SD=0.24) for Senior Assistant Teacher, 3.37 (SD=0.23) for Junior Assistant Teachers and 3.41 (SD=0.19) for Primary Assistant Teachers.

Table 7. ANOVA Results for Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Position

Dimension	Position	Mean Square	F	Sig
General perception	Between Group	0.221	1.456	0.235
	Within Group	0.152		
Teacher-related constraints	Between Group	0.036	0.182	0.834
	Within Group	0.195		
Student-related Constraints	Between Group	0.019	0.136	0.873
	Within Group	0.142		
Curriculum-related constraints	Between Group	0.639	4.233	0.015*
	Within Group	0.151		
External factors as constraints	Between Group	1.719	8.207	0.000***
	Within Group	0.209		
Variable	Between Group	0.024	0.439	0.645
	Within Group	0.054		

Note: ***$p<.001$ *$p<.05$

Teachers' Perceptions of Constraints on Improving Student Thinking in Terms of Gender

Table 8. *t*-Values for Teachers' Perceptions of Constraints on Improving Student Thinking in All Schools in Terms of Gender

Dimensions	Gender	N	M	SD	MD	*t*	*df*	Sig. (*p*)
General perception	Male	93	3.85	.43	.04	.949	346	.343
	Female	255	3.81	.38				
Teacher-related constraints	Male	93	3.11	.46	.09	1.641	346	.102
	Female	255	3.02	.43				
Student-related constraints	Male	93	3.35	.31	-.00	-.232	205	.817
	Female	255	3.35	.39				
Curriculum-related constraints	Male	93	3.50	.42	-.06	-1.151	346	.250
	Female	255	3.56	.38				
External factors as constraints	Male	93	3.20	.48	-.02	-.482	346	.630
	Female	255	3.22	.46				
Overall	Male	93	3.38	.24	.00	.227	346	.821
	Female	255	3.38	.23				

As indicated in Table 8, there was no significant difference in male and female teachers' perceptions of constraints on improving student thinking in high school. The overall mean perception scores (3.38) of male was the same with female. In addition, the comparison of mean scores for the teachers' perceptions of constraints on improving student thinking in terms of gender can obviously be seen in the following bar chart.

Conclusion

This study examined the teachers' perceptions of constraints on improving student thinking at Basic Education High Schools in Natmauk Township. It explored the teachers' perceptions on five dimensions such as general perception, teacher-related constraints, student-related constraints, curriculum-related constraints and external factors as constraints in each school and the overall. And it compared the teachers' perceptions in terms of qualification, teaching experience, position and gender. The study is quantitative in nature and the collected data was analyzed using statistical tools such as independent sample *t*-test, one-way ANOVA (Analysis of Variance) and descriptive statistics. The findings of this study revealed that most of the teachers in all schools showed high level of general perception and curriculum-related constraints is the most and the teacher-related constraints is the least. When taking into account the role of demographic variables (qualification, teaching experience, position, and gender) in determining the teachers' perceptions, the teachers' position can contribute significant differences in teachers' perceptions whereas their qualification, teaching experience and gender cannot. It was found that there is no significant difference in three dimensions and overall except both curriculum-related constraints (F (2, 97)= 4.233) at the 0.05 significance level and external factors as constraints (F (2,97)= 8.207) at the 0.001 significance level in all High Schools. According to their positions, Senior Assistant Teachers were significantly different on curriculum-related constraints mean scores from Junior Assistant Teachers (*p*=.038). Nevertheless, there was no significant teachers' perception on curriculum-related constraints mean difference between Senior Assistant Teachers and Primary Assistant Teachers. Similarly, there was also no significant teachers' perception on curriculum-related constraints mean difference between Junior Assistant Teachers and Primary Assistant Teachers.

Then, Senior Assistant Teachers were significantly different on external factors as constraints mean scores from Primary Assistant Teachers (*p*=.000). Similarly, significant teachers' perception mean difference was found between Junior Assistant Teachers and   Primary Assistant Teachers (*p*=.008). Nevertheless, there was no significant teachers' perception on external factors as constraints mean difference between Senior Assistant Teachers and Junior Assistant Teachers.

Discussion

The current study examined the teachers' perceptions of constraints on improving students thinking at Basic Education High Schools in Natmauk Township according to their ratings. In this section, responses extracted from data analysis have been summarized and presented in a way that addresses three research questions formulated in this study.

In the first place, the teachers participated in this study were classified into three groups according to their mean level for general perception such as low, moderate and high. The criteria for this category is low level =1.00-2.33, moderate level=2.34-3.67, and high level=3.68-5.00 based on mean scores of data. The results revealed that the number of teachers in low group was 1 (0%), the number of teachers in moderate group was 113(33%) and in high group was 234(67%). Thus most of the teachers from all Schools showed high level of general perception.

The present study sought to investigate, in the second place, how teachers perceive constraints on improving student thinking in High Schools. The teachers were given the questionnaire with five dimensions (general perception, teacher-related constraints, student- related constraints, curriculum- related constraints and external factors as constraints). Among them, four dimensions are concerning with constraints. According to the teachers' perspectives, they seem to display a higher level of agreement with curriculum-related constraints than the other three (mean=3.54). Following that the student- related constraints are perceived as the second most agreed one (mean=3.35). Lastly, teachers' level of agreement is lower with teacher-related and external factors to the classroom than curriculum- related and student- related constraints (mean=3.05and 3.22 respectively).

Senior Assistant Teachers were significantly different on external factors as constraints mean scores from Primary Assistant Teachers (p=.000). Similarly, significant teachers' perception mean difference was found between Junior Assistant Teachers and Primary Assistant Teachers (p=.008). Nevertheless, there was no significant teachers' perception on external factors as constraints mean difference between Senior Assistant Teachers and Junior Assistant Teachers.

When comparing the teachers' perceptions mean scores according to their qualification, teachers who had the Master degree has the highest mean scores (3.5) and teachers who had only certificate from Teacher Training

College has the lowest mean scores (3.32). In comparison of mean scores according to their teaching experience, teachers with 10-14 year and 20-24 year of teaching experience have the highest mean (3.41) and teachers with 25-29 year of teaching experience has the lowest mean (3.34).

In comparison of mean scores by their position, the Primary Assistant Teachers have the highest mean (3.41) and the Senior Assistant Teachers have the lowest mean (3.38). In comparison of mean scores according to their gender, male teachers and female teachers have the same overall mean scores (3.38).

Recommendations

This research study consisted of only five dimensions. Further research studies should be conducted with many other dimensions. And this study was compared by only four variables; gender, teaching experience, position, qualification. Further studies should be made by using other variables age, subject area and so on.

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The Effectiveness of Mastery Learning Approach in Teaching Chemistry at the High School Level

Kyipyar Wai[1] & Swe Swe Aung[2]

Abstract

The major purpose of this study is to investigate the effectiveness of the mastery learning approach in teaching chemistry at the high school level. A quantitative research method was used in this study. The research design was one of the quasi-experimental designs, nonequivalent control group design. Two sample schools, BHES (Wetlet) and BEHS (Hladaw) were selected by simple random sampling method and two classes from each school were also randomly selected as intact groups. Learning materials were selected from the Grade Ten Chemistry Textbook (2019-2020 AY). Among the fifteen chapters, Chapter 10, Oxygen, and Its Compound were chosen for this study. The instruments used in this study were lesson plans, pretest, and posttest. To establish the reliability of the instrument, a pilot study was conducted with (30) Grade Ten students at BEHS (Ingyinbin). The students from the experimental group were taught with the mastery learning approach while the students from the control group were taught by using the conventional teaching method. To show statistically, the data obtained were analyzed by using independent samples *t* test. The findings of the study showed that the achievement of the students who were taught by the mastery learning approach was better than that of students who were not. Thus, this study recommended that the teachers should be encouraged to employ the mastery learning approach in teaching chemistry at the high school level.

Keywords: mastery, mastery learning approach, chemistry

Introduction

Education has a social function as well as social relevance. A school is created by the society and the society is shaped and molded by the school. Thus, education is both a cause and a product of society. Education could become the most important application of science in the next decades (Rull, 2014). Science is composed of the basic disciplines such a Physics, Chemistry, Mathematics, and Biology. Chemistry, one of the branches of science is also the fundamental major subject of science education. The teaching of Chemistry mainly relies on scientific concepts, facts, ideas,

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[1] Senior Teacher, Basic Education High School (Branch), Ingyinbin, Wetlet, Sagaing.
[2] Assistant Lecturer, Department of Methodology, Sagaing University of Education.

principles, laws, and theories. A very good understanding of chemistry at the secondary level is essential background for good scientific advancement. Generally, the student's performance in chemistry is very low, probably because of the teaching methods used by the teachers. However, the incorporation of mastery learning in the teaching of chemistry lessons might help to curb this problem of low achievement.

Mastery learning is an instructional strategy in which the students should reach a level of predetermined mastery of units of chemistry instruction before being allowed to progress to the next unit (Chebii, 2011). Mastery learning is a teaching technique founded upon the assumption that most students can achieve the desired outcomes based on sufficient time and appropriate materials.

Objectives of the Study

The specific objectives are as follows:

- to investigate the effectiveness of the mastery learning approach in teaching Grade Ten Chemistry students,

- to compare the achievement in chemistry between the students who are taught by using the mastery learning approach and those who are not.

- to suggest the teachers to use the mastery learning approach in teaching Grade Ten Chemistry for improving the effective teaching-learning process.

Research Hypotheses

The hypotheses of this study are as follows:

- There is a significant difference in the achievement of Grade Ten Chemistry between the students who are taught by applying the mastery learning approach and those who are not.

- There is a significant difference in the achievement of Grade Ten Chemistry between the students who are taught by utilizing the mastery learning approach and those who are not in answering remembering, understanding, and applying level questions.

Definition of the Key Terms

- **Mastery:** Mastery is a construct that cannot be observed directly but can be inferred from observable performance on a set of items or tasks related to a particular concept, skill, or subject (Guskey & Anderman, 2013).

- **Mastery Learning Approach:** The mastery learning approach is a learning strategy that provides quality instructions, immediate feedback, and remedial lessons for effective attainment of lesson objectives (Abakpa & Iji, 2011).

- **Chemistry:** Chemistry is the study of matter, its properties, how and why substances combine or separate to form other substances, and how substances interact with energy (Bagley, 2017).

Scope of the Study

This study is geographically intended to (Sagaing Region) Wetlet Township. Two Basic Education High Schools were randomly selected for this study. Participants in this study are 152 Grade Ten Chemistry students selected from Basic Education High Schools, Wetlet and Hladaw during the Academic Year 2019-2020. This study is limited to the content area of Chapter 10, Oxygen and Its Compounds from Grade Ten Chemistry Textbook prescribed by the Basic Education Curriculum, Syllabus and Textbook Committee, 2019-2020.

Review of Related Literature

Mastery Learning Approach

Mastery learning is an instructional strategy based on the principle that all students can attain lesson and unit objectives with the appropriate instruction and sufficient time to learn (Borich, 2014). Mastery learning approach provides learners with the opportunity to master a particular unit of a lesson before proceeding to the next (Filgona, 2016 cited in Cheta & Chidinma, 2018).

Essential Elements of Mastery Learning

According to Benjamin Bloom's ideas, the mastery learning included two essential elements:

- The feedback, corrective and enrichment process

- Instructional alignment (Guesky, 2007).

Feedback, Correctives, and Enrichment Process

Teachers who use mastery learning provide students with frequent and specific feedback on their learning progress through regular, formative classroom assessments. This feedback is both diagnostic and prescriptive. It reinforces precisely what students were expected to learn, identifies what they learned well, and describes what needs to be learned better. The improvement requires feedback together with correctives: activities that offer guidance and direction to students on how to remedy their learning problems. To be effective, correctives must be qualitatively different from the initial teaching. The best correctives present concepts and involve students in learning differently than the initial instruction. Most applications of mastery learning also include enrichment or extension activities for students who master the unit concepts from the initial teaching. Enrichment activities offer students opportunities to broaden and expand their learning. They reward students for their learning success and challenge them to go further (Guskey, 2007).

Teachers implement the feedback, corrective, and enrichment process in a variety of ways. Many use short, paper-and-pencil quizzes as formative assessments to give students feedback on their learning progress. But formative assessments also can take the form of essays, compositions, projects, reports, performance tasks, skill demonstrations, oral presentations, or any other device used to gain evidence on students' learning progress (Guskey, 2010).

Instructional Alignment

Feedback, correctives, and enrichment activities are cooperatively included in mastery learning. Bloom stressed that they must be combined with instructional alignment to reduce variation in student learning and closing achievement gaps. This requires clarity and consistency among instructional components. For ensuring instructional alignment, teachers must decide on what concepts or skills are most important for students to learn and most essential to students' understanding. Also, teachers must decide what evidence best reflects students' mastery of those basic or skill (Guskey, 2007).

Preparing Mastery Learning Units

According to Jacobsen, Eggen, and Kauchak (1989) based on Bloom's mastery learning approach, the mastery learning units can be prepared by using the following steps:

1. A general introduction

2. Specific objectives

3. Pre-assessments

4. Primary instruction

5. Formative evaluations

6. Alternative instructions

7. Summative evaluations.

Research Method

Research Design

In this paper, one of the quasi-experimental designs, "nonequivalent control group design" was utilized. The pretest posttest nonequivalent control group design, one of the quasi-experimental designs was employed. This design involves the random assignment of intact groups to the treatments (Gay & Airasian, 2003).

Research Instruments and Procedures

The instruments used in this study were lesson plans, pretest, and posttest. The pretest was used to determine group equivalence between the experiment and control groups. To examine remembering, understanding, and applying levels of achievement, TRUE/FALSE, Completion, Multiple Choice, Matching, and Short questions were employed. The time allocation for the pretest and posttest was one and hours and the given marks were (50). Before using the tests in the main study, a pilot study was conducted with (30) Grade Nine Chemistry students at No.1 Basic Education High School, Sagaing. After that, the test items were analyzed by reliability statistics with Kuder-Richardson 20 (KR-20 method). Reliability Coefficients were 0.87 for the pretest and 0.84 for the posttest. In this study, learning materials for students were selected from the Grade Ten Chemistry Textbook.

The intact experimental and control groups were assigned and the pretest was administered before the treatment. The experimental group was taught by mastery learning and the control group was taught by the conventional teaching method. (45) Minutes were taken for each period. And then, the posttest was taken into the two groups.

Sample

By using simple random sampling method, BEHS, Wetlet, and BEHS, Hladaw, Sagaing were chosen as sample schools. The participants from the selected schools were chosen as intact groups. They were divided into two groups: the experimental group and the control group in each school (Gay & Airasian, 2003). There were (152) participants in this study.

Analysis of Data

The quantitative data were analyzed using a statistical package for social science (SPSS) to make the necessary interpretation of the findings. The means of the pretest and posttest scores were compared by using the independent samples *t* test.

Findings

The major purpose of the study is to investigate the effectiveness of the mastery learning approach in teaching chemistry at the high school level. After collecting the data, it is necessary to analyze them.

Analysis of Means on Pretest Scores

For this study, students were divided into two groups in each selected school. To examine whether two groups are equivalent, the researcher constructed and administered a pretest before the treatment period. The data obtained from the pretest were recorded systematically. The results were analyzed using the Statistical Package of Social Sciences (SPSS). The results are shown in Table 1.

Table 1. Analysis of Pretest Scores

School	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
BEHS 1	Experimental	37	37.38	7.566	1.69	1.067	74	.290
	Control	39	35.69	6.178				
BEHS 2	Experimental	37	37.43	6.727	1.84	1.256	74	.213
	Control	39	35.59	6.056				

Note. BEHS 1 = BEHS, Wetlet   BEHS 2 = BEHS, Hladaw
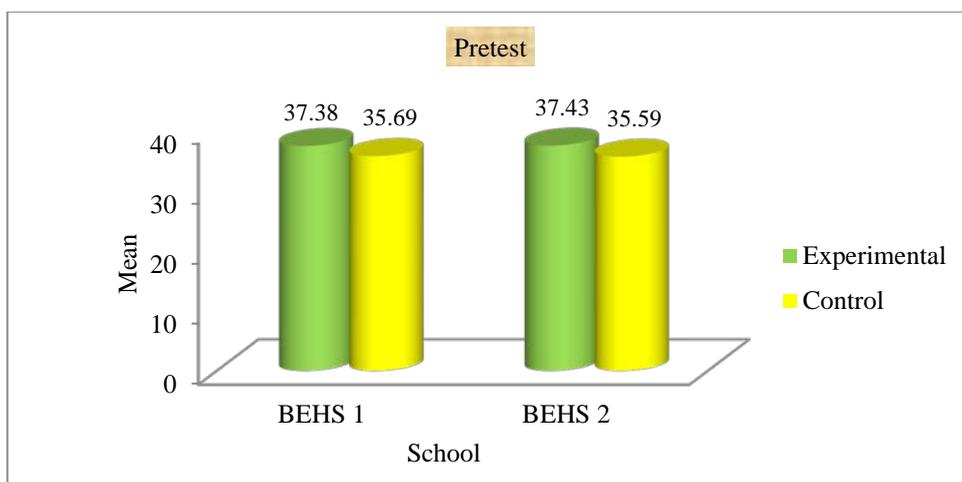
Figure 1. Comparison of means for pretest

According to the results of Figure 1, there was no significant difference between the two groups based on chemistry achievement before the treatment period. Therefore, independent samples *t* test was used to compare students' achievement on the posttest scores.

Analysis of Posttest Scores

After administering the pretest, the researcher gave the treatment to two groups in each selected school. After the treatment, a posttest was administered to measure the achievement of Grade Ten Chemistry students. To find out the students' chemistry achievement according to revised Bloom's taxonomic levels of the cognitive domain, different levels of

questions were asked in the posttest. The independent samples *t* test was also applied to examine the differences between the experimental groups and the control groups in each selected school.

Table 2. *t* Values for Posttest Total Chemistry Achievement Scores

School	Group	N	M	SD	MD	t	df	Sig. (2-tailed)
BEHS 1	Experimental	37	39.95	2.778	14.23	18.788	74	.000***
	Control	39	25.72	3.727				
BEHS 2	Experimental	37	39.68	2.936	13.6	18.420	74	.000***
	Control	39	26.08	3.375				

Note. ***p < .001, BEHS 1 = BEHS, Wetlet

BEHS 2 = BEHS, Hladaw
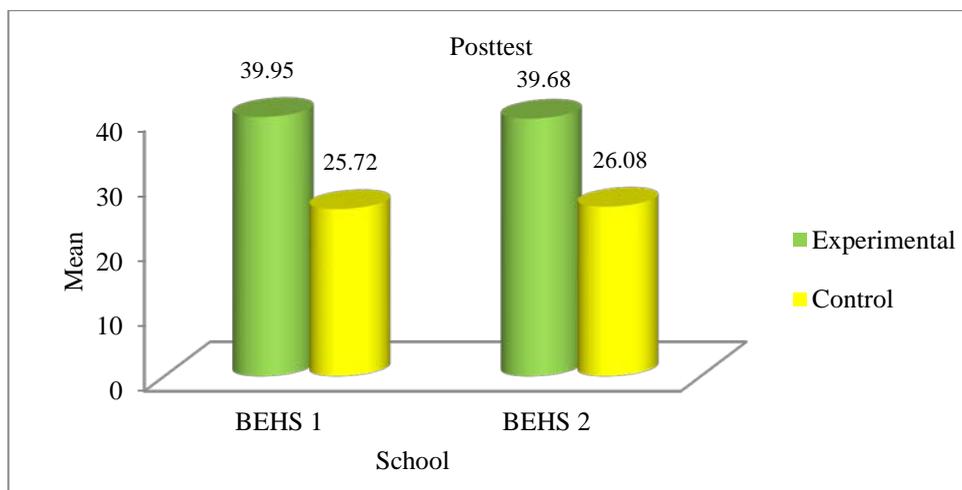
Figure 2. Comparison of means for posttest total chemistry achievement scores

Results showed that the means of the experimental groups were significantly higher than that of the control groups in both schools (see Figure 2). It can be interpreted that instruction by the mastery learning approach has positive effects on the chemistry achievement of the students.

Therefore, instruction by the mastery learning approach gives positive contribution to the chemistry teaching at the high school level.

Comparison of Achievement Scores by Level of Cognitive Domain

Table 3. *t* Values for Scores on Remembering Level Questions

School	Group	*N*	*M*	*SD*	*MD*	*t*	*df*	Sig. (2-tailed)
BEHS 1	Experimental	37	13.92	1.516	2.97	8.149	74	.000***
	Control	39	10.95	1.654				
BEHS 2	Experimental	37	13.14	1.549	4.4	8.983	74	.000***
	Control	39	8.74	2.562				

Note. ***p < .001,   BEHS 1 = BEHS, Wetlet

BEHS 2 = BEHS, Hladaw

According to Table 3, it showed that there were significant differences between the experimental group and the control group on remembering level questions in the selected schools. It can be interpreted that the mastery learning approach helped students to remember previously learned materials than the conventional teaching method.

Table 4. *t* Values for Scores on Understanding Level Questions

School	Group	*N*	*M*	*SD*	*MD*	*t*	*df*	Sig. (2-tailed)
BEHS 1	Experimental	37	17.11	2.354	4.36	8.514	74	.000***
	Control	39	12.74	2.099				
BEHS 2	Experimental	37	17.62	2.476	5.06	8.527	74	.000***
	Control	39	12.56	2.683				

Note. ***p < .001,   BEHS 1 = BEHS, Wetlet

BEHS 2 = BEHS, Hladaw

Based on Table 4, indicates that there was a statistically significant difference between the experimental groups and the control groups for

posttest scores on understanding level questions in both schools. The use of the mastery learning approach can impart the scientific concepts to the students and bring about a comprehensive understanding of the meaning of the learning materials for the students. It can help the students to improve conceptualization and to categorize data and write the chemical formula and equations concerned with the teaching information and idea.

Table 5. *t* Values for Scores on Applying Level Questions

School	Group	*N*	*M*	*SD*	*MD*	*t*	*df*	Sig. (2-tailed)
BEHS 1	Experimental	37	8.92	1.991	3.89	9.890	74	.000***
	Control	39	5.03	1.405				
BEHS 2	Experimental	37	8.57	1.365	3.65	13.536	74	.000***
	Control	39	4.92	0.957				

Note. ***p < .001,   BEHS 1 = BEHS, Wetlet

                                          BEHS 2 = BEHS, Hladaw

According to Table 5, it may be concluded that the mastery learning approach was found to be significantly superior in comparison to the conventional teaching method in the achievement of the students. The experimental class did better than the control class. The results can be interpreted that the use of the mastery learning approach in teaching chemistry could create and implement the students' ability to apply the scientific concepts in their real-life situations.

Discussion

Based on the research findings, it was found that the posttest means of the experimental group was significantly higher than the mean of the control group in each school. According to this finding, the experimental classes performed better than the control classes. There was a significant difference between the achievement of students who were taught through the mastery learning approach and that of students who were taught by the conventional teaching method. For the analysis of remembering level questions, there was a significant difference between the achievement of the

experimental group and that of the control group in each school. Mastery learning had been proven to be positive and successful especially in the area of achievement, attitudes towards learning, and the retention of the content.

It was found that the mastery learning approach is superior to the conventional teaching method in answering understanding level questions in both schools. Therefore, the achievement of the experimental group is higher than that of the control group based on the results of both schools. To use mastery learning, teachers first organize the concepts and skills they want students to learn into instructional units and then a relative formative assessment based on the unit's learning objectives. It helps students identify what they have learned well and what they need to learn better. It was seen that there was a significant difference between the achievement of the experimental group and that of the control group in answering application level questions in both schools. The mastery learning approach involves special projects or reports, oral presentations, problem-solving tasks, and applying them in new and differential situations.

Conclusion

The performance of students who are taught by the mastery learning approach is better than that of students who are not. The purpose of the mastery learning approach is that all students achieve high levels of learning. In mastery learning, students must acquire a level of mastery in entering knowledge before moving forward to learn becoming information. If a student does not acquire mastery on the test, they are given required support in learning and reviewing the information and then tested again.

According to the research findings, there were statistically significant differences between the two groups in answering remembering, understanding, and applying questions. It can be concluded that the mastery learning approach is more effective in teaching students to recall information that they have learned. It also supports to clarify ideas and to introduce aspects of content. If there is a suitable opportunity for education and there is enough time, all learners can learn all educational goals and become mastery over them. The mastery learning approach has a positive impact on the overall chemistry achievement of the students. Although it cannot solve all the problems faced by the teachers in classrooms, it is very suitable for most classroom settings in schools.

Acknowledgments

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Developing a Performance Management Framework for Essential Characteristics of a Mentor

Phyu Zar Zar Theint[*]

Abstract

This paper intended to develop a performance management framework for essential characteristics of a mentor based on mentors' perceptions. Mail survey was used to collect the required data. A set of questionnaire was developed based on qualities of mentor teachers (Office of Personnel Services, 1993, as cited in Koki, 1997), qualities of a good mentor (Rowley, 1999), characteristics of a quality mentor teacher (National Foundation for the Improvement of Education [NFIE], 1999), professional skills and practices for beginning teachers in Myanmar (Ministry of Education [MOE], 2017), mentoring activities (British Council, 2011), and new perspectives on Andragogy (Knowles, Holton, & Swanson, 2005).The reliability coefficient (Cronbach α) was 0.96 for degree of agreement about a set of characteristics of a mentor questionnaire. All 251 mentors were selected by using the census method in quantitative study. Data were analyzed by using descriptive statistics. As results, interpersonal skills were the highest whereas communication skills were the lowest.

Keywords: Essential Characteristics & Mentors.

Introduction

According to World Bank's international development association project paper (2018, p.49), "many teachers tend to have lower degrees in education and are in particular need of pedagogical support. Therefore, a programme is designed to fulfill the unique needs of this new wave of teachers". The teacher mentoring and associated cluster support activities aim to improve the quality and effectiveness of primary teachers, with a particular focus on new teachers. After recruiting required positions through alternative routes (AR) in other countries like United States of America and Australia, recruited teachers were provided on-the-job training. According to Zeichner and Paige (2007, as cited in Lowery, Roberts, & Roberts, n.d., p.3), AR is defined as "anything other than a four or five-year undergraduate programme in a college or university". Beginning teachers who enter through AR programme requires many professional development

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[*] Lecturer, Dr., Department of Educational Theory, Yangon University of Education

(PD) activities for them. In Myanmar, Daily Wage Teachers (DWTs), Primary Assistant Teacher Training Correspondence (PATC) Teachers, Pre-service Primary Teacher Training (PPTT) Teachers, Diploma in Teacher Education Certificate (DTEC) Teachers can be teachers through AR programmes except Diploma in Teacher Education (DTEd). Such teachers are provided for different kinds of PD programmes in both developed and developing countries. Among PD programmes, it is almost certain that mentoring is either a basic professional development programme or an important strategy in the induction phase for beginning teachers and it can be found in the countries such as United States of America, Finland, Japan, Singapore, Australia, and so on. A mentor has to have the right characteristics and necessary attitudes. That is why a performance management framework for essential characteristics of a mentor is vitally importance.

Research Objectives

1. To identify essential characteristics of a mentor based on mentors' perceptions

2. To develop a performance management framework for essential characteristics of a mentor

Research Questions

1. What are essential characteristics of a mentor based on mentors' perceptions?

2. What is a performance management framework for essential characteristics of a mentor?

Definition of Key Term

- A **mentor** is defined as a person who nurtures, supports, and cares for individuals or a small group of students (Rhodes, Bogat, Roffman, Edelman, & Galasso, 2002).

Theoretical Framework of the Study

Essential characteristics of mentor teachers are based on qualities of mentor teachers (Office of Personnel Services, 1993, as cited in Koki, 1997), qualities of a good mentor (Rowley, 1999), characteristics of a

quality mentor teacher (NFIE, 1999), professional skills and practices for beginning teachers in Myanmar (MOE, 2017), mentoring activities (British Council, 2011), and new perspectives on Andragogy (Knowles, Holton, & Swanson, 2005). It aims to identify essential characteristics of a mentor and to develop a performance management framework for the characteristics of a mentor.

According to Office of Personnel Services, interpersonal skills, teaching skills, coaching skills, communication skills and comprehensive skills of adult learners have been identified as the essential qualities of mentor teachers (1993, as cited in Koki, 1997). In interpersonal skills, a mentor ought to be able to maintain a trusting professional relationship, approachability, and patience. He or she should give advice the mentees' emotional and professional needs, and work well with individuals from different backgrounds (NFIE, 1999). Mentors need to understand the importance of persistence and recognize a mentee as a developing person and professional (Rowley, 1999), and recommend resources immediately (British Council, 2011). They should view the poorly prepared, overconfident, and defensive of mentees as challenges to overcome in mentoring (Rowley, 1999).

In teaching skills, using a variety of teaching strategies, linking new learning to prior knowledge and using daily life experiences for engaging students' interest and motivating them should be used by mentors. In planning a lesson plan, the mentor should help the mentees to be aware of children's cognitive levels. If required, mentors should facilitate creating and utilizing teaching-learning materials that are available easily. They should help their mentees to be able to use the language that can be easily understood for children and guide to ask application level questions in formative assessment. After assessing students' comprehension, they can help their mentees by correcting each student's mistakes and re-teaching for fulfilling requirements and students' academic performances are recorded according to each lesson, and report it to their parents or guardians. The mentors need to guide their mentees for instructional time in order to use for maximizing their time, guiding mentees to communicate their students with each other in a mutual respect that can create good learning environment, and remind to penalty students in order to obey discipline (MOE, 2017). They should review impacts of used time and effort in teaching (Kyriacou, 2007). They should help the mentees to conduct action research initiatively,

and give advice on what to write for a teaching journal (British Council, 2011).

In coaching skills, mentors need to listen to different ideas of mentees without giving subjective ideas and give suitable advices, see an issue from others' point of view, identify behaviours that need to change, set challenging activities for each mentee, value diversity and difference in order to build mutual understanding, encourage alternative perspectives, and reflect about their mentees' practices (Manchester Metropolitan University, n.d.). In addition to observing their mentees' teaching and giving advice, mentors can build their confidence by being aware of their strengths. The mentor also should invite the mentee to observe his or her teaching. Both the mentor and mentee ought to plan and deliver team teaching (British Council, 2011).

In communication skills, a mentor ought to articulate effective instructional strategies, be efficient in use of time and discreet and maintain confidentiality. He or she should attentively listen to what the words his or her mentees say, ask reflective questions, criticize in positive and productive ways, use email effectively, and convey enthusiasm (NFIE, 1999). The mentors should speak positively to others about school culture and curriculum implementation; and motivate parents to be involved in their children's learning (MOE, 2017).

In comprehensive skills of adult learners, mentors must facilitate by guiding mentees to their own knowledge rather than supplying them with facts. They must link mentees' life experiences to their knowledge. They must be mindful of mentees' developmental stage and needs. They must guide the most useful practice of their mentees. They must comprehend about why their mentees learn and their needs. They know that their mentees must respond to some extrinsic and most intrinsic motivators (Knowles, Holton, & Swanson, 2005). Both of them need to analyze and discuss their mentees' teaching difficulties, and agree on an action plan to solve problems and adjust it (British Council, 2011).

Methodology

Research Method

Quantitative method was used in this study.

Sample

The sample consisted of 251 mentors from 70 Townships in Myanmar who were chosen by using the census method for the quantitative study.

Instruments

The set of questionnaires included 50 items (four-point Likert Scale) relating to essential characteristics of a mentor. The internal consistencies (Cronbach's alpha) were 0.96 for the questionnaire to identify essential characteristics of a mentor.

Procedures

In order to construct valid and reliable sets of questionnaires, the related literature was reviewed and analyzed. In addition, the researcher got some advice and guidance from 13 expert teacher educators and 4 expert retired teacher educators. Pilot study was conducted on 30th January 2019. After reviewing the wordings of some items, questionnaires were disseminated to all 251 mentors and collected after lasting 3 months.

Data Analysis

Descriptive research method was used for quantitative data analysis.

Findings

Research Question (1) Identifying Mentors' Essential Characteristics

Essential characteristics were investigated according to the perceptions of mentors. Table 1 was presented to show the degree to which the mentors agreed or disagreed with the characteristics.

Table 1. Mentors' Perceptions on Essential Characteristics of a Mentor Rated by Themselves   (N=251)

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
Interpersonal Skills	Maintaining a trusting professional relationship		1 (0.4%)	88 (35.1%)	162 (64.5%)

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
	Having approachability			70 (27.9%)	181 (72.1%)
	Having patience		3 (1.2%)	84 (33.5%)	164 (65.3%)
	Giving advice mentees' emotional and professional needs and working well with individuals from different backgrounds		1 (0.4%)	111 (44.2%)	139 (55.4%)
	Having persistence			138 (55%)	113 (45%)
	Recognizing a mentee as a developing person and professional and recommending resources immediately	1 (0.4%)	1 (0.4%)	116 (46.2%)	133 (53%)
	Viewing the poorly prepared, overconfident, and defensive of mentees as challenges to overcome			102 (40.6%)	149 (59.4%)
	Using a variety of teaching strategies			48 (19.1%)	203 (80.9%)
	Linking new learning to prior knowledge		1 (0.4%)	61 (24.3%)	189 (75.3%)
	Using daily life experiences in teaching			63 (25.1%)	188 (74.9%)
	Helping the mentees to be aware of children's cognitive levels in planning a lesson		4 (1.6%)	84 (33.5%)	163 (64.9%)
Teaching Skills	Facilitating them to create and utilize teaching-learning materials that are available easily		5 (2%)	114 (45.4%)	132 (52.6%)

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
	Helping them to be able to use the language that can be easily understood for children		4 (1.6%)	89 (35.5%)	158 (62.9%)
	Guiding them to ask application level questions in formative assessment		1 (0.4%)	103 (41%)	147 (58.6%)
	Helping them by correcting each student's mistake and re-teaching for fulfilling requirements after assessing students' comprehension		1 (0.4%)	113 (45%)	137 (54.6%)
	Guiding them to communicate students' records according to each lesson to parents or guardians		3 (1.2%)	103 (41%)	145 (57.8%)
	Guiding them to maximize instructional time	1 (0.4%)	9 (3.6%)	120 (47.8%)	121 (48.2%)
	Guiding mentees to communicate their students with each other in a mutual respect that can create good learning environment		3 (1.2%)	93 (37.1%)	155 (61.8%)
	Reminding penalty students in order to obey discipline	1 (0.4%)	5 (2%)	104 (41.4%)	141 (56.2%)
	Reviewing impacts of used time and effort in their teaching		3 (1.2%)	141 (56.2%)	107 (42.6%)
	Helping them to conduct action research	1 (0.4%)	22 (8.8%)	157 (62.5%)	71 (28.3%)
	Giving them advice on what to write for a teaching journal	1 (0.4%)	31 (12.4%)	145 (57.8%)	74 (29.5%)

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
	Listening with an open mind while building a shared understanding,		3 (1.2%)	97 (38.6%)	151 (60.2%)
	Reviewing a problem from others' points of view		8 (3.2%)	121 (48.2%)	122 (48.6%)
	Identifying behaviours that need to change	3 (1.2%)	9 (3.6%)	107 (42.6%)	132 (52.6%)
	Giving challenging tasks	1 (0.4%)	5 (2%)	121 (48.2%)	124 (49.4%)
Coaching Skills	Valuing diversity and differences in order to build mutual understanding		2 (0.8%)	107 (42.6%)	142 (56.6%)
	Encouraging alternative perspectives		1 (0.4%)	107 (42.6%)	143 (57%)
	Developing their mentees' reflective skills		2 (0.8%)	95 (37.8%)	154 (61.4%)
	Recognizing their mentees' strengths and weaknesses by themselves through providing constructive feedback		2 (0.8%)	90 (35.9%)	159 (63.3%)
	Inviting their mentees to observe his or her teaching in their classroom	1 (0.4%)	2 (0.8%)	94 (37.5%)	154 (61.4%)
	Planning and delivering team teaching	1 (0.4%)	9 (3.6%)	108 (43%)	133 (53%)
ommunication Skills	Articulating effective instructional strategies		3 (1.2%)	93 (37.1%)	155 (61.8%)
	Using time efficiently to communicate with others			106 (42.2%)	145 (57.8%)
	Being discreet and maintaining confidentiality		1 (0.4%)	65 (25.9%)	185 (73.7%)

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
	Listening attentively to what the mentees say			71 (28.3%)	180 (71.7%)
	Asking questions to reflect		3 (1.2%)	104 (41.4%)	144 (57.4%)
	Giving ideas for mentees in positive and productive ways	1 (0.4%)	2 (0.8%)	101 (40.2%)	147 (58.6%)
	Using email effectively	17 (6.8%)	51 (20.3%)	126 (50.2%)	57 (22.7%)
	Conveying enthusiasm			79 (31.5%)	172 (68.5%)
	Speaking positively to others about the school culture and curriculum implementation		3 (1.2%)	110 (43.8%)	138 (55%)
	Motivating parental involvement		10 (4%)	113 (45%)	128 (51%)
	Facilitating mentees for getting their own knowledge rather than supplying them with facts		6 (2.4%)	110 (43.8%)	135 (53.8%)
	Linking mentees' life experiences to their knowledge		5 (2%)	98 (39%)	148 (59%)
	Being conscious of mentees' needs according to developmental stages	1 (0.4%)	5 (2%)	140 (55.8%)	105 (41.8%)
	Focusing on the most useful practice	1 (0.4%)	7 (2.8%)	120 (47.8%)	123 (49%)
	Understanding reasons for learning and their needs		1 (0.4%)	119 (47.4%)	131 (52.2%)
	Analyzing and discussing their mentees' teaching		2	83	166

Variables	Essential Characteristics	Strongly Disagree	Disagree	Agree	Strongly Agree
	difficulties		(0.8%)	(33.1%)	(66.1%)
	Agreeing on action plans to solve	1 (0.4%)	7 (2.8%)	110 (43.8%)	133 (53%)
	Responding to extrinsic and intrinsic motivators by their desires		4 (1.6%)	118 (47%)	129 (51.4%)

Research Question (2) Developing a Performance Management Framework for Essential Characteristics of a Mentor

According to the results, mentors' essential characteristics were of vital importance. Finally, mentors' degree of agreement towards essential characteristics of a mentor were shown in the framework to carry out mentoring functions so that performances of mentees (also called teaching qualities of mentees) would improve (See Figure 1).
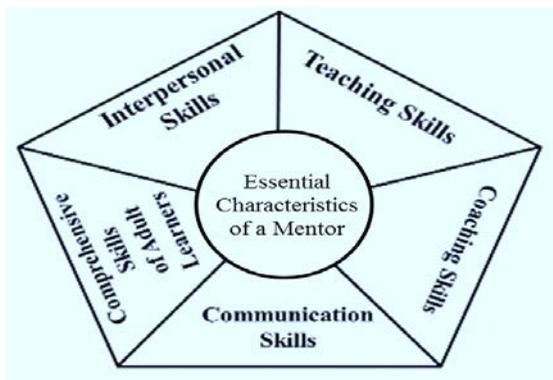

Figure 1. A Performance Management Framework for Essential Characteristics of a Mentor

Recommendation

- Internet access should be provided for mentors and mentees for effective communication.

- Performance management framework should be used to assess the mentors' performances by officers from Department of Basic Education who manage roles and responsibilities of the mentors and mentees.

- Mentors should help their mentees to improve their performance through realizing the essential characteristics of a mentor.

Need for Further Research

Investigation into factors affecting interpersonal and communication skills between the mentors and the mentees within the school cluster and a study of different kinds of conversation for improving social skills of mentors in interacting with mentees should be conducted.

Acknowledgements

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An Investigation into Primary School Children's Awareness and Sources of Information Concerning Environmental Issues

Su Chan Myae[*]

Abstract

The aim of the study was to investigate primary children's awareness and sources of information concerning environmental issues in Chaungzone Township, Mon State. Quantitative method was used in this study. The target population was primary school children in Chaungzone Township. Non-proportional stratified sampling was used. A total of 354 primary school children were participated in this study. Questionnaires consisted of 16 items for awareness of environmental issues and 70 items for sources of information concerning environmental issues. Descriptive Statistics and IPC were used to analyze the data in this study. In studying the primary school children's awareness on pollution, it was found that, 41 (11%) of total children were below satisfactory level, 102 (29%) of total children were in satisfactory level and 211 (60%) of children were above satisfactory level. In studying the primary school children awareness on conservation of resources, it was found that 8 (2%) of primary school children had below satisfactory level, and 163 (46%) of children were in satisfactory level, and 183 (52%) of children were in the above satisfactory level. Then, primary school children obtain most of the information concerning environmental issues from radio or television and newspaper or journals.

Keywords: Environmental Awareness, Sources of Information

Introduction

The ultimate aim of education is shaping human behavior. Education system is established to develop citizens who will behave in desirable ways. Environmental education is an opportunity for educational institutions to try to develop and contribute to the understanding of the relationships between human culture and human life, individual responsibility and society towards the environment, and the social action of personal behaviour.

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[*] Lecturer, Dr., Department of Educational Theory, Yangon University of Education

Significance of the Study

Environmental awareness is about being aware of the environment. In Myanmar, loss of forest resources becomes top priority of environmental concerns. According to analysis of Asian Development Bank on Myanmar agriculture, Natural resources, and Environment Initial Assessment, Strategy, and Road Map, in Myanmar, climate change recently became a high priority. If humans continue to engage environmental damage behaviours at the individual, corporate, governmental and societal levels, these behaviours contribute to the creation of several environmental problems. As a result, it may expose serious threats to the health of humans and all living species (Gore, 1993, cited in Metin, 2010). Keeping in mind these issues, it was intended to find out children awareness on environmental pollution and conservation of resources and the sources that they obtain information concerning environmental issues.

Objectives of the Study

General Objective

- To investigate primary school children's awareness and sources of information concerning environmental issues in Chaungzone Township, Mon State.

Specific Objectives

The specific objectives of this study are as follows;

- To investigate the level of primary school children's awareness on issues of pollution

- To investigate the level of primary school children's awareness on conservation of resources

- To find out the sources that the children obtain the information concerning environmental issues

Research Questions

This study is focused on the following questions.

1. What is the level of primary school children's awareness on issues of pollution?

2. What is the level of primary school children's awareness on conservation of resources?

3. What are the sources that the children obtain the information concerning environmental issues?

Limitations of the Study

This study is concerned with children's awareness and sources of information concerning environmental problem. It is geographically limited by Chaungzone Township, Mon State. In addition, this study is related to children's awareness on pollution and conservation of resources only.

Theoretical Framework

The categories of environmental education objectives which were established at the Tbilisi conference are (1) Awareness, (2) Knowledge, (3) Attitude, (4) Skills and (5) Participation. According to these objectives, for improving awareness, social group and individuals should be helped to acquire an awareness and sensitivity to the total environment and its allied problems.

According to the UNESCO report in reorienting teacher education to address sustainable development guideline and tools by Steele (2012) and the Myanmar's National Environmental Performance Report 2007-2010, children need to have awareness on Conservation of resources (energy, forest, water) and Pollution (air pollution, water pollution, soil pollution).

Definition of Key Term

Environmental Awareness is defined as conscious of the problem and dangers facing mankind and environment and pressing need for positive action to control the dangers undesirable impact of man activities and demand upon the environment (Environmental Education Committee, Kenyatta University College, 1980, cited in Boiyo, 2014).

Review of Related Literature

Causes and Consequences of Environmental Issues

According to Steele (2010), Economies of the world driven by using non-renewable fossil fuel energy sources, lack of sufficient laws and regulations on fossil fuel use and emissions, lack of technology and

knowledge development on using renewable energy sources up to now lead to global warming.

According to Anil and Arnab (2003), there are some causes of soil pollution. They are indiscriminate solid waste disposal on land, random discharge of industrial waste effluents on land and water courses, excessive use of pesticides, herbicides and chemical fertilizers in agriculture, excessive irrigation and open defecation on land by animals and man particularly on rural areas and city slums. Blowers and Hinchliffe (2003) also stated that the wastes of different industries and household wastes such as plastic, polythene cause soil pollution after mixing with the soil.

In reorienting teacher education to address sustainable development: guidelines and tools, Steele (2010) described that most people live along coastlines and near rivers, meaning that these bodies of water are likely candidates for heavy and destructive pollution.

Behavioural Change Model

The behavioural model provides a base for the consideration of possible relationship existing between environmental knowledge, environmental awareness and attitude and how these can translate to action or inaction.
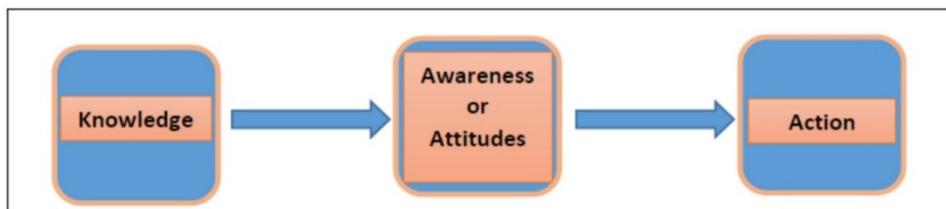
Figure 1. Behavioural Change Model
Sources: Hungerford & Volk (1990). Changing Learner Behaviour through
        Environmental Education.

Methodology

Quantitative method was used in this study. For quantitative study, descriptive research design was used and data were collected through questionnaire. The participants were 354 primary school children. The questionnaire consisted of two main parts: 16 items for awareness on pollution and conservation of resources and 70 items for sources of information concerning environmental issues.

The level of primary school children's environmental awareness on pollution and conservation of resources were also determined by using Item Correct Percent (IPC) value of each item included in the questionnaire and average score percent.

$$IPC = \frac{\text{Number of participants that correctly answer the item}}{\text{Total number of Children}} \times 100$$

In scoring the response to the objective type items relating to environmental awareness, the value less than 50% is considered as below satisfactory level, the value between 50% and 74% as satisfactory level, and the value greater than or equal 75% as above satisfactory level. The set of questionnaires was developed after reviewing the related literature. For the expert review, the advice and guidance were taken from the 11 expert educators who have special knowledge and experience in the field of this study. the descriptive method of research was used. The collected data of this study were systematically analyzed by using the Statistical Package for the Social Science software version 22.

Findings

Research Question (1) Findings on the level of primary school children's awareness on issues of pollution

Table 1. Numbers and Percentages of Primary School Children Showing the Level of Environmental Awareness on Pollution   (N=354)

Scoring Range	No. of Students	Remark
<50%	41 (11%)	Below Satisfactory Level
50%-74%	102 (29%)	Satisfactory Level
≥75%	211 (60%)	Above Satisfactory Level

Scoring range:

<50%=Below Satisfactory	50%-74%=Satisfactory	≥75% = Above Satisfactory

According to the table, 41 (11%) of total students were below satisfactory level, 102 (29%) of total students were at satisfactory level and 211 (60%) students were above satisfactory level. It was shown in figure (2).
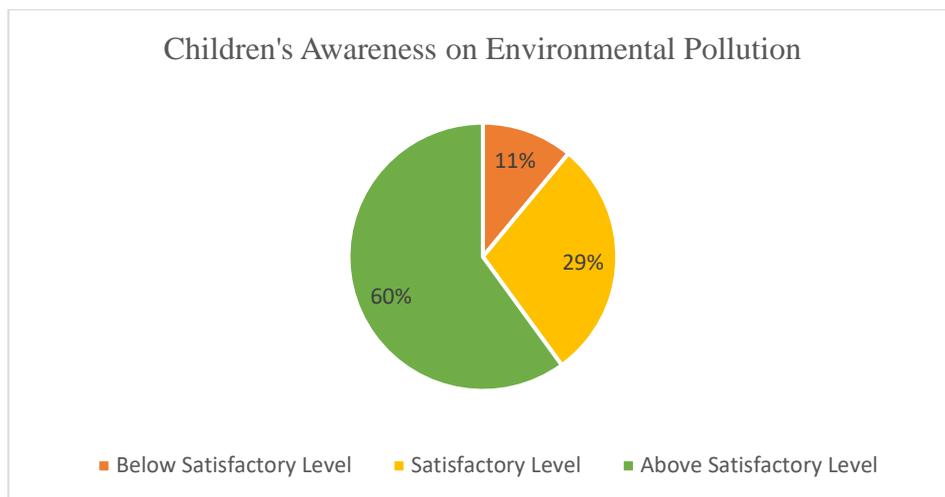
Figure 2. Percentages of Children Showing the Level of Awareness on Pollution

Research Question (2) Findings on the level of primary school children's awareness on conservation of resources

Table 2. Numbers and Percentages of Primary School Children Showing the Level of Environmental Awareness on Conservation of Resources

(N = 354)

Scoring Range	No. of Students	Remark
<50%	8 (2%)	Below Satisfactory Level
50%-74%	163 (46%)	Satisfactory Level
≥75%	183 (52%)	Above Satisfactory Level

Scoring range:

<50% = Below Satisfactory   50%-74% = Satisfactory   ≥75% = Above Satisfactory

According to the scoring range, 8 (2%) of total students were below satisfactory level, 163 (46%) of total students were at satisfactory level and 183 (52%) of total students were above satisfactory level. It was shown in Figure (3).
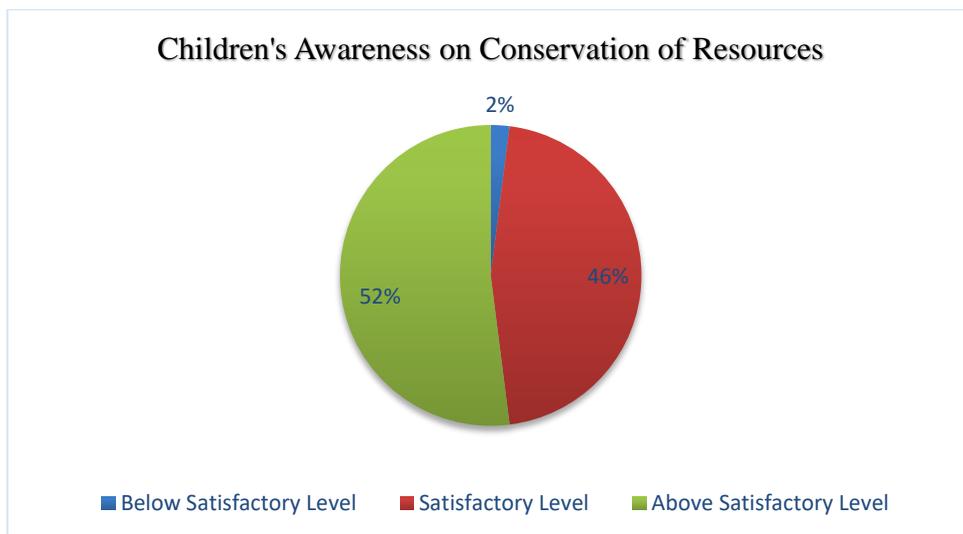
Figure 3.Percentages of Children Showing the Level of Awareness on Conservation of Resources

Research Question (3) Finding on the sources that the children obtain the information concerning environmental issues

Table 3. Percentages of Primary School Children's Sources of Information Concerning Environmental Issues

Issue	News-papers/ Journals	Internet	Radio/ TV	School	Family	Friends	NGO
	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)
1.	254 (71.75%)	152 (42.94%)	322 (90.96%)	162 (45.76%)	156 (44.07%)	111 (31.36%)	78 (22.03%)
2.	259 (73.16%)	128 (36.16%)	190 (53.67%)	139 (39.27%)	124 (35.03%)	74 (20.90%)	70 (19.77%)

Issue	News-papers/ Journals	Internet	Radio/ TV	School	Family	Friends	NGO
	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)
3.	236 (66.67%)	147 (41.53%)	317 (89.55%)	170 (48.02%)	212 (59.89%)	165 (46.61%)	111 (31.36%)
4.	253 (71.4%)	141 (39.83%)	262 (74.01%)	172 (48.59%)	146 (41.24%)	83 (23.45%)	62 (17.51%)
5.	249 (70.34%)	130 (36.72%)	290 (81.92%)	202 (57.06%)	185 (52.26%)	97 (27.40%)	91 (25.71%)
6.	268 (75.71%)	117 (33.05%)	296 (83.62%)	177 (50.00%)	158 (44.63%)	85 (24.01%)	114 (32.20%)
7.	155 (43.79%)	92 (25.99%)	180 (50.85%)	147 (41.53%)	141 (39.83%)	71 (20.06%)	63 (17.80%)
8.	241 (68.08%)	156 (44.07%)	306 (86.44%)	138 (38.98%)	156 (44.07%)	94 (26.55%)	87 (24.58%)
9	269 (75.99%)	145 (40.96%)	311 (87.85%)	146 (41.24%)	150 (42.37%)	74 (20.90%)	83 (23.45%)
10	276 (77.97%)	166 (46.89%)	318 (89.83%)	145 (40.96%)	175 (49.44%)	138 (38.98%)	102 (28.81%)
Avg:	246 (69.49%)	137.4 (38.81%)	279.2 (78.87%)	159.8 (45.14%)	160.3 (45.28%)	99.2 (28.02%)	86.1 (24.32%)

Notes:

1= Deforestation   6= Soil Pollution
2= Energy Scarcity   7= Garbage
3= Water Scarcity   8=Endangered Species
4= Air Pollution   9= Global Warming
5= Water Pollution   10= Flooding

Table 3 indicated that primary school children from all school levels in Chaungzone Township stated Radio/ TV as the place where they received the most source of information. Other sources of information were newspaper and journals, family and schools. They also described that

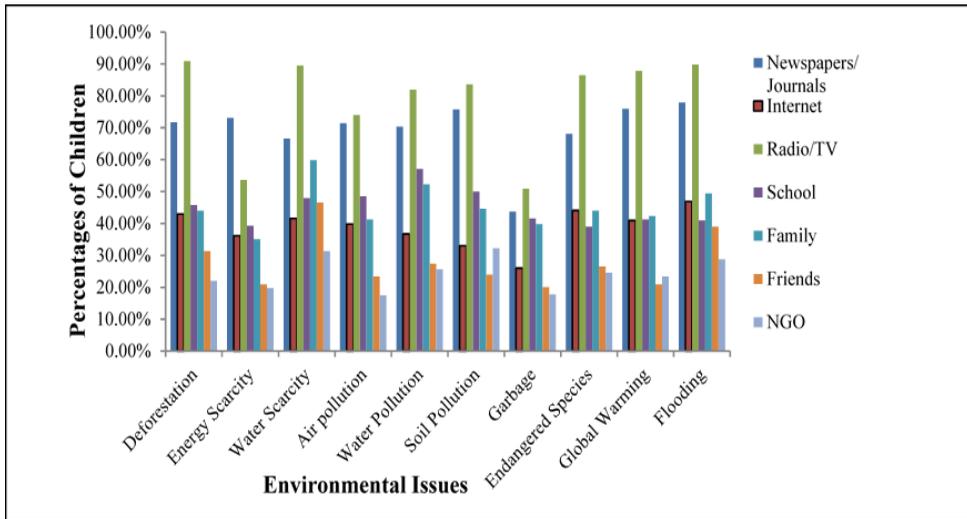they received a little information from NGO. It was demonstrated in Figure (4) and Figure (5).

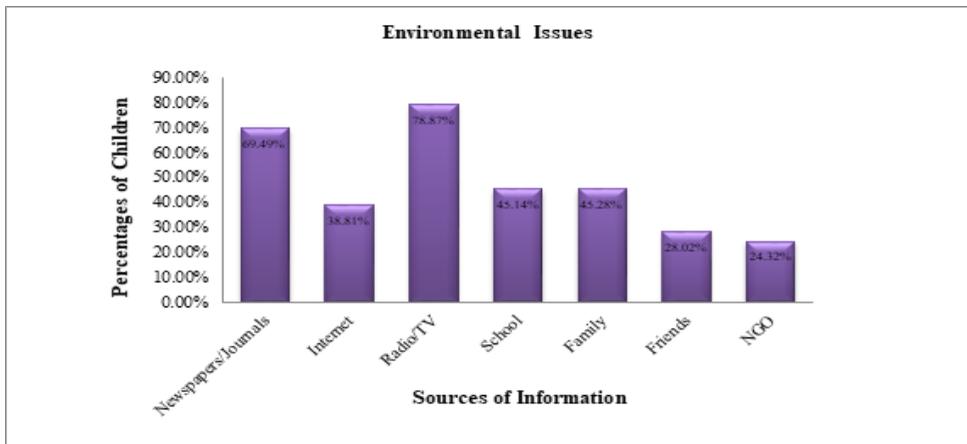Figure 4. Environmental Issues and Sources of Information

Figure 5. Sources of Information Concerning Environmental Issues

Conclusion

This study was concluded children's Knowledge and sources of information concerning environmental issues in Chaungzone Township, Mon State. Regarding awareness on pollution, 41 (11%) of primary school

children had below satisfactory level, and 102 (29%) of children were at satisfactory level, and 211 (60%) of children were at the above satisfactory level. It can be regarded that most of the primary school children had above satisfactory level of awareness on pollution problems. Regarding awareness on conservation of resources, 8 (2%) of primary school children had below satisfactory level, and 163 (46%) of children were in satisfactory level, and 183 (52%) of children were in the above satisfactory level. It can be noted that most of the primary school children had above satisfactory level of awareness on conservation of resources. For sources of information, all primary school children received most information from radio/TV, newspaper/journals, family and school.

Suggestions

Based on the results of this study, the following facts are suggested.

- School should collaborate with environmental educators to foster environmental literacy of primary school children by engaging them in activities.

- Children should be introduced the 3 R's: reduce waste, reuse resources, and recycle materials.

- Classroom should be decorated with some educational infographic tools like posters, photographs, charts and informative artworks to raise children's awareness on pollution in the environment.

- Parents should share their environmental knowledge to their children at home

- Parents should help their children connect to nature by providing access and encouraging play and exploration.

- NGOs (at national and community levels) should initiate and help by awareness campaigns to save environment.

Need for Further Research

Further research activities should be designed with the objectives of evaluating the status of biodiversity conservation looking at the strategies

for integrating conservation with socio-economic development and providing guidelines to all stakeholders.

Acknowledgements

I would like to offer my respectful gratitude to Dr. Pyone Pyone Aung (Pro-Rector, Yangon University of Education), Dr Kay Thwe Hlaing (Pro-Rector, Yangon University of Education), Dr. Khin Mar Ni (Professor, Head of Department, Department of Educational Theory, Yangon University of Education), and my supervisor and co-supervisor for their valuable support and constructive suggestions.

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Principals' Conflict Management Styles and Teachers' Commitment

Khin Lat Lat Mon*

Abstract

This study aimed to investigate the relationship between principals' conflict management styles and teachers' commitment in Basic Education High schools in Sanchaung Township. 146 teachers participated in this study. The findings of the study indicated that teachers at high schools in Sanchaung Township perceived that their principals moderately used integrating, obligating and compromising styles and, these principals used dominating and avoiding styles at low level. And the teachers' commitment from those schools was at high levels, namely commitment to school, commitment to students, commitment to teaching and commitment to profession. There was also statistically significant difference in commitment to students on position. The result of the study supported that integrating, obligating and compromising styles were moderately and positively correlated with teachers' commitment but dominating and avoiding styles had a low positive relationship with teachers' commitment in all Basic Education High Schools in Sanchaung Township.

Keywords: Principals' conflict management styles, teachers' commitment

Introduction

Conflict is a term that may have a negative feeling in our mind and it takes place in our daily life. Conflict in organization may produce negative consequences that include job satisfaction, propensity to leave the job, lack of organizational commitment and increased absenteeism (Alzahrani, 2013). Unresolved conflict affects the smooth functioning of school organization and negatively affects the commitment of teachers and their development. The principals need to have the ability to effectively handle conflicts arrive at schools for improving teachers' satisfaction, commitment and school success.

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* Assistant Lecturer, Department of Educational Theory, Pathein Education Degree College

Conflict management styles are affected by way conflict is perceived, conflicted and handled. The absence of conflict management is one of the main causes of failure. Effective conflict management lightens the negative impact of relationship and task conflict and will have a positive impact on organizational cohesion. Moreover, a school that applied effective conflict management style results a very positive effect on commitment among the teachers in their work. If the teachers have commitment to schools, students and their professions, their students and the schools will be successful. Therefore, the purpose of this research is to study principals' conflict management styles and teachers' commitment in Sanchaung Township.

Research Objectives

The general objective of this study is to study the relationship between principals' conflict management styles and teachers' commitment at Basic Education High Schools. The specific objectives of the study are;

1. To study the teachers' perceptions on principals' conflict management styles at Basic Education High Schools

2. To identify the levels of teachers' commitment at Basic Education High Schools

3. To examine the relationship between principals' conflict management styles and teachers' commitment at Basic Education High Schools.

Definition of Key Terms

Conflict management styles refer to individual's distinctive ways of handling conflict in any interaction incidents (Ting-Toomey et al., 2000, cited in Alzahrani, 2013).

Commitment defines as the investment in a particular career (Lacey, 1997).

Review of Related Literature

Definition and Concept of Conflict

Conflict is inevitable in social and professional life of every individual. Conflict causes stress and anxiety that will produce negative behavior among the teachers in schools. There are two types of conflict; positive conflict that is functional and support the benefits of the

organization or individual and negative conflict that is dysfunctional and hinders the ability or performance of the person or organization's ability.

Conflict in social and professional life occurs when an individual or a group feels negatively affected by another individual or group. Different types of conflicts exist in interpersonal relationships, team members and an organization or school. The several types of conflict are intra-personal conflict, inter-personal conflict, man against society, family conflict, inter-group conflict, intra-state conflict, inter-state conflict and global conflict. As conflict is inevitable, the appropriate conflict management style is required to enhance mutual understanding between individuals and groups.

Conflict Management Styles

Conflict management styles refer to individuals' characteristic modes of managing conflicts in various interaction and situation. Traditional theory sees conflict as being primarily negative and conflict is the result of troubling indicators and it has bad effects and it's better to avoid the conflicting situations (Yasin & Khalid, 2015). Contemporary theory views conflict as something positive. There are five styles of conflict management, integrating style, obliging style, dominating style, avoiding style and compromising style (Farooq et al., 2016).

1. **Integrating style**; it means to resolve a conflict problem through exchange of knowledge and utilization of different options to reach a solution which is acceptable for both parties.

2. Obliging style (low concern for themselves and a high concern for others): this style means that an individual believes that he or she may be wrong and the problem in question is much more important to the other person involved.

3. Compromising Style: This style intermediates between concern for self and others. It involves 'give and take' situation where both parties give up something to make a mutually acceptable decision. This style seeks for a mutually acceptable solution that satisfies both parties partially via addressing some concerns of both parties and neglecting others exchanging concessions and finding a middle-ground position (Khanaki, 2010).

4. Dominating style (a high concern for oneself, but a low concern for others): Individuals who use dominating style usually minimize the benefits

of others by using power or forceful actions and find their own interests. Therefore, this style also refers to a win-lose situation.

5. Avoiding Style: This style involves low concern for self and others which is associated with withdrawal or sidestepping the actual situation. This is suitable when a person wants to decrease his or her tension, requiring for more time and when he or she is in lower position or authority.

Teachers' Commitment

Commitment is part of a teacher's affective or emotional reaction to their experience in a school situation. It can be seen to be part of a learned behavior or attitude associated with the professional behavior of teachers. According to Thein & Razak (2014), the conceptualization of teacher commitment can be synthesized as a multidimensional construct reflective of four dimensions: commitment to school, commitment to students, commitment to teaching and commitment to profession.

1. Commitment to school

Teacher commitment to school is assumed as teachers' belief and acceptance of the goals and values of the school and the teachers' efforts to actualize the goals and maintain their strong desire for membership in the school.

2. Commitment to students

Students need teacher who understand them and their needs with sensitivity. They need to be looked after by teachers who understand their instincts, learning needs and tendencies along with their capacities and abilities (Shukla, 2014).

3. Commitment to teaching

Commitment to teaching is a psychological link between teachers and their teaching, which can be reflected through teachers' willingness to teach effectively, greater enthusiasm for teaching the subject matter and willingness to devote extra time to their students.

4. Commitment to profession

Teachers' commitment to profession involves an affective attachment to the profession, that is associated with personal identification with and satisfaction obtained from being a teacher.

Method and Procedure

Research Method

Descriptive method of research was used in this study and qualitative methods were used to collect the required data. All the four schools in Sanchaung Township were chosen as the sample and all the teachers in these schools were chosen as participants in the study. There were 45 Senior Teachers, 88 Junior Teachers and 13 Primary Teachers. All 146 teachers in these schools completed the questionnaires.

Instrumentation

In this study, the researcher chose the questionnaire survey method and used questionnaires as instrument to collect the appropriate data. Part A is for demographic information about teachers. Part B is about Questionnaire 1 that was based on ROCI-II by Rahim and consists of information to measure conflict management styles and totally consists of 28 items. The response set contains five possible answers, in Likert format, ranging from "Never" to "Always" and is scored 1 - 5 respectively. Part C is about Questionnaire 2 for the teachers that was developed based on Exploratory Factor Analysis by Thein Lee Mee and and consists of information to measure teachers' commitment contains 4 dimensions and 17 items. These five dimensions are commitment to school, commitment to students, commitment to teaching profession and commitment to profession. Likert five-point scale (1-disagree to 5-strongly agree) was used. One open-ended question for principals' conflict management styles and one open-ended question for teachers' commitment included in Questionnaire 2.

Data Collection Procedure

For the content validity, the questionnaires were evaluated and revised by the experts who are well experienced and mastery in this field. The Cronbach's alpha reliability coefficient is 0.84 (α=0.84) for principals' conflict management styles and 0.71 for teachers' commitment respectively. And then, the instruments were modified again based on the responses of the pilot study and the suggestions of the panel of experts. The questionnaires were distributed to the selected schools with the permission.

Results of the Study

Table1. Mean Values and Standard Deviations for Principals' Conflict Management Styles

Conflict Management Style	Mean	SD
Integrating	3.84	.574
Obligating	3.49	.721
Compromising	3.61	.680
Dominating	3.05	.701
Avoiding	2.73	.559

1.00-2.44=low level, 2.45-3.44=moderate level, 3.45-5.00=high level

According to table 1, integrating, obligating, compromising styles are at high level and the teachers in all four Basic Education High Schools perceived that their principals used these three styles highly. On the other hand, the teachers perceived that their principals used dominating style and avoiding style moderately.

Table 2. Mean Values and Standard Deviations for Teachers' Commitment

Teachers' Commitment	Mean	SD
Commitment to school	3.50	.778
Commitment to students	3.81	.742
Commitment to teaching	3.73	.847
Commitment to profession	3.29	.992
Overall	3.61	.685

1.00-2.44=low level, 2.45-3.44=moderate level, 3.45-5.00=high level

Table 2 showed that in all Basic Education High Schools in Sanchaung Township, the mean values ($\bar{X}$=3.50, $\bar{X}$=3.81 and $\bar{X}$=3.73) rated by the teachers highlight that their commitment in all schools were at high level in commitment to school, students, and teaching.

Table 3. Result of ANOVA for Teachers' Commitment among age

Teachers' Commitment	F	Sig
Commitment to school	2.364	0.033
Commitment to students	1.021	0.415
Commitment to teaching	.579	0.747
Commitment to profession	.729	0.627
Overall	.785	0.583

According to Table 3, it was only found that there is a significant difference in commitment to school on age.

Table 4. Result of ANOVA for Teachers' Commitment among position

Teachers' Commitment	F	Sig
Commitment to school	.726	.486
Commitment to students	3.823	.024
Commitment to teaching	.649	.524
Commitment to profession	.137	.872
Overall	1.089	.339

According to Table 4, it was only found that there is a significant different in commitment to students on the basis of position.

Table 5. Correlation between Principals' Integrating Style and Teachers' Commitment

Two Group	Conflict Management style	Commitment
Integrating Style	1	.543**
Commitment	.543**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 5 showed that there is a positively moderate and significant relationship between principals' integrating style and teachers' commitment.

Table 6. Correlation between Principals' Obligating Style and Teachers' Commitment

Two Group	Conflict Management style	Commitment
Obligating Style	1	.592**
Commitment	.592**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 6 showed that there is a positively moderate and significant relationship between principals' obligating style and teachers' commitment.

Table 7. Correlation between Principals' Compromising Styles and Teachers' Commitment

Two Group	Conflict Management style	Commitment
Compromising Style	1	.619**
Commitment	.619**	1

** Correlation is significant at the 0.01 level (2-tailed).

According to table 7, that there is a positively moderate and significant relationship between principals' compromising style and teachers' commitment.

Table 8. Correlation between Principals' Dominating Styles and Teachers' Commitment

Two Group	Conflict Management style	Commitment
Dominating Style	1	.340**
Commitment	.340**	1

** Correlation is significant at the 0.01 level (2-tailed).

The table implies that there is a positively low and significant relationship between principals' dominating style and teachers' commitment.

Table 9. Correlation between Principals' Avoiding Styles and Teachers' Commitment at High Schools in San Chaung Township

Two Group	Conflict Management style	Commitment
Avoiding Style	1	.260**
Commitment	.260 **	1

** Correlation is significant at the 0.01 level (2-tailed).

The table implies that there is a positively low and significant relationship between principals' avoiding style and teachers' commitment.

Conclusion and Discussion

The result of the study showed that the teachers in all Basic Education High Schools in Sanchaung Township perceived that their principals used integrating, obligating and compromising styles highly and, dominating and avoiding styles used moderately. And then the teachers' commitment in these schools is in high level. Avoiding and dominating styles were low positively correlated with teachers' commitment. Therefore, the principals should consider the situation when they use avoiding and dominating styles.

But integrating, obligating and compromising styles were moderately positive correlated with teachers' commitment. Therefore, the

principal should resolve a conflict problem through exchange of knowledge, utilize of different options, find a solution that fully satisfies the concern of both, obey another teachers' needs, split the difference, exchange concession or seek a quick middle-ground position for improving teachers' commitment which may lead school success. Moreover, according to finding, there was a significant difference in commitment to school on age and commitment to students on position.

In conclusion, the principals' conflict management styles were very important for the teachers' commitment. Therefore, the principals who adopt integrating, obligating and compromising styles can make improve their teachers' commitment. According to the findings of the open-ended responses, it can be concluded that the teachers preferred the integrating and compromising styles. They believed that cooperation and integrating as a family type can success everything, can support the mistakes of one person by others and can share the others' strengths.

Need for further Research

The research was only conducted in Sanchaung Township in Yangon Region. Therefore, the result cannot be generalized to other schools and regions. Further studies should be conducted in other educational regions and it should also be studied with mixed method that include in-depth interviews and field observation.

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An Analytical Study of School Locations and Educational Facilities for School Mapping in Phasaung Township

Myat Thandar Aye*

Abstract

This study aims to analyze the school locations and educational facilities for school mapping in Phasaung Township and to prepare a proposal for universal access to primary education. All the villages and schools in Phasaung Township were selected for this study. In this study, school mapping method developed by N.V.Varghese was used. An inventory was used to collect data. It included two sets. The first set was concerned with the current conditions and availability of educational facilities in the schools. The second set dealt with the demographic characteristics and profiles of the villages. For the qualitative study, the interview questions relating to the religion, socio-economic status, transportation, communication and political conditions of the villages were used. The current conditions of the schools and availability of educational facilities were diagnosed and analyzed with reference to the national norms. It was found that the major barriers to universal access to primary education are the poverty of parents, the attitude of parents towards education, the control of ethnic armed group, transportation, communication and language barriers. To achieve universal access to primary education, NFPE centers and new primary schools with the required educational facilities and the minimum number of teachers and model for conducting school mapping at National level are proposed in this paper.

Keywords: School Locations, Educational Facilities, School Mapping

Introduction

Access to primary education is fundamental right to all children. Although Myanmar government has set a compulsory primary education policy, in rural, marginalized and hilly areas, there are still some children who do not access to primary education because poor families are unaffordable for education and there is a shortage of classrooms and an inadequacy of schools. Children in these areas sometimes have to walk more than two or more miles to attend primary schools. The provision of educational facilities at appropriate locations is an essential

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* Assistant Lecturer, Department of Educational Theory, Yangon University of Education

prerequisite for achieving universal primary education (UPE) in the remote areas.

Significance of the Study

School Mapping ensures a better distribution of schools so that no child is denied initial access to school or is discouraged enough to dropout because home is not within easy reach of a school. Kayah State is a hilly area and the population density is quite thin in Kayah state. Habitations are small and often placed far from one another. The literacy rate is 82.1 % that is lower than the national average rate of 89.5%. In addition, there are transportation and communication constrains in some areas of the Kayah State. The assumption of availability of schooling facilities within reasonable distance needs close examination, so the analysis of the current educational conditions is paramount for improving access to primary education. This research had been done to analyze the current educational conditions and demographic characteristics of the villages in Phasaung Township. This school mapping research took account not only the physical distance but also the major barriers to universal primary education (UPE) in this area. Then it proposed the requirement of educational facilities and programme to achieve universal primary education in Phasaung Township. This research also proposed a model for school mapping at national level.

Aims of the Study

The aims of the study are as follows:

Main Aim

- To analyze the school locations and educational facilities for school mapping in Phasaung Township

Specific Aims

- To investigate the current school locations and educational facilities in Phasaung Township

- To investigate the number of school-age children in each village and major barriers to primary education in Phasaung Township

- To develop a proposal for school mapping in Phasaung Township

Research Questions

- What are the current conditions of educational facilities in Phasaung Township?

- What is the number of school-age children in each village?

- What are the major barriers to universal primary education in Phasaung Township?

Methodology for School Mapping

According to Caillods.F (1999), preparation of the school location map at the local level comprises of three stages: an in depth diagnosis of the existing situation, projection of the numbers of children to be enrolled and proposals for re-organization of the educational services. School mapping method developed by N.V.Varghese includes the following detailed steps;

1. Selection of a unit for school mapping exercise

2. Definition of catchment area for the school

3. Diagnosis of existing educational situation

4. Projection of the number of children to be enrolled

5. Estimation of the number of schools to be opened

6. Identification of the locations where schools are to be opened or educational facilities are to be created

7. Estimation of the facilities to be provided in schools

8. Estimation of cost

Analysis of enrolment growth, diagnosis of the internal efficiency of the education system, of the availability of physical and human resources, and catchment area of the existing schools is essential to diagnose the existing educational conditions. Enrolment growth is analyzed with the absolute growth, relative growth and annual growth rate. Promotion rate, repetition rate, drop-out rate, retention rate and transition rate are calculated for diagnosing the internal efficiency of current educational system. Availability of physical and human resources is analyzed in accordance with the national norms.

Definitions of Key Terms

(1) Educational Facilities

The term "educational facilities" refers to all the physical properties of a school, consisting of the ground, buildings and the various facilities within the school grounds and inside the school buildings. (PESED-OPS,2010)

(2) School Mapping

School mapping is a very useful analytical tool to incorporate spatial dimensions based on the settlement pattern of population in the educational planning process. (N.V.Varghese, 1997)

(3) Catchment Area

Catchment area of a school is the geographical area served by that school. The school catchment area is defined by the maximum acceptable distance a child can travel between home and school. (Hallak,1997)

Review of Related Literature

Concepts of School Mapping

Caillods(1983) stated that school mapping is a set of techniques and procedures used to identify future needs in education at the local level and to plan for measures to be taken to meet them. N.V.Varghese (1997) defined that school mapping is a very useful analytical tool to incorporate spatial dimensions based on the settlement pattern of population in the educational planning process. Willian T.S.Gould (1978) stated that school mapping, also called school location planning can remedy some of the deficiencies of aggregate planning, by considering locations of individual schools on classrooms and other inputs and aggregates upwards to rationalize the distribution pattern of student spaces and enrolments within and between local education authorities.

The main objectives of school mapping are ensuring equity in provision and efficiency in the utilization of educational facilities. More specific objectives of school mapping are:

- Equalization of educational opportunities by leveling off the existing spatial disparities in the provision of educational facilities.

- Ensuring better utilization of the existing resources by improving the levels of participation, retention and learner achievement.

According to Varghese (1997) and Caillods (1983) , six factors to be considered when conducting the school mapping exercises are geographic/environmental factors, demographic factors, educational factors, economic factors, political Factors and manpower factor.

According to Varghese (1997), some of the norms which are crucial for school mapping exercises are: threshold population to be served by a school, maximum walking distance a child has to travel form home to school, size of school in terms of enrolment, minimum number of teachers and facilities to be provided in schools.

Methodology

Research Method and Sampling

Quantitative method and qualitative method were used in this study. Purposive sampling method was used in this study. Phasaung Township was selected for school mapping. All the villages and schools in Phasaung Township were selected for this study. An inventory was used in this study to investigate the availability of the educational facilities in the schools and the demographic characteristics of the villages. Documents and educational statistics from the Township Education Office were used to access the internal efficiency of the educational system. For qualitative analysis, interview questions were developed.

Data Analysis

The data collected were analyzed and diagnosed by using the method of school mapping. The required educational facilities and programme such new primary schools, NFPE centers, new buildings and other physical facilities, were proposed in accordance with the national norms.

Findings

School mapping requires not only the diagnosis of the existing level of education but also the demographic characteristic of selected area. Thus the current educational conditions, demographic characteristics are analyzed and major barriers to primary education in the villages are explored.

Table 1. Percentages of Increase in the Number of Basic Education Schools and Students during Five Years

Schools and Students		Number of Schools & Students		Increase (%)
		2011/12AY	2016/17AY	
Basic Education Schools	High Schools High School (branch)	2	3	50%
	Middle School Middle School (branch)	2	2	-
	Primary and Post Primary School	16	21	31.25%
	Total	20	26	30%
Students	High School Level	145	279	92.41%
	Middle School Level	829	1160	39.93%
	Primary school Level	1802	2323	28.91%
	Total	2776	3762	35.52%

Relative enrolment growth rate during 5 years is 35.52% and the average annual enrolment growth rate is 6.4%.

Internal Efficiency of the Educational System

To access the internal efficiency of the education system in this township, the promotion, repetition, drop-out, retention and transition rates. The retention rate of primary school level is 83.26% which is lower than the 2015 national target of 91% primary retention rate. Transition rate from primary to middle school level in the last year is 100

Teacher Distribution Grouped by Qualifications and Years of Services

To be able to find out the present situation of recruiting of teachers, norms and criteria applied for employing teachers and to propose where and how teachers should be appointed, the information about the teaching staff is required. Therefore, teacher distribution by years of service and qualification need to be taken in consideration.

Table 2. Number of Teachers Grouped by Qualifications

	Qualifications			
	Graduate	University Students	Matriculate	Grade-9
Primary School Principals	10	1	4	2
Primary Teachers	58	21	6	16
Junior Teachers	41	2	2	1
Senior Teachers	26	-	-	-
Total	135	24	12	26

Table 3. Number of Teachers Grouped by Years of Service

	Years of Service				
	0 -3	4 - 7	8 - 11	12 - 15	16 - above
Primary Teachers	72	1	1	1	23
Junior Teachers	7	20	5	6	8
Senior Teachers	-	4	5	7	10
Total	79	25	11	14	41

Current Conditions of Physical Facilities in Schools

The current conditions of physical facilities in schools are diagnosed with references to the national norms.

(i) Campus Area

The campus areas of most schools were not broad enough to meet the national norms.

(ii) Library

It was observed that every high school and middle school had a separated room as a library, but there were only book-shelves with a few books in other post primary and primary schools.

(iii) Drinking Water and Electricity

In Phasaung Township, most of the schools depended on the streams for drinking water, but some schools had water storage tanks. Some schools used government electricity and solar energy. Some established

private electricity system with the help of community but some schools didn't have.

(iv) Science Laboratory

Two Basic Education High Schools had 3 separate science laboratories but they were not well-equipped and they were underutilized.

(v) Multi-Media Room

There was a multi-media room in both Basic Education High Schools each, but it was not well-equipped and was underutilized.

(vi) Playground

All the schools in Phasaung Township had appropriate space for the playground.

(vii) Fence and Roof

Only seven schools had fence but types of fence were different and some needed to be maintained. According to the observation, roof and floor of some schools were in dangerous conditions.

(viii) Staff Housing

Among 26 schools, 13 schools were provided with staff housing as Phasaung Township is a hilly area and transportation is very difficult in some areas.

(ix) Toilet Facilities

Most of the schools had adequate toilets but in need of enough water. Among 26 schools, only 6 schools did not have adequate toilets.

(x) Pupil/Classroom Ratio

The classroom sizes were different within a school and among schools. The number of pupils per classroom in some schools was very high as the schools building was constructed as a hall and there was no partition to serve as separated rooms.

Major Barriers to Universal Primary Education in Phasaung Township

Social, economic, political, geographical and language factors are the major barriers to universal primary education (UPE) in Phasaung Township. Social problem includes the attitude of parents towards

education. Economic factors such as poverty of parents and less financial provision by the government is one of the major barriers to UPE. As a political factor, the disturbance of ethnic armed groups makes the government discourage the improvement of education in some area. From the geographical point of view, Phasaung Township is a hilly region, transportation is very difficult in some areas. In addition, habitations are scattered and small in this township. As a language barrier, teachers from other areas could not speak local dialect and thus communication between the students and teachers is difficult.

Plan Proposals

This proposal includes two sets. Set I deals with the opening of new primary schools and NFPE centers in the villages. Set II deals with the improvement existing education facilities both in terms of human and physical resources.

Proposals for School Mapping

Table 4. Proposed New Primary Schools and NFPE Centers

Type	Location Proposed	Catchment Area	Estimate Potential Number of Children to be enrolled	Required Physical Facilities	Required Minimum Number of Teachers
NFPE centers NFPE Center	Khwarchee	-	60	Blackboards/white-boards, chairs, tables, text books, teaching aids Stationery, & Toilet	2
	Buco	-	60		2
	Waiwalbo	Lalpo & Mwaylayco	70		2
	Cobawco	Palcochee & Mosarpardoe	50		2
	Gilo (Lower)	Gilo (Upper) & Kavwaydo	60		2
	Hteewoe	Yawtakargyi	45		2
Primary Schools	Kayalchee	Daykharchee, Yuhaldawco & Pahole	100	60ft × 20ft Building Blackboards/white-boards, chairs, tables, text books, teaching aids Stationery & Toilets	3
	Swarpal	Pathachee & Phawbuco	Over 100		3

Table 5. Proposed New Buildings for Existing Schools

Schools	Existing Buildings and Classrooms		Required additional classrooms
	Buildings	Class-rooms	
Basic Education Post Primary, Kawthudoe	60ft × 24ft	Hall	30ft × 22ft
Basic Education Primary School (Branch), Bahanlot	40ft × 22ft	2	40ft × 22ft
Basic Education Primary School (Branch), Mosarchee	40ft × 20ft	2	40ft × 22ft
Basic Education Primary School (Branch), Paheehtar	30ft × 13ft	Hall	60ft × 22ft
Basic Education Primary School (Branch), Kavwayphoe	40ft × 25ft	Hall	40ft × 22ft

Comparison of Existing School Map and Proposed School Map
Recommendation

The village education-registers should be developed with the help of local community so as to conduct a better distribution of educational
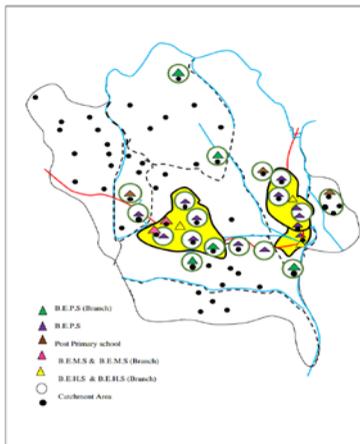
Figure 1. Existing Schools Map   Figure 2. Proposed Schools Map
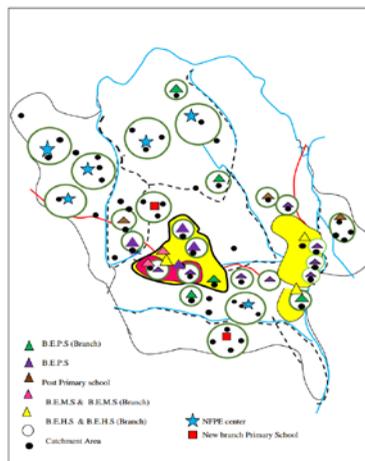
resources according to the local needs and to overcome the existing disparities. MOE should develop local, regional and national education maps and use geographical information system (GIS) for the education planning and management School mapping at the National/State level can be conducted with the following proposed model.
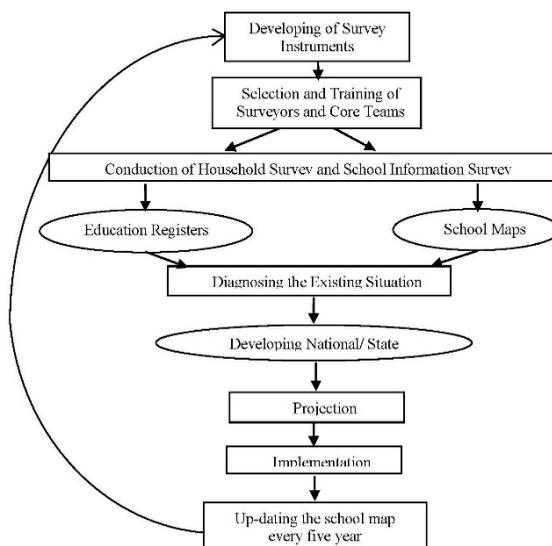
Figure 3. Proposed Model for Conducting School Mapping

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The Relationship between Teacher Educators' Organizational Citizenship Behavior and their Organizational Identification in Pathein Education College

Pyae Phyo Aung[*]

Abstract

The main purpose of this research is to study the relationship between teacher educators' organizational citizenship behavior (OCB) and their organizational identification (OID) in Pathein Education College. Quantitative and qualitative research methods were used in this study. A total of 76 teacher educators at Pathein Education College involved in this study. According to the findings, organizational citizenship behavior and their organizational identification were at moderate level. Significant differences were found in organizational identification by teaching service in current school but there were no statistically difference in the level of teacher educators' organizational citizenship behavior. However, it was found that there was positive and moderate correlation between teacher educators' organizational citizenship behavior and their organizational identification (r =0.5, ρ=0.01).

Keywords: organizational citizenship behavior, organizational Identification

Introduction

Successful organizations need followers who will do more than that is beyond expectation. Organizational citizenship behaviors (OCB) and organizational identification (OID) influence the social and psychological environment of schools, since these involve perceptions of oneness with the school and teachers' extra role behaviors toward school. Schools with high degrees of citizenship are more effective (DiPaola and Hoy, 2005) and have higher levels of student achievement even controlling for socioeconomic status. Compared with organizational citizenship behaviors, organizational identification (OID) has received little attention as a unique research topic until recently. OID has a potential capacity to generate a range of positive employee and organizational outcomes, such as low turnover intention, organizational citizenship behavior, employee satisfaction and well-being, and employee performance.

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[*] Assistant Lecturer, Department of Educational Theory, Pathein Education College

Organizations with high levels of employee identification can be expected to benefit from a more cohesive work atmosphere and greater levels of cooperation, altruism, participation and exertion of effort on behalf of the organization, including greater levels of citizenship behavior (Ashforth & Mael, 1989). Although the organizational citizenship behavior has studied increasingly in the educational settings, especially in state schools, little work has done in teacher education institutions. Therefore, the purpose of this research is to study teacher educators' organizational citizenship behavior (OCB) and their organizational identification (OID) in Pathein Education College.

Purposes of the Study

The purposes of the study are as follows;

1. to identify the level of teacher educators' organizational citizenship behavior in Pathein Education College
2. to explore the differences in the level of teacher educators' organizational citizenship behavior
3. to identify the level of teacher educators' organizational identification in Pathein Education College
4. to explore the differences in the level of teacher educators' organizational identification
5. to determine the relationship between organizational citizenship behavior and organizational identification

Definitions of key terms

Organizational Citizenship Behavior: Organizational citizenship is behavior that goes beyond the formal responsibilities of the role by actions that occur freely to help others achieve the task at hand. (Hoy & Miskel,2013)

Organizational Identification: Organizational identification is defined as a perceived oneness with an organization and the experience of the organization's successes and failures as one's own. (Mael and Ashforth, 1992)

Review of Related Literature

Organizational citizenship behavior: Definition and Concept

Organizational citizenship behavior (OCB) is a relatively new concept in performance analysis but it represents a very old human conduct of voluntary action and mutual aid with no request for pay or formal rewards in turn. The concept was first introduced in the mid-1980s by Dennis Organ. Organizational citizenship behavior is defined as discretional extra-role behavior which is not directivity involved or defined in the formal reward system, and which in the aggregate promotes the effective functioning of the organization (Organ, 1988).

Dimensions of Organizational Citizenship Behavior

Aspects of Organizational Citizenship Organ (1988) clarified the construct of organizational citizenship behavior by offering five different types of discretionary behaviors:

1*. Altruism*: Altruism refers to voluntary behavior that includes helping others concerning a work-relevant problem. Altruism is also related to determining how to help others.

2. *Conscientiousness:* Conscientiousness is a pattern of going well beyond minimally required (extra role-behavior) levels of the organization in the areas of attendance, obeying rules and regulations, conserving resources and related matters of internal maintenance and taking breaks.

3. *Sportsmanship:* Sportsmanship defined as "a person's desire not to complain when experiencing the unavoidable inconveniences and abuse generated in exercising a professional activity".

4.*Courtesy:* Courtesy refers to the gestures that assist others to avoid interpersonal problems to be happening, like giving advance notice of the work timetable to someone who is in need, or consulting others before taking any actions that would affect them .

5.*Civic virtue*: Civic virtue is described as productive participation and commitment in the political process of the organization by stating opinions, take part in meetings, discuss the issues of the day with colleagues, and reading organizational communications such as mails.

Organizational identification

Organizational identification is defined as a perceived oneness with an organization and the experience of the organization's successes and failures as one's own (Mael and Ashforth, 1992). Employees have two main and basic motives for identification with an organization. The first one is the need for self-categorization which indicates seeking a unique place and feeling different from the members of the society. The second one is self-enhancement which indicates pride through association with an organization (Pratt, 1988). There are three components in organizational identification (OID):

(i) a perception of shared characteristics,

(ii) feelings of solidarity, and

(iii) support for the organization.

Patchen claimed that shared characteristics to describe the perception an individual has about similarities between his/her own goals and interests and those of other organizational members. He defined solidarity as a sense of belongingness the individual feels to that organization, while he defined support as having loyalty towards and defending the organizational goals and policies (Patchen, 1970).

Method and Procedure

Research Method

This study aimed to explore teacher educators' organizational citizenship behavior (OCB) and their organizational identification (OID) at Pathein Education College. Descriptive method of research was used in this study. Quantitative data were collected by using questionnaire.

Population and Sample

The total population is 94 teacher educators in Pathein Education College. In this study, all these teachers were chosen as participants.

Instrumentation

For quantitative study, the questionnaire was used to collect the data. The questionnaire was divided into three parts. The first part of the questionnaire was related to personal variables (demographic information).

The second part includes 27 items to measure the level of teacher educators' organizational citizenship behaviors. These items are constructed by using five-point Likert scale (ranging from 1-never to 5- always). The last part of the questionnaire includes 17 items using five-point Likert scale (ranging from 1- strongly disagree to 5-strongly agree) to measure the level of teacher educators' organizational identification.

Procedure

Firstly, relevant literature was reviewed. After that, the instruments were constructed in order to get the required data. To ensure content validity, the preliminary drafts of questionnaire and interview questions were revised under the guidance of supervisor of the Department of Educational Theory, Yangon University of Education. Based on their review, comments and suggestions, the instruments were modified. The permission from the Principal of Pathein Education College was taken to do the research. Next, the questionnaires were distributed to schools on 24th January, 2018. Distributed questionnaires were collected by the researcher after one week later. The respondent rate is 80.85%. For data analysis, the Statistical Package for the Social Science (SPSS version 22) was used.

Results of the Study

Table 1 showed that teacher educators display the moderate level of organizational citizenship behaviors in their school.

Table1. The Mean Score of Teacher Educators' Organizational Citizenship Behavior

Dimensions	Mean Value	SD	Level	Rank
Sportsmanship	4.16	.85	High	1
Courtesy	3.98	.59	Moderate	2
Civic virtue	3.95	.87	Moderate	3
Altruism	3.87	.71	Moderate	4
Conscientiousness	3.80	.79	Moderate	5
Overall	3.95	.60	Moderate	

ANOVA test in Table 2 indicated that there is no statistically significant difference between and within the groups of teacher educators according to the teaching service in current school.

Table 2. One-Way ANOVA test for Organizational Citizenship Behavior by Teaching Service in Current School

ANOVA						
		Sum of Squares	df	Mean Squares	F	ρ
Altruism	Between Groups	.062	3	.021	.039	n.s
	Within Groups	37.487	72	.521		
	Total	37.548	75			
Conscientiousness	Between Groups	.721	3	.240	.378	n.s
	Within Groups	45.800	72	.636		
	Total	46.522	75			
Courtesty	Between Groups	1.749	3	.583	1.698	n.s
	Within Groups	24.723	72	.343		
	Total	26.472	75			
Sportmanship	Between Groups	.184	3	.061	.082	n.s
	Within Groups	53.784	72	.747		
	Total	53.968	75			

ANOVA						
		Sum of Squares	df	Mean Squares	F	ρ
Civic Virtue	Between Groups	2.276	3	.759	1.014	n.s
	Within Groups	53.874	72	.748		
	Total	56.149	75			
Overall OCB	Between Groups	.403	3	.134	.360	n.s
	Within Groups	26.847	72	.373		
	Total	27.249	75			

Note: n.s = no significance

The overall score for organizational identification is at moderate level with the mean score 3.93 as shown in Table 3. This shows that teacher educators have the moderate level of organizational identification in their school.

Table3. The Mean Score of Teacher Educators' Organizational Identification

	Grand Mean (Overall)	SD	Remark
Organizational Identification	3.93	.40	Moderate

The result of One-Way ANOVA test in Table 4 indicated that teaching service in current school of teacher educators had significant effects on the level of organizational identification (ρ =0.002).

Table 4. One-Way ANOVA test for Organizational Identification by
Teaching Service in Current School

ANOVA						
		Sum of Squares	df	Mean Squares	F	ρ
Organizational Identification	Between Groups	2.220	3	.740	5.442	.002
	Within Groups	9.790	72	.136		
	Total	12.010	75			

Note n.s = no significance,   *ρ <0.05,   **ρ <0.01, ***ρ <0.001

According to Table 5, teacher educators who had more teaching service in current school have the high level of organizational identification than teacher educators who had less teaching service in current school.

Table 5. Turkey HSD test of Organizational Identification by Teaching

Dependent Variable	(I)Teaching Service in Current School	(J)Teaching Service in Current School	Mean Difference (I- J)	ρ
Organizational Identification	under 3 yr	3-6 yr	.26	n.s
		7-10 yr	.3	n.s
		over 10 yr	-.17	n.s
	3-6 yr	under 3 yr	-.26	n.s
		7-10 yr	.07	n.s
		over 10 yr	-.43*	.014
	7-10 yr	under 3 yr	-.32	n.s
		3-6 yr	-.06	n.s
		over 10 yr	-.49**	.007

Dependent Variable	(I)Teaching Service in Current School	(J)Teaching Service in Current School	Mean Difference (I- J)	ρ
	over 10 yr	under 3 yr	.16	n.s
		3-6 yr	.43*	.014
		7-10 yr	.49**	.007

Service in Current School

Table 6 showed that there was positive correlation between teacher educators' organizational citizenship behavior and their organizational identification. According to the findings, teacher educators' organizational citizenship behavior and their organizational identification were moderately correlated and statistically significant at the 0.01 level.

Table 6. Correlation between Teacher educators' Organizational Citizenship Behavior and their Organizational Identification

Two Groups	organizational citizenship behavior	organizational identification
organizational citizenship behaviors	1	.50**
organizational identification	.50**	1

** Correlation is significant at the 0.01 level (2-tailed).

Conclusion and Discussion

The results of this study showed that the most exhibited dimension of organizational citizenship behavior was sportsmanship and the least exhibited dimension conscientiousness dimension. This study also revealed that the teacher educators display moderate level of overall organizational citizenship behaviors in schools. The results of this study showed that there are no significant differences between organizational citizenship behavior's

dimensions (altruism, conscientiousness, sportsmanship courtesy, civic virtue), and overall organizational citizenship behavior.

In measuring the teacher educators' organizational identification, some items were at moderate level and some were in the high level. Overall, this study revealed that the teacher educators display moderate level of overall organizational identification. The result of this study also showed that organizational identification is significantly different based on the teaching service in current school. This shows that teacher educators who had more teaching service in current school display the high level of organizational identification than teacher educators who had less teaching service in current school.

According to the findings, the correlation between teacher educators' organizational citizenship Behavior (OCB) and their organizational identification (OID) was moderately correlated and statistically significant at the 0.001 level. Thus, the teacher educators who have the high level of organizational identification are likely to display the high level of organizational citizenship behavior. According to the findings, teacher educators' organizational citizenship behavior and organizational identification were at moderate level. Therefore, the principal and other leaders in the college also should acknowledge the significance of the organizational citizenship behavior and organizational identification by establishing working conditions that will increase teachers' motivation and high status which are advantageous for improvement of school effectiveness.

Thus, principals of Education Colleges should encourage their teachers and staff to participate in school program and volunteer for the extracurricular tasks by stating their opinions and take part in meetings. Teacher Educators in education colleges also should discuss more the issues of the day with other colleagues.

Need for Further Research

The research was only conducted in Pathein Education College. Therefore, the result cannot be generalized to universities, other colleges, state schools .Further studies could be conducted among schools in other educational settings. And then, if the research methods can include in-depth interviews and field observation, the data obtained will be more diversified.

Acknowledgements

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A Study of Teachers' Practices for Improving Students' 21st Century Skills

Zar Chi Theint*

Abstract

The main aim of this study was to study teachers' practices for improving students' 21st century skills in Basic Education High Schools, Kawkareik Township. The specific aims were to study the level and differences in teachers' practices for improving students' 21st century skills according to teachers' personal factors. Quantitative and qualitative methods were used. A total of 135 teachers were selected as participants from 4 Basic Education High Schools in Kawkareik Township, Kayin State. The internal consistency (Cronbach's alpha) of the teachers' practices for improving students' 21st century skills was 0.92. Descriptive analysis and one-way ANOVA were used to analyze the data. In this study, teachers' practices for improving students' 21st century skills are divided into three components: learning and innovation skills, information, media and technology skills and career and life skills. The mean value of learning and innovation skills, information, media and technology skills and career and life skills were 2.98, 1.77 and 3.06 respectively. A qualitative follow-up study was conducted through open-ended questions. According to the information from open-ended questions, teachers sometimes performed information, media and technology skills.

Keywords: Teachers' Practices, 21st Century Skills

Introduction

Education systems around the world are looking for best practices to prepare children and young people in schools today to cope with the life and work increasingly requirement of the 21st century. Education systems must equip children and young people with the skills that allow them to engage with and participate in the rapidly-changing world of today and tomorrow. Education systems should provide higher order thinking skills and competencies for all students. For these reasons, education systems should integrate 21st century skills into the core curriculum.

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* Assistant Lecturer, Department of Educational Theory, Yangon University of Education

Significance of the Study

Teachers are key actors who shape students' learning and have a critical role in implementing new approaches to learning. Teachers play the crucial role in the successful implementation of the reforms outlined in the National Education Strategic Plan (2016-21). Teachers' responsibility is to prepare all children for the education demands of life and work with the required 21st century skills. Therefore, teachers' practices for improving students' 21st century skills are very important.

Aims of the Study

Main Aim

To study teachers' practices for improving students' 21st century skills.

Specific Aims

1. To study the level of teachers' practices for improving students' 21st century skills

2. To study the differences in teachers' practices for improving students' 21st century skills according to teachers' personal factors.

Research Questions

1. To what extent do the teachers have their practices for improving students' 21st century skills?

2. Are there any significant differences in teachers' practices for improving students' according to teachers' personal factors?

Limitations of the Study

This study was geographically restricted to Kawkareik Township, Kayin State. This study investigated teachers' practices on professional learning communities in Basic Education High Schools. The teachers from Basic Education High Schools in Kawkareik Township were selected as the subjects of the study. Therefore, 4 Basic Education High Schools were included in this study.

Theoretical Framework

The following three components were used as the theoretical framework in this study to study teachers' practices for improving students' 21st century skills. They are:

- Learning and Innovation Skills,

- Information, Media and Technology Skills and

- Career and Life Skills (Partnership for 21st Century Skills, 2009).

In the area of teachers' practices for improving students' learning and innovation skills, four components of teachers' practices are emphasized. They are:

- Critical Thinking and Problem-solving Skills,

- Communication Skills,

- Collaboration Skills and

- Creativity and Innovation Skills (Partnership for 21st Century Skills, 2009).

In the area of teachers' practices for improving students' information, media and technology skills, three components of teachers' practices are emphasized. They are:

- Information Skills,

- Media Skills and

- Technology Skills (Partnership for 21st Century Skills, 2009).

In the area of teachers' practices for improving students' career and life skills, five components of teachers' practices are emphasized. They are:

- Flexibility and Adaptability Skills,

- Initiative and Self-Direction Skills,

- Social and Cross-Cultural Skills,

- Productivity and Accountability Skills and

- Leadership and Responsibility Skills (Partnership for 21st Century Skills, 2009).

Definition of Key Term

21st Century Skills

21st century skills are a blend of content knowledge, specific skills, expertise, and literacies necessary to succeed in work and life (Ledward & Hirata, 2011).

Operational Definition

Teachers' practices refer to the action taken by the teachers in order to achieve the desired outcomes.

Methodology

In this study, quantitative and qualitative research methods were used. A set of questionnaires to collect the required data was developed based on Partnership for 21st Century Skills, 2009 and consistent of three dimensions, namely: learning and innovation skills, information, media and technology skills and career and life skills. For quantitative study, a questionnaire has 40 items and 3 open-ended questions for qualitative study. The internal consistency (Cronbachs' alpha of teachers' practices for improving students' 21st century skills) of the questionnaire was 0.92.

Simple random sampling method was used. A total of 135 teachers from Basic Education High Schools in Kawkareik Township participated in this study. Descriptive analysis and one-way ANOVA were conducted to analyze the data. Descriptive analysis was used to compute means and standard deviations. One-way ANOVA was used to compare means and to find out whether there is any significant difference between teachers' practices for improving students' 21st century skills according to personal factors.

Findings

Findings on the level of practices on teachers' practices for improving students' 21st century skills in selected Basic Education High Schools in Kawkareik Township.

Table 1. Means and Standard Deviations of Teachers' Practices for Improving Students' 21st Century Skills in School A, B, C and D

Schools	N	Teachers' Practices	Remark
		Mean (SD)	
A	32	2.90 (.48)	Frequently
B	37	2.84 (.37)	Frequently
C	34	2.49 (.47)	Sometimes
D	32	2.60 (.45)	Frequently

Scoring Direction: 1.00-1.49=Never   1.50-2.49=Sometimes
                   2.50-3.49=Frequently   3.50-4.00=Always

According to the result of Table 1, the mean value of teachers' practices for improving students' 21st century skills of School A, B, C and D are 2.90, 2.84, 2.49 and 2.60 respectively. It was found that teachers of School A, B and D frequently performed for improving students' 21st century skills and teachers of School C sometimes preformed for improving students' 21st century skills.
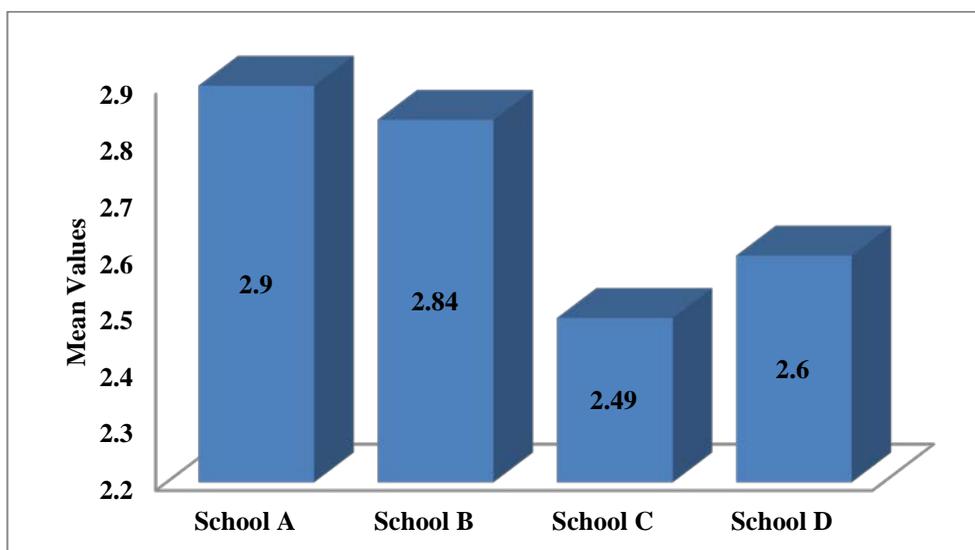

Figure 1. Comparison of Mean Values of Teachers' Practices for Improving Students' 21st Century Skills in School A, B, C and D

Table 2. Means and Standard Deviations of Teachers' Practices for Improving Students' 21st Century Skills in Basic Education High Schools

Teachers' Practices	Mean	SD	Remark
Learning and Innovation Skills	3.01	.48	Frequently
Information, Media and Technology Skills	2.00	.67	Sometimes
Career and Life Skills	3.12	.57	Frequently

Scoring direction: 1.00-1.49=Never   1.50-2.49=Sometimes
                    2.50-3.49=Frequently   3.50-4.00=Always

According to Table 2, the mean value of learning and innovation skills was 2.98, the mean value of information, media and technology skills was 1.77 and that of career and life skills was 3.06 in Basic Education High Schools. It was found that teachers frequently performed learning and innovation skills and career and life skills and teachers sometimes preformed information, media and technology skills.
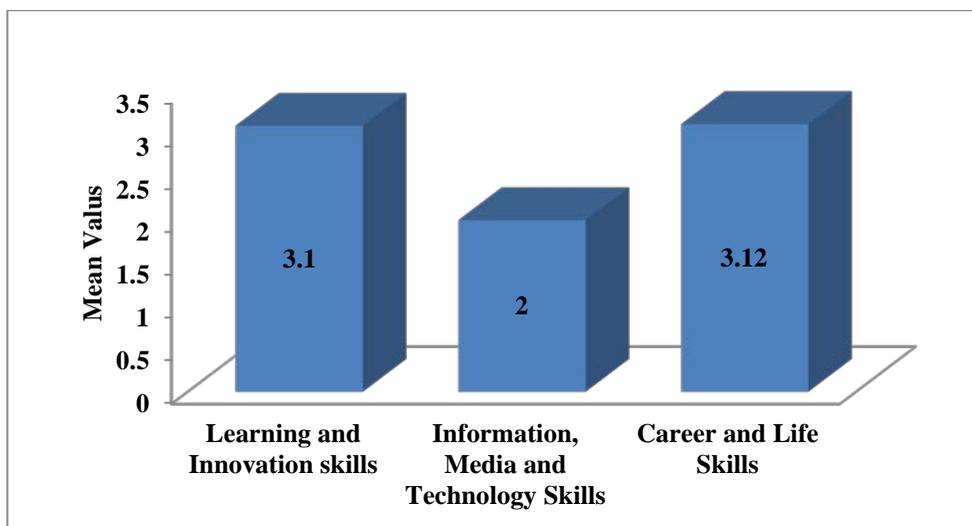

Figure 2. Comparison of Mean Values of Teachers' Practices for Improving Students' 21st Century Skills in Basic Education High Schools

Findings of the difference of teachers' practices for improving students' 21st century skills were based on position and teaching subject of teachers were shown below.

Table 3. Means and Standard Deviations of Teachers' Practices for Improving Students' 21st Century Skills Grouped by Position

Dimension	Position	N	Mean (SD)	Remark
Learning and Innovation Skills	Primary Teacher	34	3.34 (.32)	Frequently
	Junior Teacher	63	3 (.47)	Frequently
	Senior Teacher	38	2.75 (.46)	Frequently
Information, Media and Technology Skills	Primary Teacher	34	1.86 (.62)	Sometimes
	Junior Teacher	63	2.04 (.71)	Sometimes
	Senior Teacher	38	2.05 (.67)	Sometimes
Career and Life Skills	Primary Teacher	34	3.45 (.36)	Frequently
	Junior Teacher	63	3.1 (.59)	Frequently
	Senior Teacher	38	2.86 (.57)	Frequently

Scoring direction: 1.00-1.49=Never   1.50-2.49=Sometimes
                    2.50-3.49=Frequently   3.50-4.00=Always

According to Table 3, the mean values were slightly different among teachers grouped by their position. Moreover, it was found that teachers of primary teachers had the highest mean values. To find out whether there were significant differences among schools, ANOVA result was presented in Table 4.

Table 4. ANOVA Results for Teachers' Practices for Improving Students' 21st Century Skills Grouped by Position

		Sum of Squares	df	Mean Square	F	p
Learning and Innovation Skills	Between Groups	6.192	2	1.477	16.469*	.000*
	Within Groups	24.815	132	.213		
	Total	31.007	134			
Career and Life Skills	Between Groups	6.402	2	3.201	11.208*	.000*
	Within	37.701	132	.286		

		Sum of Squares	df	Mean Square	F	p
	Groups					
	Total	44.104	134			
Overall	Between Groups	1.978	2	.989	4.790*	.010*
	Within Groups	27.255	132	.206		
	Total	29.233	134			

**$p<0.01$ at significant level

In Table 4, statistically significant differences were found in learning and innovation skills $p<0.01$, $F(2,132) = 16.469$ and in career and life skills $p<0.01$, $F(2,132) = 11.208$ grouped by position of teachers. There was no statistically significant difference in other dimension of teachers' practices such as career and life skills by position of teachers. There was statistically significant difference in overall dimension of teachers' practices $p<0.01$, $F(2,132) = 4.790$ grouped by position of teachers. As a post hoc comparison, Tukey HSD was conducted. According to the follow-up test results, primary teachers performed higher practices for learning and innovation skills and career and life skills when compared with other groups of teachers. Moreover, senior teachers performed higher practices for information, media and technology skills when compared with other groups of teachers.

Table 5. Means and Standard Deviations of Teachers' Practices for Improving Students' 21st Century Skills Grouped by Teaching Subject

Dimension	Teaching Subject	N	Mean (SD)	Remark
Learning and Innovation Skills	Art and Cocurriculum	60	2.9 (.45)	Sometimes
	Science and Cocurriculum	35	2.95 (.52)	Frequently
	Art, Science and Cocurriculum	40	3.24 (.42)	Frequently
Information, Media and	Art and Cocurriculum	60	1.92 (.62)	Sometimes
	Science and	35	2.11 (.74)	Sometimes

Dimension	Teaching Subject	N	Mean (SD)	Remark
Technology Skills	Cocurriculum			
	Art, Science and Cocurriculum	40	2.02 (.69)	Sometimes
Career and Life Skills	Art and Cocurriculum	60	3.02 (.58)	Frequently
	Science and Cocurriculum	35	3.09 (.63)	Frequently
	Art, Science and Cocurriculum	40	3.3 (.47)	Frequently

Scoring direction: 1.00-1.49=Never   1.50-2.49=Sometimes
                    2.50-3.49=Frequently   3.50-4.00=Always

According to Table 5, the mean values were slightly different among teachers grouped by their teaching subject. Moreover, it was found that teachers of teaching subject Art, Science and Cocurriculum had the highest mean values. To find out whether there were significant differences among schools, ANOVA result was presented in Table 6.

Table 6. ANOVA Results for Teachers' Practices for Improving Students' 21st Century Skills Grouped by Teaching Subject

		Sum of Squares	df	Mean Square	F	p
Learning and Innovation Skills	Between Groups	2.954	2	1.477	6.951*	.001*
	Within Groups	28.052	132	.213		
	Total	31.007	134			
Overall	Between Groups	1.385	2	.693	3.283*	.041*
	Within Groups	27.848	132	.211		
	Total	29.233	134			

**p<0.01 at significant level, **p<0.05 at significant level

In Table 6, a statistically significant difference was found in learning and innovation skills p<0.01, F (2,132) = 6.951 grouped by teaching subject of teachers. There was no statistically significant difference in other dimensions of teachers' practices such as information, media and technology skills and career and life skills by teaching subject of teachers.

There was statistically significant difference in overall dimension of teachers' practices $p<0.05$, $F(2,132) = 3.283$ grouped by teaching subject of teachers. As a post hoc comparison, Tukey HSD was conducted. According to the follow-up test results, teachers of teaching art, science and cocurriculum performed higher practices for learning and innovation skills and career and life skills when compared with other groups of teachers. Moreover, teachers of teaching science and cocurriculum performed higher practices for information, media and technology skills when compared with other groups of teachers.

Conclusion

Teachers' practices for improving students' 21st century skills in Basic Education High Schools in Kawkareik Township were frequently performed. There were statistically significant differences in teachers' practices for improving students' 21st century skills according to position and teaching subject. In qualitative findings, it was found that teachers in Basic Education High Schools in Kawkareik Township frequently performed.

Recommendations

Based on the analysis of the survey, the following suggestions and recommendations were presented to be effective teachers' practices for improving students' 21st century skills.

- Teachers should teach with teaching methods that can explore imagination. (e.g. Brain-storming)

- Teachers should teach students to reflect and evaluate experiences.

- Teachers should teach students to break problems into smaller or simpler parts in solving problems.

- Teachers should give students opportunities to communicate with each other by using media and digital technologies.

- Teachers should teach students to appreciate feedback and respond to it in appositive manners.

Acknowledgements

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The Relationship between Principals' Leadership Styles and Teachers' Job Satisfaction at Selected Basic Education Middle Schools and High Schools in Ngazun Township

Khin Lat Lat Mon[*]

Abstract

This study aimed to investigate the relationship between principals' leadership styles and teachers' job satisfaction at selected middle schools and high schools in Ngazun Township. The schools where the principals had at least one year of current school service were selected and all the teachers from those schools were selected as subjects. Out of 197 teachers, 195 teachers participated in this study. The findings of the study indicated that teachers at selected middle schools and high schools in Ngazun Township perceived that their principals *sometimes* used participative leadership style and *often* practiced directive leadership style. And the teachers' job satisfaction from those selected schools was at high satisfaction levels. It also was found that principals' participative leadership style was highly and positively correlated with teachers' job satisfaction (r=0.712, p<0.01). And it was also found that there is a moderate and positive relationship between directive leadership style and teachers' job satisfaction (r=0.632, p<0.01).

Keywords: leadership style, participative leadership style, directive leadership style, job satisfaction

Introduction

Today, the world is regarded as a knowledgeable age and education plays a vital role. Education is fundamental to develop a country. Therefore, the schools that cultivate the students to become the qualified citizens are very important. Because the effectiveness of a leader is a major determinant of success or failure of an organization, group or even a country, the concept of leadership has gained a lot of attention from managers to researchers worldwide (Nemaei, 2012). Quality and number of staff in educational institutions, quality of education, principal leadership style, work equipment and working environment are the most significant factors in educational resources. The principal is responsible for all the success of

[*] Assistant Lecturer, Department of Educational Theory, Pathein Education Degree College

the school and he or she needs the qualities to lead all the teachers, members and staffs.

Moreover, one of the important factors for the success of the school is teacher. So, teachers need to satisfy in their job so that they are more enthusiastic and interested in devoting more energy and time to student achievement. There are so many factors that impact teachers' job satisfaction and so among these factors, the principals' leadership style is the most important factor that affects teachers' job satisfaction. Good school principals try to motivate the teachers with the intention to satisfy their needs and to retain them. Among the various leadership styles and behavior, in this study, only consider the participative leadership style and the directive leadership style. Therefore, the purpose of the research is to study the relationship between these two leadership styles and teachers' job satisfaction.

Purposes of the Study

- to study the teachers' perceptions on principals' leadership styles at selected Basic Education Middle Schools and High Schools;

- to study the levels of teachers' job satisfaction at selected Basic Education Middle Schools and High schools; and

- to study the relationship between principals' leadership styles and teachers' job satisfaction at selected Basic Education Middle Schools and High Schools.

Definitions of Key Terms

Leadership style is defined as an action or a process of leading, influencing or motivating others to achieve a desired goal (Waters, 2013).

Participative leadership style is defined as a style that involves employees in decision making and encourages suggestions and envolvement (McShane, Travaglione & Olekalns, 2009, cited in Toftdahl, 2011).

Directive leadership can be defined as an instruction given by the leader to their subordinates regarding what to do, how to do and when to do (Maqsood, 2013).

Job satisfaction may be defined as favourable or positive about work or the work environment and describes how happy one is with the job (Furnham, 1997, cited in Waters, 2013).

Teachers' job satisfaction is defined as the overall orientation which teachers have toward their work in schools (Miskel et al, 1979, cited in Mak, 1998).

Review of Related Literature

Leadership

Leadership is a robust concept that occurs all people, regardless of culture and has long excited interest among people. Leadership is a social influence process, which has rational, social, and emotional elements. Leaders and leadership are important for serving as anchors, provide guidance in times of change, support and enhance the effectiveness of organization or schools. Leadership can be defined as social process in which the leader seeks the participation of subordinates in order to reach organizational goals and objectives" (Omolayo, 2000, cited in Nemaei, 2012). Although there are many definitions of leadership, the most common or general concept of leadership is that leadership is a process, an influence and it requires action to a group and achieves goals.

Participative Leadership

The particular type of democratic leadership style is referred to as participative leadership style. Participative leadership involves the use of various decision procedures that allow other people some influence over the leader's decisions. In participative leadership style, the effort by a leader to encourage and facilitate participation by others is important for making important decisions. These participative leaders pay attention to subordinates values and seek their input on important decisions.

In this leadership style, there is no formal distinction between leaders and followers. Tolerance of freedom and consideration would fall into the democratic cluster (participative leadership) (Lawler, 1994, cited in Gordon, 1998). Tolerance of Freedom includes behaviors such as encouraging independence in group members, respecting the competence and judgments of followers and allowing the followers' initiative, decision and action. Consideration is a category of behaviors that demonstrate the

leader's regard for the comfort, well-being, status, and contributions of followers and include friendliness and interest, consulting with group members and attending to their suggestions, and looking after the welfare of individual group members.

Directive Leadership

The directive leadership style is one of the oldest leadership styles and is also described as an authoritarian style. The authoritarian cluster is defined as encompassing styles describes as directive, autocratic, coercive, production-centered, lone decision makers, initiators of structure, theory X, those who discourage subordinates' contributions to the decision-making process, and who use power over subordinates to obtain compliance with decision (Bass,1990, cited in Gordon, 1998).

According to Lawer (1994, cited in Gorden, 1998), initiations of structure and production emphasis fall into the autocratic cluster. Initiation of structure includes such as scheduling the work that is to be done, assigning members of the group particular tasks, and establishing standards of performance (Stogdill, 1963, cited in Silver, 1983).

Production emphasis refers to those actions that are intended to increase the productive output of the group. Productivity includes such behaviors as encouraging overtime work and extra work, pressuring people to work harder, striving to compare previous records of productivity (Stogdill, 1963, cited in Silver, 1983).

Concept and Dimensions of Job Satisfaction

The overall assessment of positive emotions related to an individual's work can be defined as job satisfaction. It is also the attitudes and feelings one has towards his or her job. Job satisfaction can be an important indicator of how workers feel about their jobs and a predictor of work behaviors such as organizational citizenship, absenteeism, and turnover. The happier people in their job are more satisfied in work, which results in higher productivity, morale and initiative. Therefore, the teachers need to be happier in their school to become more successful. According to Gorden (1998), the followings four dimensions of job satisfaction are described.

(1) Supervision is the dimension of job satisfaction and is defined as the amount of regulation and control provided by the principal and the interpersonal relationships between principals and teachers.

(2) Creativity is the act of turning new and imaginative ideas into reality. Creativity is characterised by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions (Naiman, 2015).

(3) Responsibility is defined as the accountability of one's work and the teachers' active role in the students' learning and school policy

(4) Recognition is defined as employee attention, appreciation, and prestige. Blame and criticism are the negative aspects of these characteristics. Teachers whose successes are recognized are most effective on the job.

Method and Procedure

Research Method

A descriptive statistical design and Questionnaire survey method were utilized in this study. There are 4 Basic Education High Schools and 5 Basic Education Middle Schools in Ngazun Township. Among them, the schools in that the principal has at least one year of service at the current school were chosen as the sample. Therefore, 4 basic high schools and 3 middle schools were chosen as the sample and all the teachers in these schools were chosen as participants in the study. There were 42 Senior Teachers, 133 Junior Teachers and 20 Primary Teachers. Out of 197 teachers in these schools, 195 teachers completed the questionnaires.

Instrumentation

In this study, the researcher chose the questionnaire survey method used questionnaires as an instrument to collect the appropriate data. Two questionnaires for the teachers were used in this study. There are three parts: A, B and C for teachers' questionnaire. Part A is for demographic information about teachers. Part B is to measure principals' leadership styles that is developed based on Leader Behavior Description Questionnaire, Form XII (LBDQ-XII) by Hepmhill (1950, cited in Gordon, 1998) and Leader Behavior Description Questionnaire (LBDQ) by Halpin (1957). It includes 26 items for participative leadership style and 24 dimensions for directive leadership style (ranging from 1-never to 5-always). Part C is to measure teachers' job satisfaction that is developed based on Minnesota Satisfaction Questionnaire (MSQ) by Weiss et al. (1967) and this contains 25 items. (1-disagree to 5-strongly agree). One

open-ended question for principals' leadership styles and one open-ended question for teachers' job satisfaction are included.

Data Collection Procedure

For the content validity, the questionnaires were evaluated and revised by the experts who are well experienced and mastery in this field. From the result of this study, the Cronbach's alpha reliability coefficient is 0.751 (α=0.751) for Participative leadership style and α =0.751 for Directive leadership style Questionnaire and 0.756 for teachers' job satisfaction respectively. And then, the instruments were modified and revised again based on the responses of the pilot study and the suggestions of the panel of experts. After receiving the permission of the responsible persons, questionnaires were distributed to the selected schools.

Results of the Study

Table 1. Mean Values and Standard Deviations for Leadership Styles at Middle Schools and High Schools in Ngazun Township

Leadership Styles	Mean	Std. Deviation
Participative Leadership Style	3.45	0.747
Directive Leadership Style	3.68	0.799

1-1.49=Never,   1.5-2.49=seldom,   2.5-3.49=Sometimes,   3.5-4.49=often, 4.5-5=always

The table showed that the mean value of participative leadership style was at *sometimes* level and the mean value of directive leadership style was at *often* level. Therefore, the teachers' perception at selected middle and high schools in Ngazun Township was that their principals *often* practiced the directive leadership style and *sometimes* used the participative leadership style.

Table 2. Mean Values and Standard Deviations for Participative Leadership Style at Middle Schools and High Schools

Schools Types	Variables	N	Mean	SD
Middle	Participative	42	3.86	0.507
High	Participative	153	3.34	0.764

1-1.49=Never, 1.5-2.49=seldom, 2.5-3.49=Sometimes, 3.5-4.49=often, 4.5-5=always

According to table 2, the teachers' perception at selected middle schools was that their principals *often* practiced but the perception of teachers in high schools was that their principals *sometimes* practiced participative leadership style.

Table 3. Mean Values and Standard Deviations for Directive Leadership Style at Middle Schools and High Schools

Schools Types	Variables	N	Mean	SD
Middle	Directive	42	3.86	0.615
High	Directive	153	3.63	0.071

1-1.49=Never, 1.5-2.49=seldom, 2.5-3.49=Sometimes, 3.5-4.49=often, 4.5-5=always

According to table 3, the teachers' perception at selected middle and high schools was that their principals *often* practiced directive leadership style.

Table 4. Mean Values and Standard Deviations for Job Satisfaction at Middle Schools and High Schools

Schools Types	Variables	N	Mean	SD
Middle	Job Satisfaction	42	3.92	0.401
High	Job Satisfaction	153	3.66	0.051

1.00-2.44=low satisfaction level, 2.45-3.44=moderate satisfaction level, 3.45-5.00=high satisfaction level

According to table 4, in middle and high schools, the teachers' job satisfaction was in high satisfaction level but the mean value of middle schools was higher than that of high schools.

Table 5. Result of Independent Samples *t*-test for Principals' Leadership Styles and Teachers' Job Satisfaction betweenMiddle Schools and High Schools in Ngazun Township

Variables	*T*	*df*	Sig (2-tailed)
Participative Leadership Style	-5.245	97.766	0.000***
Directive Leadership Style	-1.958	97.228	0.053
Job Satisfaction	-3.242	103.787	0.002**

** Correlation is significant at the 0.01 level
*** Correlation is significant at the 0.001 level

According to table 5, it was found that there were statistically significant differences between high and middle schools in participative leadership style and job satisfaction. But there was no significant between high and middle schools in directive leadership style.

Table 6. Mean Values and Standard Deviations for Teachers' Job Satisfaction at Middle Schools and High Schools in Ngazun Township

Job Satisfaction	Mean	SD
Supervision – Human Relation	3.62	0.864
Supervision – Technical	3.63	0.778
Creativity	3.88	0.595
Recognition	3.59	0.740
Responsibility	3.86	0.543
Job Satisfaction (overall)	3.72	0.602

1.00-2.44=low satisfaction level, 2.45-3.44=moderate satisfaction level, 3.45-5.00=high satisfaction level

According to table 6, the teachers' job satisfaction in selected middle and high schools was at high level in all dimensions.

Table 7. Correlation between Principals' participative Leadership Style and Teachers' Job Satisfaction at Selected Schools

Two Group	Participative Leadership	Job Satisfaction
Participative Leadership	1	.712**
Job Satisfaction	.712**	1

** Correlation is significant at the 0.01 level (2-tailed).

According to table 7, the principals' participative leadership style was significantly correlated with teachers' job satisfaction (r=0.712, p<0.01). This implies that there is a positively high and significant relationship between the two variables.

Table 8. Correlation between Principals' Directive Leadership Style and Teachers' Job Satisfaction

Two Group	Directive Leadership	Job Satisfaction
Directive Leadership	1	0.632 **
Job Satisfaction	0.632 **	1

** Correlation is significant at the 0.01 level (2-tailed).

According to table 8, the principals' directive leadership style was significantly correlated with teachers' job satisfaction (r=0.632), p<0.01). This implies that a significant and moderate positive relationship exists between these two variables.

Conclusion and Discussion

Based on the analysis of the data, it can be concluded that the principals from selected middle and high schools in Ngazun Township *often* ($\overline{X}$ = 3.68) used Directive Leadership Style and *sometimes* ($\overline{X}$=3.45) used Participative Leadership Style. It can be said that the teachers perceived that

their principals *often* make their attitudes clear to the group, criticize poor work, schedule the work to be done, maintain definite standards of performance, ask that group members follow standard rules and regulations, let group members know what is expected of them and decide what shall be done and how it shall be done. And then the teachers perceived that their principals *sometimes* allow the teachers complete freedom in their work, let the teachers do their work the way they think best, allow the group a high degree of initiative, find time to listen to the teachers and put suggestions made by the group into operation. According to finding, the principals in middle schools used participative leadership style more than the principals in high schools. Therefore, the principals in high schools should consider to practice participative leadership style more.

Although the teachers' job satisfaction was at high level, the principals used directive leadership style more than participative leadership style. But, participative leadership style was highly correlated with teachers' job satisfaction and directive leadership style was moderately correlated with teachers' job satisfaction. Therefore, the principals should use participative leadership style such as allow the teachers to involve in important decision-making, allow them to creative and get high degree of initiative in their work for improving the teachers' job satisfaction.

According to the findings of open-ended questions, the teachers prefer participative leadership style more than directive leadership style. Therefore, if their principals practiced participative leadership style more than directive leadership, their teachers' job satisfaction level may be higher than the present time.

Recommendation for future study

Further studies are needed to be expended the relationship between principals' leadership styles and teachers' job satisfaction to acquire the schools' objectives in other townships not only in Basic Education Middle Schools and High Schools but also Basic Education Primary Schools. It can also be studied that the effect of principals' leadership behaviors on teachers' job satisfaction and performance.

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A Study of Self-Directed Professional Development Practices of Teachers in Basic Education High Schools

Su Myat Maw[1] & Su Su Hlaing[2]

Abstract

The aim of the study is to investigate self-directed professional development practices of teachers from Basic Education High Schools in Myeik Township, Tanintharyi Region. As sample, 83 senior teachers, 130 junior teachers and 57 primary teachers were selected by using proportional stratified sampling method. A questionnaire, open-ended questions and interview were used to collect required data. The internal consistency (Cronbach's Alpha) of the questionnaire was 0.94. (Mean=3.59, SD=0.47). Descriptive statistics, independent samples t test, one-way ANOVA, and Tukey post hoc mean comparison were used to analyse data. The research finding indicated that the teachers often performed self-directed professional development practices. Moreover, it was found that there were significant differences in some areas of self-directed professional development practices of teachers according to their personal factor such as age, qualification, position and teaching service.

Keywords: self-directed professional development

Introduction

For the growth and improvement of any educational institution, teacher professional development becomes a milestone in teachers' continuum of life-long learning and career progression (Beavers, 2009). Professional development is a mechanism that fosters the professional growth and expertise of educators (Sparks and Loucks-Horsley, 1989). It provides means of collaboratively overcome challenges encountered by teachers both in and out of classroom and it helps educators enhance or deepen their content and other job-related knowledge. The incorporation of self-directed learning principles to professional development is self-directed professional development (Porter, 2014). In self-directed professional development, teachers can manage their own learning and choose suitable ways to learn depending on their unique professional development needs.

[1] Senior Teacher, BEHS (Taung Shi), Myeik Township, Tanintharyi Region
[2] Assistant Lecturer, Department of Educational Theory, Yangon University of Education

Significance of the study

Mostly, traditional professional development programs such as subject refresher courses and workshops may not fulfill all needs of teachers. To be effective and successful, teacher professional development must be high quality and relevant to teachers' needs. Self-directed professional development makes people follow and learn what they need to learn anywhere at anytime. To be effective in profession, teachers need to know what level of self-directed professional development practices they performed so that they can reflect on and improve their professional development practices. On the others hand, management of education unit can take reform in education system to improve professional quality of teachers.

Theoretical Framework

Teachers' self-directed professional development practices will be analysed by using self-directed professional development practices proposed by Govender (2015). These practices included: learning with others, learning through others, learning through self, teachers' continuing self-directed professional development and change, and sources of self-directed learning outside the professional schooling community.

Learning is a social phenomenon. In schools, teachers learn through professional talks about student learning, teaching and education. They also share knowledge and experiences obtained from courses and workshops. They take collaborative research and reflection on the issues related to teaching learning situation. Teachers also learn through others. They learn through workshops and mentorship. They learn through by observing other teachers' teaching, classroom management and creation of teaching aids. They reflect strengths and weaknesses about their teaching practices and modified. They conduct research to investigate new teaching methods/ strategies that are best suited to their individual classroom conditions and share their findings to colleagues and write in journals/publications.

As changes always occur in education, teachers need to take ongoing professional development. They engage in formal professional development through registering for post-grade or diploma studies, attend trainings, workshops and courses through own ways. On the other hand, they learn by using internet to search information, reading books and professional literature. They use social media tools and learn from online

programs. They engage in community affairs to observe the contextual realities of their students.

Objectives of the Study

General Objective

- To study self-directed professional development practices of teachers

Specific Objectives

(1) To study teachers' practices for self-directed professional development

(2) To study the variations of teachers' practices for self-directed professional development according to their personal factors

Research Questions

(1) To what extent do the teachers perform self-directed professional development practices?

(2) Are there any significant differences in teachers' practices for self-directed professional development according to their personal factors?

Limitations of the Study

This study will be restricted to the teachers from Basic Education High Schools in Myeik Township, Tanintharyi Region.

Definitions of Key Terms

Self-Directed Professional Development

Self-directed professional development is defined as professional development that incorporates principles of self-directed learning (Porter, 2014).

Operational Definition

Self-Directed Professional Development Practices

In this study, self-directed professional development practices were the practices performed by the teachers through own initiatives to develop skills, knowledge, expertise and other characteristics as teachers. Self-directed professional development practices of teachers will be measured by

the mean values of teachers' responses to the items of self-directed professional development practices questionnaire. The greater the mean value that the teachers get, they more performed the self-directed professional development practices.

Methodology

In this study, questionnaire was used for quantitative research study. For qualitative research study, open-ended questions and interview were applied. For participants, 83 senior teachers, 130 junior teachers and 57 primary teachers from seven basic Education High Schools in Myeik Township, Tanintharyi Region were selected by using proportional stratified sampling method. The questionnaire involved totally 31 items with five areas such as learning with others, learning through others, learning through self, teachers' continuing self-directed professional development and change, and sources of self-directed learning outside the professional schooling community. These items were rated with five-point Likert scale. Then, the collected data were analysed by using descriptive statistics, independent samples t test, one-way ANOVA, and Tukey post hoc mean comparison. Moreover, answers of open-ended questions and interview were read and analysed.

Findings

The results from analyzing data were presented in the following tables.

Table1. Mean Values and Standard Deviations of Self-Directed Professional Development Practices of Teachers   (N=270)

No.	Variables	Mean(SD)	Practice
1.	Learning with Others	3.81 (.57)	Often
2.	Learning through Others	3.99 (.59)	Often
3.	Learning through Self	3.63 (.59)	Often
4.	Teachers' Continuing Self-Directed Professional Development and Change	3.11 (.64)	Sometimes
5.	Sources of Self-Directed Learning Outside The Professional Schooling Community	3.48 (.59)	Sometimes

No.	Variables	Mean(SD)	Practice
	Self-Directed Professional Development Practices of Teachers	3.59 (.47)	Often

Scoring Direction:1.00-1.49 = never   1.50-2.49 = seldom   2.50-3.49 = sometimes

3.50-4.49 = often   4.50-5.00 = always

Table 1. shows the levels of teachers' practices for self-directed professional development.

Table 2. Independent Samples *t* Test Results of Self-Directed Professional Development Practices of Teachers Grouped by Qualification

(N=270)

Variables	Qualification	N	Mean	SD	*t*	*df*	*p*
Learning with Others	B.A./ B.Sc./ M.A/M.Sc.	195	3.87	.54	2.806	119.09	.006**
	B.Ed./ M.Ed.	75	3.64	.62			
Sources of Self-Directed Learning Outside the Professional Schooling Community	B.A./ B.Sc./ M.A/ M.Sc.	195	3.43	.61	-2.16	268	.031*
	B.Ed./ M.Ed.	75	3.60	.51			

Note: * p<.05, ** p<.01, ns= no significance

In table 2, the areas that significantly different by qualification groups can be seen.

Table 3. One-Way ANOVA Results of Self-Directed Professional Development Practices of Teachers Grouped by Age (N=270)

Variables	Age	N	Mean	SD	*F*	*p*
Learning with Others	≤ 30 years	66	3.62	.53	3.11	.027*
	31-40 years	92	3.87	.55		
	41-50 years	62	3.87	.61		

Variables	Age	N	Mean	SD	F	p
	≥ 51 years	50	3.86	.52		
Sources of Self-Directed Learning Outside the Professional Schooling Community	≤ 30 years	66	3.60	.54	3.40	.018*
	31-40 years	92	3.55	.54		
	41-50 years	62	3.39	.62		
	≥ 51 years	50	3.31	.65		

Note: * p<.05, ns= no significance

In table 3, the areas that have statistically significant differences can be found.

Table 4. Tukey HSD Results Showing Significant Difference in Teachers' Self-Directed Professional Development Practices Grouped by Age (N=270)

Variables	Age (I)	Age (J)	Mean Difference (I-J)	p
Learning with Others	≤ 30 years	31-40 years	-.2464	.037*
Sources of Self-Directed Learning Outside the Professional Schooling Community	≤ 30 years	≥ 51 years	.2971	.034*

Note: * p<.05

According to table 4, it can be noted that the teachers from age group (31-40 years) more learned with others and the teachers from the age group ($\leq$ 30 years) more learned from sources of self-directed learning outside the professional schooling community.

Table 5. One-Way ANOVA Results Showing Mean Values and Standard
         Deviations of Self-Directed Professional Development Practices of
         Teachers Grouped by Teaching Service   (N=270)

Variables	Teaching Service	N	Mean	SD	*F*	*p*
Learning through Self	≤ 10 years	94	3.76	.54	3.01	.03*
	11-20 years	80	3.51	.62		
	21-30 years	69	3.65	.63		
	≥ 31 years	27	3.51	.54		
Sources of Self-Directed Learning Outside the Professional Schooling Community	≤ 10 years	94	3.62	.52	3.71	.012*
	11-20 years	80	3.49	.56		
	21-30 years	69	3.34	.61		
	≥ 31 years	27	3.33	.72		

Note: * p<.05, ns= no significance

Table 5. shows the significantly different areas of teaching service groups.

Table 6. Tukey HSD Results Showing Significant Difference in Teachers'
         Self-Directed Professional Development Practices Grouped by
         Teaching Service   (N=270)

Variables	Teaching Service (I)	Teaching Service (J)	Mean Difference (I-J)	*p*
Learning through Self	≤ 10 years	11-20 years	.2496	.029*
Sources of Self-Directed Learning Outside the Professional Schooling Community	≤ 10 years	21-30years	.2756	.015*

Note: *p<.05

According to table 6, it can be said that the teachers from the teaching service group (≤10 years) more learned through themselves and

from sources outside the professional schooling community than the other teaching service groups.

Table 7. One-Way ANOVA Results Showing Mean Values and Standard Deviations of Self-Directed Professional Development Practices of Teachers Grouped by Position   (N=270)

Variables	Position	N	Mean	SD	*F*	*p*
Learning through Others	Primary Teacher	57	4.16	.60	4.71	.01*
	Junior Teacher	130	3.89	.55		
	Senior Teacher	83	4.03	.60		
Learning through Self	Primary Teacher	57	3.70	.54	3.56	.03*
	Junior Teacher	130	3.53	.64		
	Senior Teacher	83	3.74	.54		
Sources of Self-Directed Learning Outside the Professional Schooling Community	Primary Teacher	57	3.58	.55	5.98	.003**
	Junior Teacher	130	3.36	.62		
	Senior Teacher	83	3.61	.52		

Note: * p<.05, ** p<.01, ns= no significance

According to table 7, it was found that there were significant differences in some areas among the position groups.

Table 8. Tukey HSD Results Showing Significant Difference in Teachers' Self-Directed Professional Development Practices Grouped by Position   (N=270)

Variables	Age (I)	Age (J)	Mean Difference (I-J)	*p*
Learning through Others	Primary Teacher	Junior Teacher	.2726	.009**
Learning through Self	Junior Teacher	Senior Teacher	-.2063	.035*

Variables	Age (I)	Age (J)	Mean Difference (I-J)	p
Sources of Self-Directed Learning Outside the Professional Schooling Community	Primary Teacher	Junior Teacher	.2263	.038*
	Junior Teacher	Senior Teacher	-.2533	.006**

Note: * p<.05, ** p<.01

In table 8, according to mean difference, it can be interpreted that primary teacher group more learned through others and from sources of self-directed learning outside the professional schooling community. Senior teacher group more learned through self and from sources of self-directed learning outside the professional schooling community.

Moreover, the responses to open-ended questions were described in below.

Question (2): How do you perform to improve your teaching profession?

- Learning from resources (books, internet, trainings, courses, workshops) (n= 214, 82%)

- Reflecting and modifying their instruction by applying knowledge obtained from trainings, courses and workshops in their instruction (n= 21, 8%)

- asking for advice from experienced teachers (n= 21, 8%)

- Learning through collaborating with other teachers (n=38, 14%)

Question (1) For your professional development, which one did you more practice, attending courses and workshops mandated by policy makers or learning through own ways? Give reasons.

(N=218, 86%) of the teachers usually more practiced attending courses and workshops because they get new teaching methods and guide from mentor teachers, collaborate and discuss among teachers, get refund for transportation fees.

(N=31, 12%) of the teachers practiced both because both can make their teaching effective.

(N=5, 2%) more learned through their own ways because courses and workshops cannot fulfil individual teacher's unique needs.

Question (2): What are the difficulties that you have in performing self-directed professional development practices?

- Excess workload and less free time to learn (n=29, 13%)
- Family responsibilities, money and health difficulties (n=24,11%)
- Less access of internet connectivity and resources (n=19,8%)
- Less competency in technology (n=9, 4%)

In interview, it was found that the teachers were weak in learning for their continuing professional development due to many barriers. And, they could not frequently learn from sources of self-directed learning outside the professional schooling community because of many difficulties. From the interview, it was also found that the teachers who hold B.Ed./M.Ed. degree were more interested in students' socioeconomic background and younger teachers more active to learn and more use technology for their professional development. And, it was found that the teachers from rural schools had more workloads such as extra teaching periods and night camps.

Discussion

In order to reform a quality education, teachers necessary need to know that they teach students with different abilities, readiness, and backgrounds. The conditions of classrooms they taught cannot be the same with others. Since centralized professional development courses and workshops use "one-size-fits-all" approaches with standardized knowledge and skill, it cannot fill unique needs of individual teachers. Therefore, without being content with these courses and workshops, teachers need to further learn by performing self-directed professional development practices.

Recommendations

- The administrators should create time for professional learning of teachers in school by carefully managing teachers' work schedules.

- Teachers should try to improve technological skills. They need to be informed online sources that can be learned for their professional development.

- Teachers should learn from books or by using the internet when time schedule and place of trainings and courses are inconvenient for them.

- The stakeholders should provide adequate infrastructure and recruit enough teachers to reduce teachers' workloads which can consume time and energy and help them focus on their professional development practices.

Needs for Further Research

Further studies should be conducted with teachers from Primary Schools and Middle Schools in other geographical areas.

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Attitude of PGDMA Students towards Teaching Profession and Use of ICT as a Pedagogical Tool

Zin Nwe Than*

Abstract

This study highlights the investigation of the PGDMA students' attitudes towards the teaching profession and the use of ICT as a pedagogical tool. In this quantitative study, 140 PGDMA students were examined by using the instruments *"Attitude of Students towards Teaching Profession (ASTOP)"* developed by Egwu (2015) and *"Teachers' Attitude towards the Use of ICT as a Pedagogical Tool"* developed by Ndibalema (2014) were mainly utilized to explore the perceptions of their attitudes towards teaching profession and the use of ICT as a pedagogical tool by PGDMA students. Based on the research findings, they had a high level of attitude towards their teaching profession. In addition, there was a positive attitude towards the use of ICT as a pedagogical tool according to the perceptions of PGDMA students.

Keywords: Attitude, ICT, Pedagogical Tool

Introduction

An overview of the research on the value of using ICTs the in teaching and learning process proved that the utilization of ICT has had a major influence on the teaching and learning process. In other words, ICTs had proved an effective tool for educational purposes, although it has extended and transformed the way students learn and teachers teach (Al-Zaidiyeen, Mei & Fook, 2010). Teachers should be familiar with its relationship to learning to integrate computer technology into the teaching and learning process in educational settings Dusick (1998, cited in Sarıçoban, 2013) notes that knowledge about the usefulness of computer technology is a key factor for integration. Especially, teachers need to be familiar with how computer technology can be useful in classrooms in order to use it as a tool to promote learning, which will allow students to benefit from the use of this technology.

Therefore, the attitude towards teaching profession and the use of ICT as a pedagogical tool of PGDMA students in SUOE were examined in

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* Professor, Dr., Department of Educational Theory and Management, Sagaing University of Education

this study. Although this study is likely to have shortcomings and weakness, the researcher believes that it will be helpful to develop a better understanding of teachers' attitude towards their teaching profession and the use of ICT in Education.

Significance of the Study

Within education, ICT is also seen as a tool for assisting and enhancing learning throughout the curriculum. The global adoption of ICT into education has often been premised on the potential of new technological tools revolutionizing outdated educational systems, better preparing students for the information age, and accelerating national development efforts. Nowadays, knowledge of computer use, in the educational setting, has been labeled both as a social and a global need. ICT and Computer use (CU) has brought a great deal of benefits for both teachers and learners in educational settings (Sarıçoban, 2013).

Teo (2006, 2008, cited in Sarıçoban, 2013) also states that a teachers' role in CU, among educational technology users, is the most important. Teachers act as drivers in the effective integration of technology, both for teaching and learning in educational settings. Examining prospective teachers' attitudes towards the teaching profession could contribute to the development of more positive attitudes towards the profession. It also could provide useful information for teacher education programs. Teachers' attitudes toward their pedagogical practices are important to classroom performance and success (Shaw, Stratil, & Reynolds, 1973, cited in Alkhateeb, 2013).

Purpose of the Study

The purpose of this study was to explore the PGDMA students' attitude towards teaching profession and the use of ICT as a pedagogical tool.

Research Questions

The following research questions guided the direction of the study:

1. How do students feel about teaching profession?

2. How does parental influence affect attitude of students towards teaching profession?

3. What are the students' attitude towards the use of ICT as a pedagogical tool in teaching?

4. To what extent do student teachers use ICT as a pedagogical tool in teaching?

Definition of Key Terms

(i) *Attitude* refers to the reaction of the person, his predisposition to react in a certain way to characteristic situations and events of reality (Bujor & Schipor, 2015).

(ii) *ICT* refers to the applications found on most thin client computers, internet, and other electronic delivery systems such as radios, digital televisions, and projectors among others (Ndibalema, 2014).

*(iii)**Pedagogical Tool* refers to the use of ICT in instruction as a tool for teaching and learning.

Review of the Related Literature

Attitude towards Teaching Profession

An attitude plays an important role in determining people's reactions to situations. A review of the psychological literature reveals diverse definitions of attitudes. Allport (1935, cited in Al-Zaidiyeen et al., 2010) defined it as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related".

Professional attitude of a teacher is the demonstration of his/her likes or dislikes feelings, emotions or behavior towards teaching and learning practice in the realm of education. Teachers with a positive attitude perform better in teaching and learning (Carr, 1990, cited in Ndivalema, 2014). Teachers who accept teaching as their profession keep direct relationship with other teachers, students, parents, communities, and society at large. They consider themselves as guides, and coaches' leaders in the process of teaching and learning. Hence, most attitudes are the results of direct experience and observation from the environment in which teachers operate as a practitioner (Bass, 1999, cited in Khan, Bhatti & Khan, 2011).

In view of Bain and Kein (2004, cited in Cox, Preston & Cox, 1999), teachers with positive attitudes are creative and motivated. They stimulate the creativity of students. As a result, students become motivated to participate in the process of teaching and learning enthusiastically. In conclusion, teachers with positive attitude toward teaching profession inculcate in the minds of students' positive self-confidence and self-esteem (Brown & Richard, 2008, cited in Al-Zaidiyeen et al., 2010).

Use of ICT in Education

Plomp et.al (1996, cited in Al-Zaidiyeen et al., 2010) identify three objectives that distinguished the use of ICT in education such as, the use of ICT as object of study, the use of ICT as an aspect of a discipline or profession; and the use of ICT as a medium for teaching and learning. On the other hand, Murphy (1995, cited in Al-Zaidiyeen et al., 2010) summarizes the learning outcomes that result from the use of technology in classroom as following: (1) social growth, (2) problem solving, (3) peer teaching, (4) independent work, and (5) exploration. ICT is expected to offer both means to operationalize constructivist principles and to create effective constructivist learning environments (Bellefeuille, 2006, cited in Hermans et al., 2008).

The Use of ICT as a Pedagogical Tool

ICT can be perceived as an important and useful pedagogical tool in the field of education. It is vital for the teachers in schools to encourage and guide the students to use ICT tools and provide them with some suggestions of websites available which are useful for enhancing students' language development (Yunus et al., 2009, 2010, cited in Yunus, Nordin, Salehi, Embi & Salehi, 2014).

As a learning tool in education, ICT is being integrated in different fields and instructions. ICT is being used extensively not only as part of national curriculum requirements but also as a management, assessment diagnostic and statistical tool (Salehi and Salehi, 2012, cited in Yunus et al., 2014). Through ICT, teachers are able to find information more easily through websites, create information through word processing software and communicate through instant messaging and web based classroom (Ndivalema, 2014). According to the study of (Ndivalema, 2014), teachers

believe that ICT could be used as a pedagogical tool in improving their teaching when there are adequate resources and infrastructure.

Methodology

Research Method

Descriptive research method was employed in this study.

Participants

This study focuses on all PGDMA students who are now attending in SUOE. Although there were 145 students attending in PGDMA course and questionnaires were distributed to them, 140 students responded to questionnaires with the return rates of 96.55%.

Research Instruments

In this study, "*Attitude of Students towards Teaching Profession (ASTOP)*" developed by Egwu (2015) was used to explore the attitude towards teaching profession by PGDMA students. It includes 15 items and 3 dimensions such as "Students' attitude towards teaching profession", "Parental influence on attitude of students towards teaching profession" and "Effect of Poor salary on students' attitude towards teaching profession".

Again, *"Teachers' Attitude towards the Use of ICT as a Pedagogical Tool"* developed by Ndibalema (2014) was also used to explore the use of ICT as a pedagogical tool by PGDMA students. It includes 20 items and two dimensions such as "Teachers' attitude towards the use of ICT as a pedagogical tool" and "Teachers' use of ICT as a pedagogical tool". Out of 20 items for two dimensions, 8 items for "Teachers' attitude towards the use of ICT as a pedagogical tool" and 8 items for "Teachers' use of ICT as a pedagogical tool" were only used in this study. Although the original version of two instruments was 4-point rating scale, a 5-point Likert scales ranging from strongly disagree to strongly agree was used in this study.

In this study, the coefficient of correlation for attitude of students towards teaching profession was 0.741 and teachers' attitude towards the use of ICT as a pedagogical tool was 0.935.

Data Collection and Analysis

      After taking permission from the responsible persons, questionnaires were distributed to PGDMA students from SUOE and collected them after lasting one week. Out of 145 students, only 140 students returned the questionnaires. Based on the results of responses, the data were computed with the Statistical Package for Social Science (SPSS) software. Descriptive statistics such as means, and standard deviations for each variable were calculated concerning the attitude towards teaching profession and the use of ICT by students.

Findings

Descriptive Statistics for PGDMA Student' Attitude towards Teaching Profession.

Table 1. Mean Values for PGDMA Student' Attitude towards Teaching Profession

Item Statement	SA	A	UD	D	SD	Mean	Decision
1.Students see teaching as a noble profession.	87	52	1	-	-	4.61	Agree
4.Students prefer teaching to other profession.	45	78	6	11	-	4.12	Agree
7.Students feel like joining teaching profession so as to be popular in the society.	4	21	8	80	27	2.25	Disagree
10.Students see teaching a feminist work.	-	3	4	64	69	1.58	Disagree
13.Students see workload in teaching as a difficult task.	8	62	22	42	6	3.17	Agree

      According to Table 1, PGDMA students rated items 1, 4, and 13 as agree while item 7 and 10 were rated as disagree. This implies that most students do not like taking teaching as a profession because of its difficult nature, poor condition of service, poor salary and they do not think teaching as a feminist work.

Table 2. Mean Values for Parents' Influence towards Teaching Profession

Item Statement	SA	A	UD	D	SD	Mean	Decision
2.Parents believe that teachers are poor and that is why they discourage their children from taking teaching as a profession.	1	6	9	88	36	1.91	Disagree
5.Parents feel that teachers are neglected unlike medical doctors, lawyers, engineers among others.	4	7	23	76	30	2.14	Disagree
8.Parents feel that teachers are not adequately remunerated.	11	44	31	44	10	3.01	Agree
11.Parents detest to teaching because teachers' welfare are always over looked by government.	3	18	35	74	10	2.50	Disagree
14.Parents feel that anybody can teach even without professional qualification.	3	9	9	66	43	2.02	Disagree

According to Table 2, each of the items 2, 5, 11 and 14 on parents' influence towards teaching profession obtained mean values of 1.91, 2.14, 2.5 and 2.02 below criterion of 3. The results imply that the respondents rated those items as disagree which shows that parents consider some factors before choosing or allowing their children to choose a career for themselves and thinks that teaching profession has a high status in society. Thus, parents have a role to play in order to re-address the attitude of students towards teaching profession.

Table 3. Mean Values for Remuneration and Teaching Profession

Item Statement	SA	A	UD	D	SD	Mean	Decision
3. Students run away from teaching because teachers are not well paid.	8	9	12	78	33	2.15	Disagree
6. Students feel that the tedious nature of teaching job is not equivalent to the salary and incentives receivable by teachers.	14	31	60	28	7	3.12	Agree
9. Students feel that teachers are strictly monitored by school supervisors and inspectors.	3	27	62	40	8	2.84	Disagree
12.Students feel that teachers are too economical due to the poor nature of their salary.	2	19	21	72	26	3.72	Agree
15.Students feel that teachers do not have time to enjoy themselves like others.	18	51	25	38	8	2.76	Disagree

Table 3 shows each of the items 3, 9 and 15on remuneration and teaching profession obtain mean values of 2.15, 2.84 and 2.77 below criterion of 3. This results implies that negative attitude towards teaching profession is as result of pure salary, strictly administration of superiors and lack of time to enjoy themselves like others in other profession.

Table 4. Mean Values for Students' Attitude towards Use of ICT as a Pedagogical Tool

Item Statement	SA	A	UD	D	SD	Mean	Decision
1.I enjoy ICT in teaching.	33	103	2	1	1	4.19	Agree
2.I know that ICT can help me to learn many new things.	42	93	2	3	-	4.24	Agree
3.I believe that ICT makes the subject more interesting and more systematic.	50	81	7	2	-	4.28	Agree
4.I believe that ICT can really improve my teaching practice.	41	84	11	4	-	4.16	Agree
5.I feel very confident when it comes to working with technology in the class.	30	91	12	7	-	4.03	Agree
6.The use of ICT in teaching requires high administrative support and time.	49	82	7	1	1	4.26	Agree
7.The use of ICT in teaching leads to greater student involvement in the teaching and learning process.	32	96	9	3	-	4.12	Agree
8.I feel confident in working with my students in the digital environment.	30	95	12	3	-	4.09	Agree

Table 4 shows that students have positive attitude towards the use of ICT as a pedagogical tool because they believe that ICT can improve their teaching learning practice at the mean of 4.16 and 4.09 respectively. The mean values of all items confirmed that student teachers were ready to used ICT as a pedagogical tool in teaching learning.

Relationship between Teachers' Emotional Intelligence and Classroom Management Practices

Khin Thandar Win[1] & Zin Nwe Than[2]

Abstract

The purpose of this study was to investigate the relationship between teachers' emotional intelligence and classroom management practices at selected Basic Education High Schools in Meiktila Township. Quantitative research method was applied to collect the required data. The sample for this study included 307 teachers from six selected Basic Education High Schools in Meiktila Township. Two instruments; *"Emotional Intelligence Questionnaire"* developed by Goleman (1995, as cited in Tok, Tok, & Dolapcioglu, 2013) to measure the teachers' emotional intelligence and *"Inventory of Classroom Management Techniques"* developed by Claudio Diaz, Georgina Gonzalez, Lucas Lhnacio Jara-Ramirez, and Javiera Alejandra Munoz-Parra (2018) to access teachers' classroom management practices, were used in this study. Data were analyzed by the use of descriptive statistics, independent samples *t*-test, one-way analysis (ANOVAs multiple comparison tests (Tukey), and Pearson-product moment correlations through SPSS software. The results of this study revealed that teachers' emotional intelligence was strongly and positively correlated with their classroom management practices (r=0.833, p<0.001). As a result, it can be concluded that the higher the emotional intelligence level the teachers possess, the better classroom management practices they can perform. Further studies need to be conducted in other building levels and townships or regions to determine if emotional intelligence was associated with classroom management practices.

Keywords: Emotional Intelligence, Classroom Management

Introduction

Managing the classroom is an integral part of teaching-learning process. Teaching is an emotional practice that involves emotional relationships and emotional understandings (Myint & Aung, 2016). Interacting with numerous children and adults, teachers have to use their

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[1] Senior Teacher, No.(1) Basic Education High School, Meiktila Township

[2] Professor, Dr., Department of Educational Theory and Management, Sagaing University of Education

emotions all the time. The use of emotion can be helpful or harmful (Perry & Ball, 2008). According to Goleman (2007, as cited in Tok, Tok, & Dolapcioglu, 2013), emotional intelligence is significant for teachers. An emotional competence teacher is likely to emphasize the responsible behavior on the part of her students by placing herself as a role model and by formalizing classroom management activities in a proper way (Karun, 2018). Since teachers' personality, behavior, interest, attitude, and emotions affect the children's behavioral patterns, the teachers should be aware of their own emotions and others' attributes as well as the emotion of their pupils in the teaching-learning process. If the teachers are emotionally intelligent or balanced, the task of classroom management may become easier because emotional skills are essential for social and professional adaptations (Karun, 2018).

To sum up, by keeping in view the importance of teachers' emotional intelligence and classroom management practices, the present study was designed to investigate the relationships between teachers' emotional intelligence and classroom management practices at selected Basic Education High Schools in Meiktila Township.

Purpose of the Study

The purpose of this study is to investigate the relationship between teachers' emotional intelligence and classroom management practices at selected high schools in Meiktila Township.

Research Questions

The following research questions guide the direction of the study.

1. What are the levels of teachers' emotional intelligence perceived by teachers themselves?

2. What are the levels of teachers' classroom management practices perceived by teachers themselves?

3. Is there any relationship between teachers' emotional intelligence and classroom management practices?

Review of the Related Literature

Emotional Intelligence (EI)

Mayer and Salovey (1990, as cited in Perry & Ball, 2008) defined emotional intelligence as the ability to monitor one's own and other's feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. At the workplace, individuals with higher emotional intelligence are better equipped to work cohesively within teams, deal with change more effectively, and manage stress- thus enabling them to more efficiently pursue business objectives (Houston, 2019).

In this study, the dimensions in Goleman's emotional intelligence model were based. Goleman (2007, as cited in Tok, Tok, & Dolapcioglu, 2013) argued that emotional intelligence determines one's potential for learning practical skills that are based on two competencies: personal and social competencies. **Personal competency** has three domains; self-awareness, self-regulation, and self-motivation, while **social competency** is comprised of two domains, namely; social awareness (or) empathy, and social skill.

*Self-Awareness***:** Grayson (2013, as cited in Mohamad & Jais, 2016) defined self-awareness as the ability to recognize one's feelings, to differentiate between them, to know what one is feeling and why, and to know what caused the feelings. Teachers who are high self-awareness have a more accurate understanding of how their behaviors affect students (Bhat, Shab, & Kaur, 2017). *Self-Regulation***:** It is the capacity to manage our emotions. According to Schunk and Zimmerman (2003, as cited in Mohamad & Jais, 2016), self-regulation would encourage people to take a more powerful role in their thoughts, emotions, and performances. Teachers with a high level of self-regulation are better able to manage their behavior in the classroom and develop and manage nurturing relationships with their students. They serve as behavioral role models for their students (Bhat, Shab, & Kaur, 2017).

*Self-Motivation***:** Goleman (1995, as cited in Mohamad & Jais, 2016) defined emotional self-motivation involves the ability to control the emotional tendencies that facilitate others to reach one's goals. High motivated teachers find teaching more enjoyable and ensure that the students enjoy it too. Individuals with high emotional intelligence are

greatly productive, appreciate the challenges, and are effective and efficient in whatever they do (Bhat, Shab, & Kaur, 2017). *Social-Awareness (or) Empathy*: This is the ability to be sensitive and influence other people's emotions. Empathetic individuals are friendly, sociable, helpful, and skilling in dealing with people. They make good companions because they are soft-natured and agreeable. Others feel comfortable with them and like them because of their good behavior (Bhat, Shab, & Kaur, 2017).

Social-Skill: Social skills refer to a person's talent in managing relationship with others and building systems also called people skills. The set of social skills includes respect for others, mutual regard, commitment, openness, tolerance, empathy, negotiation, communication, cooperation, sharing, helping others, accepting differences, listening to others, using good manners, being respectful, etc. These are the qualities that must be there in a leader (Schuetz, 2011, as cited in Mohamad & Jais, 2016).

Classroom Management Practices

Classroom management is the key component in any educational setting. The main reason is that without good classroom management, effective teaching and learning cannot occur (Marzano & Pickering, 2003, as cited in Yasar, 2008). It is very critical to create effective teaching and learning. Successful teaching and learning process is depending on teachers' ability to control the classroom and manage the students' misbehavior.

Classroom management includes a variety of techniques, like arranging the physical environment, establishing rules and procedures, maintaining students' attention to lessons, and engagement in activities (Ozcan, 2017, as cited in Diaz et al., 2018). Diaz et al. (2018) defined classroom management as a comprehensive concept that consists of three independent dimensions: discipline dimension, teaching and learning dimension, and personal communication dimension. **Discipline** dimension involves teachers encouraging positive social interactions as well as active participation in learning and pre-planned methods of preventing misbehaviors. **Teaching and learning** dimension is based on the daily routine of the classroom and the allocation of materials. This dimension includes the use of different teaching styles, and interaction among teachers and students during lessons. The final dimension, the **personal communication** dimension, is centered on how the teacher perceives the students and how they view their relationship with their students. This

dimension includes teacher-student personal communication and the social classroom environment (Diaz et al., 2018).

Methodology

Research Method

Descriptive statistical design was employed in this study.

Participants

A total of 307 teachers representing the 6 selected Basic Education High Schools included in the study.

Instruments

In order to collect perceptions of teachers on their emotional intelligence *Emotional Intelligence Questionnaire* developed by Goleman (1995 as cited in Tok, Tok, & Dolapcioglu, 2013)) was used and it consisted of five dimensions: self-awareness, self-regulation, self-motivation, social-awareness, social skill. In addition, in order to obtain information about teachers' classroom management practices, *Inventory of Classroom Management Techniques* developed by Diaz et al., (2018) was used and it consisted of three dimensions: discipline, teaching and learning, and personal communication. Two instruments were measured on a five-point Likert scale from 1 to 5: from "strongly disagree" (coded as 1), to "strongly agree" (coded as 5).

Data Analysis

Descriptive statistics such as means and standard deviations were calculated by using SPSS to explore perceptions of teachers' on their emotional intelligence and classroom management practices in selected high schools. The decision rules for interpreting the level of emotional intelligence and classroom management practices were as follows: the mean value from 1.00 to 2.33 was defined as low level, the mean value from 2.34 to 3.67 was defined as moderate level and effectiveness; the mean value from 3.68 to 5.00 was defined as high level. In addition, Pearson-product moment correlation was utilized to investigate the relationships between teachers' emotional intelligence and classroom management practices.

Findings

Teachers' Emotional Intelligence at Selected Basic Education High Schools

According to the statistical information in Table 1, the mean values for all dimensions of teachers' emotional intelligence such as self-awareness, self-regulation, self-motivation, social-awareness, social skill, were at high levels in six selected high schools. Similarly, the mean value for the overall teachers' emotional intelligence of six selected high schools was high. This indicated that the teachers from all selected high schools in Meiktila Township had high level of emotional intelligence.

Table 1. Mean Values for Teachers' Emotional Intelligence Perceived by Teachers in Selected Basic Education High Schools

School	Dimensions					Overall Emotional Intelligence	Level
	SA	SR	SM	SoA	SS		
A	4.02	4.07	4.10	4.13	3.96	4.06	High
B	3.98	3.95	4.00	3.99	3.88	3.95	High
C	4.10	4.05	4.04	3.99	3.96	4.03	High
D	4.14	4.11	4.17	4.18	4.01	4.12	High
E	4.08	4.00	4.10	4.03	3.84	4.01	High
F	4.03	4.00	3.96	4.00	3.83	3.96	High
Overall EI	4.05	4.01	4.04	4.03	3.89	4.01	High

1.00-2.33=Low Level   2.34-3.67=Moderate Level   3.68-5.00=High Level
Note: SA= Self-awareness   SR=Self-regulation   SM=Self-motivation
       SoA=Social-awareness   SS=Social-skill

Teachers' Classroom Management Practices at Selected Basic Education High Schools

Table 2. Mean Values for Teachers' Classroom Management Practices Perceived by Teachers in Selected Basic Education High Schools

School	Dimensions			Overall Classroom Management Practices	Level
	Discipline	Teaching and Learning	Personal Commu-nication		
A	4.05	4.34	4.39	4.26	High
B	3.82	4.00	4.01	3.94	High
C	3.91	4.09	4.06	4.02	High
D	4.04	4.21	4.30	4.18	High
E	3.90	4.11	4.11	4.04	High
F	3.83	4.04	4.07	3.98	High
Overall CMP EI	3.90	4.09	4.11	4.03	High

1.00-2.33=Low Level   2.34-3.67=Moderate Level   3.68-5.00=High Level

According to Table 2, the mean values for classroom management practices perceived by teachers themselves at selected Basic Education High Schools were at high levels in three dimensions of classroom management practices, such as, discipline, teaching and learning, and personal communication, and the mean value for the overall teachers' classroom management practices of six selected high schools were also at a high level. This indicated that the teachers from all selected high schools in Meiktila Township had a high level of classroom management practices.

Relationship between Teachers' Emotional Intelligence and Classroom Management Practices at Selected Basic Education High Schools

Table 3 displays the correlations among dimensions of teachers' emotional intelligence and classroom management practices at six selected high schools.

Table 3. Correlations among Dimensions of Teachers' Emotional Intelligence and Classroom Management Practices at Selected Basic Education High Schools

Dimensions	DI	TL	PC	Overall CMP
SA	.607**	.714**	.624**	.702**
	.000	.000	.000	.000
SR	.697**	.713**	.673**	.752**
	.000	.000	.000	.000
SM	.621**	.691**	.669**	.716**
	.000	.000	.000	.000
SoA	.678**	.742**	.754**	.785**
	.000	.000	.000	.000
SS	.642**	.658**	.665**	.710**
	.000	.000	.000	.000
Overall EI	.739**	.798**	.770**	.833**
	.000	.000	.000	.000

Note: ***$p<0.001$

      SA= Self-awareness   DI=Discipline
      SR=Self-regulation   TL=Teaching and Learning
      SM=Self-motivation   PC=personal Communication
      SoA=Social-awareness   CMP=Classroom Management Practices
      SS=Social-skill   EI=Emotional Intelligence

According to Table 3, the correlation between teachers' self-awareness and discipline was positive and moderately correlated, $r=.607$, $p=.000$. And teachers' self-awareness and teaching and learning were highly

correlated, $r=.714$, $p=.000$. Teachers' self-awareness and personal communication were moderately correlated, $r=.624$, $p=.000$. And then, teachers' self-awareness and classroom management practices were highly correlated, $r=.702$, $p=.000$. It was also found that the correlation between teachers' self-regulation and all dimensions of classroom management practices was positively and highly correlated, with "Discipline" $r=.697$, $p=.000$, with "Teaching and Learning" $r=.713$, $p=.000$, with "Personal Communication" $r=.673$, $p=.000$, with "Classroom Management Practices" $r=.752$, $p=.000$.

According to teachers' perceptions, the correlation between teachers' emotional intelligence and classroom management practices was statistically significant, $r=.833$, $p=.000$. Thus, there was a relationship between teachers' perception of their emotional intelligence and classroom management practices. The correlation was positive and so this means that the higher the emotional intelligence the teachers possessed, the better was the classroom management practices.

Conclusion and Discussion

The first research question asked teachers to describe the levels of their emotional intelligence. According to the responses of the teachers, the teachers from the selected Basic Education High Schools in Meiktila Township had high levels of emotional intelligence in all dimensions and overall emotional intelligence. According to the results, it can be concluded that the teachers from selected Basic Education High Schools in Meiktila Township were always aware of which emotion they are feeling and why. Even when experiencing the pressures or bad situations, they can control and manage their own feelings and emotions. And they were always ready to fulfill the group's missions. Then, they listen to and acknowledge the others' perspectives and they were good listeners. Moreover, they can make and maintain positive and strong personal friendship among work associates.

Research question two investigated the levels of teachers' classroom management practices perceived by teachers themselves at the selected Basic Education High Schools in Meiktila Township. Based on the analysis of the data, it can be asserted that the teachers had high levels in all dimensions of classroom management practices and overall classroom management practices. According to the results, it can be concluded that the

teachers from selected Basic Education High Schools in Meiktila Township were good at establishing discipline and maintaining students to obey it. They establish rules and procedures by cooperating with students' opinions, and ideas and by taking over the students' agreements. It means that these teachers take into account the student's point of view and perceive their feelings. And the teachers were excellent at teaching because they prepare the lessons before they teach. When they prepare the lesson, they take into account the individual differences, the student's previous knowledge, the various teaching methods to be used, and the assessment process: checking out whether or not the students understand the ongoing lessons. Not only do the teachers teach the lessons but also they communicate with the students. So that they will be familiar with the students, they know the personal information of the students and can help if they have difficulties. And then, they help students to develop their ability to make their own decision by delegating the tasks and leading by themselves. They praise individual accomplishments. Moreover, they encourage students to be respectful to one another by telling stories, and participating in group activities. Accordingly, it can be asserted that the teachers from selected Basic Education High Schools in Meiktila Township were high at classroom management practices.

Research question three investigated the relationship between teachers' emotional intelligence and classroom management practices. According to the teachers' responses, it was found that the teachers' emotional intelligence was positively and highly correlated with classroom management practices ($r=.833$, $p<.001$). Therefore, it can be concluded that teachers' emotional intelligence had effects on classroom management practices. The higher emotional intelligence level the teachers possess, the better at classroom management practices they are. So, the teachers who can aware their emotions and others' emotions, can control and manage their disruptive emotions, and have good social skill are better at their classroom management practices.

University of Education) and Dr. Min Than (Professor and Head of Department of English, Sagaing University of Education) for their valuable expertise, support, constructive suggestions, and criticism to complete my work. Most importantly, we wish to extend a special word of thanks to teachers from selected Basic Education High Schools in Meiktila Township for their cooperation and willingness to participate in this study.

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Table 5. shows that student teachers use ICT as pedagogical tool since all items were confirmed as agree at the mean of 4.24, 4.21, 4.26, 3.95, 4.32, 3.91, 4.25 and 4.44. This confirms that student teachers use digital learning tasks to facilitate their teaching learning and improve their pedagogy.

Table 5. Mean Values for Students' Use of ICT as a Pedagogical Tool

Item Statement	SA	A	UD	D		SD	Mean	Decision
9.I can create visual presentation, graphics, charts, drawings and type assignments for students by using ICT.	43	91	3	3		-	4.24	Agree
10. I can download teaching materials regarding my subjects.	40	93	4	2		1	4.21	Agree
11. I can use computer based programs in developing the scheme of work and lesson plan.	44	89	6	1		-	4.26	Agree
12. I use email to ask and send assignments to my students if possible.	25	94	12	7		2	3.95	Agree
13. I am able to search for files on computer system and organize them into folders.	50	86	3	1		-	4.32	Agree
14. I am able to use a learning management system (eg. WebCT) to support teaching.	23	90	19	7		1	3.91	Agree
15. I can assess and share information on CD/DVD/ flash disc.	47	85	4	4		-	4.25	Agree

Item Statement	SA	A	UD	D		SD	Mean	Decision
16. I can create a basic presentation package and print to various networked printers.	66	70	3	1		-	4.44	Agree

Conclusion and Discussions

Analyses of quantitative data collected from the study attempted to answer the four research questions. ***Research question one*** examined the feelings of students about teaching profession. When examining the students' attitude towards teaching profession, it was found that some students see teaching as a noble profession and prefer teaching to other profession. However, other students feel like joining teaching profession so as to be popular in the society. ***Research question two*** investigated parental influence affect attitude of students towards teaching profession. According to findings, parents influence their students attitude toward teaching profession because they feel that teachers are poor and everyone can teach without professional qualifications.

Research question three explored the students' attitudes towards the use of ICT as a pedagogical tool in teaching. By examining students' attitude, students have positive attitude towards the use of ICT as a pedagogical tool because they believe that ICT can improve their teaching learning practice according to their mean values. Finally, ***Research question four*** examined student teachers use ICT as a pedagogical tool in teaching. Student teachers use ICT as pedagogical tool since all items were confirmed as agree at the mean of 4.24, 4.21, 4.26, 3.95, 4.32, 3.91, 4.25 and 4.44. This confirms that student teachers use digital learning tasks to facilitate their teaching-learning and improve their pedagogy.

This study investigated the attitude towards teaching profession and the use of ICT as a pedagogical tool for PGDMA student teachers in SUOE. The study recommends that future researchers need to consider the in-depth qualitative studies such as classroom observations and in-depth interviews to investigate the level of ICT use by teachers. In addition, there is the need for future studies to investigate the extent to which pre-service teachers are internally or externally motivated to use computers as an important educational tool in their teaching.

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Relationship between Family Communication Patterns and Students' Classroom Communication Behaviours

Phue Pwint Thet Wai[1] & Lwin Lwin Than[2]

Abstract

The purpose of this study is to investigate the relationship between family communication patterns and students' classroom communication behaviours at selected middle schools in Pyin Oo Lwin Township. In this study, the family communication patterns theory by Ritchie and Fitzpatrick (1990) and four areas of classroom communication behaviours by Atkinson (2018) were used. Quantitative and qualitative research methods were utilized and 393 students from six selected middle schools in Pyin Oo Lwin Township participated as a sample of the study. To collect the quantitative data, "Revised Family Communication Patterns Instrument (RFCP)" developed by Ritchie and Fitzpatrick (1990), "Out-of-class Interaction Scale" developed by Knapp and Martin (2002, as cited in Atkinson,2018), "Oral Participation Scale" developed by Frymier and Houser (2016), "Instructional Dissent Scale" developed by Goodboy (2011b) and "Student Communication Motives Scale" developed by Martin, Mottet and Myers (1999) were used. The researcher used eight interview questions to collect the qualitative data. Thirty students from three selected middles schools participated in the interview. The data were analyzed with descriptive and inferential statistics. The findings indicated that students in selected schools possessed both "Conversation Orientation" and "Conformity Orientation" moderately but it was found that "Conformity Orientation" was a little more. Moreover, students in selected schools performed "Classroom Communication Behaviours" at moderate levels. It was found that both "Conversation Orientation" (r = .391, p<0.01) and "Conformity Orientation" (r = .311, p<0.01) were significantly and positively correlated with "Classroom Communication Behaviours". Students who possessed conversation orientation performed classroom communication behaviours more than those who possessed conformity orientation. Therefore, parents should encourage their children to express feelings freely and discuss them with reasonably. Moreover, teachers should also create familiar conversations for students to dare to ask, discuss and tell about difficulties in the courses.

Keywords: Family communication patterns, Classroom communication behaviours

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[1] Senior Teacher, B.E.H.S.(Branch) Kyaut Pyart That, Mogok Township

[2] Associate Professor, Department of Educational Theory and Management, Sagaing University of Education

Introduction

All communities including education seek for improvement of mental health, behaviours and happiness for their members. For achieving these goals, several effective factors have to be recognized. Family and the communications among its members are the ones of these effective factors. Generally, family communications among members have always been considered as a part of crucial interpersonal relationship to realize other aspects affected by these family relationships (Zarnaghash, Zarnaghash & Zarnaghash, 2013).

Family communication environment is critical to children's behavioural development. Interpersonal communication between parents and children, called family communication, is also the basis for children's emotional development. Family communication patterns and styles influence children's attitudes and behaviours (Huang, 1999).

Communication within the classroom is also important in order for students to learn effectively and should be established from an early stage of learning. In any classroom, successful teacher-student communication has a crucial impact on proficient teaching and student learning. Building good communication between teachers and students makes effective steps for the teaching and learning process (Barmaki, 2014). By looking at the above factors, we can know clearly how the role of family communication patterns is really important for the communication behaviours of students in the classroom.

Purposes of the Study

- To find out students' perceptions of their family communication patterns at selected Basic Education Middle Schools in Pyin Oo Lwin Township,

- To find out students' perceptions of their classroom communication behaviours at selected Basic Education Middle Schools in Pyin Oo Lwin Township,

- To investigate the relationship between students' perceptions of their family communication patterns and their classroom communication behaviours at selected Basic Education Middle Schools in Pyin Oo Lwin Township.

Research Questions

- What are the students' perceptions of their family communication patterns at selected Basic Education Middle Schools in Pyin Oo Lwin Township?

- What are the students' perceptions of their classroom communication behaviours at selected Basic Education Middle Schools in Pyin Oo Lwin Township?

- Is there any relationship between students' perceptions of their family communication patterns and their classroom communication behaviours at selected Basic Education Middle Schools in Pyin Oo Lwin Township?

Theoretical Framework

This study was based on family communication patterns theory by Ritchie and Fitzpatrick (1990) which is a theory used to assess the role that communication plays within the family. It was used to assess how family communication affects education of children. This theory includes two dimensions: "Conversation Orientation" and "Conformity Orientation" and four types of family communication environments (i.e., consensual, protective, pluralistic and laissez-faire) that show how communicative behaviours develop within a family system.

According to Atkinson (2018), this study was also based on four areas of classroom communication behaviours. These four areas are out-of-class communication, in-class oral participation, instructional dissent and students' motives to communicate with their instructors.

Review of Related Literature

Family Communication Patterns

Family communication patterns (FCP) first proposed by McLeod and Chaffee (1972, as cited in Atkinson, 2018) refers to the assumption that children's perceptions of reality and socialization reflect how parents communicate with their children (McLeod & Chaffee, 1972, as cited in Prasitthipab, 2008). Two fundamental dimensions are conversation orientation and conformity orientation.

Conversation Orientation

It is defined as the degree to which families create a climate in which all family members are encouraged to participate in unrestrained interactions about a wide array of topics (Koerner & Fitzpatrick, 2002). High conversation-oriented families have a tendency to place a high value on open communication, preferring to "talk things out" and support each other instead of avoiding (Ritchie & Fitzpatrick, 1990). Children from these families are supported to interact openly, exchange their opinions and enjoy sharing values (Prasitthipab, 2008).

Conformity Orientation

Conformity orientation refers to the degree to which family communication stresses a climate of homogeneity of attitudes, values, and beliefs (Koerner & Fitzpatrick, 2002). In this type of family, parents encourage their children to avoid conflicts and to show conformity in conversations (Prasitthipab, 2008). High conformity-oriented families have hierarchical structures in place (e.g., parents make the rules, children obey) that emphasize the collective importance of the family rather than the importance of any one individual member (Atkinson, 2018).

Classroom Communication Behaviours of Students

In the classroom, communication has its own important role and should be used for the benefits of students hence it is crucial for effective class management and student enthusiasm (Diloyan, 2017). According to Atkinson (2018), students' classroom communication behaviours including out-of-class communication, in-class oral participation, instructional dissent, and students' motives to communicate with their instructors will be reviewed in this study.

(i) Out-of-class Communication

Out-of-class communication (OCC) refers to students and instructors participating in formal or informal interactions outside of the scheduled class time. OCC includes meeting during office hours, sending e-mails to instructors, speaking with instructors at campus events or off campus, making telephone calls to the instructor, or having discussions before or after class meetings (Fusani, 1994).

(ii) In-class Oral Participation

Fassinger (1995) defined class participation as "any student offered comments or raised questions in class". When students participate actively in class, their academic achievement seems to be higher than that of those who are passive in class participation. Since oral participation in the classroom is the most observable behaviour, increased emphasis has been placed on students' interaction or oral participation in the classroom (Tsou, 2005).

(iii) Instructional Dissent

Instructional dissent refers to student expression of disagreement or a contradictory concerning a course-related practice. It occurs when students express their disagreements or complaints about class-related issues. Three types of instructional dissent were revealed through student narratives including expressive dissent, rhetorical dissent and vengeful dissent (Goodboy, 2011).

Expressive dissent refers to students' desire to vent and express their feelings in an effort to improve their emotional state. Rhetorical dissent refers to students' desire to convince their instructors to take action to remedy an issue. Vengeful dissent refers to student intentions to ruin an instructor's reputation or attempt to get instructors fired from their job (Atkinson, 2018).

(iv) Students' Motives to Communicate with their Instructors

Martin, Mottet and Myers (1999) investigated student motives for interacting with their instructors. They identified five motives that students indicate and drive their needs to communicate with an instructor: relational, functional, participatory, excuse-making, and sycophantic.

Methodology

Population and Sample

The target population of this study was all Grade-8 students from Basic Education Middle Schools in Pyin Oo Lwin Township. There are 19 Basic Education Middle Schools (not including branch middle schools and affiliated middle schools). Among them, six schools were selected as sample schools for the main study. The participants involved in this study were 393 students from six selected Basic Education Middle Schools in

Pyin Oo Lwin Township. In addition, thirty students from three selected schools were selected for interviews.

Research Instruments

In order to explore students' perceptions of their family communication patterns, "Revised Family Communication Patterns Instrument" developed by Ritchie and Fitzpatrick (1990) was used in this study. The "Out of Class Interaction Scale" developed by Knapp and Martin (2002, as cited in Atkinson, 2018) was used to assess students' levels of interaction with their instructors outside of the classroom. The "Oral Participation Scale" developed by Frymier and Houser (2016) was utilized to measure students' reports of their oral participation during their classes. The "Instructional Dissent Scale" developed by Goodboy (2011b) was used to measure students' frequency of complaints about class-related issues. The "Student Communication Motives Scale" developed by Martin *et al*. (1999) was utilized to assess students' motives for communicating with their instructors. Moreover, eight interview questions about students' family communication patterns and their classroom communication behaviors were used in this study.

Research Findings

For Research Question (1)

The following Table 1 expresses the mean values and standard deviations of family communication patterns perceived by students in all selected Basic Education Middle Schools in Pyin Oo Lwin Township. It was shown that students from all schools perceived both "Conversation Orientation" and "Conformity Orientation" at moderate levels. The mean value of "Conversation Orientation" was 3.51 and that of "Conformity Orientation" was 3.58. Therefore, students possessed "Conformity Orientation" more than "Conversation Orientation" in selected middle schools.

Table 1. Mean Values and Standard Deviations of Family Communication Patterns Perceived by Students in Selected Basic Education Middle Schools

Family Communication Patterns	Basic Education Middle Schools						Composite Mean (N=393)
	S 1	S 2	S 3	S 4	S 5	S 6	
Conversation Orientation	3.48	3.33	3.72	3.38	3.58	3.46	3.51
	(.486)	(.402)	(.485)	(.578)	(.441)	(.370)	(.493)
Conformity Orientation	3.28	3.56	3.72	3.70	3.70	3.56	3.58
	(.706)	(.538)	(.492)	(.552)	(.555)	(.677)	(.602)

Note: 1.00-2.33=Low   2.34-3.67=Moderate   3.68-5.00=High

For Research Question (2)

The following Table 2 describes the mean values and standard deviations of classroom communication behaviours perceived by students at selected Basic Education Middle Schools in Pyin Oo Lwin Township.

Table 2. Mean Values and Standard Deviations of Dimensions of Classroom Communication Behaviours Perceived by Students in Selected Basic Education Middle Schools

Dimensions	Basic Education Middle Schools						Composite Mean
	S 1	S 2	S 3	S 4	S 5	S 6	
Out-of-class Communication	3.06	3.04	3.33	3.36	3.28	3.33	3.22
	(.540)	(.462)	(.475)	(.399)	(.570)	(.431)	(.508)
In-class Oral Participation	3.20	3.19	3.40	3.52	3.31	3.50	3.33
	(.655)	(.579)	(.662)	(.550)	(.647)	(.434)	(.625)
Instructional Dissent	3.02	2.87	2.94	3.10	2.99	3.00	2.98
	(.421)	(.318)	(.409)	(.327)	(.512)	(.396)	(.410)
Students' Motives to Communicate	3.24	3.18	3.43	3.41	3.31	3.52	3.33
	(.478)	(.408)	(.526)	(.431)	(.670)	(.320)	(.513)

Dimensions	Basic Education Middle Schools						Composite Mean
	S 1	S 2	S 3	S 4	S 5	S 6	
Overall Classroom Communication Behaviours	3.13 (.404)	3.07 (.310)	3.27 (.377)	3.35 (.314)	3.22 (.471)	3.34 (.266)	3.21 (.388)

Note: 1.00-2.33=Low   2.34-3.67=Moderate   3.68-5.00=High

According to Table 2, students from all schools perceived "Out-of-class Communication", "In-class Oral Participation", "Instructional Dissent" and "Students' Motives to Communicate with their Instructors" at moderate levels. Therefore, it was found that students from all schools moderately performed classroom communication behaviours. According to the mean results, both "In-class Oral Participation" and "Students' Motives to Communicate with their Instructors" had the highest mean value (3.33), followed in descending orders, "Out-of-class Communication" (3.22) and "Instructional Dissent" (2.98). Therefore, "In-class Oral Participation" and "Students' Motives to Communicate with their Instructors" were the highest and "Instructional Dissent" was the lowest in classroom communication behaviours perceived by students among six Basic Education Middle Schools in Pyin Oo Lwin Township.

For Research Question (3)

The following Table 3 describes the relationship between family communication patterns and students' classroom communication behaviours in all selected Basic Education Middle Schools.

Table 3. Correlation between Family Communication Patterns and Students' Classroom Communication Behaviours in Selected Basic Education Middle Schools

Variables	1	2	3
1. Conversation Orientation	1		
2. Conformity Orientation	.209	1	
3. Classroom Communication Behaviours	.391** .000	.311** .000	1

Note: **$p<0.01$

According to Table 3, both "Conversation Orientation" ($r = .391$, $p<0.01$) and "Conformity Orientation" ($r = .311$, $p<0.01$) were significantly and positively correlated with "Classroom Communication Behaviours" of students. And it was known that "Conversation Orientation" was more correlated with "Classroom Communication Behaviours" than "Conformity Orientation".

According to interview responses of students, most students from selected middle schools possessed conformity orientation, in other words, they did not share their parents about their experiences and they obeyed their parents' words. But some of their parents did not encourage them to obey their words definitely. Again, students from selected middle schools commonly greeted their teachers and responded if teachers asked about courses. If they had frustrations about teachers and teaching, most of them did not usually perform and respond anything. Moreover, most students talked and communicated with their teachers for the courses and some communicated for topics that are not related with the courses.

Discussion, Conclusion and Suggestion

In relation to students' family communication patterns, students perceived that they possessed both "Conversation Orientation" and "Conformity Orientation" at moderate levels. Therefore, students in selected schools possessed both conversation orientation and conformity orientation but it was found that conformity orientation was a little more. In relation to students' classroom communication behaviours, students in selected schools performed classroom communication behaviours at moderate levels. Among four areas of classroom communication behaviours, "In-class Oral Participation" and "Students' Motives to Communicate with Their Instructors" was the highest, followed by "Out-of-class Communication" and "Instructional Dissent".

According to the research findings, it was found that students who possessed conversation orientation performed classroom communication behaviours more than students who possessed conformity orientation in selected middle schools. Quantitative findings of students' family communication patterns are in line with quantitative findings.

Based on the research findings, parents should encourage their children to express their feelings and opinions freely. Teachers should be

aware that poor behaviours of some students derive from their communication with parents and they also should adapt to these students. Teachers should also create familiar or intimate conversation for students dare to ask, discuss and tell about difficulties in the courses and difficulties in other things.

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Relationship between School Culture and Organizational Commitment of Teachers

Su Yee Phyo[1] & Win Win Thein[2]

Abstract

The purpose of this study was to examine the relationship between school culture and organizational commitment of teachers at selected Basic Education High Schools in Natogyi Township. In this study, quantitative and qualitative methods were used to carry out. To collect quantitative data, "*School Culture Survey (SCS)*" developed by Gruenert and Valentine (1998, as cited in Veeriah, Piaw, & Li, 2017) and "*Organizational Commitment Questionnaire*" developed by Meyer and Allen (1997, as cited in Veeriah *et al.*, 2017) were used in this study. A total of 282 teachers from selected High Schools participated in quantitative study. Twenty teachers from four High Schools participated in qualitative study. Data were analyzed by using descriptive statistics and Pearson-product moment correlation coefficient. Based on the perceptions of teachers, it was found that school culture and organizational commitment at selected High Schools were high levels. In this study, correlation analysis showed that it was a positively moderate relationship between school culture and organizational commitment of teachers at selected High Schools in Natogyi Township ($r = .501$, $p < .01$ level). Moreover, the qualitative data provided by interviews with teachers were consistent with the findings of quantitative findings. So, it can be noted that school culture increases the organizational commitment of teachers at selected Basic Education High Schools in Natogyi Township.

Keywords: school culture, organizational commitment

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[1] Senior Teacher, Basic Education High School, Natogyi
[2] Associate Professor, Department of Educational Theory and Management, Sagaing University of Education

Introduction

Education is a global phenomenon that is a key factor in the improvement and the evolvement of many aspects – be it as an individual, as an organization, and a nation as a whole. It is a valuable key asset in the pursuit of national values and aspirations (Abdul-Jaleel, Opare & Yarquah, 2014, as cited in Veeriah, 2017). According to Khalil, Kalim & Abiodullah (2013), schools are social institutions established to provide educational opportunities to its stakeholders. Organizational culture and school culture have been the subject of educational value since the 1930s and even then, it is important and characteristics were understood (Silvera, 2017).

According to Veeriah (2017), organizational commitment is a major concept in the investigation of the organization and understanding of the behaviour of workers in the workplace. It is noted that committed employees will demonstrate their loyalty in achieving organizational goals which will determine whether the said organization is successful or not (Iqbal, Tufail, & Lodhi, 2015, as cited in Veeriah, 2017). Further, Paille *et al.* (2011, as cited in Veeriah, 2017) stated that committed employees will have lower intentions to leave and would work with more effectiveness and loyalty while Carlos and Filipe (2011, as cited in Veeriah, 2017) added that organizational commitment increases the creativity in the organizations.

Purpose of the Study

The main purpose of the study is to explore the relationship between school culture and organizational commitment of teachers at selected Basic Education High Schools in Natogyi Township.

The specific purposes of the study are as follows:

1. To examine the levels of school culture as perceived by teachers at selected Basic Education High Schools in Natogyi Township,

2. To investigate the levels of organizational commitment as perceived by teachers at selected Basic Education High Schools in Natogyi Township, and

3. To find out the relationship between school culture and organizational commitment as perceived by teachers at selected Basic Education High Schools in Natogyi Township.

Review of Related Literature

School Culture

School culture is a system of shared orientations that holds a unit together and gives it a distinctive identity (Hoy, 1997, as cited in Gumuseli & Eryilmaz, 2011). It is a multifaceted concept composed of different factors (Maslowski, 2011, as cited in Gumuseli & Eryilmaz, 2011).

Dimensions of School Culture

Researchers Gruenert and Valentine (1998, as cited in Veeriah, 2017) studied on school culture and through their research; the School Culture Survey (SCS) was developed with six factors indicating effective school cultures. The factors are collaborative leadership (CL), teacher collaboration (TC), professional development (PD), unity of purpose (UoP), collegial support (CS), and learning partnership (LP).

- **Collaborative Leadership**

A collaborative approach to leadership nurtures a new framework for school improvement. In shared leadership, principals and teachers are participated together (Lambert, 2002, as cited in Smith, 2007).

- **Teacher Collaboration**

The degree to which teachers engage in constructive dialogue that furthers the educational vision of the school; teachers across the school plan together, observe and discuss teaching practices, evaluate programs, and develop an awareness of the practices and programs of other teachers (Gruenert, 1998, as cited in Tchong, 2014).

- **Professional Development**

Professional development is the ongoing reinforcement and conservation of skills, competencies and experiences (Khalil *et al.*, 2013). Teachers seek ideas from seminars, colleagues, organizations, and other professional opportunities in order to maintain current in best practice knowledge, specifically about instructional practices (Tchong, 2014).

- **Unity of Purpose**

Unity of purpose is the extend teachers work together towards a common mission for the school (Gruenert & Whitaker, 20015, as cited in Veeriah, 2017).

- **Collegial Support**

Collegial support describes the degree to which teachers work together effectively (Bronsnan, 2003, as cited in Mitchell, 2008).

- **Learning Partnership**

Learning partnership is the degree to which teachers, parents, and students work together for the common good of the student (Lickona, 2004, as cited in Mitchell, 2008).

Meaning of Organizational Commitment

Commitment is the incentive that sustains a line of behaviour toward one or more objectives (Meyer & Herscovitch, 2001). Organizational commitment is defined as the employee's desire to stay in the organization, desire to work hard for it, and the adoption of the values and purposes of the organization (Morrow, 1983, as cited in Cogaltay, 2014). Commitment links to the achievement of the organization's aims (Mintzberg, 1989, as cited in Raman, Ying, & Khalid, 2015).

Components of Organizational Commitment

According to Meyer and Allen (1991, as cited in Veeriah, 2017), organizational commitment can be categorized into three factors: affective, continuance, and normative commitment.

- **Affective Commitment**

Affective commitment represents the individual's emotional attachment to the organization. Snyder and Cistulli (2011, as cited in Cistulli, Snyder, & Jacobs, 2012) stated that affective commitment describes an employee's desire to stay with the organization because of a well-conditioned and powerful emotional connection to the organization.

- **Continuance Commitment**

According to Meyer and Allen (1997, as cited in Andrew, 2017), it is calculative because of the individual's perception or weighing of costs and risks associated with leaving the current organization and further state

that employees whose primary link to the organization is based on continuance commitment remain because they need to do so.

- **Normative Commitment**

Normative commitment (NC) in the field of management has been described as the obligation to remain in a particular organization (Meyer & Allen, 1991, as cited in Zefeiti, & Mohamad, 2017).

Methodology

Research Method

In this study, quantitative and qualitative methods were adopted. In the quantitative method, data were collected by using the questionnaires. The qualitative results were obtained by interviewing the teachers.

Population and Sample

The target population of this study was all teachers (primary teachers, junior teachers, and senior teachers) from selected Basic Education High Schools (not including Branch High Schools) in Natogyi Township. There are 11 Basic Education High Schools in Natogyi Township. So, the schools were selected by using the criterion that the principal's administrative service had at least one year in the current school. Among 11 schools, 9 schools met the criterion and these schools were used for the main study. Therefore, the total sample was 288 teachers from 9 schools in the quantitative study. In actual, 282 teachers responded to the questionnaire in this study. The total participants for interviewing were 20 teachers at different levels from 4 selected Basic Education High Schools.

Instruments

Two questionnaires and three interview questions were chosen as instruments to collect the data. "*School Culture Survey (SCS)*" developed by Gruenert and Valentine (1998, as cited in Veeriah *et al.*, 2017) and "*Organizational Commitment Questionnaire*" developed by Meyer and Allen (1997, as cited in Veeriah *et al.*, 2017) were used in this study.

Data Collection Procedure

After taking permission from the responsible person, two questionnaires were distributed to (288) teachers from selected Basic Education High Schools in Natogyi Township on 9 to 12 December 2019

and collected them after lasting 10 days. Interviews were also conducted with 20 teachers from 4 selected high schools to obtain information about school culture and organizational commitment of teachers on 30 January through 10 February, 2020.

Data Analysis

Using SPSS, descriptive statistics were calculated for school culture and organizational commitment of teachers at selected Basic Education High Schools in Natogyi Township. The Pearson-product Moment correlation coefficient was utilized to know the relationship between school culture and organizational commitment of teachers for selected schools. Moreover, responses from open-ended questions and interview questions were categorized into similar views that are adopted to sort out them.

Findings

Mean values and standard deviations for school culture perceived by teachers themselves in selected high schools are described in Table 1. According to Table 1, it was found that teachers from selected Basic Education High Schools in Natogyi Township had a high level of "overall school culture".

Table 1. Mean Values and Standard Deviations for School Culture Perceived by Teachers in Selected High Schools

Schools	Dimensions of School Culture						Overall School Culture
	CL	TC	PD	UoP	CS	LP	
A	4.03 (.29)	3.90 (.34)	4.03 (.34)	3.96 (.35)	3.95 (.27)	3.81 (.52)	3.96 (.29)
B	4.00 (.30)	3.97 (.39)	4.10 (.38)	4.12 (.34)	4.03 (.35)	3.80 (.53)	4.01 (.29)
C	3.84 (.44)	3.84 (.34)	3.95 (.38)	3.90 (.31)	3.95 (.40)	3.85 (.33)	3.88 (.34)
D	3.72 (1.02)	3.90 (.32)	4.37 (.41)	4.14 (.32)	4.07 (.65)	3.98 (.54)	3.97 (.34)

Schools	Dimensions of School Culture						Overall School Culture
	CL	TC	PD	UoP	CS	LP	
E	3.88	3.73	3.96	3.99	3.85	3.76	3.86
	(.37)	(.41)	(.37)	(.29)	(.37)	(.38)	(.29)
F	3.96	3.77	3.99	3.93	3.90	3.83	3.90
	(.33)	(.38)	(.36)	(.34)	(.41)	(.35)	(.31)
G	4.00	3.62	3.82	3.84	3.83	3.48	3.81
	(.17)	(.56)	(.41)	(.40)	(.60)	(.70)	(.39)
H	3.92	3.73	4.04	4.01	3.98	3.88	3.92
	(.52)	(.49)	(.33)	(.36)	(.30)	(.40)	(.37)
I	4.02	3.88	4.03	3.95	3.94	3.77	3.95
	(.29)	(.37)	(.37)	(.38)	(.29)	(.57)	(.32)
Total	3.93	3.82	4.03	3.98	3.94	3.80	3.92
	(.47)	(.41)	(.39)	(.35)	(.42)	(.50)	(.33)

Note: 1.00-2.33=low level, 2.34-3.67=moderate level, 3.68-5.00=high level
CL=Collaborative Leadership   TC=Teacher Collaboration
PD=Professional Development   UoP=Unity of Purpose
CS=Collegial Support   LP=Learning Partnership

Moreover, mean values and standard deviations of organizational commitment perceived by teachers in selected high schools are described in Table 2. As shown in Table 2, it was found that teachers from selected Basic Education High Schools in Natogyi Township had a high level of "overall organizational commitment".

Table 2. Mean Values and Standard Deviations of Organizational Commitment Perceived by Teachers in Selected High Schools

Schools	Dimensions of Organizational Commitment			Overall Organizational Commitment
	AC	CC	NC	
A	4.26	3.81	4.02	4.03
	(.39)	(.58)	(.31)	(.34)
B	4.10	3.68	3.86	3.88
	(.51)	(.69)	(.58)	(.54)
C	4.23	3.76	3.94	3.98
	(.46)	(.55)	(.55)	(.46)
D	4.19	3.50	4.20	3.96
	(.41)	(.70)	(.53)	(.39)
E	3.74	3.04	3.36	3.38
	(.45)	(.76)	(.62)	(.40)
F	4.09	2.95	3.39	3.48
	(.45)	(.63)	(.53)	(.47)
G	3.95	2.74	3.06	3.25
	(.45)	(.76)	(.52)	(.43)
H	4.03	2.92	3.36	3.44
	(.56)	(.76)	(.55)	(.50)
I	4.25	3.77	4.03	4.02
	(.40)	(.63)	(.34)	(.36)
Total	4.10	3.35	3.69	3.71
	(.47)	(.77)	(.63)	(.52)

Note: 1.00-2.33=low level, 2.34-3.67=moderate level, 3.68-5.00=high level
AC= Affective Commitment   CC= Continuance Commitment
NC= Normative Commitment

The correlation between school culture and organizational commitment of teachers in the selected Basic Education High schools can be easily seen in Table 3. In Table 3, it was found that school culture was positively and moderately correlated with the organizational commitment of teachers in the selected Basic Education High Schools ($r = .501, p < .01$).

Table 3. Correlation between School Culture and Organizational Commitment of Teachers in Selected Basic Education High Schools

Variables	School Culture	Organizational Commitment
School Culture	1	**.501**** .000
Organizational Commitment	**.501**** .000	1

Note: **Correlation is significant at the .01 level (2-tailed)

Open-Ended Responses

Besides, quantitative items, the researcher asked two open-ended questions. The first question is "Describe the tasks you have committed in schools." Most of the teachers expressed that they have responsibility for teaching subjects and classroom management, and have duty for school activities, school library, school development, and cleanliness. The second question is "Which types of school culture do support the teacher's profession to be committed?" Most of the teachers responded that the school culture that the principal cooperates with teachers in school's decisions, allows teachers to voice openly and discuss the teaching problems, allows teachers in professional development activities, and supplies the needed books for the teachers.

Interview Responses

There were three interview questions in qualitative study. First, "How does the principal decide when to make school's decision-making process?" Most teachers reported that the principals and teachers collaborate in the school's decision-making process. Second, "How do teachers work to accomplish school tasks?" Most teachers commented that they work together to accomplish school tasks and help with each other if

they have problems. Additionally, "If you have the opportunity to transfer to another school, will you transfer or continue to serve at this school? Why? Most teachers presented that they continue to serve because they have a sense of obligation to improve their schools.

Conclusion and Discussion

Research question one indicated that teachers from selected Basic Education High Schools in Natogyi Township had positive perceptions on their school culture. The school culture is good. Therefore, teachers should be maintained their good school culture. Additionally, teachers should continually expand their knowledge and skills, collaborate with parents to implement the best educational practices.

Research question two indicated that teachers from selected Basic Education High Schools in Natogyi Township had high levels of "overall organizational commitment". So, teachers from selected high schools commit to their school.

Research question three explored that the school culture (r=.501, $p < 0.01$) was positively and moderately correlated with organizational commitment. Thus, if a school increases the strength of its school culture, teachers will increase their commitment. This finding is similar to the findings of the study of Veeriah *et al.* (2017). Therefore, school culture is a vital component in improving the effectiveness of an organization and it must be able to create a shared vision and build a sense of commitment among teachers.

Acknowledgements

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Teachers' and Students' Perceptions of Student Engagement in Education Colleges

Si Si San[*]

Abstract

This paper concerns a research study to focus on the teachers' and students' perception of student engagement in Education Colleges, Sagaing Region. The 86 teachers and 357 students from two education colleges were included as participants. In this study, quantitative survey method was used to collect the required data. Teachers' and students' perception of student engagement questionnaire developed by Raine and Greton, (2014) was used which include the three dimensions of student engagement: Behavioural Engagement, Emotional Engagement and Cognitive Engagement. Descriptive statistics were used to identify teachers' and students' perception of student engagement in education colleges. One-way ANOVA and independent samples t test were used to find out differences between the various independent variables. There were statistically significant differences in the perceptions of the participants on student engagement between College 1 and College 2. Female teachers and students have significantly better perception on behavioural, cognitive and student engagements than male teachers and students. There were significant differences in the perception of the students by gender on student engagement. There were statistically significant differences in the perception of teachers and students in all dimensions of the student engagement. The students expressed better perception on student engagement than the teachers at 0.01 level. But then it can be interpreted that there were no significant differences in the teachers' perception of student engagement grouped by their positions and their qualification. Finally, it can be suggested that students could do learning achievement, good social and collaborate by student engagement.

Keywords: student engagement, behavioural engagement, emotional engagement, cognitive engagement

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[*] Associate Professor and Head, Physical Education and School Health Department, Sagaing University of Education

Introduction

In the higher education sector, student engagement was found to be different compared to other schools, in particular, school activities were found to be significantly different from social conditions, and indirectly and indirectly in communicating without delay with the public around them, Gunuc (2013) said. Such concepts as giving value to campus Colleges or to education, sense of belonging and participation in campus activities are considered to be among important parts of student engagement (Blimling, 1993; Chickering, 1975; Pike, & Kuh, 2005; Terenzini et al., 1996, as cited in Gunuc, 2013).

Posted by Willms (2003). Engagement is defined as the active participation of students in their sense of belonging, school values, and school activities. GVoelkl (1996) emphasizes the importance of school-related school values.

Also, several studies have shown that the climate of the campus depends on the performance of the students. It has been suggested that their success and positive behavior may be influenced (Gunuc, 2013; Finn, 1989; 1993; Finn & Voelkl, 1993). Matthews and colleagues (2011), published in Gunuc, 2013, and Naufal (2011, cited in Gunuc, 2013).

Purpose of the Study

The main purpose of the study was to investigate teachers' and students' perceptions of student engagement at the Education Colleges in the Sagaing Region. Specific objectives were

- To find out the teachers' perception of student engagement at the Education Colleges in Sagaing Region,

- To examine the students' perception of student engagement at the Education Colleges in Sagaing Region and

- To investigate whether or not there are significant differences in perceptions of students' engagement between teachers and students.

Definitions of Key Terms

Student Engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education. (Great Schools Partnership, 2016).

Behavioural Engagement is defined in terms of student participation, effort, attention, persistence and positive conduct towards the learning activity (Fredricks et al., 2016, as cited in Mammun, Lawrie, & Wright, 2016).

Emotional engagement refers to students' feelings about their teacher, classroom, and general school experience, as well as their sense of belonging and how valuable they view their work to be. (Fulton, 2019).

Cognitive engagement refers to how intrinsically motivated and invested students are in the learning process and how much they regulate and take ownership of it. (Fulton, 2019).

Review of Related Literature

Engagement is a must for any student. In 2009, Haper and Quaye said that students can not only be active but also feel, feel, and think. Bomia and Colleagues (1997) define student engagement as a commitment to a student's willingness to take responsibility; Desire motivation's successes are defined as the efforts of students in the learning process. According to Hu and Fa-Kuh (2001, 2009), student engagement is a process that takes place over some time. Strovall (2003) argues that student engagement means that students not only use their time for work but also do whatever they want in their activities. Student engagement is one of the highest skills in the learning process, according to Kraise and Coates (2008). Student engagement integrates for the same purpose. The two most important components are Campus engagement and Class engagement.

The 21st century, students for social welfare cooperation, incorporating the teaching of early critics called the military culture, between the lofty group composed of Members and the economic outlook research. (Resctily & Christenson, 2012) outlined the cooperation of students (Malta, Guann, 2017). According to Marm (2001) rules of discipline, culture, students not involved in learning, and on social and economic aspects related to the sides. Engagement can increase 'student success' (Thomas, 2012, as cited in Malta, Gwann, 2017).

Student Engagement; Education prepares students for the workplace and enhances their career potential. It allows for personal development; Builds more confident and independent citizens. Students mature individually.

Individuals are trained as self-guided learners and critical thinkers. (Malta, Gwann, 2017)

Conditions Contributing to Student Engagement; "Engagement is becoming more and more visible to the students because of the instincts they have," (Malta, Gwann, 2017).The school environment, teachers, parents and friends need to create an environment where students can participate safely. Location, temperature and service are also included. Even if the school is small, the staff will be more comfortable with the students as they get closer to them.

Supporting Student Engagement; Students are valued as members of the Higher Education Institution and are warmly welcomed for their collaborative work. By actively participating in the three domains established by the state, administration, management, teaching, and quality assurance, it is possible to work more broadly and with greater benefits.

Students aim to invest time, effort, and other resources in their policy institutions to enhance learning results development, and organizational capacity (Trowler and Towler, 2011). Institutions can be influenced by three drivers in creating a culture of student engagement: (1) The HEI as a Site of Democratic Citizenship; (2) The HEI as a Learning Community; (3) The HEI as a Critical Institution

The Principles of Student Engagement

Effective higher education environments provide a wealth of evidence that student communities are actively involved. They are (1) Students are active members of a learning community (2) Students engage in setting the direction of their learning (3) Students engage in curricula content, design, delivery &organization (4) Students engage in the enhancement of teaching, feedback and assessment practice (5) Students engage in and with their learning (6) Students are supported to fully engage in internal quality processes (7) Students effect change in a continual process of enhancement (8) Students engage in the process of making decisions that affect them (9) Students engagement is given strategic leadership (10) Students engage through effective student leaders and governors. (Healey, Flint, & Harrington, 2014)

Research Method

In this study, descriptive research design and survey methods were used.

Participants

Two Education Colleges are representing in Sagaing Region. The teachers and first-year students were chosen as participants. A total of 357 students, first-year students (117 males, 240 females) and 86 teachers (12 males, 74 females) participated. Most of the First-Year students are the age of between 16 and 17, and most of the teachers are 25 and 45.

Instruments

As the instruments of this study, two parts in the questionnaire, part 1 for demographic information and part 2 questionnaire for teachers and student's perception of the student engagement. Raine and Gretton's (2014) Student Engagement Survey was used in this study. It was based on AUSSE (Australian Survey of Student Engagement).

Three dimension of student engagement: Behavioural Engagement, Emotional Engagement, Cognitive Engagement was identified in this study based on the literature.

The questionnaire for student's engagement survey of the teachers and students consisted of 25 items: 11 items for Behaviour Engagement, 7 items for Emotional Engagement, and 7 items for Cognitive Engagement.

Procedure

First of all, a literature review was studied. Then, research instruments were prepared. After getting permission from the authority concerned, pilot testing was done with a sample of 100 first-year student teachers from Mandalay Education College in the second week of December 2018. The results of the pilot study were reliable. Thus the data collection procedure was begun to assess teachers' and students' perceptions of student engagement from teachers and first-year students from Sagaing Education College and Monywa Education College. Each variable was constructed at a 5-point Likert scale. In developing the instruments, the consultation was made with the experts and the experienced teacher on their review and comments and modified by their suggestions. After getting the required data, the collected data was analyzed and interpreted. Finally, the interpretation of the findings was made and the

conclusion was drawn and the necessary suggestions and recommendations of the study were discussed. And, the research paper was written, edited, and submitted.

Results and Findings

This chapter presents findings on understanding teachers and students on student engagement at the Education Colleges in Sagaing Region.

Table 1. Teachers' Perception of Student Engagement at the Education Colleges in Sagaing Region

Participants	N	BE		EE		CE		SE	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
All teachers	86	**3.86**	.490	3.58	.579	3.43	.533	3.66	.464
All students	357	**3.98**	.587	**3.91**	.629	**3.89**	.961	**3.92**	.623

Note: 1.00-2.33=low level, 2.4-3.66=moderate level, 3.68-5.00 = high level

According to Table 1, average mean scores of student engagement perceived by teachers is 3.66 and that of students is 3.92. Based on the research finding, teachers in selected Education Colleges perceived that students engaged in their lessons moderately but students in selected Education Colleges perceived that they engaged in their lessons highly. Mean scores of each dimensions of student engagement indicate that only "behavioral engagement" is high while other engagements such as "emotional engagement" and cognitive engagement" are moderate according to the teachers' perception. However, scores of all dimensions of student engagement perceived by students indicated at high level.

Table 2. Independent Samples *t* Test Results for Student Engagement Perceived by Male and Female

Dimensions	Gender	*N*	Mean	*t*	*df*	*p*
Behavioural Engagement	Male	129	3.86	-3.285	440	.001**
	Female	313	4.05			
Emotional	Male	129	3.72	-1.358	440	.167

Dimensions	Gender	N	Mean	t	df	p
Engagement	Female	313	3.81			ns
Cognitive Engagement	Male	129	3.61	-2.961	440	.003**
	Female	313	3.81			
Student Engagement	Male	129	3.75	-2.960	440	.003**
	Female	313	3.92			

Note. **p< .01, ns = not significant

According to Table 2, there were significant differences in the perceptions of teachers and students on behavioral engagement, cognitive engagement, and total student engagement at 0.01 levels, therefore, it can be concluded that female teachers and students had better perceptions on behavioral, cognitive, and student engagements than male teachers and students. However, there was no significant difference in the perceptions of male and female on emotional engagement.

Table 3. Independent Samples *t* Test Result for Comparison of Student Engagement Grouped by College

Dimensions	College	N	Mean	t	df	p
Behavioural Engagement	1	193	4.09	3.298	441	.000***
	2	250	3.91			
Emotional Engagement	1	193	3.88	2.870	441	.001***
	2	250	3.71			
Cognitive Engagement	1	193	3.88	3.671	441	.004**
	2	250	3.65			
Student Engagement	1	193	3.98	3.708	441	.000***
	2	250	3.78			

Note. **p< .01, ***p < .001

According to Table 3, there were statistically significant differences in the perceptions of the participants on student engagement at College 1 and College 2 in all dimensions of student engagement. Therefore, the students from College 1 were better in behavioural, emotional, and

cognitive engagement than those of College 2. Generally, students from College 1 are better in student engagement than those from College 2.

Table 4. Independent Samples t Test Results for Student Engagement Perceived by Male and Female Teachers

College	Gender (Teachers)	N	Mean	t	df	p
College 1	Male	5	3.68	.122	35	0.904
	Female	32	3.65			ns
College 2	Male	7	3.54	-.893	47	.377
	Female	42	3.70			ns

Note. ns = not significant

According to Table 4, there were no significant differences between teachers by gender in all dimensions and the total student engagement in College 1 and College 2. Mean Values Showing Comparison of Student Engagement perceived by teacher and perceived by student.

Table 5. Independent Samples t Test Results for Student Engagement Perceived by Male and Female Students

College	Gender (Teachers)	N	Mean	t	df	p
College 1	Male	5	3.53	-2.451	154	0.015*
	Female	151	4.07			
College 2	Male	112	3.77	-.973	199	0.332
	Female	89	3.85			ns

Note. ns = not significant

According to Table 5, there were significant differences in the perception of the gender on student engagement at College 1 in all dimensions and no significant differences in the perception of the gender on student engagement in College 2.

Table 6. Independent Samples *t* Test Results for Comparison of Student Engagement Perceived by the Teachers and the Students

Dimensions	Participants	N	Mean	t	df	p
Behavioural Engagement	Student	357	4.02	2.343	441	.02*
	Teacher	86	3.86			
Emotional Engagement	Student	357	3.83	3.202	441	.001***
	Teacher	86	3.58			
Cognitive Engagement	Student	357	3.83	4.990	441	.000**
	Teacher	86	3.43			
Student Engagement	Student	357	3.91	3.823	441	.000***
	Teacher	86	3.66			

*Note. *p< .05, **p< 0.1 ***p < .001*

According to Table 6 there were statistically significant differences in the perceptions of teachers and student in all dimensions of the student engagement. Therefore, the students expressed better perceptions on student engagement than the teachers.

Table 7. One-way ANOVA Results Showing Teachers' Perception Grouped by Position

Dimensions		Sum of Squares	df	Mean Squares	F	p
Student Engagement	Between Groups	.457	2	.229	1.063	.350 ns
	Within Groups	17.847	83	.215		
	Total	18.305	85			
Behavioural Engagement	Between Groups	.195	2	.098	.401	.671 ns
	Within Groups	20.214	83	.244		
	Total	20.409	85			
Emotional Engagement	Between Groups	.829	2	.415	1.242	.294 ns
	Within Groups	27.710	83	.334		
	Total	28.539	85			
Cognitive	Between Groups	1.064	2	.532	1.910	.155

Dimensions		Sum of Squares	df	Mean Squares	F	p
Engagement	Within Groups	23.118	83	.279		ns
	Total	24.182	85			

Note. ns = not significant

According to Table 7, it can be observed that there were no significant differences in the teachers' perceptions of student engagement grouped by their positions.

Table 8. One-way ANOVA Results Showing Teachers Perception Grouped by Qualification

Dimensions		Sum of Squares	df	Mean Squares	F	p
Student Engagement	Between Groups	.926	3	.309	1.457	.232 ns
	Within Groups	17.378	82	.212		
	Total	18.305	85			
Behavioural Engagement	Between Groups	.951	3	.317	1.337	.268 ns
	Within Groups	19.458	82	.237		
	Total	20.409	85			
Emotional Engagement	Between Groups	2.155	3	.718	2.233	.091 ns
	Within Groups	26.384	82	.322		
	Total	28.539	85			
Cognitive Engagement	Between Groups	.600	3	.200	.695	.558 ns
	Within Groups	23.582	82	.288		
	Total	24.182	85			

According to Table 8, it can be observed that there was no significant difference in the teachers' perception on student engagement, grouped by quantification.

Conclusion, Discussion and Recommendation

The purpose of the study is to find out the teachers' and students' perception on student engagement at Education Colleges in Sagaing Region. Teachers' and Students' perception of the education colleges were determined by the means value on the questionnaire items such as behavioural engagement, emotional engagement and cognitive engagement.

The questionnaire consisted of demographic information, (25) items for five- point Likert type scale to study teachers and students perception of students engagement. The design adopted in this study was descriptive research design. Questionnaire survey was used in this study. Statistical Package for the Social Science (SPSS) software version 22 was applied for quantitative analysis. Descriptive statistics, independent samples *t* test and one-way ANOVA were used to find out the significant differences in the teachers' and students' perception of student engagement.

Overall, it was found that teachers' perception of student engagement is moderate and students' perception of student engagement is high.

And then, the Independent samples *t* test for student's engagement gender by College showed that there were no significant differences in the teachers' perception on the dimensions of student engagement. There were significant differences gender by College 1 show that there was significant differences in the students' perception on the dimensions of student engagement and no significant gender by College 2.

And then, the Independent samples *t* test result for student engagement grouped by college showed that there was a statistically significant differences between College 1 and College 2. Therefore, the students from college 1 showed better engagement than those from college 2.

This study investigated the perceptions of teachers as student on the three dimensions of student engagement. In line with the purpose of the study, Independent Sample *t*-test and one-way ANOVA were conducted to find out statistically significant different in the teachers' and students' perceptions on the dimensions of student engagement. The results obtained via the analyses conducted revealed that there were significant differences between teachers' and students' perceptions of student engagement and

especially the dimensions of cognitive engagement, behavioural engagement and emotional engagement.

According to open ended responses both teachers and students include hands on experiential learning activities and collaborative partner or group work activities. These ideas or consistent with best practices for increasing student engagement. According to this study, the following suggestions would be given.

To increase student engagement in a course subject, teachers may create lessons, assignments, or projects. Teacher may give students more choice over the topics. They are asked to write about or they may let students choose the way they will investigate a topic or demonstrate what they have learned may choose to write a paper, other may produce short video or audio.

So, student engagement is very important for learning and scholastic achievement. Students should do learning about societal problems, or participating actively in social causes, can improve engagement. Moreover, students should do physical engagement, social engagement, and cultural engagement.

In this study, teacher's and student's perceptions of student engagement in Education Colleges in Sagaing Region were investigated. The sample consisted of First Years Students from Sagaing Region. Hence, the research recommended for further research; Research should also be carried out to investigate the teachers' and the students' perception on student engagement in other districts in the country. Research could be carried out on the teachers' and the students' perception on student engagement in colleges and universities and institutions. Further study could be done additional research focusing on the relationship between teacher engagement and student engagement.

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A Study of the Association between Learner Language Aptitude and the Effectiveness of Implicit Corrective Feedback on Accuracy in Writing

Sandar Htay[*]

Abstract

The study aims to investigate the association between learner language aptitude and the effectiveness of implicit corrective feedback on grammatical accuracy in writing. The instruments that used in this study were Language Aptitude Test, a narrative writing task and an implicit corrective feedback. The target structure was Past tense. The performance of the students in the first draft and the final version were compared to investigate the effects of the corrective feedback. The objects of the study are 18 upper secondary (Grade 10) Myanmar students who were studying English as a compulsory subject in their school curriculum. Their proficiency levels were pre-intermediate. As it was a quantitative research, the data were statically analyzed to investigate the correlation between language aptitude and the effectiveness of implicit corrective feedback. The results indicated that there was a significant relation between learner language aptitude and the effectiveness of implicit corrective feedback. It was proved that the high language aptitude learners performed better than the low language aptitude learners after receiving the implicit feedback. Moreover, the correlation between three components of language aptitude (working memory, grammatical sensibility, and language analytical ability) and the effectiveness of implicit corrective feedback was investigated. The findings revealed that language analytical ability was the best positive predictor for the effectiveness of the implicit corrective feedback in writing skills.

Keywords: psycholinguistics, language aptitude, working memory, grammatical sensibility, language analytical ability, implicit corrective feedback, writing skills, second language acquisition

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[*] Lecturer, Department of Linguistics, Yangon University of Foreign Languages

Introduction

In second language acquisition (SLA), the learners' errors are regarded as a source of learning. It is considerable that such errors need to be corrected to improve the learners' performance. There were different opinions on giving the corrective feedback to the errors. Some of the researchers believe that it is necessary to give the corrective feedback according to behaviourist theory. The errors are regarded as taboos in their discourse and they should be immediately corrected by the teacher (Brown, 2007) although the researchers who believe in innate theory claimed that errors are the evidence that the learners are learning at the particular level and it is not harmful to language learning (Krashen, 1981). A number of studies (Doughty & Varela, 1998; Lightbown & Spada, 2003; Saxton, 1997) showed that the corrective feedback has a positive effect on accuracy of the students writing. Moreover, Schmidt (1990) stated that noticing is a basis of learning so that the learners can pay intention to their errors and they can create their learning process based on the feedback they received.

However, depending on the psychological factors of the learners, the success of the learning process in SLA can be varied. Psychological factors are regarded as prominent factors that affected successful foreign language learning. The cognitive factor is one of the psychological factors that relate to how learners acquire and process information in their brains. These include aptitude, intelligence, learning styles and strategies. Among them, Language Aptitude of the individual learner is the most attracting factor for language learning. Though the learners are taught using the same treatment, there would be differences in processing their language learning based on the language aptitude.

Therefore, this present study, a kind of classroom-oriented experimental research, focuses on the association between the language aptitude and the effects of implicit corrective feedback on writing skills development of the learners. It is intended to investigate whether the implicit feedback is appropriate to both high language attitude and low language aptitude learners. Besides, for pedagogical purposes, it is hoped that the findings could prove that whether the implicit corrective feedback is appropriate for both high aptitude learners and low aptitude learners for their accuracy in writing.

Literature Review

Corrective feedback

The role of the feedback becomes one of the interesting factors in the field of second language acquisition. Feedback in SLA research is defined as "corrective feedback" that can be either implicit or explicit. Loewen (2012) defined the corrective feedback as the information given to learners related to a linguistic error they have made. According to Kregar (2011), "corrective feedback is any type of oral or written comment, information or question provided to learners that indicates that there is an error in their usage of the L2 and it can help the learner to develop their future performance".

The common types of corrective feedback are as follows:

Direct feedback/ Explicit feedback– "a correction that not only calls attention to the error but also provides a specific solution to the problem" (Bitchener & Ferris, 2012)

Indirect feedback/ Implicit feedback – "an indication of an error through circling, underlining, highlighting, or otherwise marking it at its location in a text, with or without a verbal rule reminder or error code, and asking the students to make corrections themselves" (Ferris 2002, Bitchener & Ferris, 2012)

Metalinguistic feedback (Ellis 2009) – "an indication of the errors through providing some metalinguistic clues as to the nature of the error" (Ellis, 2009)

The mix-type is also used as the corrective feedback in the teaching-learning process and doing research in SLA.

Second language acquisition (SLA) researchers' views on the effectiveness of corrective feedback are different. Some of them believe that the corrective feedback (White, 1991) helps the learners get the interests and direct attention to the difficult target form for them so that they can notice and can learn more from the correction (White, 1991). However, several studies have been proved that both implicit and explicit corrective feedback have positive effect on accuracy in writing.

Language Aptitude

Among the psychological factors, the characteristic that the people are interested the most is the Language aptitude of the learners. Some learners seem to learn new languages with ease, more quickly and with better results than others. They seem to have a kind of natural ability or "knack" for learning languages. In SLA, this is known as "foreign language aptitude" or FLA (Ellis, 2015).

According to John Carroll (1959) , the developer of the Modern Language Aptitude Test, the four components of language aptitude are: Phonetic coding ability – ability to perceive and remember distinct sounds associated with symbols; Grammatical sensitivity – ability to recognize the function of a lexical element in a sentence; Inductive learning ability – ability to infer or induce rules governing the structure of a language and Rote learning ability – ability to learn and retain association of the words in L1 and L2.

Since the development of Carroll's MLAT, there have been other tests like LLAMA aptitude tests (Meara, 2005) and the Language Analytic Ability test (Otto, 1990s) based on the MLAT and Skehan's model used by Schmitt, Dornyei, Adolphs and Durow (2003). While foreign language aptitude testing was common during the 1960 and 1970s, when behaviourism and audiolingualism were popular, the popularity of testing in English teaching has declined in the 1980s. Since that time, there has been renewed interests in the idea of language aptitude.

Reviews on Previous Studies of Effectiveness of corrective feedback and language aptitude

Several studies on the effectiveness of different types of explicit as well as corrective feedback have been found in SLA. Most of them support the idea that the different types of corrective feedback have a positive effect on accuracy improvement in writing. However, there are a few researches which investigate the connection of language aptitude of the learners and the effects of corrective feedback.

The effects of different corrective feedback have been found differently on Language acquisition and it could be seen that the corrective feedback have the positive effects on language acquisition. Chandler (2003) and Xhama et al. (2018) showed that different types of corrective feedback

have different effects on Language acquisition. In Chandler (2003) study, the results showed that both implicit and explicit feedback are effective for the learners and stated that the direct correction was the best way. However, Xhama (2018) and Maria (2017) found out that the learners with lower proficiency outperformed the higher ones after receiving the feedback.

It was also found out that there were the relation of the language aptitude and the effects of different types of corrective feedback. Sheen (2007) proved that the language aptitude was strongly related to the performance of the students of the direct metalinguistic group. In terms of giving corrective feedback (direct and direct plus metalinguistic). The language analytic ability test proposed by Otto was used to measure the language aptitude of the learners. On the other hand, Darabad (2013) showed that there was no correlation between aptitude and feedback conditions on oral accuracy. Li and Roshen (2019) conducted the study of learners' apptitude and found that only the working memory had an association with the effect of direct corrective feedback.

In the studies concerned with the association between language aptitude and the efficacy of corrective feedback, the gaps stated above that can be filled in future research. Therefore, in the future research, the connection between the effects of implicit feedback and language aptitude of the learners could be a considerable issue. Moreover, according to the scholars Skehen (1989) and Robison (1996), it could be considerable whether language analytical ability is a considerable factor in implicit learning. In addition to this, De Graff (1997) proved that there was a connection between language aptitude and the explicit as well as implicit learning.

So, the interesting fact for the future researcher is that whether the language aptitude can affect the language acquisition through implicit corrective feedback. The new concepts suggest that the teaching activities can be varied based on the language aptitude. It is interesting that whether language aptitude of the learners help them to correct their mistakes by themselves to be able to improve their accuracy in writing. So, this study is intended to find out the association between language aptitude and the effects of different types of corrective feedback on grammatical accuracy in writing tasks.

Method

Research Hypothesis and Research Questions

The hypothesis for the present study was set as follows:

"The high language aptitude learners will perform better than the low language aptitude learners in writing after receiving the implicit feedback."

The present study aimed to find the answers for the following questions:

(1) Can the learners improve their accuracy in writing through the implicit corrective feedback?

(2) Is there any association between learner language aptitude and the effectiveness of implicit corrective feedback?

(3) Which components of the language aptitude is the best predictor for the effect of implicit corrective feedback?

Participants

The subjects in this study were the 18 Myanmar students at Grade - 11 level (aged between 14-15) who were learning a Foreign Language, English as a foreign language. They are from 3 different high schools: BEHS 1, Dagon; BEHS 2, Sangyoung and BEHS 2, Bahan. They were tested their English proficiency with the use of Cambridge English Proficiency test. According to the results of the Cambridge English Proficiency test, they all were regarded as pre-intermediate level students in English proficiency.

Instruments

The instruments used in this study were Language Aptitude Test, a narrative writing task and an implicit corrective feedback. As patterning stage (Skehan, 2002) involves grammatical sensitivity, the aptitude components: working memory, inductive learning ability and restructuring capacity, the language aptitude tests have to include those features. The Language Aptitude Test was adapted from MLAT I to test working memory, MLAT IV to test the grammatical sensitivity, and Language Analytic Ability Test (Otto, 2002) to test inductive learning ability and restructuring capacity. A narrative writing task and its revised version were

used to identify the improvement of the learners writing ability after the treatment. The implicit corrective feedback in the form of underlining errors is used as the treatment in this study.

Target Structure

The English past tense was chosen as the target structure. The past tense includes all 4 different types: simple past, past continuous, past progressive and past perfect. The first reason that the target structure was chosen was that the use of past tense is included in one of the common errors of ESL learners. (Thung Ang, 2014). The second reason was that through the interviews with the teachers and the researchers' experience, the learners cannot be able to use the correct form of past tense in their writing as their first language does not have the features of changing the form of the verb to express the past event. The target errors in the first writing task were identified, categorized and scored by the researcher.

Scoring and Coding systems for the correct use of target structure

Scoring of the language aptitude test: The test consisted of 3 parts: Part I - Working memory test; Part II - Grammatical sensitivity test; and Part III - Language Analytic Ability Test. Part I and III consist of 10 item and 1 mark was given for each item, but for Part II, 2 marks each for 5 items. The learners would get the scores based on their correctness on the given items.

Coding systems for the correct use of target structure: The learners' use of correct tenses can be scored were scored by using the Suppliance in obligatory context (SOC) which was introduced by Brown (1973). The method was used to study the acquisition of grammatical morphemes. Many researchers have been using SOC to analyse the grammatical accuracy with respect to specified linguistic features. The researcher collected the tokens of each types and calculated the total scores based on the SOC formula of Brown (1973).

Research Procedures

At the beginning of the research, the students are asked to sit the Language Aptitude Test. Then they were asked to write a form of a narrative essay with the word limitation. All the grammatical and syntactic

errors in the first writing task were underlined by the researcher and the essays were given back to them to do the self-correction on the errors.

Then, the teacher asked them to rewrite and submit the revised version. The researcher coded the data and compared their performance on the first draft and the revised version.

Finally, all the obtained results of the first draft, revised version and language aptitude test were transcribed and statistically analyzed to investigate the association of the language aptitude and the effectiveness of Implicit Corrective Feedback.

Data Collection

The three different types of data were collected: the performance of the learners on the first draft and final version of the narrative essay; and the scores of the learners on language aptitude test. The first two types were used to investigate to what extent the implicit technique helps the learners to develop their accuracy in writing and the second, the language aptitude scores were used to find the level of language aptitude of the learners.

Data Analysis

All the obtained results of the first draft, revised version and language aptitude test were transcribed and statistically analyzed to investigate the association of the language aptitude and the effectiveness of Implicit Corrective Feedback.

Findings and Discussion

The researcher firstly attempted to find out the improvement of the learners in terms of their accuracy in writing through the implicit corrective feedback. The scores of the first draft and revised version were analysed using the descriptive statistics. The descriptive statistic features can be seen in the following table, Table 1. By comparing the mean scores: First draft (mean=.58, SD=.06, N=18) and Final version (mean=.77, SD=.09, N=18), it can be seen that the learners improved their accuracy in the revised version. The results indicated the answer for the first research question that the learners improved their accuracy in writing through the implicit corrective feedback.

Table 1. Descriptive statistics for the first draft and final version scores

	N	Mean	Std. Deviation
First draft	18	0.58	0.0616
Final version	18	0.77	0.0876

Then, the Linear regression tests were used twice with different independent variables. For the first time, the total scores of the language aptitude test was used as the independent variables. The regression test was used to find out the correlation between Language aptitude and their improvement in writing.

Table 2. Model Summary of the Correlation between Language aptitude and learners' improvement in writing: Overall skills

Model	R	Std. Error of the Estimate	Change Statistics			
			R Square Change	F Change	df	Sig. F Change
1	.680[a]	.05476	.463	13.779	16	.002

a. Predictors: (Constant), Language Aptitude Test _total_score
b. Dependent Variable: Improvement of the learners
Effect size:
    Cohen's d = 0.86

A simple linear regression was calculated to predict the achievement of the students in writing in terms of implicit error correction based on their language aptitude. A significant regression equation was found ($F_{(1,16)}$= 13.779, $p < .003$, d=0.86), with an R^2 of .463. By looking at the significant values in the figures, it is revealed that there is a significant correlation between the language aptitude of the learners and the effect of implicit feedback. Hence, the language aptitude of the learners is a good predictor for the performance of the learners in their writing after receiving the implicit feedback. It leads to answer the second result question that there is a significant association between learner language aptitude and the effectiveness of implicit corrective feedback.

Moreover, a linear regression test was run for the second time with different predictors in order to investigate the best predictor for the effect of implicit corrective feedback, amongst three components of language

aptitude. The statistical data can be seen in the following tables: Table 3 and 4.

Table 3. Model Summary of the Correlation between elements of Language aptitude and their improvement in writing: Predictors: analytical_ability_score, working_memory_scores, grammatical_ sensibility_score

Model	R	R Square	Mean Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F	df	Sig. F Change
1	.733[a]	.438	.003	.05433	.537	5.418	14	.011

Table 4. Regression results of the Correlation between elements of language aptitude and their improvement in writing (Coefficients)

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.140	.100		-1.39	.185
	working_memory_scores	.003	.012	.044	.23	.817
	grammatical_sensibility_score	.017	.009	.406	1.97	.048
	analytical_ability_score	.033	.015	.450	2.15	.029

a. Dependent Variable: Improvement
Effect size:
Cohen's d = 1.13

The results revealed that the grammatical sensibility correlated significantly with the effect of the implicit feedback ($F(1,14)= 5.42$, $p < .05$ $d=1.13$) with an R^2 of .537. The same thing is happened for analytical ability, where the correlation is stronger with the p value ($F(1,14)= 5.42$, $p < .03$, $d=1.13$) with an R^2 of .537. However, the correlation between the working memory and the effect of implicit feedback is not significant as the ($F(1,14)= 5.42$, $p > .05$ $d=1.13$) with an R^2 of .537. Based on the results, it can be said that the best positive predictor for the effect of implicit

corrective feedback is the language analytical ability of the learners, among three components of language aptitude.

In this study, it was seen that all the learners improved their accuracy in writing through the implicit corrective feedback. This supports the findings of Chandler (2003), Xhama et al. (2018), and Maria (2017) which reported that the different types of corrective feedback have the positive effect on improving learners' proficiency and grammatical accuracy in their writing.

Moreover, the findings confirmed that the language aptitude plays the important role in improving learners' grammatical accuracy through implicit feedback. There is a significant correlation between the language aptitude and the effectiveness of implicit corrective feedback. In other words, the high language aptitude learners can have the more positive effect of implicit feedback than the low language aptitude learners. The findings in this study go along with the findings of Sheen (2007) which reported that there was the correlation between the language aptitude and the effects of different types of corrective feedback. Even though Darabad (2013) did not show the correlation between the language aptitude and proficiency improvement in oral accuracy, this study proved that there is an association between language aptitude and writing improvement.

Thirdly, it was found out that the language analytical ability is the best predictor for the effect of implicit feedback amongst the other components of learners' language aptitude. In addition, the result of this study verified that language analytical ability is a considerable factor in implicit learning although Robison (1996) has stated that language analytical ability has no effect on incidental learning. In the study of Li and Roshen (2019), working memory had an association with the effect of direct corrective feedback, but this study did not show the association between working memory and implicit feedback. However, the three types of language aptitude may play different roles in learning different aspects or skills.

To sum up, the overall results proved the hypothesis that "The high language aptitude learners will perform better than the low language aptitude learners in writing after receiving the implicit feedback."

Conclusion

It was intended to investigate whether the implicit feedback is appropriate to both high language attitude and low language aptitude learners. The findings proved that the implicit corrective feedback is appropriate for both high aptitude learners and low aptitude learners for their accuracy in writing. However, it was proved that there was an association between the language aptitude and the effects of implicit corrective feedback on writing skills development of the learners.

However, this study has some limitations. One of the noticeable limitations of this study is the sample group, which is concentrated on the students of the high schools. Although the number of participants is very limited, the results are generalized to all the target population. Moreover, in further research, it is suggested to consider the bigger size of sampling who can represent all the target population. Due to the time constraints, the researcher focused only on the performance of the learners in revised version of the first draft of their writing. The new pieces of writing which includes the target structures should be used to identify the learners retain their improvement over time or not. Despite the limitations, the findings suggested that the effects of implicit feedback depend on the individual factors of the learners. It is considerable that the teacher needs to find out the appropriate ways of giving feedback to the particular learners effectively. It is hoped that the present study will be useful for both teachers and learners who are in the field of teaching and learning a foreign language.

Acknowledgements

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An Analysis of Deviant Forms in the Myanmar Newspaper and Journals

Moe Yin Nyeinn[1] & Yin Myo Tint[2]

Abstract

This research studies the common deviant <u>forms</u> (error) found in Myanmar Daily & Weekly newspapers, and journals. The aims of this research are to find out these forms found in the Myanmar print media and to find out the way to avoid them. The data are collected from news and advertisements from four Myanmar Daily & Weekly newspapers, and journals (ကြေးမုံ၊ မြန်မာ့အလင်း၊ News Watch, and 7 Day Daily from 2013 to 2020). This research work has been limited in scope through the public and private newspapers and journals. The discussion in this research will view the importance of print media in education. The data are analysed in three levels: pronunciation level, word level, and phrase level. Both qualitative method and quantitative method are used to analyze the data. This research paper is analysed to study the incorrect grammatical usages and phrase order in Myanmar and to analyse these usages from the linguistic point of view. It will also be helpful in Myanmar language teaching and learning process.

Keywords: deviant forms, error, pronuncitaion, qualative, quantitative

Introduction

In our country, Myanmar is the official language. It is also used as a medium of instruction in schools and in the newspapers and journals in Myanmar. Moreover, in our country, the mass media has assumed an important position in education. When the press are permitted to publish freely, a lot of journals, newspapers and magazines come out in public. The effect is incorrect usages in the print media without knowing that these usages are incorrect. Due to lack of time and care, incorrect usages and grammatical errors can be found not only in the print media but also in other mass media like Television, Radio, Films, that disseminate information to the audience. This research analyses the incorrect usages in the Myanmar language without knowing that these usages are incorrect.

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[1] Associate Professor, Department of Linguistics, Yangon University of Foreign Languages
[2] Professor, Head of the Department of Linguistics, Yangon University of Foreign Languages

Since the press freedom is allowed, people have a chance to choose and read variety of journals, newspapers, magazines, etc. More deviant forms can be found in these print media as they try to disseminate information as early as they can. Moreover, these deviant forms rise up because of the influence of new media, and the internet websties. There are two causes for those commit these deviant forms (error) - first, they make errors without knowing that they are errors, second, because of their lack of competence in language. As the time goes on, these errors becomes the correct ones and people use them carelessly. Therefore, the responsible people (editors, jounnalists, etc..) and authors, should know their weaknesses of language awareness (their mother tongue language awareness).

The data are analysed in three levels: pronunciation level, word level, and phrase level. Due to the time constraint, 300 items from four Myanmar Daily & Weekly newspapers, and journals (ကြေးမုံ�;မြန်မာ့အလင်း၊7 Day Daily, and News Watch, from 2013 to 2020) were chosen. This study will go a long way in helping researchers, students, lecturers and people studying mass communication and the large public to follow the way or make use of this research topic to know the way they will follow to their respective research. This study highlights the importance of print media in education.

Aims

- To understand that everyone should have language awareness to maintain his mother tongue

- To know the deviant forms in Myanmar and to use the mother tongue correctly.

- To examine whether there are deviant forms in its publication

Research questions

- How and why should we analyse the use of particles in Myanmar?

- Why do newspapers and journals commit mistakes(deviant forms) in their publication?

Literature Review

Error analysis may be carried out in order to find out how a person learns a language and to find out how well he knows a language. And an error is a noticeable deviation from the grammar of a native speaker, reflecting the competence of the learner. An error is the use of a linguistic item (e.g. a word, a grammatical item, a speech, etc.) in a way which a fluent or native speaker of the language regards as showing faulty or incomplete learning (Richard et al, 1985:95).

Corder (1967) and Ellis (1994:51), distinguished "errors" and "mistakes". An error takes place as a result of lack of knowledge (i.e. it represents a gap in competence). A mistake is a performance phenomenon, reflecting processing failures that arise as a result of competing plans, memory limitations, and lack of automaticity. A mistake refers to a performance error that is either a random guess or a slip, or caused by lack of attention, fatigue, or carelessness, (Dulay, Burtk, and Krashen, 1982:138 in Kaswan, 2010:49).

Data and Method

The deviant forms found in nine newspapers and journals are collected and presented. To analyse the data, descriptive method is used. This research paper is analysed to study the incorrect grammatical usages and phrase order in Myanmar and to analyse these usages from the linguistic point of view. A finding of error analysis has been analyzed that many errors are produced by making errors without knowing that they are errors.

Since the purpose of the research is to analyse the deviant forms (errors) in print media, the error are collected from various kinds of newspapers and journals. After the identification of the errors found in newspapers and journals, they are described and presented according to the error types.

Results of error categories

Table. 1 shows an overview of all error categories that were found in both newspapers and journals. In figure 1, deviant forms (errors) in objective particle (36) were by far most frequent ones in this study's collected data followed by error in adverb particle (6) and error in subject

particle (6). Some of the error categories, such as, error due to spelling made according to sound (4) and error in wrong position of phrases that only made up of (3) of all errors, might be regarded as minor errors. In all of the selected newspapers and journals, some particle errors occurred more than others as can be seen. The errors are presented below according to their frequency with the most frequent errors first then followed by the others. In total, 55 errors were found in all of the selected newspapers and journals.

Table 1. Overview of all error categories

No.	Types of error	Number of errors	Total Number of collected items
1.	Error in object particle	36	60
2.	Error in adverb particle	6	60
3.	Error in subject particle	6	60
4.	Error due to spelling	4	60
5.	Error in wrong position of phrases	3	60
	Total	55	300

Figure 1. Overview of all error categories in percentage of the total number of errors

In Figure 1, it can be seen that the most frequent errors in both target groups were particles. In both groups, 60% of all errors were errors in object particle, 10% of errors were in subject particle and 10% of errors were in adverb particle. The remaining 7% were errors in spelling and 5% were in wrong use of phrases.
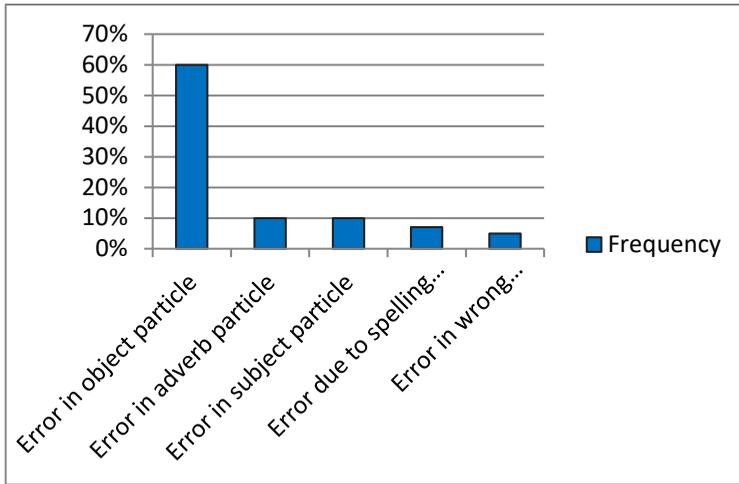
Figure 1.(a) Error in object particle 'ကို' and 'အား' (Misformation)

According to the Myanmar grammar, the object particle 'ကို' is used to indicate 'direct object' and 'အား' is used to indicate 'indirect object" (dative particle). Some of the examples were shown as follows.

1....'ဦးကျော်သိန်းသည် အဆိုပါတိုက်သစ်အား အမှန်တကယ် ဆောက်လုပ်နိုင်ခြင်း မရှိ...'(ကြေးမုံ၊ကြော်ငြာ) (8.10.2013)

2 ...] တိုက်ခန်းနှစ်ခန်းအားလည်း ဦးသိန်းထွန်းသို့ ထပ်မံ ရောင်းချခဲ့ပါသည်.. ' (ကြေးမုံ၊ကြော်ငြာ) (8.10.2013)

3. ...] ရှေးဟောင်းဗုဒ္ဓရုပ်ပွားတော် ၃၀၁ ဆူအား ဂျပန်နိုင်ငံသား .... ' (ကြေးမုံ၊ကြော်ငြာ) (8.10.2013)

4....] ဓာတ်အားလိုင်းအတွက်လိုအပ်သော ACSR များအားပစ္စည်းစီမံရေးဌာန (ရန်ကုန် စတိုမှ)..... } (ကြေးမုံ၊ကြော်ငြာ)(13.8.2020)

5....' ဂျပန်ကုမ္ပဏီမှ သရက်သီးအား အလုံးလိုက်ယူခြင်းဖြစ်ပြီး;..'(News Watch ? သတင်း)(21.3.2020)

In example 1,]. ....'ဦးကျော်သိန်းသည် အဆိုပါ တိုက်သစ်အား အမှန်တကယ် ဆောက်လုပ်နိုင်ခြင်းမရှိ၊ 'တိုက်သစ်' is the direct object. Therefore, the particle

'ကို' should be used instead of 'အား'. Moreover, the phrases]တိုက်ခန်းနှစ်ခန်း'
in No. 2,] ရှေးဟောင်းဗုဒ္ဓရုပ်ပွားတော် ၃၀၁ ဆူ } in No.3,]ဓာတ်အားလိုင်းအတွက်
လိုအပ်သော ACSR များ} in No.4 and သရက်သီး in No.5 are the noun phrases
used as direct objects in the examples mentioned above. Since they are not
the indirect objects, the particle 'ကို' should be used instead of 'အား'. As
mentioned earlier this is a very commonly made error in newspapers and
journals.

        In this research paper, it can be seen that the most frequent errors are
caused by misformation. It is because authors do not know or understand
the use of particle 'ကို' and 'အား', and the use of 'မှ' and]က} clearly.
According to Pe Maung Tin (1961), both the use of the particle 'ကို' and
'အား' mark the direct object in one- or two-place predicates. For example,
'မင်းကြီးကိုရှိခိုးလျက်ခစား၏' (one-place predicate), 'မင်းကြီးသည် သားတော်
ဘုရားလောင်းအားရှိခိုး၏' (two-place predicate). In the three-place predicate
which is commonly expressed by so-called double object verb, it can be
seen that the use of]အား} marks the indirect object. This kind of usage can be
found in most of the writings. For example,]—ဘုရားရှင်အားပြဿနာမေးအံ့'
(three-place predicate).

        In 'မြန်မာစာ၊ မြန်မာစကား' (၁၉၉၃) it is said that 'အား' should be used
instead of]ကို} if someone wants to pay respect to somebody. For
example, 'အရှင်မြတ်အားမပြတ်ဖူးမြင်လိုပါသည်'. But]ကို} can be used for the
indirect object instead of 'အား' as in]ဖြူဖြူက နီနီကို ပန်းပေးတယ်'
မောင်ခင်မင်(ဓနုဖြူ)2010). In မြန်မာသဒ္ဒါ(2015), it says that] ကို} is used as an
object particle for direct object and 'အား' is used for indirect object.

(b) Error in subject particles - 'မှ' and 'က' (Misformation)

        The particle 'မှ' is only used as a particle for cases of departure. It
cannot be used as a subject particle. On the otherhand, the particle, 'က' is

used as a subject particle and as a particle for cases of departure. For example,

4. ...]လူကြီးမင်းတို့မှ ဒေါ်လာ သို့မဟုတ် ကျပ်ငွေဖြင့် ငှားရမ်းလိုပါလျှင်.'. (ကြေးမုံက ြေ၀၀၁၀ိ်ြငာ) (14.12.2013)

5. ...] e-ticket မှ လိုက်လဲ့စွာ၀မ်းမြောက်ဂုဏ်ယူမိပါသည်..} (ကြေးမုံကြော်ြငာ) (4.5.2015)

6. ...]နှစ်ထပ်ကျောင်းဆောင်သစ်အား ရွှေတောင်ဖွံ့ဖြိုးတိုးတက်မှုကုမ္ပဏီလီမိတက်မှ ဆောက်လုပ်လျှ]ခါန်း..} (ကြေးမုံသတင်း) (6.4.2014)

In example 4,]လူကြီးမင်းတို့မှ ဒေါ်လာ သို့မဟုတ် ကျပ်ငွေဖြင့် ငှားရမ်း လိုပါလျှင် }, လူကြီးမင်းတို့ is the subject of the sentence. Therefore, the particle 'က' should be used instead of 'မှ'. Sometimes, the use of particle 'မှ' or 'က' as a subject particle could make some sentences ambiguous or give different meanings. In Myanmar, some verbs are auto- antonyms, and if the wrong particles were chosen, the meaning could be ambiguous. For example,]ငှားရမ်း} has two meanings, 'hire' and 'rent'. Therefore in this same clause] လူကြီးမင်းတို့မှ ဒေါ်လာ သို့မဟုတ် ကျပ်ငွေဖြင့် ငှားရမ်းလိုပါလျှင်}, the use of particle 'မှ' could mean -'the landlord (the active subject) wants to rent his place in dollars or kyats'.

But if the particle 'က' is used instead in this clause, it could mean -'if tenant wants to hire a place from landlord in dollars or kyats'. It can be found that the meaning could be ambiguous depending on the use of verbs and particles. But in example 6. နှစ်ထပ်ကျောင်းဆောင်သစ်အား ရွှေတောင် ဖွံ့ဖြိုး တိုးတက်မှု ကုမ္ပဏီလီမိတက် မှ ဆောက်လုပ်လျှ]ခါန်း}, the use of 'မှ' is incorrect as it cannot be used as a subject particle because of the verb] ဆောက်လုပ် လျှ]ခါန်း}. In this case, as 'မှ' is the particle of cases for departure 'က' should be used instead of 'မှ'.

(c) Error in adverb particle - ' V- စွာဖြင့်' (Addition)

The adverb phrases such as လေးစားစွာ၊ရှိသေစွာ၊ပျူငှာစွာ}, etc ..must not be followed by the particle]ဖြင့်}. For example,

7....] တိုင်းရင်းဆေးဝါးများကို ယုံကြည်စိတ်ချစွာဖြင့် အားပေးဝယ်ယူ..} (မြန်မ့ာအလင်း၊ ကြော်ငြာ)(17.4.2015)

8....] ကိုယ်စိတ်နှစ်ဖြာချမ်းသာစွာဖြင့် ... သယ်ပိုးဆောင်ရွက်..} (မြန်မ့ာအလင်း၊ ကြော်ငြာ) (17.4.2015)

9....]ပြည်သူမှမွေးဖွားလာသည့်တပ်မတော်သားများပီသစွာဖြင့်..}(မြန်မ့ာအလင်း၊သတင်း) (28.3.2015)

Example 7,...]တိုင်းရင်းဆေးဝါးများကို ယုံကြည်စိတ်ချစွာဖြင့် အားပေးဝယ်ယူ... }being in use is a common error. If it is written]တိုင်းရင်းဆေးဝါးများကို ယုံကြည်စိတ်ချစွာဖြင့် အားပေးဝယ်ယူ..}, it is quite correct .]ဖြင့်}၊ behind]စွာ} needs not be deployed. If]ဖြင့်} needs to be used,

]ယုံကြည်စိတ်ချစွာဖြင့်} is a correct enough expression. Both in example 8 and]ဖြင့်} behind]စွာ} needs not be deployed.

(d-i) Error due to spelling made according to sound (Addition)

10. ...]ကိုယ်လိုရာစွဲပြီးတော့ပြင်ဆင်ချက်တွေ ...} (မြန်မ့ာအလင်း၊သတင်း) (22.2.2015)

11. ...]ရောင်းချလျှက်ရှိသော...} (မြန်မ့ာအလင်း၊ကြော်ငြာ) (17.4.2015)

Examples 10 and 11 show a variety of ways that can cause errors in spelling. As example 1,]စွဲ} is wrong because it is spelled according to sound; the correct spelling for it is]ဆွဲ}. The error here is made because the sound /sh/ and /s/ occur in the same place of articulation. It causes the wrong spelling. In example 2,]လျှက်}, is wrong because it is spelled according to sound; the correct spelling for it is]လျက် }. The error is made because the sound /h/ is deployed in spelling.

(d-ii) Error due to spelling made according to confusion in usage (Addition)

12.]...ပွဲစားသို့မဟုတ်တဆင့်ခံများ ...} (ကြေးမုံ၊ကြော်ငြာ) (14.12.2013)

There occur errors in use of] တ} and]တစ်} because of confusion in usage.]တစ်} is used in counting numbers whereas] တ} is used as prefix for emphatic words. Therefore in example 12 the word] တဆင့် }should be spelled with]တစ်} using]-စ်}. But in some words such as]တကယ်}၍]တချို့}, etc,]တ} without]- စ် } is used.

(e) Wrong position of phrases (Misordering)

13....]တံတားဆောက်ပြီးလျှင်   မိနစ်ပိုင်းမျှပင်   မြို့လယ်နှင့်သွားလာချိတ်ဆက်နိုင်မည့် ဒလဘက်ခြမ်းတွင်..} (7 DAY DAILY၊ ကြော်ငြာ) (10.6.2015)

14....]ဂျပန်ကုမ္ပဏီမှ သရက်သီးအား အလုံးလိုက်ယူခြင်းဖြစ်ပြီး..} (News Watch ၊ သတင်း) (21.3.2020)

In example 13, the adverb phrase] မိနစ်ပိုင်းမျှပင်} should be positioned before the verb phrase] သွားလာချိတ်ဆက်. So that the phrase   ]တံတား ဆောက်ပြီးလျှင် မိနစ်ပိုင်းမျှပင် မြို့လယ်နှင့်သွားလာချိတ်ဆက်နိုင်မည့် ဒလဘက်ခြမ်း တွင် ..} could be the correct and meaningful phrase. In example 14, if the direct object] သရက်သီး} is after the subject] ဂျပန်ကုမ္ပဏီ' , the meaning could be ambiguous or give different meaning, i.e.]သရက်သီး} are from]ဂျပန်ကုမ္ပဏီ }. So the direct object]သရက်သီး} should be positioned before the subject]ဂျပန်ကုမ္ပဏီ}. So that the phrase]ဂျပန်ကုမ္ပဏီမှ သရက်သီးအား အလုံးလိုက်ယူခြင်းဖြစ်ပြီး .. } could be the correct and meaningful phrase which means]သရက်သီး} are bought by]ဂျပန်ကုမ္ပဏီ}. It does not mean that]သရက်သီး} from] ဂျပန်ကုမ္ပဏီ } are bought.

Findings and Discussion

This research attempts to evaluate the significance of the errors in print media. Most of the errors can be found in the use of particles (and orthography). The causes of the errors are that the Myanmar language has homonymous words, there is confusion between pronunciation and orthography. Moreover, another causes are the weakness of the (author's) grammatical awareness and the spacing error (typing error) as the Myanmar language has agglutinative feature in word formation. So in some cases when the spacing errors occur (၊အိအိကို မဲပေးနိုင်ပြီ၊] အိအိ ကို မဲပေးနိုင်ပြီ}), the meaning of the word can be changed or sometimes it can give ambiguous meanings.

General findings on errors

According to Dulay et.al. (1982:155), errors are divided into the following categories: (a) additions, (b) misformation, and (c) misordering. Common deviant forms and errors found in the Myanmar Print Media are categorized into three groups.

(a) Addition

Addition errors are characterized by the presence of an item which must not appear in a well-formed utterance. For example: ၊မှင်အိုး} (incorrect-**I**)၊ ၊မင်အိုး} (correct-**C**), ၊တစ်ကယ်} (I) ၊}တကယ်} (C), the expression 'လေးစား စွာဖြင့် ပန်ကြားအပ်ပါသည်' (I) ？ 'လေးစားစွာဖြင့်ပန်ကြားအပ်ပါသည်' (C) and ၊ရောင်းချလျှက်ရှိသော…} (I) …] ရောင်းချလျှက်ရှိသော…} (C)

(b) Misformation

Misformation refers to "the use of the wrong form of the morpheme or structure". For example:

]…နှစ်ထပ်ကျောင်းဆောင်သစ်အား　　　　ရွှေတောင်ဖွံ့ဖြိုးတိုးတက်မှုကုမ္ပဏီလီမိတက်မှ ဆောက်လုပ် လျှုဒါန်း} (I) ？

]… နှစ်ထပ်ကျောင်းဆောင်သစ်ကို ရွှေတောင်ဖွံ့ဖြိုးတိုးတက်မှုကုမ္ပဏီလီမိတက်မှ ဆောက် လုပ်လျှုဒါန်း}? (C)

(c) Misordering

As the label suggests, misordering errors are characterized by the incorrect placement of a morpheme or group of morphemes in an utterance. For example, in the expression:

...]တံတားဆောက်ပြီးလျှင်   မိနစ်ပိုင်းမျှပင်   မြို့လယ်နှင့်သွားလာချိတ်ဆက်နိုင်မည့် ဒလဘက်ခြမ်းတွင်..} (I)ႛ

...]တံတားဆောက်ပြီးလျှင်   မြို့လယ်နှင့်မိနစ်ပိုင်းမျှပင်   သွားလာချိတ်ဆက်နိုင်မည့် ဒလဘက်ခြမ်းတွင်..} (C)

Table 2: Errors found in newspapers and journals

No.	Error	Types of error
1.	error in object particle	Misformation
	error in subject particle	Misformation
2.	error in adverb particle	Addition
	error due to spelling made according to sound	Addition
3.	error in wrong position of phrases	Misordering

In Table 2, it can be seen that (1)error in object and subject particle are categorized as the the type of misformation error, (2) error in adverb particle and error due to spelling made according to sound are categorized as the type of addition and (3) error in wrong position of phrases is categorized as misordering .

Table 3: Number of errors found in newspapers and journals

Types of error		Number of errors	Number of items	Percentage
Addition	Error in spelling	4	60	7%
	Error in adverb particle	6	60	10%
Misformation	Error in object particle	36	60	60%
	Error in subject particle	6	60	10%
Misordering	Error in wrong position of phrases	3	60	5%

As we see in Table 3, the greatest error found in newspapers and journals is misformation; errors in objective particle (36) and error in subject particle (6), totally(42) which were caused by using the wrong particles (ကို or အား , မှ or က). In the type of error in addition, there are (10) errors; error in spellin (4) and error in adverb particle (6) which were caused by adding of particles (ဖြင့်) and other linguistics features (-စ် , -ု). There are (3) errors in misordering. They are caused by the wrong place of phrases.

Therefore people, especially teachers, editors, translators should more focus on errors in misformation and teachers should teach the use of particles concerning misformation errors, so that students can understand what causes the error in misformation. It is also important that teachers need to find the teaching techinques and methods which are suitable in teaching learning process. Although other errors are found in small numbers, teachers, editors, translators and linguists also need to focus on them because as the time goes on, these errors becomes the correct ones and people use them carelessly.

Sometimes, the writer's competence does not prevent him from making these mistakes (Folarin, 2000). The psychological conditions which he noted as extra linguistic factors, such as tiredness, neverousness and strong emotions may result in slip of the tongue, which can equally affect his orhography. Moreover, as the gatekeepers limit, expand and reconstruct or interpret the information that the audience receives, not enough time for them may cause the errors.

Conclusion

In any language, grammar, spelling and correct choice of words and appropriate use of them are important in order to make sentences with correct meaning and without ambiguity. With this in view, error analysis of words and phrases in the Myanmar language which commonly appear in daily Myanmar news media of present time is made. It is hoped that this research will be helpful to find out the treatment on such kinds of deviant forms (errors). The authors hope to contribute to certain extent for correct expressions without ambiguity in writings of the Myanmar language. In the end, this study shows the importance of thoughtful evaluation of why the errors happened and the ways future errors might be prevented.

Acknowledgements

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In Myanmar

ခင်မင်၊မောင်(ခနဲဖြူ)။(၂၀၁၀)။**လူတိုင်းအတွက်အသုံးချမြန်မာစာ**။ဇင်ရတနာစာပေ၊ရန်ကုန်။

ဖေမောင်တင်၊ဦး။(၁၉၆၁)။**မြန်မာဝါကျဖွဲ့ထုံးကျမ်း**။ရန်ကုန်၊မြန်မာနိုင်ငံဘာသာပြန်စာပေအသင်း။

မြန်မာစာအဖွဲ့ဦးစီးဌာန။ (၁၉၆၁)။**မြန်မာအဘိဓာန်**။ရန်ကုန်၊တက္ကသိုလ်များပုံနှိပ်တိုက်။

-----။ (၁၉၉၃)။**မြန်မာစာမြန်မာစကား**။ရန်ကုန်၊တက္ကသိုလ်များပုံနှိပ်တိုက်။

-----။ (၂၀၀၅)။**မြန်မာသဒ္ဒါ**။မြန်မာစာအဖွဲ့ဦးစီးဌာန၊ရန်ကုန်။

Appendixes

pum;oHtqiftrfi;rsm;

- Oya'wpfckuIukJfvlR&m **pß** jyßawmhrS jyifqifcsuIawG rlUmcPxGuIaer, f qfR&if wnfifrIrlukI trsm;BuuIxfckufofi;EkIf   (jrefrmhtvif; acgifBuUyfkIf? 22.2.2015)

- Oya'wpfcku cIIckIfrmrmjzpfzIawmhvIw, I/ Oya'wpfckuIukJfvlR&m **pß** jyßawmhrS jyifqifcsuIawG rlUmcPxGuIaer, IqfR&if wnfifrIrlukI trsm;BuuI xfckufofi;Ekfiw, I/ (jrefrmhtvifiacgifBuUyfkIf?22.2.2015)

- pefo, ufaq;wlufrS pphfefoefpiIaom y&aq;rsm;jzifi azmpyfi xIwfvIyf jzefIcsI a&mifcsvQu½åaom wkIf&ifaq;Og;rsm;ukI ------ (jrefrmhtvif? 17.4.2015)

Odowftrfi;

ulKfOdowftrfi;

- **Indonesia** bef*femuRefrS vIukefuI;ckI&aom jrefrmOßa& 500 - ausmfwII **tm;** tcrfhav, mOfzifi trajrofIyIaqmifay;jcif (jrefrmhtvif?12.6.2015)

- aiGusyf oefaygif 640000 ausmf (64 bIVI) IausmI vIfi'gefIcaom tem*wf tvifiwef jrefrmazmia';½Sif Ouul a':eefvIIfcrfi **tm;** txIyif *IPfi I OrIajrmufygaIlUmifi/ (jrefrmhtvif?12.6.2015)

- OßausmIoefonI tqlyg wIluofp**tm;** trofIvu, f aqmufIMyEIIjcifiEIfi r½åaomaIUmifi wIluofpaqmufIMyfcGi**ftm;** OßarmiIOIßoII acgifiajymifcIygonI/ xIII acgifiajymifjyIrS wIluofefEIpfcef**tm;vnf;** OßoefxIeffoII xyrfI&mifcsch ygonI/ (aIU;rIbwifpm?25.9.2013)

- qefvifiatmifEIfitwI r*fivm'ßrIle, I uefIabmifßuII½åII aetIfwpftrII½åII &yfxm;aom **Feiling** trIGItpm; ausmuborIfa&mif qlfu, IvppII**tm;** vnfiaumif? **JLM 110** trIGItpm; ausmuborIfa&mif qlfu, IvppII**tm;** vnfiaumif pplaygif qlfu, Iav;pII**tm;** cI, IbIMumif pplaq;ay:ayguIcI (aIU;rII8.10.2013)

- "mwfftm;vIIftwIluMIItyIaom **ACSR** rsm; **tm;** ypinfpIRIa&;Xme (&efuIefpwII rS....} (aIU;rII aIUmfNim)(13.8.2020)

-]*syefuRIfPIRfo&ufofI**tm;** tvIIvIuf, IcifjzpfyII .. } (aIU;rII21.3.2020)

Bud; mt×I;jyKObwftrfh;

- twäI[dW? y&[dW Efbjzmaomtuomdudqwufxrfyodwdjr§haqmif½omoEddomouyg apaoomif; SKY NET rdoom;pkrSarwina½oom; av;pm;pmjzifh Efbfopfqlretaumif; awmif;um arwinteEdjdotyfygonf/ Efbfopfr*ivmqdawmif; (jrefrmhtvif? 17.4.2015)

- petb, ulaq;wouurSpprefboeopiaom y&aq;rm;jzifhazmpbyfi xodwfvkyjzeoaod a&mif;cyvoulomaom wouf&ifaq;Og;rm;uod, oounpdwfcpmjzifh tm;ay;O, f, l oomplaeomuaom jrefrmEdomfiowOfrfvoom½oo rdbjynborm;tm;vod Efbftopfrfh ab;&efuomí uod pdwfEfbjzm csrfompmjzifh bmomtuom? omoemtuom O, fyouaqmif½om&if csrfajrflaymom½oop&m temiwfumvrm;uo&, odyoflqoomEdoofyg apaoomif; qlretaumif; awmif;tyfygonf/ (jrefrmhtvif? 17.4.2015)

- jynborSargzfh;vmonofiwyfrawmom;rm; yobpmjzifh (jrefrmhtvif?28.3.2015)

uwin;Odbwftrfh;

- twäI[dW? y&[dW Efbjzmaomtuomdudqwufxrfyodwdjr§haqmif½omoEddomouyg apaoomif; SKY NET rdoom;pkrSarwina½oom; av;pm;pmjzifh Efbfopfqlretaumif; awmif;um arwinteEdjdotyfygonf/ Efbfopfr*ivmqdawmif; (jrefrmhtvif? 17.4.2015)

- petb, ulaq;wouurSpprefboeopiaom y&aq;rm;jzifhazmpbyfi xodwfvkyjzeoaod a&mif;cyvoulomaom wouf&ifaq;Og;rm;uod

- pdwfjiofh&yfuomuf½oofvomcsif;tofhrm;Efbfhuomfom ½omcef? puom½omtvkyfrm;;uodwmOef, l í Edodfjomcm;vorha&;toif;tzOotpnfrm;? ooom½omrm;;twouf tjrefoofh;ay;aeygojziofh vBuorifwom rS a':vm oomr[odwf usyoaifzifh iofh&rfvokyvoofif tjrefqoom quooG, fay;yg&efoef/ (aoou;rom14.12.2013)

- jynfvrfESofh urflat;boomom;vrfrwefay;wofif tenfqoomajr(2{u) ESofh txuluom *syeoaqmufvoya&; Company rS tqiofririfh ½omcef;rm; aqmufvoyfvom ygojziofh tuomdwl yoaygifaqmif½omf½odborm; uretawmfrm;ESofh tjrefqom qulfoG, fay;yg&efof/

- tcuftcl[orouoomdatmifjriofh ausomvofin;Eddfyom wouwulatmifjrifayom&ifoomouyg apaoomif; LUCKY Concrete rdoom;pkrSqomawmif;arwin yobotyfygonf/ (aoou;rom6.4.2014)

ykﬞft×m;toﬞﬞtrﬞﬞ;

- wﬞwm;aqmuﬞyﬞﬞVﬞﬞif **reﬞpﬞyﬞﬞﬞ;rﬞyﬞif** jrﬞﬞV, Eﬞﬞﬞﬞ oﬞﬞ;vmcﬞwﬞquﬞEﬞﬞﬞrnﬞﬞ 'v buﬞﬞcrﬞwﬞﬞﬞfjrﬞﬞ{&ﬞ mcﬞﬞﬞ×ﬞﬞVﬞﬞrﬞﬞrnﬞﬞ[kﬞvﬞyﬞieﬞﬞ½ﬞﬞﬞtrﬞﬞm;pﬞu arﬞﬞﬞVﬞiﬞﬞaeonﬞﬞ/

- oﬞﬞrﬞﬞﬞm **tbuﬞﬞbuﬞﬞu tm;enﬞﬞaeonﬞﬞﬞ** jrﬞﬞﬞjyt*ﬞﬞ&yﬞyﬞﬞﬞ;qﬞﬞﬞ&m **tm;enﬞﬞ aeaoﬞﬞﬞ** pﬞﬞyﬞﬞ;a&;jrﬞﬞﬞawmfuﬞﬞ u, ﬞwiﬞEﬞﬞﬞrnﬞﬞzpﬞﬞaomaﬞﬞumiﬞﬞ jrﬞﬞﬞjyAﬞﬞbﬞum ynmﬞ½ﬞﬞﬞﬞrﬞm;u w×pﬞﬞcs, ﬞﬞunﬞaﬞeﬞﬞuonﬞﬞﬞ/ (7 DAY DAILY, 10.6.2015)

-]*ﬞyeﬞﬞuﬞﬞrﬞﬞﬞPﬞﬞﬞﬞoﬞ&uﬞﬞoﬞﬞ;tm; tﬞvﬞﬞﬞﬞvﬞﬞuﬞf, ﬞciﬞﬞﬞﬞjzpﬞﬞyﬞﬞ .. } (News Watch?21.3.2020)

A Comparative Study of Usage of Metaphor Vehicles in Myanmar and Chinese Languages

Aye Aye Mar[*]

Abstract

The vehicle of metaphor, a majority part of metaphor, is mainly used in language and literature. In literature, the vehicle of metaphor is described as mystery, feature, effect and image. There are two parts in this paper. In first section, it includes the definition and variations of the vehicle of metaphor between Myanmar and Chinese languages. In second section, it provides four expressions, comprises the difference and similarity of mystery and usages of vehicles of metaphor. Due to the different features and culture between Myanmar and Chinese languages, the use of vehicle of metaphor varies. In this paper, it describes the comparison of vehicles of metaphor between Myanmar and Chinese languages by collecting of data and facts from reference books. This paper further suggests the awareness of culture factors inherent rhetorical devices, enlarging the scope of interdisciplinary rhetorical-culture research in the future.

Keywords: metaphor vehicles, subject of comparison, object of comparison, usage of vehicles

Introduction

A vehicle of metaphor is a part of elements of metaphor in conception of literature. Although the use of metaphor has the same in Myanmar language and Chinese language, environmental nature, custom, thing, religion and culture are different. When we use a vehicle of metaphor, there are many ways such as easy comprehension, genius comparison, contrast and overall comparison between tenor and simile. Therefore, we understand the beauty of literature due to the motivation and charm of varieties of metaphor. In this paper, focuses on, which are commonly regarded as similar rhetorical devices, a vehicle of metaphor can be compared in varieties and described usage of vehicles of metaphor in Myanmar and Chinese languages.

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[*] Associate Professor, Department of Chinese, Mandalay University of Foreign Languages

Literature Review

In Sanda Vara, A Shin, Zayya (1995) book named "*Alinkar San Eain*" and in Ku Mara, A Shin, (2016) called "*Alinkar Pangone*" the Vehicles of Metaphor are explained. Vehicles of Metaphor are described by Maung Maung Gyi, Takatho (1974) book entitle "Prose and poem". Learn Rhetoric are explained, in the book of *Hanyu Xiucixue* of Wang Jie Xi. (2016). About a comparative study of Vehicle Metaphor in Myanmar and Chinese languages, no one did not study. This paper is the first one.

Materials and Methods

In this paper, it describes the comparison of vehicles of metaphor between Myanmar and Chinese languages by collecting of data and facts from reference books.

Aim

The aim of this research paper is to find out the usage of Vehicle Metaphor in Myanmar and Chinese languages. And it is also aimed for Chinese language learners to support for them.

Research Questions and Problems

1. What are the kinds of vehicle metaphors in Myanmar and Chinese languages? What do metaphor vehicles in these languages mean?

2. Are the metaphor vehicles used in Myanmar language and Chinese languages the same?

Findings

There are numerous studies on the use of vehicle of metaphor in developing writing expression of literature for particular language skills. Throughout the history of Chinese literature, the metaphor is constantly as a powerful means to add artistic value to work. Most of the in metaphorical images which have survived a long time and been inherited by countless generations are derived from natural things, entities, relationship, influences Myanmar and Chinese literature.

According to the data collected from the arrangement of ideas in metaphorical relationship, to be more specific arising a metaphorical vehicle and the tenor, is one of the oldest traditions of Chinese literature which can be traced back to the era of The Book of Odes (*Shi jing*《诗经》) about 3,000 years ago, *Advanced Learner's English-Chinese Dictionary* (2004), *Myanmar Dictionary* (Department of Myanmar Language Committee, 2018), *Xiandai Hanyu* (Contemporary Chinese Language, Modern Chinese, 2002), *Hanyu Xiuci Xue* (Learn Rhetoric, 2016), *Alinkar* Pankone (2016) and *Alinkar San Eain* (1995) there are similarities and differences in using a vehicle of metaphor between Myanmar language and Chinese language. Besides, there are two kinds of metaphor: tenor (subject of comparison) and vehicle of metaphor (object of comparison) concerned with every aspect of description.

Vehicle Metaphor

"A metaphor as having two parts: the tenor and the vehicle. The tenor is the subject to which attributes are ascribed. The vehicle is the object whose attributes are borrowed." (Cited in S.D. Earhart in an 1894 Puck magazine, Richard.)

In Myanmar language, according to the books, *Myanmar-English Dictionary* (2017), explained Vehicle Metaphor is objection, also [Pali-object of comparison],

According to the book; *Portable Myanmar Dictionary* (1998), metaphor vehicle is object of comparison.

According to the books *Alinkar Pankone* (2016) and *Alinkar San Eain* (1995) vehicle of metaphor (object of comparison) is a part of metaphor, which concerned with every aspect of description.

In Chinese language, according to the book "*Advanced Learner's English-Chinese Dictionary* (2004)", vehicle of metaphor (object of comparison) is a part of elements of metaphor, which in conception of metaphor.

Kinds of Vehicle

It is easy to identify various kinds of vehicle to be the norm of the professions. But it is difficult to define the meaning of vehicle rigidly. The

following are kinds of vehicles of metaphor. It is based on relationship between people, things, situations and scope.

Vehicle is a part of real thing.

Some vehicles are used with a part of real things.

[In Myanmar,

(1) "ရွှေတိဂုံစေတီတော်ကြီးကား နိုင်ငံတော်၏ မျက်နှာပါတကား။"

According to "နိုင်ငံတော့်မျက်နှာ" by Takatho Maung Maung Gyi (1974), he implies the greatness of Shwedagon pagoda to the glory of our nation by face of human body.

(2) " ထိုစာအုပ်သည် စက်ခလုတ်မျှသာ ဖြစ်သည်။"

According to 'စာဖတ်သူနှင့်စာပေ' by Tettoe (1961), he implies the power of books to the he key of success in life.

[In Chinese,

(1) "叶子出水很高，像停停的舞女的裙。"

According to "*He Tang Yue se*" by Zhu Zi Qing (1927), he implies the floating of lotus leaf to the skirt of a slightly build of ballet girl.

'The skirt of a slightly build of ballet girl' metaphorized with a part of real thing.

(2) "棉花耳朵。"

"Cotton ears." It is a metaphor for soft ears, not independent, like listening to other people's words.

In Chinese language, there is compares soft cotton (object of comparison; metaphor vehicle) to the humans 'ear' which is the part of real thing (subject of comparison; metaphor tenor).

Vehicle is whole of real thing.

Some vehicles are used with real things.

[In Myanmar,

(1) "ကမ္ဘာမြေကြီးသည်   ကျွန်ုပ်တို့နေထိုင်ရာ   အိမ်ကြီးတစ်အိမ်ဖြစ်၍   ကမ္ဘာသူ
ကမ္ဘာသားတို့သည် ကျွန်ုပ်တို့၏ အိမ်သူအိမ်သားများပင် ဖြစ်လေသည်။"

The earth is our home, and the inhabitants of the earth are our home.

According to "ကျွန်ုပ်တို့၏ တာဝန်" by Min Swe (1950), he implies our
home to our earth.

(2) " သိကြားမင်းကား ဘယ်သူနှင့်တူသလိုလို ရှိပါလိမ့်။"

The dhaja:min:/ who looks like someone.

According to "ထားဝယ်လုံချည်" by Maung Htin (1992), he compared
someone looks like to the dhaja:min:/. In this Vehicle 'whom' is
metaphorically used with real things 'human'.

 [In Chinese,

(1) "小妹妹的脸像可爱的苹果。"

The face of the little sister is like a cute apple.

There is compares a cute apple (vehicle) to the face of the little sister.

(2) "二月春风似剪刀。"

The sharp February spring breeze like scissors

According to "*Yong Liu*" by Jia Zhi Zhang (Tang poem and Song Ci,
Type of classical Chinese poetry in the Song Dynasty), The sharp February
Spring breeze like scissors. In the poem, he compares the strong wind of
spring in February to the sharp scissors.

Vehicle is abstract.

Some vehicles are used with abstract things.

 [In Myanmar,

(1) " သင်အခုထိ အသက်ရှင်နေနိုင်ခြင်းမှာ မိခင်မြေကြီး၏ ကျေးဇူးတရားနှင့်
မကင်းနိုင်။"

According to "ကျွန်ုပ်တို့၏ တၥဝန်" by Min Swe (1950), he compares the gratitude of earth to the gratitude of mother. The gratitude of earth was used as abstract things.

(2) "သွေ့ခြောက်သောသစ်ပင်၌   ချစ်ခြင်းတည်းဟူသော   အငုံတို့သည်
ပွင့်အာခြင်းမတိုင်မီ   ကြွေပျောက်ကျဆင်းနေကြလေ၏။"

According to "နေရီရီ" by P Moe Nin (2009), he compares the love to the bud of a flower in a tree.

 [In Chinese,

(1) "书, 是人类进步的阶梯。" (高尔基)

According to "maxim" by Gao Er Ji, he compared the book to the ladder of getting knowledge for human. 'The book' is used as abstract for human getting knowledge.

(2) "她是我的神女。"

She looks like my guardian angel, guard for me well of.

There is compared her protection, love and care for me to my guard angel, which was used as abstract (metaphor vehicle).

Vehicle is scope.

Some Vehicles are used with scope.

[In Myanmar,

(1) "ကြီးမားသော   လူစုလူဝေးတည်းဟူသော   အဿဏ္ဍဝါပြင်ကျယ်တွင်
ကိုဒေါင်းသည် စုန်းစုန်းမြုပ်၍ နစ်နေသည်။"

 by Maung Htin (1992), "Dawei longgyi" he compares the huge crowd to the broad expanse of sea.

(2) "ဆရာအလုပ်ဝင်ပြီးတာနဲ့ သင်ကြားရေး သုတေသန ပင်လယ်ကြီး ထဲ
လက်ပစ်ကူးရသလို ပညာတွေက လေ့လာမကုန်နိုင်။"

Once became a teacher, there is a sea of research and teaching to swim the crawl.

The learn the huge amount of knowledge which is never end was compared with swim to crawl in the broaden sea.

[In Chinese,

(1) "恩重如山。" According to the wise old people from China, the great of thanks is like a mountain. 'The great of thanks' metaphorized with scope.

(2) "四周山峦重叠，从化就像一块碧玉，静静在这山窝里。" (化温泉散记）曹靖华（1897-1987）

The mountains overlap and the vindication is like a jade, quietly in the valley. Cao Jinghua（1897-1987）

According to "化温泉散记" by Cao Jinghua（1897-1987）, he compares mountains overlap and the vindication to the jade which quietly in the valley.

Usage of Metaphor vehicles

There are important to know usage of vehicles in metaphor. This is one of the most common types of usage in the written expression section of literature. Metaphor vehicles usage in Myanmar and Chinese languages are compare focusing on the factors such as the weather, the natural things, the colours, changes meaning, similarity in metaphorization and importance of these metaphor vehicles in literature and daily life.

Usage of metaphor vehicles for weather

Vehicles of metaphor can be identified by their section for weather.

[In Myanmar,

"ဆောင်းစက်ရိပ်ခို။"

According to "ဘုန်းနှင့်ကံနှင့်ရွှေသဇင်။" by (SarSo U Toe), the tiger lady blooms only in the winter   and it never blooms in the rainy season.

[In Chinese,

"昆明的气候四季如春，温暖宜人。" According to "*Du Jiang Yan*" by (Yu Qiu Yu), the annual weather of Kunming, the capital of Yunnan province, makes human pleasure.

Usage of metaphor Vehicles for natural things

Vehicles of metaphor can be identified by their section for natural things in metaphor.

[In Myanmar,

"မင်းရဲ့မျက်လုံးလေးများက ပုလဲနဲ့မဟုတ်ရာ ပေါင်းစပ်ထားသလိုနယ်။"

According to Myanmar song "ရတနာသူ" by (Khin Maung Toe), the pearl and the agate are natural things compared with the eyes of a beautiful girl.

[In Chinese, "众人拾柴，火焰高。" According to Chinese proverb, the collection of sticks becomes scarlet flames. In this proverb, the sticks and the flames are natural things.

Usage of metaphor vehicles for colors

Metaphor vehicles can be identified by their section for colors in metaphor.

[In Myanmar,

"သွားလေးတွေဖွေးဖွေးနတယ်ပုလဲလေးတွေသီကုံးထားသည့်နယ် တကယ်။"

According to Myanmar song "ရတနာသူ" by (Khin Maung Toe), the pearl, is arranged like the teeth of a beautiful girl. They have the same colour, white.

[In Chinese, "黑马。"

According to Chinese Word, Hei Ma (Black horse), the Black horse is a symbol of strength although black color is unlucky in Myanmar and Chinese traditional way, which formed by the way of metaphorical extension based on original meaning of the word.

Usage of metaphor vehicles for trees

Vehicles of metaphor can be identified by their section for trees in metaphor.

[In Myanmar,

"ဘူးလေးရာ ဖရုံဆင့်။"

According to Myanmar proverb, it means the duty is overloaded.

[In Chinese,

"种瓜得瓜，种豆得豆。"

According to Chinese proverb, the plants we got that we planted. Plant melons and you get melons, sow beans and you get beans—As you sow, so will you reap, which formed by the way of metaphorical extension based on original meaning of the word.

Discussion

According to the findings, it suggests that Metaphor vehicles (object of comparison) are related to tenor (subject of comparison) in Myanmar and Chinese languages. It can reflect the manner, type or shape of metaphor, define the ideology form which they are derived. The metaphor vehicles (object of comparison) are human body, color, nature (seasons, plant, treasure, star, wind, mountain) etc.

There are different points of view for Myanmar and Chinese languages. Each and every group has their special characteristic feature, there are slight changes for all meanings.

Finally, the semantic features are important in using Myanmar and Chinese languages for vehicle of Metaphor (object of comparison). Therefore, the use of metaphor paid attention to complete our studies.

Conclusion

To sum up, there are similarities and differences between Myanmar and Chinese languages. They are kinds of vehicle and usage of vehicles. Although they have the same meaning, they have different points of view.

Furthermore, it can be seen that the study of culture, custom and implies between Myanmar and Chinese languages.

Acknowledgements

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Analysis of the System of Verbs in French Short Story "Une Triste Nouvelle" by Voltaire

May Thwe Htoon[*]

Abstract

This study is mainly focused on the system of verbs in French short story "Une Triste Nouvelle" from the novel "Lettres Choisies" by French author Voltaire. The purpose of this study is to understand easily the text, to realize the system of verbs, to know the greater effects of verbs' system in linguistics studies, to encourage the students to be interested in reading, and to improve in Writing Skills. In this study, the system of verbs ie. two tenses such as present and past, three aspects: simple, perfective and imperfective, three moods such as indicative, subjunctive, imperative, infinitive and two voices: active and passive are analyzed. After reading the short story and studying the grammar, the students could distinguish the verbs' system. According to the findings of research, most of the students could analyze the system of verbs without difficulty and they improve Reading Skills and grammar after learning the base form of the verbs in French. As a result, the system of verbs is needed for language learners to understand the text and criticize well. As the role of the system of verbs is important in comprehending and analyzing a text, descriptive method is used to analyze the tenses, aspects, moods, and voices in short story by Voltaire, and the class work and outcomes of First Year Master Students, attending in French as a foreign language FFL. It is expected that this study can give a lot of advantages for students in learning reading and writing skills and can help students to easily understand all the features and system of the verbs in French.

Keywords: tenses, aspects, moods and voices.

Introduction

Everyone can read a text, it is difficult to understand it exactly what a writer wants to say. To understand a text, one needs to know the nature of the words, grammar, syntax, verbs, tenses, time etc. This study investigates the system of verbs in French Language. Verbs are said to play a central role in the lexicalization of events and states thus they are crucial for understanding how the author represent and use information about these events and states in linguistic utterances. Almost every sentence contains a

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[*] Associate Professor, Department of French, Yangon University of Foreign Languages

verb. A verb describes a situation, an event or a state of being; in many languages, the time and nature of this situation are marked by tenses. Tenses relate the time of the utterance of the verb to the time of occurrence of the situation. So, in this paper, it is mainly focused on the system of verbs: tenses, aspects, mood and voice by expressing the definition and analyze the text in detail. The time frame of an action in this story is usually established by referring to the past moment. The author sometimes uses the direct speech and long sentences. When the author writes it by using the complex sentences with the usages, expression, sentence connectors, tenses, etc., the sentences are difficult to understand. This research was done to realize the importance of system of verbs relations between a text's linguistic features. This study is analyzed by linguistic point of view.

Aims and Objectives

In Yangon University of Foreign Languages, Advanced French Grammar is one of the modules for First Year Master French Specializing students. In this module, the students study newspapers, magazine, news, the texts, the articles, the stories, the extracts and the novels. Sometimes, the students said that some French reading texts are difficult to understand. So, the aims and objectives to do this study are to understand clearly the texts, to distinguish the system of verbs: tense, aspect, mood and voice, to know how to use them effectively in the text to attract the readers, to encourage the students to enjoy reading and to improve in both reading and writing skills. Consequently, it is hoped that the French language learners will be to know the characteristics of the verbs in French.

Materials and Methods

This study is based on the system of the verbs in French language. The data relating of the paper have been collected from the work in the class of First Year Master French Specializing students who analyzed a short story "Une Tritesse Nouvelle" from French novel "Lettres Choisies" by French Author, Voltaire (1694-1778). The data are also collected from French grammar book, textbook, Internet website and the analysis of students' outcomes. To present the research, descriptive method is used in this paper.

Scope of Study

The research is mainly focused on system of verbs from the prescribed text book "Grammaire Progressive du Français avec 400 exercices – Niveau avancé" by Michèle Boularès et Jean-Louis Frérot". The extract is selected from the novel "Lettres Choisies" by Voltaire (1694-1778).

Research Questions

These research questions can give a great help for the learners to improve their reading and writing skills.

(1) What are the systems of verbs in French Language?

(2) What are the characteristics of the verbs in French Language?

(3) Is the role of the grammar really important in foreign language teaching and learning?

Literature Review

According to the *French verbs of Wikipedia* "**Grammatical tense** only roughly relates to time". French has (a) present, (b) past, (c) future, and (d) future of the past. "**Aspect** in French expresses ongoing actions or states with or without distinct end points". French has simple aspect and past aspect: Perfective aspect (passé simple/ passé composé) and Imperfective aspect (Imperfect). And then, **Mood** is the expression of modality of an action or state. The French language has six moods: indicative, subjunctive, imperative, conditional (finite moods), participle, and infinitive (non-finite moods). "The indicative mood expresses assertions, denials, and questions of actuality or strong probability." For example: the statement « Je lis le roman. » (*I read the novel)* and the question « Où êtes-vous? » *(Where are you?)* are sentences in the indicative mood. The subjunctive mood expresses commands, requests, suggestions, wishes, hypotheses, purposes, doubts, and suppositions. For example: *Je veux qu'il vienne demain. (I want him to come tomorrow).* The imperative moods are: direct commands, express requests, and grant or deny permission. For example: « Fais tes devoirs! » *(Do your homework!).* **Voice** is the expression of relationships between the predicate and nominal functions. French has two voices: (a) active and (b) passive. In the active voice, the subject performs the action of or acts upon

the verb and the direct object receives the action of the verb. For example : the sentence « Je lis le journal. » (*I read the journal)* is in the active voice because the subject "je" performs the action of reading and the direct object "*le journal"* receives the action of reading. In the passive voice, the subject receives the action of the transitive verb. For example: the sentence « Le roman a été lu (par moi) » *(The novel was read [by me]*, on the other hand, is in the passive voice because the subject "*le roman"* (*The novell)* receives the action of reading.

Findings and Discussions

This story is the letter of the Voltaire. In this letter addressed to Mille. Bessieres, friends of his family, Voltaire confides with great tact and sensitivity the great pain caused by the death of his sister.

After reading the letter of Voltaire "Une Triste Nouvelle, the students noticed some verbs according to linguistics' point of vue. According to their analyzed data, it can be seen that two main verb tenses: present and past, two aspects: simple and perfective aspect, three verb moods: indicative, subjunctive, imperative, and one impersonal: infinitive mood, and two voices: active voice, and passive voice.

In this story, the system of verbs they analyzed are described as follow in table 1.

Table 1. Tenses, aspects, moods and voices

No of sentence		Sentences	Type of Tenses	Type of Aspects	Types of Moods	Types of Voices
			Verb Explanation (French and English)	Verb Explanation	Verb Explanation	Verb Explanation
1.		Dans cette lettre adressée à Mille. Bessieres, amis de sa famille, Voltaire <u>confie</u> (confide) avec beaucoup de	-confie/ (**confide**) (Present)	Simple	-confie (Indicative)	Active

No of sentence		Sentences	Type of Tenses	Type of Aspects	Types of Moods	Types of Voices
			Verb Explanation (French and English)	**Verb Explanation**	**Verb Explanation**	**Verb Explanation**
		tact de sensibilité la grande peine causée par la mort de sa sœur.				
2.		Que puis-je (can I) vous dire (tell), mademoiselle, sur la mort de ma sœur, sinon qu'il eut mieux valu (would have been) pour ma famille et pour moi que j'eusse été enlevé (had been taken) à sa place ?	-puis-je… dire (**can I tell**) (Present) -eut … valu (**would have been**) (Past) -eusse été enlevé (**had been taken**) (Past)	Simple Perfective Perfective	-puis (Auxi) -je (Indicative) -dire (Infinitive) -eut valu (Subjunctive) -j'eusse été enlevé (Subjunctive)	j'eusse été enlevé (Passive)
3.		Ce n'est (isn't) point à moi à vous parler (speak) de peu de cas que l'on doit faire (should make) de ce passage si court et si difficile qu'on appelle (calls) la vie.	-n'est point à (**isn't**) (Present) -parler (**speak**) (Present) -doit faire (**should make**) (Present) -appelle (**calls**) (Present)	Simple Simple Simple Simple	-n'est point à (Indicative) -parler (Infinitive) -doit (Auxi) (Indicative) -faire (Infinitive) -appelle (Subjunctive)	Active
4.		Vous avez (have) sur cela des notions plus lumineuses que moi et puisées dans des	-avez (**have**) (Present)	Simple	-avez (Indicative)	Active

No of sentence		Sentences	Type of Tenses	Type of Aspects	Types of Moods	Types of Voices
			Verb Explanation **(French and English)**	**Verb Explanation**	**Verb Explanation**	**Verb Explanation**
		sources plus pures.				
5.		Je ne <u>connais</u> (know) que les malheurs de la vie, mais vous en <u>connaissez</u> (know) les remèdes et la différence de vous à moi <u>est</u> (is) du malade au médecin.	-connais **(know)** (Present) -connaissez **(know)** (Present) -est **(is)** (Present)	Simple Simple Simple	-connais (Indicative) -connaissez (Indicative) -est (Indicative)	Active
6.		Je vous <u>supplie</u> (beg), mademoiselle, d'<u>avoir</u> (have) la bonté de <u>remplir</u> (fulfull) jusqu'au bout le zèle charitable que vous <u>daignez avoir</u> (deign to have) pour moi en cette occasion douloureuse : <u>engagez</u> (urge) mon frère à <u>me donner</u> (give), sans <u>différer</u> (delay) un seul moment, des nouvelles de sa santé, ou <u>donnez-m'en</u> (give me) vous-même.	-supplie.. **(beg),** (Present) -avoir **(have)** (Present) -remplir **(fulfull)** (Present) -daignez avoir **(deign to have)** (Present) -engagez **(urge)** (Present) -me donner **(give me)**, (Present) -différer **(delay)** (Present) -donnez-m'en **(give me)** (Present)	Simple Simple Simple Simple Simple Simple Simple Simple	-supplie (Indicative) -avoir (Infinitive) -remplir (Infinitive) -daignez (Indicative) -avoir (Infinitive) -engagez (Imperative) -me donner (Infinitive) -différer (Infinitive) -donnez-m'en (Imperative)	Active
7.		Il ne vous <u>reste</u>	-ne reste plus	Simple	-ne vous reste	Active

No of sentence		Sentences	Type of Tenses	Type of Aspects	Types of Moods	Types of Voices
			Verb Explanation (French and English)	Verb Explanation	Verb Explanation	Verb Explanation
		(have left) plus que lui de toute la famille de mon père, que vous avez regardée (regarded) comme la vôtre.	(**have left**) (Present) avez regardée (**regarded**) (past)	Perfective aspect	plus (Indicative-negation) -avez regardée (Indicative)	
8.		Pour moi, il ne faut plus me compter. (you can't count me anymore)	- ne faut plus me compter. (you **can't count** me **anymore**) (Present)	Simple Simple	-ne faut plus (Indicative-negation) -me compter (Infinitive)	Active
9.		Ce n'est pas (it is not) que je ne vive encore (do not yet live) pour le respect et l'amitié que je vous dois (I owe you) ; mais je suis mort (died) tout le reste.	- n'est pas (**it is not**) (Present) - ne vive encore (**do not yet live**) (Present) - doit (**I owe you**) (Present) - suis mort (**died**) (Past)	Simple Simple Simple Simple	-n'est pas (Indicative) -ne vive encore (Subjunctive) -dois (Indicative) -suis mort (Indicative)	
10.		Vous avez grand tort (are very wrong) de soupçonner (suspect) que je vous aie oubliée. (have forgotten)	-avez grand tort (**are very wrong**) (Present) -soupçonner (**suspect**)(Present) - aie oubliée (**have forgotten**) (Past)	Simple Simple Perfective	-avez (Indicative) -soupçonner (Infinitive) -aie oubliée (Subjunctive)	Active
11.		J'ai bien fait (made) des fautes dans le	-ai bien fait (**made**) (Past)	Perfective	-ai bien fait (Indicative)	Active

No of sentence		Sentences	Type of Tenses	Type of Aspects	Types of Moods	Types of Voices
			Verb Explanation **(French and English)**	**Verb Explanation**	**Verb Explanation**	**Verb Explanation**
		cours de ma vie.				
12.		Les amertumes et les souffrances qui en <u>ont marqué</u> (marked) presque tous les jours <u>ont été</u> (were) souvent mon ouvrage.	-ont marqué **(marked)** (Past) -ont été **(were)** (Past)	Perfective Perfective	-ont marqué (Indicative) -ont été (Indicative)	Active
13.		Je <u>sens</u> (feel) le peu que je vaux (am worth); mes faiblesses me <u>font</u> pitié (pity) et mes fautes me <u>font</u> horreur (horrify).	-sens **(feel)** (Present) -vaux **(am worth)** (Present) -font pitié **(pity)** (Present) -font horreur **(horrify)** (Present)	Simple Simple Simple Simple	-sens (Indicative) -vaux (Indicative) -font (Indicative) -font (Indicative)	Active
14		Mais Dieu m'<u>est</u> (is) témoin que j'<u>aime</u> (love) la vertu, et qu'ainsi je vous <u>suis</u> tendrement <u>attaché</u> (attached) pour toute la vie.	-est **(is)** (Present) -aime **(love)** (Present) -suis…attaché **(attached)** (Past)	Simple Simple Perfective	-est (Indicative) -aime (Indicative) -suis … attaché (Indicative)	-suis … attaché (Passive)

In figure 1, (79%) of the present tenses and (21%) of the past tenses are used and there is no future tense in this extract.
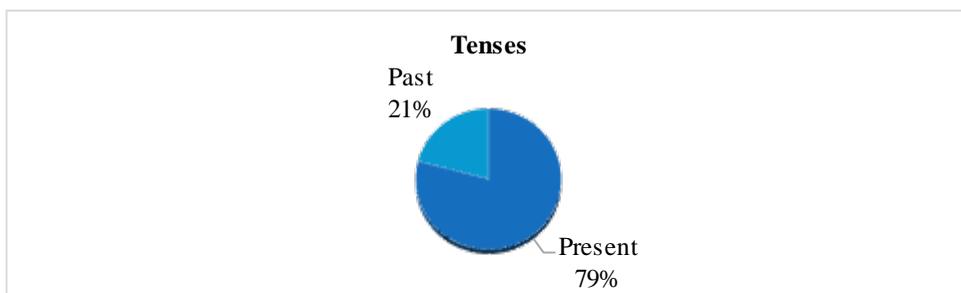
Figure 1. The percentage of the tenses

In figure 2, (82%) of the simple aspect and (18%) of the perfective aspect are found in this extract. But, imperfective aspect is not used.
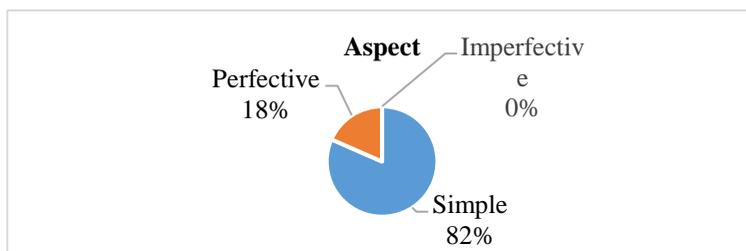

Figure 2. The percentage of the aspects

In figure 3, the author used finite moods: (61%) of indicative mood, (5%) of imperative mood and (11%) of subjunctive mood in this extract. As infinite moods, (23%) of infinitive mood are found.
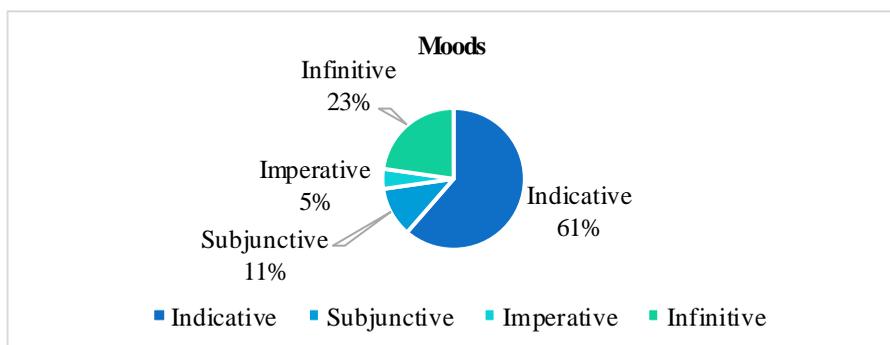

Figure 3. The percentage of the moods

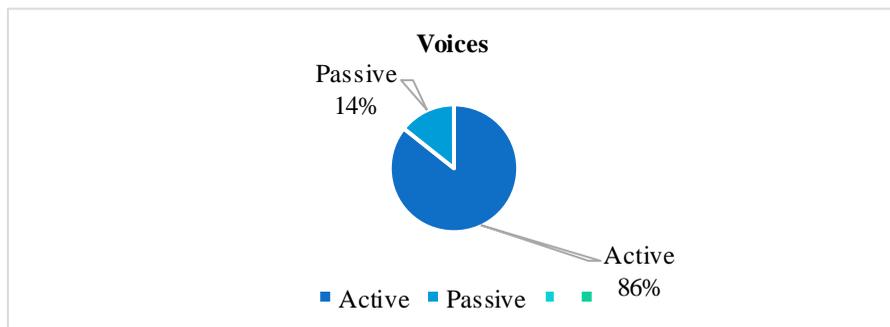In figure 4, the students found (86%) of active voice and (14%) of passive voice.

Figure 4. The percentage of the voices

According to the table (1), it can be seen that affirmative and negative of the present tense, for example: "*Je sens (feel) le peu que*" (sentence 13) and "*Ce n'est pas* (it is not)"   (sentence 9) and past tenses (compound past), for example: "*ont marqué* (marked)" (sentence 12) and subjunctive past, for example: "*aie oubliée* (have forgotten)" (past) can be found in column (3).
So, as their analyzed data, most of the present tenses are found in this text.

And then, as the aspect, simple aspect, for example: *Je vous supplie (beg), mademoiselle,*" (sentence 6) and perfective aspect, for example: "*J'ai bien fait* (made)" (sentence 11) in column (4) are found. The sentences are formed with simple aspect and perfective aspect but imperfective aspect is not found.

Besides, the indicative mood is the most commonly used by author, are found in column (5). Only one sentence, indicative mood existes for example : « Je ne *connais* (know) que les malheurs de la vie, mais vous en *connaissez* (know) les remèdes et la différence de vous à moi *est* (is) du malade au médecin. » (sentence 5) in this extract. Sometimes, indicative, infinitive and Subjunctive mood are found, for example : « Vous *avez* grand tort (are very wrong) de *soupçonner* (suspect) que je vous *aie oubliée*. (have forgotten)" (sentence 10) in one sentence.

The students could recognize indicative mood, infinitive mood, imperative mood and subjunctive mood easily. In only one sentence,

interrogative, infinitive, and subjunctive mood can be found. For example, « *Que puis*-je (what can I) *vous dire* (tell), *mademoiselle, sur la mort de ma sœur, sinon qu'il eut mieux valu* (would have been) *pour ma famille et pour moi que j'eusse été enlevé* (had been taken) *à sa place ? »* (sentence 2). The subjunctive mood form is used frequently to express doubt, wish, desire, request, demand, proposal, or hypothetical situation, etc. in dependent clauses. This sentence with an interrogative mood asks a question. In addition, the imperative mood is used to express for the direct commands, the advices, and the suggestions. For example : in the statement « *engagez* (urge) *mon frère à me donner, sans différer un seul moment, des nouvelles de sa santé, ou donnez-m'en* (give me) *vous-même. » (sentence6)* is the direct command. In this situation, this sentence with an imperative mood makes a request or a command. «*….l'on doit faire* (should make) *de ce passage si court et si difficile qu'on appelle* (calls) *la vie.»* This sentence with a conditional mood contains an auxiliary verb (a helping verb) and a main verb. The auxiliary verbs "would" or "should"/ (doit) support the main verb "faire (make).

In column (6), it is noted that most of the sentences are actives voices and only two sentences are passive voices. For example « *je vous suis tendrement attaché (attached) pour toute la vie »* (sentence 14) and « pour moi que j'eusse été enlevé (had been taken) à sa place ? » (sentence 2).

Conclusion

The findings of the research suggest that the system of the verbs is needed for language learners and students to analyze the texts in linguistic point of view. Although, this entire story is written with complex and long sentences, most of the students understand easily the texts. To understand the text, it is needed to know the systems of the verbs and their characteristics. According to the linguistics point of view, this story is analyzed by using descriptive method. The questionnaires proved that if the students have knowledge about the significant of verbs: tenses, aspects, moods and voices, they can read fluently in different texts in different fields and criticize the texts proficiently and write fluently on their assignments, term papers and research. Consequently, the role of the grammar in foreign language teaching and learning is important to reading comprehension and writing. I expect there will be more ideas to be studied for future research.

Finally, it is hoped that this study can give a lot of advantages for students in learning reading and writing skills and can help them to easily understand all the features and system of the verbs in French Language.

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UNE TRISTE NOUVELLE

Dans cette lettre adressée à Mille. Bessieres, amis de sa famille, Voltaire *confie* avec beaucoup de tact de sensibilité la grande peine causée par la mort de sa sœur.

Que *puis*-je vous *dire*, mademoiselle, sur la mort de ma sœur, sinon qu'il *eut* mieux *valu* pour ma famille et pour moi que j'*eusse été enlevé* à sa place ? Ce *n'est point à* moi à vous *parler* de peu de cas que l'on *doit faire* de ce passage si court et si difficile qu'on *appelle* la vie. Vous *avez* sur cela des notions plus lumineuses que moi et puisées dans des sources plus pures. Je *ne connais que* les malheurs de la vie, mais vous en *connaissez* les remèdes et la différence de vous à moi est du malade au médecin.

Je vous *supplie*, mademoiselle, d'*avoir* la bonté de *remplir* jusqu'au bout le zèle charitable que vous *daignez avoir* pour moi en cette occasion douloureuse : *engagez* mon frère à me *donner*, sans *différer* un seul moment, des nouvelles de sa santé, ou *donnez*-m'en vous-même. Il ne vous *reste* plus que lui de toute la famille de mon père, que vous *avez regardée* comme la vôtre. Pour moi, il *ne faut plus me compter.* Ce *n'est pas* que je ne *vive* encore pour le respect et l'amitié que je vous *dois* ; mais je *suis mort* tout le reste. Vous *avez* grand tort de *soupçonner* que je vous *aie oubliée*. J'*ai bien fait* des fautes dans le cours de ma vie. Les amertumes et les souffrances qui en *ont marqué* presque tous les jours ont été souvent mon ouvrage. Je *sens* le peu que je *vaux* ; mes faiblesses *me font pitié* et mes fautes *me font horreur*. Mais Dieu m'*est* témoin que j'*aime* la vertu, et qu'ainsi je vous *suis tendrement attaché* pour toute la vie.

A Comparative Study of the Places of Consonants in the Myanmar Language and the French Language

Nway Nway Ei[1] & Thant Zaw Oo[2]

Abstract

This research paper aims to identify and make a comparison of consonants of the Myanmar language (mother tongue) and those of the French language taking into account their respective places of articulation. This research was carried out for learners to produce correct pronunciation, improve their pronunciation, make it easier in their language learning process of the Myanmar language and the French language, and arouse their curiosity about words structure and how speech sounds are formed. The required data was collected from internet websites and books concerning Linguistics and phonetics of Myanmar and French languages. The places of consonants in the Myanmar language and the French language are presented in a comparative way from a phonetic point of view. The results show that labiodental and uvular consonants are not in the Myanmar language and the glottal consonants do not exist in the French language. The comparative and descriptive methods were used in this research. This research work can be of help to those wishing to study places of articulation of consonants and to know a better awareness of speech sounds in Myanmar and French and to those teaching or learning the French language. It is also hoped that this study can help the teachers in language teaching.

Keywords: Myanmar, French, language, consonant, place, articulation

Introduction

It is argued by some linguists that there exist over 3000 languages in the world. Also, some experts claim the presence of over 4000 languages while some others say that over 5000 languages are in place. Although languages spoken by each ethnic group differ, it is a shared trait that every language has to use sounds coming out of the human mouth. And there are two types of speech sounds such as consonants and vowels.

It is found that in languages, accents differ depending on where one lives, the social class, age and ethnicity, as a result of which diversity is observed in pronunciation. These speech sounds come out as a combination

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[1] Associate Professor, Department of French, Mandalay University of Foreign Languages
[2] Associate Professor, Department of French, Mandalay University of Foreign Languages

of consonant and vowel sounds, which is a common trait in every language. If one has a good knowledge of places of articulation and manners of articulation of such consonants and vowels, the language teaching and learning process can become much easier and smoother.

Therefore, when one learns a language systematically, it can be approached not only linguistically but also phonetically. Due to the movements of articulators, many speech sounds are made.

There are two types of articulators: active articulators and passive articulators. Active articulators refer to articulatory organs which exist in the lower part of the mouth (the lower jaw) (lower lips, lower teeth, and the tongue). Active articulators are defined as articulators which are in place in the upper part of the mouth (the upper jaw) (upper lips, upper teeth, the alveolar ridge, the hard palate, the soft palate).

In the Myanmar language, articulation for consonants occurs only in seven places, which are (1) bilabial, (2) dental, (3) alveolar, (4) alveopalatal, (5) palatal (hard palate), (6) velar, and (7) glottal consonants.

In the French language, there are eight places of articulation for consonants, which are (1) bilabial, (2) labiodental, (3) dental, (4) alveolar, (5) alveopalatal, (6) palatal, (7) velar and (8) uvular consonants.

Since only some consonant and vowel sounds in the mother tongue are similar to those in a foreign language, this paper offers a discussion on Myanmar and French consonants by making a comparison of their respective places of articulation from the perspective of phonetics. Therefore, all the learners can know the places of consonants and the better and easier way to pronounce well the consonants from both languages. Besides, this research work can support the students from the other races in Myanmar, so that they can understand how to pronounce the consonants not only from the French language but also from the Myanmar language.

Aim and Objectives

The aim of this research paper is to identify and compare the consonants in Myanmar and French according to their respective places of articulation. The objectives are (1) to assist French language learners in making their pronunciation better and easier, and in achieving precise articulation, (2) to promote the learners' curiosity about words structures

and speech sounds formation, and (3) to support French language teachers in language pedagogies.

Materials and Methods

The required data were collected from internet websites, publications and books on Myanmar and French languages. This research paper is presented with comparative and descriptive methods. After doing the library research, discussions are made from the point of view of phonetics with examples. The research method in this work is only using the definitions of Saya U Tun Myint (2004) written in the book "Basic Phonetics and Linguistics" and David Crystal (2008) stated in "A Dictionary of LINGUISTICS AND PHONETICS".

Research Questions

1. When studying consonants in the Myanmar language and in the French language based on their respective places of articulation, what is similar and what is different?

2. Through a comparative study, how can this benefit French language learners in their language learning process?

Literature Review

In every language, for the formation of the speech sound system, the key speech sounds are consonants and vowels. If a comparison is made between the number of consonants and that of vowels of each language, it can be noted that consonants outnumber vowels. In the book "Basic Phonetics and Linguistics" written by Saya U Tun Myint (2004), consonants can be defined from the perspective of phonetics and phonology. If it is defined from the phonetic perspective, "A consonant is a speech sound made when the airflow coming from the lungs reaches the mouth and is blocked, restricted or interrupted by one articulator that is in place along the path leading outside before it releases into the air". If it is defined from a phonological point of view, "Consonants are speech sounds that are made at the margins of a syllable in the phonological system of a language. It is not a speech sound that occurs in the middle of a syllable". (U Tun Myint, 2004, pp.24-25)

In the book entitled "A Dictionary of Linguistics and Phonetics" published in 2008, David Crystal defined consonants as the following: "Consonants can be defined in terms of both phonetics and phonology. Phonetically, they are sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or so restricted that audible friction is produced. From a phonological point of view, consonants are those units which function at the margins of syllables, either singly or in clusters". (Crystal, 2008, p.103.)

In the study reference book (5) published by Yangon University of Distance Education, for third year Myanmar specialization students, the following definition on places of articulation for consonants is found: "A place of articulation is where an active articulator makes movements and comes into contact with a passive articulator in the speech sound production". (p.49)

Therefore, while making a comparative study of Myanmar and French consonants according to places of articulation, it is found that much has been written on consonants, vowels, and also their places of articulation and manners of articulation in Myanmar and French languages not only in books but also on websites.

A Comparative Study of the Places of Consonants in the Myanmar Language and the French Language

When making a comparative analysis of consonants in the Myanmar language and the French language, a comparative study of consonants will be made in this paper with regards to their respective places of articulation out of the two factors, which are places of articulation and manners of articulation.

There are seven places of articulation for consonants in the Myanmar Language. They are (1) bilabial, (2) dentals, (3) alveolar, (4) alveopalatal, (5) palatal, (6) velar and (7) glottal. In the French language, there are eight places of articulation for consonants. They are (1) bilabial, (2) labiodental, (3) dentals, (4) alveolar, (5) alveopalatal, (6) palatal, (7) velar and (8) uvular.

Bilabials

In the book "Basic Phonetics and Linguistics", Saya U Tun Myint defined that "Bilabials are where the lower lip, the active articulator reaches

the upper lip, the passive articulator in the speech sound production" (Tun Myint, 2004, p.28). In Myanmar, there are six bilabials. It is said that there are only 6 bilabial consonants in the Myanmar language, but they use the [hw] sound when they actually pronounce it. They are as follows: **[p]** - ဝိတ်ပေါင်း - /**p**eiʔ **p**àũ/, **[ph]** - ဖိုးမောင် - /**ph**ò -maũ/, **[b]** - ဘိုးဘွား - /**b**ò **b**wà/, **[hm]** - မှုန်မွှား - /-**hm**oũ **hm**wà/, **[m]** - မိုက်မဲ - /**m**aiʔ **m**ὲ/, **[hw]** - လက်ရွေ့ - /leʔ **hw**é/, and **[w]** - ဝေဝဲ - /**w**é **w**ὲ/.

There are five bilabials observed in the French language, which are as follows: **[p]** - père (father) - /**p**ɛʀ/, **[b]** - beau (beautiful) - /**b**o/, **[m]** - mer (ocean) - /**m**ɛʀ/, **[w]** - oui (yes) - /**w**i/, and **[ɥ]** - nuit (night) - /n**ɥ**i/.

Labio-dentals

In "A Dictionary of LINGUISTICS AND PHONETICS", David Crystal stated that "It refers to a sound in which one lip is actively in contact with the teeth. The usual mode of operation for a labio-dental sound ('a labio-dental') is for the lower lip to articulate with the upper teeth, as in [f] and [v]" (Crystal, 2008, pp.263-264). The absence of labio-dentals is noted in the Myanmar language while French has two labio-dentals, which are observed as follows: **[f]** - frère (brother) - /**f**ʀɛʀ/ and **[v]** - Ville (city/ town) - /**v**il/.

Dentals

Saya U Tun Myint confirmed in "Basic Phonetics and Linguistics" book, "Dentals are where the upper teeth (passive articulator) comes into contact with the front part of the tongue (active articulator)" (Tun Myint, 2004, p.30). Consonants that occur at this place of articulation are called dentals. In Myanmar, only two dentals exist. They are **[θ]** - သုဿန် - /**θ**ouʔ - **θ**ã/ and **[ð]** - သပိတ် - /**ð**ə beiʔ/. In the French language, there exist four dentals, which are **[t]** - tête (head) - /**t**ɛ**t**/, **[d]** - dire (say) - /**d**iʀ/, **[n]** - consonne (consonant) - /kɔ̃ sɔ**n**/ and **[l]** - libre (free) - /**l**ibʀ/.

Alveolars

"Alveolars are where the tip of the tongue or the front part of the tongue (active articulator) touches the ridge behind the upper teeth on the

roof of the mouth (passive articulator)" (Tun Myint, 2004, p.30). In the Myanmar language, there are ten alveolar consonants, which are **[t]** - တွံတေး - /-t**ũ tè**/, **[th]** - ထိပ်ထား - /**th**eiʔ **th**à/, **[d]** - ဒကာမ - /**d**ə ka mə/, **[hn]** - ရှူးနှပ် - /**hn**ù naʔ/, **[n]** - နဲ့နှောင်း - /**n**wé hnàũ/, **[hl]** - လှိုက်လှဲ - /haiʔ **hl**έ/, **[l]** - လွတ်လပ် - /luʔ **l**aʔ/, **[s]**- စွေစောင်း - /**s**wē sàũ/, **[sh]** - ဆက်ဆံ - /**sh**έʔ **sh**ã/ and **[z]** - ဇွဲ - /**z**wὲ/. In the French language, there are two alveolar consonants. They are **[s]** - seize (sixteen) - /**s**Ɛz/, and **[z]** - zéro (zero) - /**z**ero/.

Alveopalatals

In "Basic Phonetics and Linguistics" book, "Alveopalatals are where the blade or the front of the tongue (active articulator) approaches the front of the hard palate near its junction with the alveolar ridge (passive articulator)" (Tun Myint, 2004, p.31). In the Myanmar language, there are four alveopalatals, which are observed as follows: **[tɕ]** - ကြောင့်ကြ - /**tɕ**aũ' **tɕ**á/, **[tɕh]** - ချောက်ချား - /**tɕh**auʔ **tɕh**à/, **[dʑ]** - ကြိုးကြာ - /**dʑ**ò **dʑ**ā/ and **[ɕ]** - ရှောင်ရှား - /-**ɕ**aũ **ɕ**à/. In the French language, the presence of two alveopalatals is noted as follows: **[ʃ]** - chien (dog) - /**ʃ**jɛ̃/ and **[ʒ]** - ajouter (to add) - /a**ʒ**ute/.

Palatals

"Palatals are where the hard palate (passive articulator) is touched by the blade of the tongue (active articulator)" (Tun Myint, 2004, p.32). Three palatals in the Myanmar language are as follows: **[hɲ]** - ညှာတာ - /**hɲ**ā tā/, **[ɲ]** - ညစ်ညမ်း - /**ɲ**iʔ **ɲ**`ã/ and **[j]** - ယုယ - /**j**ú **j**á/. In the French language, the presence of three palatals is noted as follows: **[ɲ] (n+j)** - montagne (mountain) - /mõta**ɲ**/, **[j]** - crayon (pencil) - /kʀƐ **j**ɔ̃/ and **[ɥ]** - huit (eight) - /**ɥ**it/.

Velars

"Velars are formed with the back of the tongue (active articulator) touching the soft palate (passive articulator)" (Tun Myint, 2004, p.33). In Myanmar, there are five velar consonants such as **[k]** - ကောက်ကွေ့ - /**k**auʔ

kwé/, **[kh]** - ခူးခပ် - /**kh**ù **kh**aʔ/, **[g]** - ဂုဏ် - /-**g**oũ/, **[hŋ]** - ငှားရမ်း - /**hŋ**à jˋã/ and **[ŋ]** - ငေါက်ငမ်း - /**ŋ**auʔ **ŋ**ˋã/. In the French language, there are four velar consonants, which are seen as follows: **[k]** - coq (cock) - /k**ɔk**/, **[g]** - gauche (left) - /**g**oʃ/, **[ŋ]** - parking (parking) - /paʀ ki**ŋ**/, and **[w]** - loin (far) - /l**w**ɛ̃/.

Uvular

David Crystal defined that "It refers to a sound made by the back of the tongue against the uvula, the fleshy appendage which hangs at the back of the soft palate" in "A Dictionary of LINGUISTICS AND PHONETICS" (Crystal, 2008, p.506). The Myanmar language lacks uvular consonants. In French, the uvular consonant is [ʀ]- rire (laugh) - /**ʀ**i**ʀ**/ which is pronounced in the throat and the most difficult sound for French language learners.

Glottal

"Glottal is where the throat and the hard palate (passive articulators) are touched by the back of the tongue" (Tun Myint, 2004, p.34). In French, the absence of glottal is observed while there are two glottal consonants in the Myanmar language. They are [ʔ] (-က်, -တ်, -ပ်, and -စ်, which are in the Myanmar writing system, being represented in the spoken form) and [h] ဟ်. For example: [ʔ] - ခုတ်ထစ် - /khou**ʔ** thi**ʔ**/ and [h] - ဟဲဟိုး - /**h**ɛ̀**h**ò/.

Findings and Discussion

Socially, language serves as the most useful medium. It is a common trait in every language that sounds are produced with a combination of consonants and vowels. It can be noted that depending on the language spoken, those consonants and vowels may occur at the same places and manners of articulation or they may be produced differently. Nevertheless, if one studies thoroughly consonants and vowels in the language one is learning, it will be easier when speaking the language.

The following table presents places of articulation of (33) Myanmar consonants and (21) French consonants, which are defined phonetically.

Table. A Comparison of Places of Articulation of Consonants in the
       Speech Systems of Myanmar and French Languages

Places of articulation	Myanmar	French
Bilabial	**[p]**, [ph], **[b]**, [hm], **[m]**, [hw], **[w]**	**[p]**, **[b]**, **[m]**, [ɥ], **[w]**
Labiodental	*Nil*	[f], [v]
Dentals	[θ], [ð]	[t], [d], [n], [l]
Alveolar	[t], [th], [d], [hn], [n], [hl], [l], **[s]**, [sh], **[z]**	**[s]**, **[z]**
Alveopalatal	[tɕ], [tɕh], [dʑ], [ɕ]	[ʃ], [ʒ]
Palatal	[hɲ], **[ɲ]**, **[j]**	**[ɲ]** (n+j), **[j]**, [ɥ]
Velar	**[k]**, [kh], **[g]**, [hŋ], **[ŋ]**	**[k]**, **[g]**, **[ŋ]** (English loan words), [w]
Uvular	*Nil*	[ʀ]
Glottal	[ʔ], [h]	*Nil*

When making a comparison of Myanmar consonants and French consonants based on places of articulation, it is found that both languages share bilabial consonants [p], [b], [m] and [w], and that [ph], [hm] and [hw] are present only in the Myanmar language, not in the French language. [ɥ] is found only in French and it does not exist in the Myanmar language.

In the comparative study of labio-dental consonants, the Myanmar language lacks such consonants, but labio-dentals [f] and [v] are observed in the French language.

When a comparison of dentals in the French language and those in the Myanmar language is made, [θ] and [ð] observed in the Myanmar language share no similarities with [t], [d], [n] and [l] found in the French language.

In a comparison of alveolar consonants, ten consonants [t], [th], [d], [hn], [n], [hl], [l], [s], [sh], [z] are observed in the Myanmar language, and only two alveolar consonants ([s] and [z]) are present in the French language.

With regards to alveopalatal consonants, [tɕ], [tɕh], [dʑ], [ɕ], which are present in Myanmar, are found to display a striking difference from [ʃ] and [ʒ], which are found in the French language.

When a comparison is made between palatal consonants present in the Myanmar language, [hɲ], [ɲ], [j], and those in the French language [ɲ], [j], [ɥ], both languages are found to possess [ɲ] and [j].

Concerning velar consonants in the Myanmar language [k], [kh], [g], [hŋ], [ŋ] and those in the French language [k], [g], [ŋ], [w], both languages are found to share the three consonants [k], [g], [ŋ].

Uvular consonants are not in place in Myanmar and only one uvular consonant [ʀ] is noted in the French language. Glottal consonants found in Myanmar ([ʔ] and [h]) are found not to be present in the French language.

Therefore, in this comparative analysis of places of articulation of consonants in the Myanmar language and those in the French language, it is found that the labio-dental consonants [f] and [v] and the uvular consonant [ʀ] in the French language are absent in the Myanmar language and that the glottal consonants [ʔ] and [h] in the Myanmar language do not exist in the French language.

In addition, as the consonant [ʀ] is non-existent in the Myanmar language, learners have difficulty getting the pronunciation right. For the consonant [ʀ], depending on where it is located in a word, how it is pronounced differs. For example, [ʀ] in the word mè**re** - /mɛʀ/ needs to be pronounced whereas [ʀ] in the infinitive mange**r** - /mʒe/ should not be pronounced. If [ʀ] is followed by the vowel "e", [ʀ] has to be pronounced.

In summary, as sounds accompany a language, if one is to study a language, the study will be complete only when one acquaints oneself with knowledge of places of articulation and manners of articulation of that language. By studying these comparative studies, French language learners can possess a better awareness of speech sounds in the Myanmar language and the French language, and this will arouse their curiosity about word formations, how parts of articulators-function and how speech sounds are formed. They will gain an in-depth knowledge of the sounds in the mother

tongue as well as those in the language they wish to learn. Thus, this will reinforce the learning process of the French language and will render the process easier.

Conclusion

Since the Myanmar language and the French language share similarities for most places of articulation (for example: [**p**], [**b**], [**s**], [**z**], [**k**], etc.), learners can pronounce words without any difficulties. However, as places of articulation of some consonants are different (for example: [ʒ], [ʀ], etc.), French language learners have a hard time pronouncing them. Besides, one will be able to study phonemes (consonants) in Myanmar and French languages, consonants that exist in the Myanmar language, not in French and those that exist in the French language, not in Myanmar. As this paper presents a comparative study of places of articulation of consonants in the Myanmar language and the French language, it is hoped that this will help those who want to learn French from scratch with their pronunciation. It is also hoped that this will be of some help to language teachers and learners, learners who are keen to learn French in particular. Concerning about the research papers on consonants, Daw Myint Myat Soe, (Lecturer, Department of French, Yangon University of Foreign Languages) wrote "A Comparative Study of Vocal Quality of Consonants in French and Myanmar" in the Yangon University of Foreign Languages Research Journal Vol.10, No.1 (July, 2019). As this study forms a comparative study of Myanmar and French consonants in terms of places of articulation, it is noted that there is still room for research topics on comparison of manners of articulation of consonants. And also a study of sounds coming out in a combination of vowels and consonants should be observed as a future plan.

Acknowledgements

say thanks to U Thein Htike Oo (Lecturer and Head, Department of Linguistics, Mandalay University of Foreign Languages) who advised and guided me in writing Myanmar phonemic script. After that, I give my heartfelt thanks to the editorial board of the URJ for giving me the chance to submit this research paper. Furthermore, I would like to express my special thanks of gratitude to my family who encourage and support me a lot to complete this paper and to all of my teachers who taught me from my childhood until today. Finally, I want to thank all of my colleagues who help me and give me valuable advices.

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The Impact of Anglicism and False Friends on Teaching and Learning Process of French

Thant Zaw Oo[1] & Nway Nway Ei[2]

Abstract

This research paper studied the positive and negative impacts of Anglicisms and false friends (false cognates) in the teaching and learning process of the French language. The research work aimed to explore the effective approach of teaching French through Anglicisms and false friends, their nature, their impact and the effective way to overcome their negative impact. The essential data for this research paper were collected via interviews, questionnaires that were distributed to 50 people, French tourists, teachers, students (domestic & scholars), and the French speaking tourist guides. The data obtained were analyzed by qualitative and quantitative approach and the findings were revealed by the descriptive method. This research work presented that Anglicisms would be a positive impact in studying French at each level of language competence although some negative impacts exist. In some situations, Anglicisms can facilitate the students' comprehension at the elementary level and their role is steadily decreased at higher levels. And the way to overcome the misuse of Anglicisms was presented in this paper. It is hoped that this research work can support the French language pedagogy and the student's language development too.

Keywords: impact, Anglicisms, false friends, French, teaching and learning process

Introduction

Since the late 19th and 20th centuries, especially after the 2nd World War, the growth in power of the United States has led to more borrowing English words, as American culture is pervasive. The French has always adopted the English loanwords to their cultures too. It was clearly found in the news, journals, websites, books, novels, teachers' manuals and the course books, etc., especially in business, technology and tourism sectors. In everyday use, the French people use more English loanwords especially among the younger generations that are considered as integrated into their language. Moreover, with use of English as a Lingua Franca around the world and in popular culture, English influences other languages'

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[1] Associate Professor, Department of French, Mandalay University of Foreign Languages
[2] Associate Professor, Department of French, Mandalay University of Foreign Languages

vocabulary in the form of loanwords, and the French language is no exception. Influence from the English language is strongly felt in both French from Quebec and French of France, despite the efforts of France to protect its language, the **Toubon** law: Law 94-665 of 4 August 1994 relating to the usage of the French language is a law of the French government mandating the use of the French language in official government publications, in all advertisements, in all workplaces, in commercial contracts, in some other commercial communication context, in all government-financed schools, and some other contexts. On the other hand, some accept the English loanwords and consider that language exchange is a natural phenomenon.

In Myanmar, the students have to learn English from kindergarten to high school so it is sure that there could be the impact of Anglicisms on teaching and learning process of French language at the University of Foreign Languages. Some articles, research papers and internet websites state the nature and kinds of Anglicisms, but do not explicitly present the impact of Anglicisms and false friends on the teaching-learning process of French language. Therefore, this study aimed to reveal the positive and negative impacts of Anglicisms in order to upgrade the teaching techniques and attitudes towards it made by French language instructors and the students.

Therefore, the impact of Anglicisms, the most influential Anglicisms and false friends in Myanmar, some causes of errors of students in using Anglicisms and the techniques to overcome the obstacles of the negative impact of them are examined and presented in this paper.

Aim and Objectives

The aim of this paper is to examine the impact of Anglicisms: positive and negative impacts of Anglicisms and the false cognates in the teaching and learning process of French in Myanmar, at Mandalay University of Foreign Languages, which are based on the opinions and attitudes of experienced French language teachers, French language students and French speaking tourist guides. The objectives are to know about the nature of Anglicisms and to overcome the negative impact of Anglicisms in the teaching and learning process of French language.

Materials and Methods

The essential data and the information for this paper were collected by asking, interviewing and discussing with the experienced French language teachers, students (domestic & scholars) and French tourist guides, by exploring the internet websites, journals, magazines, and articles that expressed the attitudes towards Anglicisms. The research work was done by qualitative and quantitative approach and presented by using descriptive method.

Research Questions

1. What impacts would be caused by using the Anglicisms in the teaching and learning process?

2. Can Anglicisms facilitate or make difficult in teaching and learning French?

3. What kind of technique can we use to overcome the negative impacts of Anglicisms?

Literature Review

According to the linguistic point of view, borrowing a word from another language is just a natural phenomenon and an inevitable process. As French and English are living languages, and a language's evolution is influenced by other languages is no wonder.

Benjamin Vachet, the writer of the article entitled "Should we be afraid of Anglicisms?" (ONFER[+], 2020, p.1) in the online magazine, stated that "Borrowing the words from a language is an absolutely natural and universal phenomenon. In a bilingual community like ours, the opposite would be abnormal" about Anglicisms. Moreover, in this article Raciot said that "It would be dangerous to accept it without saying anything". (ONFER[+], 2020, p.1)

And the writer of this research paper once read a paper entitled "A General study on the errors made by French language students at MUFL" as a Departmental Research at MUFL in 2007. In that research paper, false Anglicisms (false friends) were studied and the writer mentioned the negative impacts of false friends.

And the writer named Marie Fortin, a tutor, Mid Sweden University, Department of Humanities, wrote a research paper entitled "Anglicisms in the French languages: A comparative study of English loanwords in French from France and Quebec", which was published in 2009. In the paper, she wrote and explained: "How languages influence each other and influence of English on the French language".

Moreover, U Aung Myat Hlaing, lecturer of the Department of French at MUFL, wrote a paper under the title of "The Use of Anglicisms in French Vocabulary: Principal Causes and Reactions of the French towards it", in that research paper, he stated "The six types of Anglicism in French vocabulary" and the history of Anglicisms. There was no research on the impacts and attitudes towards the Anglicisms made by Myanmar teachers and learners. Thus, this paper revealed the impacts of Anglicisms, false friends and attitudes towards it.

Findings and Discussion

According to the linguistic point of view, borrowing a word from another language is an absolutely natural phenomenon and an inevitable process. As a foreign language teacher, it is essential that he faces the positive and negative Anglicisms in teaching French to Myanmar students who have previously learned English.

In accord with this research, in Myanmar, the students have to learn English from kindergarten to matriculation. For them, Anglicisms would be the positive impact in studying French at the beginner level. Especially in learning reading and listening skills, some Anglicisms, English loanwords, can facilitate their comprehension. Generally, beginner-level students get stuck on unfamiliar words and they feel it difficult to get general comprehension if they see many unfamiliar words and hear them in listening. So, it can be said that Anglicisms are helpful to the beginners whose lexical field is limited and the presence of Anglicisms would be able to facilitate the learning process for those who are at the elementary level in French.

At the intermediate and advanced levels, the role of Anglicism is decreased obviously because the more the students become fluent in French, the less the influence of Anglicisms they get. However, in the tourism sector, the French tourists use much more Anglicisms in these years. For

example, the following English loanwords, a survey of French tour guides showed that the phrases the most common used by French tourists during their visit to Myanmar are as follow:

Anglicisms (English Loanwords)

1. baby-foot (noun, masculine)
2. check-in (noun, masculine)
3. email (noun, masculine)
4. fast-food (noun, masculine)
5. hall (noun, masculine)
6. minibus (noun, masculine)
7. scooter (noun, masculine)
8. shopping (noun, masculine)
9. top (noun, masculine)
10. week-end (noun, masculine)
11. cool (adjective)
12. stopper (verb)

As the short phrases,

1. C'est **cool**!
2. C'est **OK** .
3. C'est **top**!
4. Écrire un **email**
5. Faire du **shopping**
6. Faire le **footing**
7. Faire le **trek**
8. Faire le **check-in**
9. Prendre le **lunch**
10. Visiter en **scooter**

According to the above study, the effects of Anglicisms (Positive Impact of Anglicisms) are important not only for the beginner level but also for all other levels. Therefore, a total of 50 people, French tourists, French language teachers, students (domestic, scholars) and French tourist guides were surveyed on the impacts of Anglicisms in teaching and learning French and found the followings:
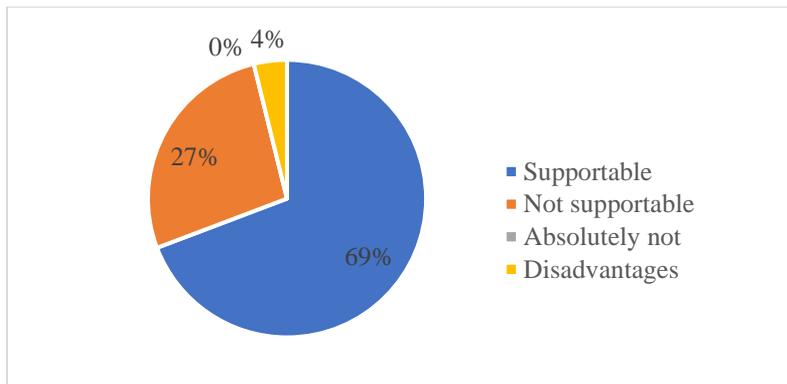
Figure 1. Attitudes towards the Anglicisms
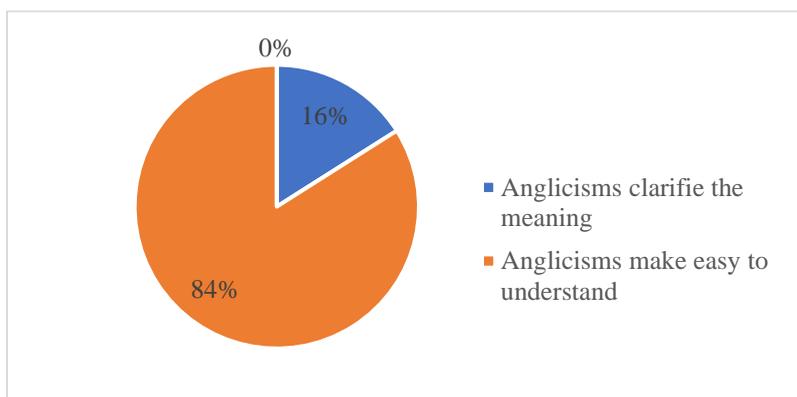
Figure 2. Survey on the question: What do the Anglicisms support?

On the other hand, the impacts of Anglicisms, they have both positive and negative effects. It has been observed that the negative impacts (errors) caused by false friends (faux-amis): the words that look the same, but have different meanings.

It is assumed that this type of error is caused by false Anglicisms (false friends) and the most common type of error is overgeneralization error. Overgeneralization is a phenomenon in which language learners apply a rule or a pattern in a situation where it does not apply in the target language, resulting in nonconventional form often referred to as an overgeneralization error.

The following are some of the false Anglicisms (false cognates) that Myanmar students are facing as negative impacts.

Table. Some Common False Friends (False cognates)

No.	English Word		French Word	
	Example	French and Myanmar Meaning	Example	English and Myanmar Meaning
1.	actually	(en fait, à vrai dire) အကယ်စင်စစ်	actuellement	(currently, at present, now) လောလောဆယ်
2.	agenda	(ordre du jour) အစည်းအဝေး အစီအစဉ်	agenda	(diary) နေ့စဉ်မှတ်တမ်း
3.	anniversary	(anniversaire de mariage) မင်္ဂလာ နှစ်ပတ်လည်နေ့	anniversaire	(birthday) မွေးနေ့
4.	baby	(enfant "garçon ou fille") ကလေးငယ်	bébé	(infant) မွေးကင်းစ ကလေးငယ်
5.	bachelor	(célibataire) လူပျို၊ အပျို	bachelier	(person who has passed the baccalaureat) တက္ကသိုလ်

No.	English Word		French Word	
	Example	**French and Myanmar Meaning**	**Example**	**English and Myanmar Meaning**
				ဝင်တန်း အောင်မြင်ပြီးသူ
6.	benefits	(advantages) အကျိုးကျေးဇူး	benefices	(profits) အမြတ်
7.	box	(boîte) သေတ္တာ	boxe	(boxing) လက်ဝှေ့
8.	bra	(soutien-gorge) ဘရာစီယာ	bras	(arm) လက်မောင်း
9.	comedian	(un, une comique) လူပြက်၊ လူရွှင်တော်	comédien	(actor) သရုပ်ဆောင်
10.	command	(ordre) အမိန့်	commande	(order) မှာကြားခြင်း
11.	conductor	(controleur) လက်မှတ်ရောင်းသူ	conducteur	(driver) ယာဉ်မောင်း
12.	to cry	(pleurer) ငိုသည်။	crier	(to shout, to scream) အော်သည်။
13.	dent	(bosse sur du métal) အချိုင့်၊ အခွက်	dent	(tooth) သွား
14.	evidence	(preuve) အထောက်အထား၊	évidence	(something obvious)

No.	English Word		French Word	
	Example	French and Myanmar Meaning	Example	English and Myanmar Meaning
		သက်သေခံ		သိသာထင်ရှား သောအရာ
15.	fault	(défault) အပြစ်	faute	(mistake, error) အမှား
16.	gas (US)	(essence) ဓာတ်ဆီ	gaz	(natural gas) သဘာဝဓာတ်ငွေ့
17.	journal	(revue) အကြောင်းအရာ၊ အတတ်ပညာ ဆိုင်ရာဂျာနယ်	journal	(newspaper) သတင်းစာ
18.	licence	(permis) လိုင်စင်	licence	(degree) ဘွဲ့၊ ဒီဂရီ
19.	mare	(jument or ânesse) မြင်းမ (သို့) မြည်းမ	mare	(pond) ရေကန်ငယ်
20.	pain	(douleur) နာကျင်မှု	pain	(bread) ပေါင်မုန့်

Regarding the negative impact, a survey was conducted on the French tourists, teachers, students (domestic & scholars) and the tour guides about the negative impact due to Anglicisms, it was observed as follows:
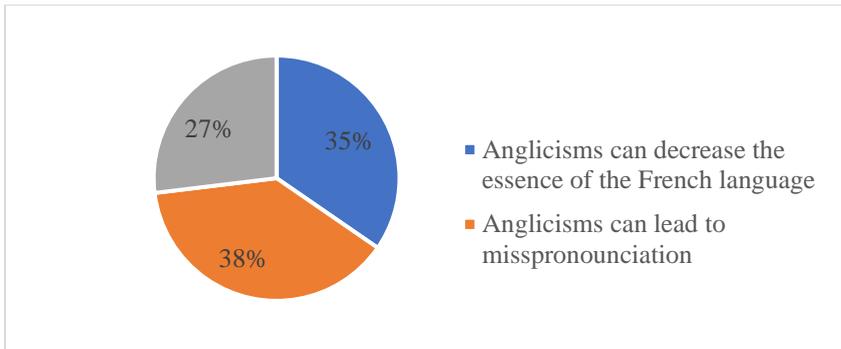
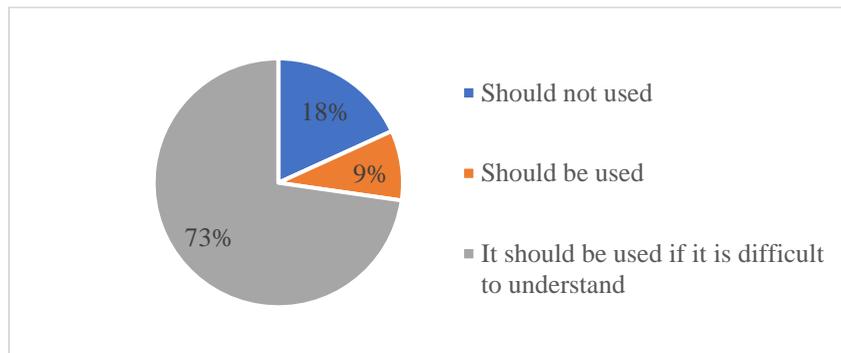Figure 3. The Attitudes towards the Negative Impact due to Anglicisms

Figure 4. A Survey was Conducted on the Statement: "English Words should be Used if the Equivalent Words already Exist in French"

According to the above findings, due to Anglicisms, Myanmar learners who have learned English before can get a better understanding while they read and listen in French, and sometimes, Anglicisms can make them easy to speak in French.

Therefore, due to Anglicisms, it can be concluded that they make teaching and learning process easier. However, sometimes the effects of false cognates can lead to misuse of words and pronunciation. The only way to overcome such errors, students should be introduced to the Anglicisms and false cognates and their causes and effects in advance.

Conclusion

The penetration of Anglicisms into the French language has begun since 19th century so language cannot stand alone. It must be accepted that the transition from one language to another is a natural phenomenon. Therefore, for the Myanmar teachers and learners, it is an inevitable process that the roles of Anglicisms must be taken into account in the teaching and learning context.

Therefore, if a teacher carefully considers the impacts of Anglicisms presented in this paper and introduces them to the students, it can greatly contribute to the development of the French language.

This paper examined only the impacts of Anglicisms and false friends. So, other studies such as the comparison of grammatical structure between two languages, their grammatical rules, errors and mistakes could be done too.

Acknowledgments

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A Study of French Polysemous Words for Learning Context in Myanmar Language

Yadanar Myint[*]

Abstract

This study examines by the comprehensive view on polysemy in some French parts of speech. First year students in French major at Mandalay University of Foreign Languages-MUFL learn four language skills that need to be developed for complete communication. Since some French parts of speech have multiple meanings. Students need to understand French polysemous words as an indication of their linguistic, conceptual knowledge that would support their interaction. As a qualitative research, the method used was the comparative study, and the study was based on secondary data sources such as previous studies and data extraction concerning French polysemy. It will then further describe and analyze French polysemy in Myanmar usages in the finding and discussion. At the concluding part this study will draw the implications of these findings as an overview towards improving the students' understanding of French polysemy in Myanmar meaning.

Keywords: language learning, polysemous, understanding, parts of speech

Introduction

The key component of language is communication that relies on verbal or non-verbal codes. It must be noted that the effective communication skill is important in our daily activities. Communication is the process by information is exchanged among people. Thus, the expected outcome of communication is to avoid misunderstanding the meaning of the message. Language is defined as a method of human communication consisting of the use of words. However, most language users are facing difficulties related to polysemous meanings, which is forming a barrier to improving communication skills.

The French language is expressed through grammar as well as many words and expressions so much that French words are very rich in the concept of polysemy. The term 'Polysemy' is traditionally defined as a single word with having multiple meanings. Some French words and

[*] Associate Professor, Department of French, Yangon University of Foreign Languages

expressions are so polysemous that users or learners can get confused about the meaning of words. For example, French words can possibly be used in more than one meaning, and they continue to be polysemous in their usage in other languages. This is a basic fact that the study of this paper will be based on and will identify the meanings of French polysemous words and expressions compared with Myanmar usages in terms of parts of speech, verbs, nouns, adverbs, adjectives in particular.

Aim

This study aims to identify French polysemous usages for Myanmar-French bilingual students in their first year at Mandalay University of Foreign Languages for their better understanding in a polysemous sense. The research finding is intended to contribute to the students' learning process in the correct usage of polysemous words and also support the further study of the French language and its sentence comprehension.

Literature Review

This literature review will discuss different literature reviews and findings by various scholars about polysemy. Mohammed, E. T. (2018) defines polysemy as a "situation" in which the same word has two or more different meanings. Faniran (2016) also describes that polysemy as a case in which a single word has multiple meanings; each of these meanings has to be learned separately in order to be understood.

In French language, it is believed that there are some words that may have more than one sense. According to Khaghaninejad (2012) discussions that French language is rich in the use of phrasal verbs (verbes à particule), idiomatic expressions (expressions idiomatiques) and other expressions. As closely related to that, a French word can be used in different contexts and in distinct meanings just as it is applicable in all languages. All the above-mentioned literature indicates that polysemous has multiple meanings with different levels of categorization.

Data and Method

This study tends to examine the reflection of polysemous in some French parts of speech (parties du discours) compare with Myanmar usage. As a qualitative research, the method of this research engaged comparative study including analysis, diagnostic and descriptive approach for close examination of French polysemous. The relevant data extracting from previous research, study selection done by international scholars and also other research purposes related polysemous studies from Mandalay University of Foreign Languages as well as French and Myanmar Dictionary.

Research Questions

To achieve its aims and objectives, this study has developed the main research questions:

1. How can this research determine the polysemous meanings of the French language by making a comparison with Myanmar usages in terms of parts of speech?

2. How does polysemy have multiple meanings in related senses for students' understanding of sentence comprehension between French and Myanmar?

Findings

This study observes words in the French language which are with more than one sense. This research discusses some French parts of speech (verbs, nouns, adjectives and adverbs) in this finding, but the others are not discussed and thus they will be excluded. First, although verbs are said to be action words, some French verbs can be used in a polysemous manner because French is a language enriched with a variety of expressions. Second, the study discusses that a noun represents one of the most important parts of speech in languages. It is observed that nouns are also polysemous in French.

Third, it can be realized in this study that French adjectives carry the concept of polysemy together with their major function of qualifying nouns/ pronouns. Lastly, it is observed in this study that adverbs can also be termed to be polysemous in nature.

This study shows that some French parts of speech such as verbs, nouns, adjectives and adverbs can serve as polysemy. The comprehensive view on the translation and comments on the Myanmar usage are as follows;

Table 1. Polysemy in French Verbs

Word	Example Sentences	Myanmar Usages
Aller	Où vas-tu? (Where are you going?)	သွားသည် (to go)
	On va à la catastrophe. (We are heading for disaster.)	မကြာခင်ဖြစ်ပျက်သည် (to be getting on)
	J'abonnement va jusqu'en juin. (The subscription lasts till June.)	ကြာသည် **(to last)**
	- Comment allez-vous? - How are you?	ကောင်းမွန်သည် (fine)
	Ça ira comme ça? (Is it all right like that?)	လိုက်ဖက်သည် (to go well)
Descendre	Descendre à Marseille. (To go down to Marseille)	ဆင်းသွားသည် (to go down)
	Fais descendre le chien du fauteuil. (Get the dog off the chair.)	ဆင်းလာသည် (to come down from)
	Vous descendez à la prochaine? (Are you getting off at the next stop?)	ထွက်လာသည် (to get out of the car)
	Les cheveux descendent jusqu'aux	ဆံပင်/အဝတ်အစားများ

Word	Example Sentences	Myanmar Usages
	épauls. (The hair goes down to the shoulders.)	ရှည်လျားသည် (to go down)
	Nous descendons dans cet hôtel. (We are staying at this hotel.)	တည်းခိုသည် (to stay at a hotel)
	Il est descendu en pente douce. (He slopped gently down.)	ဖြည်းဖြည်းချင်း လျှောဆင်းသည် (to slop gently down)
	Elle est descendue à la dixième place. (She has fallen back into the tenth position.)	အဆင့်လျော့သည် (to fall/ go out)
	La police est descendue dans cette boîte de nuit. (The police raided the night club.)	ရုတ်တရက်ဝင်ရောက် ဖမ်းဆီးသည် (to barge in)
	Il a bu une bière pour faire descendre son sandwich. (He washed his sandwich down with a beer.)	အရည်တစ်ခုနှင့် မျှောချသည် (to swallow)
Prendre	Il l'a pris dans le tiroir. (He took it out of the drawer.)	ယူသည် (to take out of)
	Je passerai les prendre chez toi. (I'll come and get them from your place.)	လာကြို/ခေါ်သည် (to pick sb up)
	Je vous y prends! (Caught you!)	ဖမ်းသည် (to catch)

Word	Example Sentences	Myanmar Usages
	Est-ce que vous prendrez du café? (Would you like some coffee?)	စားသည်/သောက်သည် (to have/ to get)
	Prends des notes pour l'examen. (Take notes for the exam.)	မှတ်သားသည် (to write down)
	Il prit un ton menaçant. (His voice took on a threatening tone.)	မြှင့်တင်သည် (to put on)
	Ce spécialiste prend très cher. (This specialist charges very high fees.)	တန်ဖိုးမြှင့်မားသည် (to charge)
	Elle sait le prendre. (She knows how to handle him.)	ဖြေရှင်းသည် (to deal with)

Table 2. Polysemy in French Nouns

Word	Example Sentences	Myanmar Usages
Affaires	Elle travaille au ministère des Affaires Étrangère. (She works at the Ministry of Foreign Affairs.)	အရေးကိစ္စ (affairs)
	Il est dur en affaires. (He's a tough business man.)	စီးပွားရေး (business)
	Range tes affaires! (Put your things away!)	ပစ္စည်း (things)
Garçon	Tu es un grand garçon maintenant. (You are a big boy now.)	ယောကျ်ားလေး (boy)
	Il est beau garçon.	လူငယ်

Word	Example Sentences	Myanmar Usages
	(He is good-looking.)	(young man)
	Il était le garçon de café. (He worked there as a waiter.)	အမျိုးသားစားပွဲထိုး (waiter)
Glace	Les enfants patinent sur la glace. (Kids are skating on the ice.)	ရေခဲ **(ice)**
	Elle a mangé une glace au café. (She had ice cream with coffee.)	ရေခဲမုန့် (ice **cream**)
	La glace de la vitrine est cassée. (The glass in the window is broken.)	မုန် (glass)
	Elle se regarde dans la glace. (She looks at herself in the mirror.)	ကြည့်မုန် (mirror)

Table 3. Polysemy in French Adjectives

Word	Example Sentences	Myanmar Usages
Beau	Il est beau garçon. (He is good-looking.)	ကြည့်ကောင်းသော (good-looking)
	Ce n'est pas beau de mentir. (It isn't nice to tell lies.)	မြင့်မြတ်သော ((moral) noble)
	Il fait beau. (The weather is nice.)	သာယာသော (lovely/nice)
	Elle a fait un beau métier. (She had a successful career.)	အောင်မြင်သော (successful)

Word	Example Sentences	Myanmar Usages
Fort (e)	Le dollar est une monnaie forte. (The dollar is a strong currency.)	ခိုင်မာသော (strong)
	Elle est forte de poitrine. (She's got big breasts.)	ကျယ်ပြန့်သော (large)
	Son fils est fort en maths. (His son is good at math.)	တော်သော ((talent) Good))
	Il a emballé le colis dans du papier fort. (He wrapped the package in strong paper.)	ကြမ်းခံ (solid)
Large	Il a un chapeau à larges bords. (He has a wide-brimmed hat.)	ကျယ်သော (wide)
	Elle a un pantalon large. (She has loose-fitting pants.)	ချောင်သော (loose-fitting)
	Il y a une large part de mensonge dans ce qu'il dit. (There are a lot of lies in what he's saying.)	အရေးကြီးသော (important)
	Ses parents sont larges d'esprit, ils sont compréhensifs. (Her parents are broad-minded understanding.)	နားလည်သော (broad-minded)
	Elle est très large avec ses enfants. (She's very wide with her children.)	ရက်ရောသော (generous)

Table 4. Polysemy in French Adverbs

Word	Example Sentences	Myanmar Usages
Simplement	Ils vivent très simplement. (They lead a very simple life.)	ရိုးရှင်းစွာ **(simply)**
	Je vous demande simplement de me prévenir! (I just want you to warn me.)	သက်သက် (just)
	Cela s'explique très simplement. (That's easily explained.)	လွယ်ကူ စွာ (easily)
	C'est tout simplement inadmissible. (It's quite simply intolerable.)	quite simply (တော်တော်လေး**)**
Toujours	Je t'aimerai toujours. (I'll always love you.)	အမြဲတမ်း (always)
	Bien qu'à la retraite il travaillait toujours. (Although he had retired he was still working.)	အခုထိ (still)
	Écrivez toujours, il vous répondra. (Write anyway, he might answer you.)	မည်သို့ပင်ဖြစ်စေ (anyway)
Vivement	Les élèves se sont vivement assis quand ils ont entendu le professeur arriver. (The students were eager to sit when they heard the teacher arrive.)	လျင်မြန်စွာ (quickly, fast)
	Elle a répliqué vivement qu'elle n'était pas d'accord. (She replied strongly that she did not agree.)	ခိုင်မာစွာ (strongly)

Word	Example Sentences	Myanmar Usages
	Nous regrettons vivement votre absence. (We deeply regret your absence.)	လေးလေးနက်နက် (deeply)
	Vivement les vacances! (I can't wait for the holidays!)	ဆန္ဒပြု (to make a wish)

Discussions

According to the proposed descriptive and analytical approach, it was clearly noted that some French parts of speech can serve as polysemy. This study illustrated that verbs have a different meaning in respective examples such as "aller", "descendre" and "prendre". For example, the French verb "descendre" entails many meanings in Myanmar such as ဆင်းသည်၊ ထွက်လာသည်၊ ဆံပင်/အဝတ်အစားများ ရှည်လျားသည်၊ တည်းခိုသည်၊ ဖြည်းဖြည်းချင်း လျှောဆင်းသည်၊ အဆင့်လျှော့သည်၊ ရုတ်တရက်ဝင်ရောက် ဖမ်းဆီး သည်၊ အရည်တစ်ခုနှင့် မျှောချသည်။ Thus, a French verb has rich polysemous interpretations and meanings in Myanmar.

It is also observed that most French nouns have the concept of polysemy. This study showed French nouns as polysemy in respective examples such as "affaires", "garçon" and "glace". For example, the French noun "affaires" conveys the Myanmar meanings of အရေးကိစ္စ၊ စီးပွားရေး၊ ပစ္စည်း Therefore, attention needs to be paid to the use of French nouns to avoid misunderstanding of polysemous meanings.

In addition, the study discussed polysemy in French adjectives. The above-mentioned examples stated that French adjectives also serve the concept of polysemy such as "beau", "fort (e)" and "large". For example, the French adjective "large" means in Myanmar ကျယ်သော၊ ချောင်သော၊ အရေးကြီး သော၊ နားလည်သော၊ ရက်ရောသော. Thus, the user needs to be careful with French nouns, which can convey multiple meanings in Myanmar.

Lastly, different types of French adverbs conveying the meaning of time, place, manner, purpose and condition are also discussed. The above

mentioned adverb examples such as "simplement", "toujours" and "vivement" imply that French adverbs can lead to a state of polysemy. For example, the French adverb "simplement" carries Myanmar meanings such as ရိုးရိုးရှင်းစွာ၊ သက်သက်၊ လွယ်ကူစွာ၊ တော်တော်လေး. As a result, the user needs to understand the complexity of polysemy in the usage of French adverbs and its implications in Myanmar.

It is observed in this study that most polysemous French words/expressions implicate a wide variety of meanings also in another language. It is as well observed that most verbs in French are polysemous. Furthermore, out of all the eight parts of speech in French (nouns, pronouns, verbs, adverbs, adjectives, prepositions, conjunctions and articles), only verbs can be said to be rich in the use of polysemy in the French language.

To present an overview, it is found that in French parts of speech especially verbs, nouns, adjectives and adverbs are to be polysemous in nature with different context. In terms of comparative study of polysemous, it was found that one French word has different meanings in Myanmar usage. As a result proves that there is also existing so many polysemous in terms of usage in Myanmar. The findings of this study showed that verbs are mainly used and the other like nouns, adjectives and adverbs are less used in polysemous usage compare with French and Myanmar. The implication of the study suggests that the leaners need to avoid the complexity of polysemous in terms of language communication.

Conclusion

In this study, the results gathered from the analysis show that polysemy brings about confusion, misunderstanding and a level of meanings on words or expressions with the contextual approaches of their usage. This paper attempts to find polysemy in French parts of speech such as verbs, nouns, adjectives and adverbs in the form of alternative meanings of polysemous usages in French and Myanmar. It is assumed that this paper will provide some insights for teachers and learners of French and those who wish to explore further the polysemy of Myanmar and other languages. Therefore, the full understanding of polysemous meanings in French and Myanmar will encourage students to revitalize their inspiration for the learning process and the finding will support further teaching process at MUFL.

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A Comparative Study of Household God Cults in Russian and Myanmar

Thida Win*

Abstract

This paper highlighted the traditions of household god cults in Russian and Myanmar. The focus aspects are the features of household god in respective countries, the regarding tradition of being a guardian of a house, worshipping as a god in houses after the one had died, specific places as accommodations for household gods, inviting tradition to household god when family transfer to new house, the role of household god when one of the family members gets married, standard norms for offertories to household god, the role of household god and prediction the future of family. It can be assumed that this paper would help the students who are learning Russian Language as a foreign language in order to get knowledge about the tradition of household god cult in Russian as well as in Myanmar. To analyze the similarities and differences of the two traditions, comparative descriptive method is used for this research paper.

Keywords: household god, spirit cult, worship, similarity, difference

Introduction

Russian household god cult is a Slavic religious tradition. In Myanmar Era 266, 4th century A.D, the era of the kingdom in Bagan, the 7th king, King Thinligyaung (Thinligaung Min), people extremely worshipped Min Mahar Giri beyond the triple Jewel (Buddha, Dharma and Sangha). Although King Anawrahta of Bagan designated to ban spirit worship and ordered to destroy all shrines for Nat in front of every house, people worship Min Mahar Giri transforming as household god worshipping tradition by hanging offertory coconut at the corner of living room. In both cultures, household god is regarded as a guardian of house who protect family members as well as domestic animals of the house. Therefore, household god is offered with offertories and entrusted by new family member in order to get protection and guard from troubles.

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* Associate professor, Department of Russian, Mandalay University of Foreign Languages

Aims

This paper aims for students those are learning Russian language as a foreign language in order to get knowledge about Russian's household-spiritual worship as well as their mother tongue's tradition of worshipping household-spiritual in Myanmar. They can exchange cultures and traditions between the two countries and it can motivate their learning desires to cultures and traditions of both countries.

Materials and Method

The researcher visited to Ma Gyee Cho village, Amarapura township, Mandalay region to collect data and information about household-spiritual worship tradition in Myanmar. In that village there are 200 houses and every house hang an offertory coconut (Nat own) and it is clear that 100% of household-spiritual worship in that place. The research collected data by interviewing the 8 housewives and one shaman (Nat ka daw) and another shaman in Ma Gyee Kai village to get data for household-spiritual worship tradition in Myanmar. The data are collected from books such as Russian literary, Russian history and Myanmar history, Russian-Myanmar and Myanmar-Russian dictionaries are used and references from internet are used and comparative and descriptive methods are used to present this research.

Research Questions

(1) How the tradition of household god worship in Russian is differ from that of in Myanmar?

(2) What are the similarities of the two traditions of household god worship in Russia and Myanmar?

Literature Review

Comparative study of the two traditions of household god cult has not found yet. Russian books about spiritual worship and Myanmar books about 37 spirits cult are used as references for this paper. "Русская печь" by Г.Я.Федотов (2003) published in Эксмо, "Forward" by O.V. Golovko (2006) published in Russia Publication in Moscow, 37 spirits by U Pho Kyar (1999) published by Paryamee publication, from the original book " A phase of Spirit-Worship prevailing in Burma" by SIR,R.C.TEMPLE, Bart.C.I.E the

book " History of traditional spirit cults", is translated by U Htwe Han (2013), did research by U Ba Nyunt and published from Khin Cho Tun Publication are used as references for this research. "The relationship between spirit and man" by Aung Naing Soe (2011), published from Pu Tu Tu Lay publication centre , Yangon are also used to collect data about spirit worship in Myanmar.

Findings

There are 12 subtitles in presenting the household cults Russian and Myanmar.

Household God Image

Russian household god is represented as an old man with gray-haired who is covered with soft hairs the whole body even his hands and feet.[1]

Myanmar household god is represented as a man, dressing like an ancient Myanmar Prince wearing headwear, earlobe and sash with fan in his left hand and sward in his right hand in a standing position on the dais on the ogre bending on the white elephant.[2]

Worshipping as household gods

Russian believe that a household god is the one who lives secretly in the house, household spirit, master of house, a kind of ancestor, the founder of the house, the guardian god for the house and possessions such as farms and cultivation as well as the health of the family members and animals in the house.

The name of Myanmar's household god is Min Mahar Giri (also called Eindwin Nat). The given name as human is blacksmith Maung Tint De. He protects the health, business and social status of household family members. He helps all family members in their daily lives. Myanmar people believes that the household god guard them from the danger of thieves and enemies. If someone tries to disrupt the house, the god would bewitch him. Min Mahar Giri is regarded as a guardian of house and the one who protects and helps family members in the house.

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[1] Головко, 2006, 158.

[2] ဖိုးကျား၊ ဦး၊ ၁၉၉၉၊ ၃၇။

Biography of household god

It is found that Russian believes that after an ancestor dies and still stays in the house and they worship him as a household god.

Myanmar's household god (Ein Dwin Nat) was a son of famous blacksmith U Tint Taw and his human name is Maung Tint De (Mr. Handsome). He was so extremely strong that the King of Tagaung was worried, lest he attempted to usurp his throne. So, the King tried to kill Maung Tint De. He run away and hid himself from the King. The King made a trap for him by getting married Maung Tint De's sister and persuading him to come out of hiding so that he could be given as a high officer. When Maung Tint De came out of hiding, the King had him and arrested and burned alive tied to a champac (sagawabin) tree. After he died, he became evil Nat. Maung Tint De was worshipped as Nat (spirit) by all over the country from Myanmar Era 266, 4th century A.D , the era of the kingdom in Bagan, the 7th king, King Thinligyaung (Thinligaung Min) to the whole country. In that Era, all people in the country worshipped by having a shrine (nat sin) which essentially serves as house or accommodation for Nat or spirit and offered with food every day. They extremely worshipped beyond the triple Jewel (Buddha, Dharma and Sangha). King Anawrahta of Bagan designated an official order to ban spirit worship and destroy all shrines for Nat in front of every house. Since then, the public had no right to worship in front of their house and they prepared to worship by having shrines, hanging offertory coconut, for Min Mahar Giri as household god (Ein Dwin Nat). It is found that Myanmar people worship household god, Min Mahar Giri, (Ein Dwin Nat) by hanging offertory coconut in their houses.

The considerable places that Russian household god lives

For Russians, stove, under the stove, behind the stove, house door or red corner are the places that assumed to be accommodation of household god. Stove is a vital part of the house. The stove is the most common place as the household god likes to live in the stove. So, the ancestors throw swept rubbish from the stove's floor to the back of the stove. They were worried that the household god would be thrown away with rubbish. They have the stove at the right or left corner of the entrance door. The stove is used in order to keep warm the whole house, cook for the family members as well as pets and use as an air system for the house. Red corner is the grand part of the

house. Red represents beautiful, grand and high part of the house. The red corner is either the left or right part of living room where light can be seen. Russians hang photographs of their ancestors and their religious statuses or pictures such as Christians God with lamp. They celebrate the grand ceremonies in that corner with their family members. They welcome and their important guests in that red corner.

The considerable places where Myanmar household god lives

In the era of Bagan, Myanmar century 266, the era of King Thinligyaung, the 7th King in Bagan dynasty, not only from officers to public worshipped and celebrate annual festivals with shrines, accommodations for Min Mahar Giri at Mount Popa (Great Mountain) but also the public worship in front of their houses with shires for that Nat (Min Mahar Giri). In the era of King Anawrahta, Shin Aranhan came to Bagan and preached Buddha Dharma to the King and the King Anawrahta pleased with Buddhism and order to destroy all shrines in front of the houses that public built for Min Mahar Giri and stop Ari monks worship. Since that time, people had to worship Min Mahar Giri in their houses by hanging an offertory coconut. So, the name changed as household god (Ein Dwin Nat). At the right or left corner of living room assuming accommodation for the household god, Myanmar people worship by hanging an offertory coconut.

Inviting Household God to new house by Russians

When the house owner wishes to transfer to new house from the old house, the first thing to set in the new house is the stove. A cat is let to stay in new house before the house owners live there. If the cat has no harm, animals such as buffalos and cows are transferred to the compound of the new house. Family members are not allowed to transfer to new house until household god has not invited to the new house. For welcoming ceremony, at lunch time, the oldest woman from the family members has to set fire in the old stove and collect the hot coals with a spade. The woman put all the collected hot coals into the clay pot at twelve noon. The clay pot is put on the chimney and covered with table cloth. Then opening the entrance door, the woman said "Welcome, Grandfather, to the new house" by staring at the clay pot. Assuming as a train, the invisible household god is carried with hot coals in the clay pot to new house. The woman holds the clay pot with a spade and depart from the old house. She has to give a great care with the clay pot in

order to be safe the household god and leading to the entrance gate of the new house. All family members followed by the leading of the husband of the new house are waiting at the entrance gate of the new house. The husband is holding a packet of bread and salt in a clean handkerchief. The woman ask "Are you happy, all guests?" to those who are waiting for her at the entrance gate of the new house. The husband bows and gives a reply "We all welcome Grandfather to our new house". The husband has to stand in front of the woman and all family members line up and all go slowly into the new house. When they are in the new house, the woman put the clay pot on the chimney of the new stove. Uncovering the clay pot, she has to shake the table cloth out intending the invisible household god at the corner of the new stove. After letting the household god free, she has to take the clay pot from the chimney and put all hot coals into the big coals of the new stove. Then ash from the old house to the hot coals so that the big coals are not burned and it means the duty of setting household got to his accommodation is done. Since then, the household god is in the new house and guard the house devotedly to all family members. The clay pot used to carry hot coals is not allowed to used. It is busted and the pieces of pot are buried at the red corner of the house.

Inviting Household God to new house by Myanmar

Myanmar believes that household god comes along with the family when the family transfers to the new house from the old one. The tradition of worshipping and giving accommodation to household god is interesting that the family set hanging offertory coconut at right or left corner of the new house. Then the offertory coconut is sprayed perfumes from grinding sandal wood on the stone slab and offering tea leaves, laurel leaves, rice and tempuras to the household god. For that worshipping ceremony, the offering is done with the help of housewife herself or shaman (Nat Ga Daw).

The role of household god for Russian wedding

During the engagement ceremony in bride house, firstly, both fathers from bride side and bridegroom side have to put their hands on the stove. This means they receive the guard of household god by themselves. If the bride agrees the engagement, she has to take theirs from the oven. The bride is

blessed by parents near the stove and the engagement ceremony is continued. After wedding, the newly wife has to put her hand on the stove in her newly husband's house. Then sacrifice to household god or offering presents are done for example putting a piece of bread on the stove. The newly wedded wife has to receive the guard of household god by herself.

The role of household god for Myanmar wedding

Myanmar wedding tradition includes offertory preparation for the tradition cults as well as a set for household god and that means giving information about a new family member in the house. That person (the newly wedded wife) has to receive the guardianship of household god by herself. If the wife is pregnant before wedding, there must be a set of offertories for the baby and it is a tradition of bestowing the baby to household god. A set of offertories for household god consists of two bunches of bananas, one coconut, a packet of tea leaves (no standard limitation for one packet, it is suitable in any amount of tea leaves), 7 pieces of rice pancake in white color, 7 pieces of rice pancake in red color (7 pieces represent the safeguard of 7-day-born people). These are the essential things for a set of offertories. It is found that some housewives prepared the set of offertories for household god by adding chewing betel, sweets and so on. The husband is defined as the head of household as new family is began to set up. It is said that the husband is defined as the founder of the family who stand toweringly in front of the family and the guardian of the family members as the household god guards and protects the house.

Standard Norms of offertories for Household God in Russia

Bay-leaf = success, being powerful

Sunflower seeds = being healthy for babies

Whole grain = starting a new life

Eggs and nests = being continue to live

Corn = health of babies and new generation, continue to live, strengthen the family's unity, mutual respect

Broom = (downward position) sweep out the fights and quarrels within the family, (upward position) more abundant income

Nuts = being healthy, intelligent

Crops and beans = being wealth and safety in daily life

Poppy flower and seeds = fulfill wishes

Red pepper = husband's health

Pine fruit = success, perseverance

Onion = defense family's sorrows

Berry = defense from woman's ageing (do not look woman's age), to be look likes youngsters

Hay, dried flowers = to live longer, comfort and beauty

Pumpkin, pumpkin seeds, millet = to fertilizing the farms, richly fruiting

Bread = agreement, completeness

Coin = Success in business

Porridge and milk pot = bring to fulfillment

Garlic and pepper = Sweeping evils out

Herbs, Rose fruits = hardy health

Burlap = being wealth

Bread in circle shape = strength the family ties

Standard Norms of offertories for Household God in Myanmar

In Myanmar, the donation of offertory coconut to household god means that the best medicine to cure the burns is coconut juice. As the household god (Maung Tint De) was burned alive tied to a champac tree (sagawabin) and intending to that event people donate offertory coconut to household god. It is important to follow some rules;

- the offertory coconut is not in dried condition, if coconut has dried, a new coconut must be replaced immediately (must apologize with tea leaves when it is happened during vassa)

- offer with perfumes everyday

- give air with fan in order to get cold

- offer fan on the right side and sword on the left side of offertory coconut

- forbitten to make bed for couples near offertory coconut

- donate any kind of flowers with vase (expect hibiscus and champa flowers)

- forbitten offering lights and offertory joss near offertory coconut.

Offering light must be done at night of the next day of waxing moon of Tadingyut but the light must be away from offertory coconut. The above rules are must-follows for Myanmar people who worship household god.

The role of household god and foreshadowing the future

Russians set a time to bake bread after they had transferred to the new house. Every loaf of bread is checked carefully whether they are flawless or not after baking in a limited time. If the bread crust is flawless, this means the family would stay peacefully and happily in the new house under the guardian of household god. If a crack is found on the bread, it is a sign for bad fortune. In the future, it can be said that the family would have to leave the new house or the family members would be in troubles in a specific way. In that situation, the family has to ask the household god to help. The bread with crack has to leave alone for three days. After four days, the family has to cook the dinner in various cuisines interestingly. The bread with crack is cut into pieces equal number with family members and the leftover bread is divided into two pieces. One piece is for the god of the stove and the other piece is for the household god. The first part of the bread is packed with a clean piece of cloth and kept in a specific place for the god of stove. One piece of bread is keep with a glass of wine for the household god on the table. All adult family members have to give a toast with the glass of wine as they assume that the invisible household god is having dinner with them. After dinner, the bread intended for household god is pepper with salt three times and a coin is put into it then it is put on the stove. The husband has to say " Grandfather, master of our house, give love to all our family members, protect our possessions and domestic animals, accept my invitation, offertories and this glassful of wine" by putting a glassful of wine on the stove. He has to give three times of bow facing to the front, left and right sides of the stove. Then a she-cat (female cat) is let to sit on the stove and the husband has to say "Grandfather, a hairy animal is offered to you for the spacious compound" intending the invisible god. People believe that by doing

such kind of respect and offering, the god would become soft-emotional and he would stay in the house with great care and protect the family.

Myanmar people get fortune predictions from household god with the help of shaman (Nat Ga Daw). If the family is in trouble or the family members have difficulties in their business, they read fortune by inviting shaman. The shaman gets embody and tell the fortune of family. The family offer with offertories and beg for guardian from household god.

Discussion

It is clear that the similar tradition of cult of household god in Russia and Myanmar. The household god in Russia is considered as an accentor who has already died while the household god in Myanmar is a famous strong young man killed by the king in the past. One significant similarity is that both agree that household god is the guardian of the house. It can be said that the traditions of inviting household god to new house when the family transfer to a new house are in similar, but the inviting ways are totally different from one culture to another. The traditions of giving respect and worship to household god for wedding are in similar. It is interesting that Russians use offertories to household god according to their needs and wishes while Myanmar use offertories which would fulfill the needs and emotion of household god. For the aspect of foreshadowing, Russians prefigure themselves and offer and worship to household god while Myanmar people ask shaman and ask for help, it is slightly differ one tradition to another. It is clear that for both Russian and Myanmar, the cult tradition of household god is more common in rural regions than that of in urban region. It is necessary for those Myanmar who are learning Russian Language as a foreign language to learn their own tradition and cultures to explain and exchange culture when Russian visit to Myanmar. This research aims to highlight this reason.

Conclusion

Every nation has its own tradition. Russian and Myanmar have the tradition of household god cult. This paper focused the potion of household god in a limited condition. As further researches, study about other spiritual worship tradition or the study about cult of household god as M.A thesis and PhD thesis should be investigated by surveying and collecting data in respective region or township.

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ဆာ-ရစ်ချဒ်-တင်ပယ်လ်၊စီးအိုင်း၊အီး။(၂၀၁၃)။*နတ်သုံးဆယ်ခွံနှစ်ပါး* (ဦးထွေးဟန်၊ ဘာသာပြန်သူ)။ ရန်ကုန်မြို့။ (မူရင်းထုတ်ဝေနှစ် ၁၉၀၆)

ဖိုးကျား၊ ဦး(အမျိုးသားပညာဝန်)။ (၁၉၉၉)။ *ဂုဏမင်။* ရန်ကုန်မြို့။ ပါရမီစာပေ။

အောင်ခင်စိုး။ (၂၀၁၁)။ *နတ်နှင့်လူဆက်ဆံရေးနည်းများ။* ရန်ကုန်မြို့။ ပုတုတူးလေးစာအုပ်တိုက်။

မြန်မာ့စွယ်စုံကျမ်း(အတွဲ ၁၃)။ (၁၉၇၃)။ ရန်ကုန်မြို့။ စာပေဗိမာန်ပုံနှိပ်တိုက်။

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Characterization of the Japanese Novel Entitled "Sansyoodaiyu"

Sandar Win*

Abstract

The present research examines the novel "Sansyoodaiyu" by "Morioogai" from the point of characterization. It is aimed at studying the writer's characterization in the novel. The main characters in the novel are two children (Zushioo and Anzyu). It mainly depicts about pure affection between an elder sister and her younger brother. Library research method is used to collect the required data. It is found that the writer can depict each character in details and his characterization in the novels can make readers engross in the events of the novel. It is hoped for Japanese language learners and teachers that this study can contribute to a certain extent in teaching and learning Japanese novels.

Keywords: Characterization, Novel, main characters

Introduction

A novel is a relatively long work of narrative fiction, normally written in prose form, and which is typically published as a book. It is a kind of literature which can largely depict the culture and social community of a country. Novels are written based on the six elements (plot, theme, setting, conflict, character and point of view). Among them, the role of characters plays greatly on how best a novel is. In order to make readers interested and move them, characters need to seem real.

Literature Review

All literature texts including novels need certain characters. Without them, literary works often fail to make sense. A character can be any person, a figure, an inanimate object, or an animal. They can be different types and each character serves its unique function in the novels.

The step in literature to highlight and explain the details about a character in a novel is called characterization. It is also the process by which the writer reveals the personality of a character. Good characterization gives

* Associate Professor, Department of Japanese, Mandalay University of Foreign Languages

readers a strong sense of characters' personalities and complexities; it makes characters vivid, alive and believable.

The characters can roughly be differentiated as dynamic, static, flat, round and stock. For example, a dynamic character or a developing character changes during the course of a novel or a story. A static character remains the same throughout the whole story. Even the events in a story or a novel do not change character's outlook, perceptions, habits, personality, or motivations. The round characters are well-developed and complex figures in a story. They are more realistic, and demonstrate more depth in their personalities. A flat character does not change during a story. A stock character is a flat character that is instantly recognizable by readers. Like a flat character, the stock character does not undergo any development throughout the story.

This study will carry out characterization of the Japanese novel "Sansyoodaiyu" by "Morioogai". The writer Morioogai was born in Tsuno town, shiwane Prefecture. He graduated at Tokyo Medical University and became Military Physician in 1881. He wrote many texts which reflected the real situation with the affectionate mind to literature and in order to improve medicine. He was sent as a scholar to Germany. Later, he participated actively in Medicine Association and Literature Association.

Though countries and races are different throughout the vast world, it is understood that affection is the weapon to win over the hearts of these people. The novel "Sansyoodaiyu" by "Morioogai" has two main characters. It depicts about the affection of two siblings such as the sister being considerate towards her little brother, the sister's thinking and sacrifice upon her brother's escape while they were suffering trouble. These events make readers enjoy much pleasure. This novel is similar to the attitude and affection between siblings in the novel "Blood" by Journal Kyaw Ma Ma Lay. The creation of this novel is by "Imagery".

Plot Summary

There is a man called Masaji in Matsu, the place in northern Japan. At the early of Eho year, the emperor punished him life sentence to Tsukushi anraku (Nowadays in Kyuushuu). His wife and two children left in Shinobu City in Iwashiro Region. The names of two children were called Anzyu for daughter and Zushioo for son. When they became adults, they started their journey to search their father whom they did not know where

he was. One day, they reached Eichigo town. When they were preparing to sleep on the Ooka bridge in Eichigo town, they fell into a trap of human trafficker Yamaokadaiyu and were sold. Mother and two children along with a housemaid called Ubatake, altogether four, became victims. They were brought to the port, and got into two boats separately, one for two children and another for mother and their housemaid. It was revealed that they were cheated when the two boats went to different directions. The exposition of the novel is here the departing between mother and children on each boat. Actually, Yamaoka separately sold them to boatmen. When two boats headed to different directions, the environment filled with children's crying, and the mother could not do anything. Mother left words for them to keep the small amulet Buddha (Buddha Image) carefully.

The boat in which mother and housemaid went to Sado and another one with children went to Yura in Tango Prefect. In the boat headed to Sado, the housemaid suicided herself by jumping into the water. The mother also tried to keep on the same track with her but the boatmen did not let this happen since they bought her by money.

Anzyu and Zushioo, brought to Sado, were sold again to Sansyoodaiyu, the tycoon and crook, who bought people and enslaved them. The sister had to fetch brine and the boy was for cutting firewood. They tried to run away since they missed their parents. The elder sister sacrificed herself by jumping into the swamp in order to escape her brother from the hand of Sansyoodaiyu's men. The boy sought refuge into the monastery and he could run to Tokyo with the aid of Abbot.

A man wearing royal attire arrived to Kiyoomizu Temple. His daughter was suffering from a chronic illness. He dreamed of a day his daughter's suffering was healed when she worshipped to the Buddha Image owned by the boy who reached to Kiyoomizu Temple. Zushioo was taken into the palace and showed Buddha Image. As soon as the daughter worshipped to Buddha Image, she relieved from her illness. As for response to his merits, he was appointed in the palace and his name was called as "Masa Michi". By knowing his father was pure, his penalty was freed. In winter of the same year, Masa Michi was sent to Tango town as the Mayor. He banned human trafficking, searched his parents, and built a pagoda in rememberance of his sister. Moreover, he sent Kobagai, a girl who helped them when they were sold as slaves, to her native town, Isei. Another

person who was always in his mind was the Abbot at Kokubun monastery who later conferred the title of "Head of Monks".

He heard the news that his father passed away and there was no progress in his personal search for mother at Sado. Masa Michi alone walked along the street among farms in disappointment, thinking about his mother. When he noticed, he was near the workers' house. In a certain distance, a woman wearing dirty clothes kept sparrows away from millet seeds with the stick she hold. She sat in the middle of millet seeds which were spread. She was blind. When Masa Michi passed besides her, he heard her reciting a poem. That poem let him know she was his mother. He ran towards the blind woman by stepping upon millets by crying. As soon as he reached in front of the woman, he kneeled down and put Buddha Image to her forehead. They hugged each other along with expressing the utterance "Zushioo".

Aim

The present research aims at studying the writer's characterization in the novel entitled **"Sansyoodaiyu".**

Materials and Method

The novel "Sansyoodaiyu" by "Morioogai" is examined by using Library Research in order to study how the writer sets the characters in the novel.

Findings and Discussion

One of the two main characters in the novel is Zushioo. His role can be seen throughout the novel but he is not the dynamic character. In events after events, his character appeared. Being a static character ever is because of his permanent actions such as obeying his beloved sister, conducting things that should be in the time of being Mayor, and his favor to his parents.

The next main character is Anzyu, the sister of Zushioo. Every event in which she appeared from exposition to climax proved she is obviously a dynamic character. Though she did not appear in the falling action and resolution, her character is always attached towards readers. She is the fully

developed main character. She is considerate to her younger brother. After departing with parents, she looks after her brother. She is daring to tell what is right and request what she wants. By proclaiming "There won't be any parting between she and her brother till they die.", she was capable to stay together with her brother. Her bravery can be seen at the time her hair was cut.

It is found that their mother believed others easily, and it was easy to deceive her. However, the scene that she noticed her children to keep Buddha Image carefully at last while they were being away from each boat to another, and another scene reciting her children, names by keeping birds away at the time she was blind.It revealed her character as a real mother. In other words, these scenes described the mother's affection.

The writer "Morioogai" did not compose explicitly about "Sansyoodaiyu". He was a boss and crook who enslaved people by buying with money. It is described that when the two main characters saw him, they cried due to his appearance. However, the readers can guess the flow or general picture of the novel from his name and what he was doing since there is a technique in characterization called "characterization by Name" in which readers can catch general picture of the character or the whole plot just by seeing a name.

Characterization can also be learned from different sectors of plot in this novel. The exposition is mother's struggles to search the husband. She led the journey along with her two children and a housemaid. She faced troubles. There was nowhere to stay when they were tired and not able to proceed their journey. (The rest houses were closed as the preventive measure for human trafficking.)

In this stage, Anzyu was 14 years old and Zushioo was at 12. Anzyu's kindness and consideration for her little brother was characterized by her walking actively, she was so fatigue to walk in order to lift Zushioo's mind. At that time, their mother told them "Look at Momiji! How beautiful are they". She wanted to lessen the fatigue of her children. Their mother' social class was reflected by the courteous words to workers fetching brine "We are very grateful to meet the good people."

In the (rising action) stage of the novel, the plot arousing readers' curiosity was the scene of worker fetching brine's suggestion. The housemaid faithfulness to her master can be seen in the words "Making fire

will hint the crooks, Madam." when the mother told her to make fire for boiling water. Later, she went to get boiled water.

In the Climax, a man who seemed to be kind reached them. As the mother is prone to believe others, they fell into the trap of that human trafficker and became separated. The mother gave their money to Yamaoka Daiyu to save and stayed at his house for a night. The next morning when they got off to the port, the housemaid reminds him to give back the money by saying "By the way, how about the money you saved for me?". Here, the housemaid character, Ubatake, was seen that she is faithful to the masters, obedience, and doesn't believe strangers but her role in the novel was short.

After separation of the family, two siblings were taken to the southern region where no one wanted to buy them. At last, they were sold to boss Sansyoodaiyu who bought as many people as he got and enslaved them. For two children born in the palace, it was sad to accept this place. When the slave guardian shouted at them to pay respect to the boss, the boss loathe appearance which two children were in a daze was firstly characterized in the novel. They worked hardly as the sister was to fetch brine and the boy was for cutting firewood. According to the sister's tough determination "We will never apart even death", they were allowed to stay together. Anzyu's behaviours changed when both of them had the same dream.

In the climax, the situations of characters changed a lot and this was the most important part. Zushioo asked frequently about his sister changing behaviours but Anzyu did not answer him till they reached at the foot of mountain for searching firewood. At the summit, she revealed about what she was thinking and she encouraged him that Zushioo had to run away to search their parents. She gave him the small Buddha Image and told not to worry about her. They departed each other at the foot of mountain. The people searching them found a pair of straw shoes near a swamp which showed that Anzyu was dead.

In the falling action, the crook finding Zushioo at the monastery, the abbot saving him by transforming as a monk, and telling him to keep amulet Buddha Image carefully can be found. After arrival of the man wearing royal attire at Kiyomizu temple, the princess's life was saved by the amulet Buddha Image. As a response for his deed, he was transformed into a layman and granted a governmental post. Later, he was appointed as a

Mayor. At that time, he searched his parents. The puzzles are "Why did the mayor not punish the boss "Sansyoodaiyu"?" and "Should he punished him actually?" In the novel, there was a description about Sansyoodaiyu as he lived wealthy life.

At the end, it was found that the blind old woman keeping sparrows away . The reunion between mother and son was described as hugging each other after the mother saw everything again with the touching of amulet Buddha Image. The ending proves that it is a good novel.

Conclusion

The novel "Sansyoodaiyu" by "Morioogai" is based on three characters: a mother and two children. It mainly depicts about pure affection between elder sister and her younger brother. The name of the novel is "Sansyoodaiyu", a boss and crook, but it should be given the names of the main characters "Anzyu" and "Zushioo". General knowledges about Japan can be attained from reading the novels such as the affection among three family members, the scene of making salt beside the sea in the past, the scene of people making living with sinful professions, the worshipping of Buddha, the scene of monasteries and monks at that time, and country affairs.

Imagery was employed as a style of novel by the writer. Depicting interestingly about departing of the mother and two children on the boats, seeing plus sign clearly on the forehead of Buddha Image, reality of the emperor's dream in outside are imageries. Anzyu was the dynamic character from the exposition to Climax though her role could not be seen in the later past of the novel which reflected on the mind of readers as a main character. Anzyu conducted crucial things in novel though the focus was on Zushioo. He was described as a person who obeys his sister's words, mayor knowing what was urgently needed to do in the country, and the man precious to his parents.

According to the events in the novel, questions were arising "When did human trafficking start and disappear in Japan?" "Was that legal or illegal?". In Myanmar, slave system can be found in Bagan period in which there was a document about King Manuhar's slaves. But slave system in Europe was not the same with what readers saw in this novel. Master and slave relationship was described as good friends and passing times together

the whole life. Morioogai's novel "Sansyoodaiyu" could not only fulfill knowledge of readers but also touch them with different pleasures.

Acknowledgements

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A Comparative Study of Forty Synonyms in Myanmar and Thai Languages

Khin Thida Soe*

Abstract

This paper compares and contrasts Forty Thai synonyms with forty Myanmar synonyms. Moreover, the researcher also studies Thirty synonyms in Thai language for the purpose of more understandable and easier for Myanmar students who are studying Thai language as their foreign language. This paper studies and presents the fact that synonyms in Myanmar language are useful as well as in Thai so that the students can notice the importance and usefulness of vocabularies. All nationality around the world use a varieties of languages in communication and so language is essential in daily life communication. The role of vocabularies is broad and essential in language learning. Moreover, vocabulary learning can help students qualified and skillful the language they are learning. That's why the researcher does a close study and comparison of synonyms in her mother language and target language.

Keywords: Synonyms words, Comparative study

Introduction

In the book "Introduction to Semantics" (pp 20-21) written by Sayargyi Mg Khin Min (Danuphyu), the importance of vocabulary is described as follows. The role of vocabulary is wide and students can be skillful in the language they learn through learning vocabularies. Meaning is pivotal in language and there are a lot of examples that made misunderstanding because of misuses in meaning. As a language has its own meaning, it can stand as the successful communicator. When meaning is removed from the language, only the sound is left. When the two people are speaking, one is the speaker and the other is the listener. Communicating with language is the interlocutors communication and the speaker has a topic to discuss. This topic is the meaning and the speaker can change the meaning into the sound and then he utters. Then the listener gets the meaning from that sound. When the language is used as a communicator, the interlocutors can understand the main point of the topic. This shows the importance of meaning in language communication. Human

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* Associate Professor, Department of Thai, Mandalay University of Foreign Languages

beings are interested in meaning and they are never reluctant to ask even in their mother tongue. Likewise, they look for unknown target language vocabularies. A lot of language dictionaries through eras are the best examples of human's value in meaning. Therefore, the synonyms are studied and presented in this paper.

Language is essential in every day conversations for each and every ethnic group. Students have got in touch and applied their mother tongue since childhood so they have no difficulties in using it. However, they may face difficulties when they study foreign languages. If they are expert in using vocabularies and sentence structure of the languages they study, they can apply them usefully. That's why ten synonyms in Thai and Myanmar languages are compared and contrasted in this paper. Furthermore, another thirty-two Thai synonyms including example sentences are studied especially for Myanmar students, majoring in Thai language in their tertiary levels.

Aim

The aim of this research is to get clear understanding and easy translation both for Thai students who are studying Myanmar language and Myanmar students who are studying Thai language.

Data Collection and Method

The descriptive and comparative library research method is used referring to Thai-Thai, Thai-English and English-Myanmar languages dictionaries from Thai department library, Mandalay University of Foreign Language.

Research Questions

1. How are Thai synonyms used in every day conversations?

2. How are Myanmar synonyms used in daily conversations?

3. How are Thai and Myanmar synonyms used to get impression in communication?

Literature Review

Using synonyms in groups are better and impressive than that of single use. In the article "Word and Meaning (8)" in the Global New Light of Myanmar (10 November,2018) and in the book "Introduction to semantics"(2016), Sayargyi Mg Khin Min (Danuphyu) described that using Pali words such as "sufferings (sin-ye-dout-kha), bliss (chan-thar-thu-kha), donation (ah-lu-dar-na), precept (thi-la), good deed (ku-tho-kaung-muu), forever (ah-myae-htar-wa-ya) and grief (soe-yain-thaw-ka)" and their Myanmar synonyms is impressive in linguistics and literature.

In this paper,with reference to Thai grammar volume (1) and (2) published by the ministry of Education and the collection of the Myanmar linguistics studies by U Htun Myint.

The linguist Nithayakanjanawan (2011) discussed about the effectiveness of using verbs synonyms in Thai language in his research. In the paper "A comparative study of Thai and Chinese verbs" by_Kariyankanrankansaung (2016), it is found that verbs are essential in each and every language. Moreover, the synonyms can be studied at Thai Dictionary and Thai-English Dictionary.

Finding and Explanation

Synonyms can be found both in Thai and other languages. In Thai language,

(1) The verb "die" is used in various forms: ตาย (taay) , สวรรคต (sawăn khót) (the King), สิ้นพระชนม์ sîn phara chonˊ (the King), สิ้นใจ sîn jay ,เสียชีวิต sîa chii wít,ถึงแก่กรรม thĭŋ kɀx kam,มรณะ maraná and นิพพาน níp phaan(the Lord).

(2) The verb "beautify" is used as สวย sŭay (female), สวยงาม sŭay ŋaam (female), หรูหราrŭu răa (female), สง่างาม saŋàa ŋaam (male), หล่อ lɔ̀ɔ (male), เท่ห์ thê (both male and female).

(3) The verb "eat" is used as กิน, ทาน, รับประทานอาหาร, รับทาน, บริโภค kin, thaan, raṕ para thaan ʔaahăan (consumer), ฉัน chăn (monk, Sanga).

(4) The verb "give" is used as ให้ hây, พระราชทาน phrá raat cha thaan (the King), ประทาน, มอบ and แจก (pra thaan, môɔp, jɤ̀xk)

(5) The verb "tell" is used as พูด, บอก, ว่า, เล่า, กล่าว, คุย and ตรัส (the King).

 phûut , bɔ̀ɔk , wâa , lâw , klàaw , khuy , taràt)

(6) The verb "go" is used as ไป, เสด็จพระราชดำเนิน (the King) and เสด็จ (the King).

pay , sadèt phra raa cha dam nəən , sadèt

(7) The noun form mother" is used as "แม่, มารดา, พระชนนี

mɤ̂x, maa ra daa ,phráchon na nii(the Queen), มาตา, มาตุ, มาตุเรศ,

คุณแม่, ชนน maataa, maatù maa tu rét, khun mɤ̂x, chon na nii(the Queen).

(8) The word "father" is used as พ่อ, คุณพ่อ, บิดา,บิดร and บิตุรงค์.

phɔ̂ɔ, khun phɔ̂ɔ, bĭdaa,bĭturoŋ

(9) The word "wife" is used as ภรรยา, เมีย and ภริยา. phan ra yaa, mia, phan rí yaa

(10) The word "husband" is used as สามี,ผัว, and นาย . sǎa mii,phǔa,naay

There are also synonyms in Myanmar language which have the same meaning but different pronunciations. For example, In the sentence "A man dies", the verb "die" can be interpreted in various ways:

(1) pass away (thei thi),

(2) lose one's life (sone thi),

(3) passed on (khawe lune thi),

(4) depart this life (anate-sa-yauk-thi) (Pali),

(5) ta-ma-lone-yauk-pyi,

(6) shaw-thwar-pyi (slang),

(7) kan-kone-pyi,

(8) pyan-lone-taw-mu-the (monk),

(9) nat-thet-kway-thee (celestial) and

(10) parei-nei-ban-san-thee (the Buddha) (Pali).

Similarly, the word "beautiful" is used as

(1) hla-thi,

(2) chaw-thi,

(3) tint-tae-thi (gorgeous),

(4) khant-nyar-thi (graceful),

(5) mite-thi (slang) and

(6) lann-thi (slang).

The word "give" is used as

(1) pay-thi,

(2) at-hnin-thi,

(3)sont-thee and

(4) pay-at-thee.

The word "go" is used as

(1) thwar-thi,

(2) khwa-thee (monk, Sanga),

(3) khwa-chee-taw-mu-the (the King) and

(4) doe-thi (slang).

The word "tell" is used as

(1) pyaw-thi,

(2) pwar-thi,

(3) myap-kwar-thi,

(4) sa-kar-sa-myee-pyaw-thi,

(5) shwee-thi,

(6) pyee-thi,

(7) lay-phaw-thi and

(8) pauk-pauk-phauk-thi.

In Myanmar language, the word "mother" is used in various forms such as

(1) mi-khin,

(2) matar-mi-khin,

(3) ah-mi etc.

The word "father" is also used as

(1) ah-pei,

(2) pha-khin,

(3) ah-pha etc.

The word "wife" is also used as

(1) za-nee,

(2) ma-yar,

(3) ah-myo-tha-mee,

(4) main-ma.

The word "husband" is used as

(1) khin-bun,

(2) yauk-kyar,

(3) lin,

(4) ah-myo-thar etc.

According to the above examples, it is found out that both Thai and Myanmar languages use a lot of words with different pronunciation but they have the same meaning.

Similarly, thirty Thai synonyms including example sentences are presented so that Myanmar students who are studying Thai language can get exposure to various Thai usages.

In Thai language, the word "queue" is described in various forms.

Example (1),

(a) (**แถว**) thǎxw as in the sentence

"**นักเรียนเข้าแถวซื้ออาหารที่โรงอาหาร**"   nák rian khâw thǎxw sɨ́ɨ ʔaahǎan meaning "A queue of students are going for food to the cafeteria.

(b)(**แนว**)nxxw   as in the sentence

"**นักเรียนแนวยืนที่หน้าโรงเรียน**"   nák rian nxxw yɨ̀ɨn thîi nâa rooŋ rian meaning "The students are standing in a queue in front of the school.

Likewise, the word "road" can be used as "**ถนน หนทาง** " thanǒn thaaŋ as well as "**ทาง**" thaaŋ.

In Myanmar language, it is also used (Ahtan like, Ahtan, Tan thi, Tan si thi, AhsiAhyi)

Example (2),

(a) "**ถนนหนทาง**" (road) as in "**ดิฉันพบกับเพื่อนที่ถนนอูวิศายะ**"

 dichán phóp kàp phɨ̂an thîi thanǒn ʔuu wi saa ra and it that "I came across one of my friends on U Wisara road.

(b) "**ทาง**" thaaŋ (road) as in "**รถคันต่างๆแล่นที่บนทาง**"

rót khan tàaŋ lɛ̂n thîi bon thaaŋ and it means that "The cars are moving along the high way road. respectively.

In Myanmar language, it is also used (Lan ma, Lan, Lan Kyaung)

Similarly, the verb "work hard" is used as "**ขยัน**" khyăn and "**พยายาม**" phyaa yaam

Example (3),

(a)" **ขยัน**" khayăn is used in the sentence "**เขาขยันทำงานเสมอ**Ð

 khăw khayăn tham ŋaan samə̆ə and it means that "he always work hard".

(b)" **พยายาม**" is used in the sentence "**เธอพยายามอ่านหนังสือทุกวัน**"

thəə phayaa yaam ʔàan năŋ sɨ̆ɨ thúk wan and its meaning is "Everyday, she studies hard".

In Myanmar language, it is also used (Kyo sar thi, Youn kan thi, Ahar htote thi, Lone la pyu thi)

For the word "invite", it's found that they use "**เชิญ**" chəən and "**ชวน**". chuan

 Example (4)

(a) "**เชิญ**" is used in the sentence   "**เขามาหาที่บ้านดิฉันจึงขอเชิญนั่งก่อนดิฉันเอาขนมมาให้เขากินค่ะ**"khăw maa hăa thîi bâan dichán jɨŋ khɔ̆ɔ chəən nâŋ kɔ̀ɔn dichán ʔaw khnŏm maa hây khăw kin khâ .   and it means that "He drops my house in and I invites him to take a rest and have a snack at ."

(b)" **ชวน**" is used in the sentences "**ตอนเย็นวิชาชวนดิฉันไปกินอาหารที่ร้านอาหารเจเจค่ะ**"tɔɔn yen wíchaa chuan dichán pay kin ʔaahăn thîi ráan ʔaahăn je je khâ and it means that "Wi Char invites me to eat out at "Kyay Kyay" restaurant in the evening."

In Myanmar language, it is also used (Phate kyar thi, Phat manta ka pyu thi, Phat thi)

Moreover, they use the words "**เก็บ**" kèp and "**สะสม**" sàsŏm having the meaning "save".

Example (5),

(a) "เก็บ" kèp is used in the sentence "แม่บอกเสมอว่าลูกๆนะจะต้องเก็บเงินนะ " mɛ̂ɛ bɔ̀ɔk samɔ̌əm wâa lûuk ná jà tɔ̂ɔŋ kèp ŋən ná and it means that "Mother always tells her children to save money.

(b) "สะสม" sàsǒm is used in the sentence   "ป้ามีสะสมเงินมากมายจึงซื้อรถกับบ้าน" pâa mii sàsǒm ŋaan mâak maay jɨŋ sɨ́ɨ rót kàp bâan and it means that "My aunt has a lot of savings so she buys her own car and house.

In Myanmar language,it is also used (Su, Soung,Su soung thi, Thein si thi, tho mhyi)

The words "ผล" phǒn and "ประโยชน์" prayòot are used for the word "result".

Example (6),

(a) "ผล" is used in the sentence

"ผลของการทำความดีทำให้รักของทุกคน"phǒn khɔ̌ɔŋ kaan tham khwaam dii tham hây rák khɔ̌ɔŋ thúk khon   and it means that "Doing good deeds can lead the result of everyone's respect".

(b) "ประโยชน์" pra ròot is used in the sentence "เนื้อปลาเป็นอาหารที่มีคุณค่าและเป็นประโยชน์ต่อ"

nɨ́a plaa pen ʔaahǎan thîi mii khon khâa lɛ́ pen pra ròot and it means that "Fish and meat give healthy result to our body.

In Myanmar language, it is also used (Ah kyo, Kaung kyo, Ya lat, Akyo sett, Akyo pay)

The words "ภัย" phay and "อันตราย" ʔan taraay are used for the meaning "danger".

 Example (7),

(a) "**ภัย**" is used in the sentence "**เขาไม่กลัวภัย แต่อย่างใด**" khǎw mây klua phay tɤ̀x yàaŋ day and it means "he isn't afraid of any danger".

(b) "**อันตราย**" is used in the sentence "**ถ้าเธอไม่ระมัดระวังข้ามถนน ต้องมีอันตรายได้**"thâa thəə mây rá mát rá waŋ khâam thanǒn tɔ̂ɔŋ mii ʔan taraay dâay   and it means "When she carelessly crosses the road, she will face danger.

In Myanmar language, it is also used (An ta yal, Bay Yan, Bay an ta yal)

        The word "wear" is used as "**ใส่**" sày and "**สวม**" sǔam respectively.

Example (8),

(a) "**ใส่**" is used in the sentence

 "**ดิฉันชอบใส่เสื้อสีฟ้าจึงใส่เสมอ**"

dìchán chɔ̂ɔp sày sɨ̂a sǐi fáa jɨŋ sày samɤ̌ɤm and it means that "My crazy color is blue so I always wear it."

(b) "**สวม**" is used in the sentence

"**คุณเทภาสวมเสื้อใหม่แล้วไปดูหนังกับเพื่อน**"

khun thee phaa sɨ̂a mày lɤ́ɤw pay duu nǎŋ kap phɨ̂an and it means that "Htay Far wears a new dress and goes to the cinema with her boyfriend."

        In Myanmar language, it is also used (Wut thi, Sin thi, Sin myann thi, Sin Yin,Wut sar)

        The word "head" is used as "**ศีรษะ**" sǐi ʂa   and "**หัว**" hǔa respectively.

Example (9),

(a) "ศีรษะ" sǐi sà is used in the sentence "เมื่อขึ้นรถดิฉันรู้สึกเวียนศีรษะ"

mɨ̂a khɨ̂n rót dìchán rúu sɨ̀k wian sǐi sà and it means that "I feel headache I when I take the bus."

(b) "หัว" is used in the sentence

 "เด็ก ๆวิ่งชนกันเด็กคนหนึ่งจึงหกลงและหัวแตก"
dèk wiŋ chon kan dek khon nɨ̀ŋ jɨŋ hok loŋ lɛ́ hǔa tɛ̀ɛk and it means that "The child broke his skull while they were running and hitting each other."

        In Myanmar language, it is also used (Gaung, U gaung)

Example (10) is the word

(a) "ก่อ" kɔ̀ɔ and (b) "สร้าง" sâaŋ and they mean "build". The sentence

 "ช่างปูนกำลังก่อกำแพง" châaŋ puun kam laŋ kɔ̀ɔ kam phɛɛŋ means that "They build bridges in their respective areas" and the sentence "เมื่อปีก่อนบ้านของป้าเริ่มสร้าง ปีนี้เสร็จแล้ว" mɨ̂a pii kɔ̀ɔn bâan khǒŋ pâa rɨ̂m sâaŋ pii níi sèt lɛ́ɛw means that "My aunt has built her house since last year and it has already finished now."

        In Myanmar language, it is also used (Ti thi, Ti Hsau thi, Shau thi)

Example (11) is the word "เห็นด้วย" hěn dûay and "ตกลง " tòk loŋ and they mean "agree". The sentence "คุณครูเห็นด้วยคำตอบของนักเรียน" khun khruu hěn dûay kham tɔ̀ɔp khǒŋ nák rɨan means that "The teacher agrees with his students' answer" and the sentence "พวกเราตกลงกันไปดูหนังด้วยกัน" phûak raw tòk loŋ kan pay duu nǎŋ dûay kan means that "We agree to go to the cinema."

        In Myanmar language, it is also used (Tha ball Tu thi, Lat Khan thi, Kyi Phyu thi)

Example (12), is the word "เพื่อน" phɨ̂an and "มิตร" mít and they mean "friend".   The   sentence   "คุณแก้วเป็นเพื่อนเก่าของฉัน" khun kɛ̂xw pen phɨ̂an kâaw khɔ̌ɔŋ chán   means that "Ke Woh is my childhood friend" and the sentence

"คุณมาลีและคุณทาสีเป็นมิตร"   khun maa lii lɛ́ khun thaa sǐi pen mít means that "Marli and Htar Si are "friends".

        In Myanmar language,it is also used (Ahswe, Khin Poon, Thu Ngle gyin, A paung Athin, Akyi Daw, Ye Baw Ye Bet, Aphaw, Baw Dar, Yaung Ma, Yaung Yinn, A kyi Daw)

Example (13), is the word "ปลอด" plɔ̀ɔt and "พ้น" phón   they mean "escape". The sentence "เมื่อวานนี้ในหมู่บ้านน้ำท่วมแต่ชาวบ้านปลอดภัย" mɨ̂a waan níi mǔu bâan náam thûam tɛ̀ɛ chaaw bâan plɔ̀ɔt phay means that "Although there was a flood yesterday, the villagers escaped from danger" and the sentence

"เขาโชคดีเพราะเขาพ้นอันตรายมา"

  khǎw chôok dii phrɔ́ khǎw phón ʔan taraay maa means   that   "He   is lucky to escape from danger".

        In Myanmar language,it is also used (Lyut, Lyut Myauk, Lyut Kinn, Kiin thi)

Example (14), is the words "เริ่ม" rɨ̂m and "ลงมือ" loŋ mɨɨ and they mean "start". The sentence

"เราเริ่มทำงานกันเถอะ" raw rɨ̂m tham ŋaan kan thə̀ means that "Let's start   our work" and the sentence

"เราลงมือทำงานกันเถอะ"   raw loŋ mɨɨ tham ŋaan kan thə̀   also means that "Let's start our work".

        In Myanmar language, it is also used (Sa tin , Asa , A au , Akin , Shay U)

Example (15), is the words "ท้าย" thaay and "ปลาย" plaay they mean "the last".   The   sentence   "อารีพูดกับนกเป็นครั้งสุดท้าย" ʔaa rii phûut kàp nók pen khráŋ sùt tháay means that "This is the last time that Ar Yi and the little bird are speaking" and the sentence "เมื่อถึงเมืองปลายทางแล้วเขาลงจากรถไฟ"   " mɨ̌a thɨ̌ŋ mɨaŋ plaay thaaŋ lɛ́xw khǎw loŋ jàak rót fay means that "He gets off the bus when he arrives at the last destination.

        In Myanmar language, it is also used (Ahsone, Ashone Tay, Ahsone That)

Example (16), is the words "คล้าย" khláay and "เหมือน" mɨ̌an and they mean "be like".

 The sentence

 "เมฆต่าง ๆ ลอยบนท้องฟ้าคล้ายรูปสัตว์ต่าง ๆ"

mêek tàaŋ lɔɔy bon thɔ́ɔŋ fáa khláay rûup sàt tàaŋ means that "The floating clouds are like the pictures of animals" and the sentence

"ดิฉันและเขาชอบกินขนมจีนเหมือนกัน"

dichán lɛ́ khǎw chɔ̂ɔp kin khnǒm jiin mɨ̌an kan means that "We like monhinga".

        In Myanmar language, it is also used (Tu thi, Hsin thi, Hsin Tu thi, Ta pon zan htel, Taw Taw sin thi)

Example (17), is the words "เจอ" jɘɘ and the word "พบ" phóp and they mean "see". The sentence "วันนี้ดิฉันเจอเพื่อนเก่าในเมือง" wan níi dichán jɘɘ phɨ̌an kàw nay mɨaŋ means that "I saw my old friend in downtown today." Similarly, the sentence "เมื่อปู่เข้าไปในป่าพบงูใหญ่" mɨ̌a pùu khâw pay nay pàa phóp ŋuu yày that "Grandpa saw the big snake when he went to the forest."

        In Myanmar language, it is also used (Myin thi, Tywae thi, Tywae hsone Thi, Tyone tywae, Tyone Son)

Example (18), is the words "เอ็นดู" ʔen duu and the word "ปรานี" praa nii
and they mean "be kind". The sentence
"เมื่อเขาเห็นผู้เฒ่าผู้แก่เขาช่วยเหลืออย่างเอ็นดู"
mɯ̂a khǎw hěn phûu thâw phûu kɛ̀ɛ khǎw chûay lǐa yàaŋ ʔen duu means
that "He is kind and helps the elders." Similarly, the sentence
"เขาเป็นคนมีความปรานี" khǎw pen khon mii khwaam praa nii means that
"He is a guy with kind heart."

       In Myanmar language, it is also used (Tha nar, Kyin nar, Myit tar
Htar, Ga yu nar Htar)

Example (19), is the word "อุดม" ʔùdom and the word
"สมบูรณ์" sǒm buun and they mean "be rich". The sentence
"ประเทศของเราอุดมด้วยทรัพยากรธรรมชาติ"
prathêt khɔ̌ɔŋ raw ʔùdom dûay sáp phyakon tham machâat means that
"Our country is rich in natural resources." the sentence
"หมู่บ้านแห่งนี้สมบูรณ์ด้วยข้าวปลาอาหาร"
mùu bâan hɛ̀ɛŋ níi sǒm buun dûay khâaw plaa ʔaahǎan means that
"This village is rich and prosperous."

       In Myanmar language, it is also used (Pyae zone, Koun Loun,
Kywe wa, Chan Thar)

Example (20), is the words "ทำ" tham and "ปฏิบัติ" paṭibàt and they mean
"do". The sentence
"แม่ทำงานบ้านอย่างตั้งใจเสมอ" mɛ̂ɛ tham bâan yàaŋ tâŋ jaysamɔ̌ɔm
means that "Mother always does the chores interestedly."Likewise,the
sentence "เธอปฏิบัติตามที่แม่พูด" thəə paṭibàt taam thîi mɛ̂ɛ phûut means
that "She always does as her mother asks."

       In Myanmar language, it is also used (Lote Thi, Pyu thi, Pyu Lote
Thi)

Example (21), is the words "ปรึกษา" pr̆ɨk s̆a and "หาหรือ " hăa r̆ɨɨ and they mean "discuss". The sentence "พ่อกับแม่ปรึกษาเรื่องจะย้ายบ้าน" phɔ̂ɔ kàp mɛ̂x pr̆ɨk s̆a r̆ɨaŋ ɟa yáay bâan means that "Dad and mum are discussing about moving he new house." Likewise, the sentence "ชาวบ้านและผู้ใหญ่บ้านหาหรือเรื่องปลูกข้าว"

chaaw bâan lɛ́ phûu yày bâan hăa r̆ɨɨ r̆ɨaŋ plùuk khâaw means that "The village head and his fellow villagers are discussing about growing paddy."

In myanmar language, it is also used (Sway Nway Thi , Tyain pin Thi , Hyne thi, Kyay Lal)

Example (22), is the words "โต" too and "ใหญ่" yày and they mean "grow up" and "a lot of". The sentence"ถ้าเราเติมโตขึ้นเราต้องดูแลพ่อแม่" thâa raw təəm too khɨ̂ɨ raw tɔ̂ɔŋ duu lxx phɔ̂ɔ mɛ̂x   means that "When we grow up, we must look after our parents." The next sentence "ถ้าหนูมีเงินมากจะซื้อบ้านใหญ่ๆ" thâa nŭu mii ŋən mâak jà s̆ɨɨ bâan yày means that "If I have a lot of money, I'll buy a big mansion."

        In myanmar language, it is also used (Kyi, Kyi Kyel, Thor, Amyauk amyar, Myar pyar thi)

Example (23), is the word "ปวด" pùat and "เจ็บ" jèp and they mean "ache" and "hurt". The sentence
"เมื่อแม่ไม่สบายแม่ปวดหัวเสมอจึงต้องไปหาหมอบ่อยๆ"

m̆ɨa mɛ̂x mây sabaay mɛ̂x pùat hŭa saműəə ɟɨŋ tɔ̂ɔŋ pay hăa mɔ̆ɔ bɔ̀ɔy m eans that "When my mother is sick, she always feels headache and often sees the doctor." The next sentence

"เมื่อเขาลื่นล้มลงแล้วขาของเขาเจ็บมาก"

m̆ɨa khăw l̆ɨn lóm loŋ lɛ́xw khăa khɔ̆ɔŋ khăw jèp mâak əəəmeans that "When he fell down, his leg hurts."

In myanmar language,it is also used (Nar, Kyint, Kite, Kite Kheel)

Example (24), is the word "บ้าน" bâan and "เรือน" rɨan and they mean "house". The sentence "หมู่บ้านนี้มีบ้านเล็กมากเพราะหมู่บ้านนี้มีคนจนมาก" mùu bâan níi mii bâan lék mâak phrɔ́ mǔu bâan ńii mii khonjon mâak means that "The villagers are so poor that there are many small houses in their village." Likewise the sentence "หมู่บ้านไทยมีเรือนไทยต่าง ๆเรียงรายมากมาย"
mǔu bâan thay mii rɨan thay tàaŋ tàaŋ riaŋ raay mâak maay means that "The houses from Thai village are in line."

In Myanmar language, it is also used (Eaine, Nay sa yar, Eain ya, O eaine, Eain kyi ya khine)

Example (25), is the words "พืช" phɨ̂ɨt and "ต้นไม้" tôn máy and they mean "plant". The sentence

"ราก ลำต้น ใบ ดอก และ ผล เป็น ส่วนต่าง ๆของพืช"
râak lam tôn bay dɔ̀ɔk lɛ́ phǒn pen sùan tàaŋ khɔ̌ɔŋ phɨ̂ɨt means that "Roots, trunks, leaves, flowers and fruits are parts of the plant" and the sentence "ในป่ามีต้นไม้ต่าง ๆมาก"
nay pàa máy mii tôn máy tàaŋ tàaŋ mâak means that "There arevariety of plants in the forest."

In Myanmar language, it is also used (Apin, Thit Pin)

Example (26), is the words "ป่า" pàa and "ไพร" fray and they mean "forest". The sentence

"พ่อกับลูกชายไปหาต้นยาสมุนไพรในป่า"
phɔ̂ɔ kàp lûuk chaay pay hǎa tôn yaa samùn fray nay pàa means that "Dad and son go to the forest to search forsome medicinal herbs." And the sentence

"ในไพรมีสัตว์หลายชนิด nay fray mii sàt laay chnít means that "There are a lot of species in the forest."

In myanmar language,it is also used (Thit Taw, Taw, Mel zar, Taw gyi Myet Mel)

Example (27), is the words "ถนัด" thanàt   and "ชำนาญ" cham naam and they mean "skillful".

The sentence

"พ่อเป็นนักเขียนพ่อจึงเขียนหนังสืออย่างถนัดphɔ̂ɔ pen nák khǐan phɔ̂ɔ jiŋ khǐan nǎŋ sɨ̌ɨ yàaŋ thanàt means that "Father is skillful in writing career as he is a author." Similarly, the sentence "เราต้องการแต่คนงานที่ชำนาญ" raw tɔ̂ɔŋ kaan tɛ̀x khon ŋaan thîi cham naan means that "We need onlythe skillful employees".

        In Myanmar language,it is also used (Kyun Kyin, Hnant Sat)

Example (28), is the words "โกรธ" kròot and "โมโห" moo hǒo and they mean   "angry".   The sentence"ครูพูดว่านักเรียนนะอย่าโกรธกัน khruu phûut wâa   nák rian ná y àa kròot kan means that "The teacher told his students not to be angry". Similarly,the   sentence"อย่าโมโหมากเพราะเงินของย่าหายไปแล้ว" yâa moo hǒo m̂aak phrɔ́ ŋɔn khǒɔŋ yâa hǎay pay lɛ́xw means   that "Grandma is so angry that she lost her money."

        In Myanmar language, it is also used (Daw Ta Hwet, Sate Soe, Amyet Gyi, Amyat hwet)

Example (29), is the words "หน้า" nâa and"ฤดู" rɨ́t duu and they mean   "weather". The sentence

"ในหน้าฝนฝนมักจะตกหนักที่ภาคใต้"

nay nâa fǒn fǒn mák jà tòk nàk thîi pháak tây means that "The wear in the South is flood in the rainy

season" and the sentence "ในฤดูหนาวที่ประเทศญี่ปุ่นหนาวเย็นมาก"

nay rɨ́t duu nǎaw thîi prathêt yîi pùn nǎaw mâak means that "Japan's winter is too cold".

In Myanmar language, it is also used (Yar Thi, U Tu, Ache Ah ne)

Example (30), is the word "ฝึกฝน" fɨk fǒn and "หัด" hàt and it means "practice". The sentence "นักเรียนควรฝึกฝนอ่านเขียนหนังสือ" nát rian khǔan fɨk ʔàan khǎin nǎŋ sɨ̌ɨ means that "Students should practice reading and writing." The next sentence is "นัดเรียนทุกคนควรหัดลายมือเสมอ"

nát rian thút khon khuan hàt laay mɨ̌ɨ samɔ̌ɔm and it means that "Every student should

practice to get good hand writing."

In myanmar language, it is also used (Lay Lar, Lay Kyint, Lite nar, Hmat Thar , Kyint thone)

Discussion

In this paper, the comparison of forty synonyms from Thai and Myanmar languages are presented. Moreover, thirty Thai synonyms with examples are studied in the purpose of easier to understand for Myanmar students who are studying Thai language as their foreign language. Synonyms are different in usages according to different societies. From this study, the students can correctly use the language according to the time and circumstances of the situations they face. In both languages, the use of synonyms is different according to the place, time, living standard and the emotional conditions of the interlocutors. As the use of Thai synonyms is presented with example sentences, the students can get advantages in their studies. How important the meaning of each word in sentence construction is seen in this paper. Although the words are different in usages, they are sometimes similar in meaning. Each and every language has these kinds of words. Thus, the words such as "good, look at, descend, die, live, sleep" are similar in the use of nouns and verbs and they are systematic and literally powerful. These synonyms are different in use according to the interlocutors' status, friendship, respect that can be easily understood and noticed. Thus, using these synonyms is effective for the foreign language learners who can use their target language skillfully.

Recommendation

This paper supports translation and understanding the meaning of Thai-Myanmar words for the students who are studying Myanmar and Thai languages respectively. In the modules (2103A) Grammar for second year Thai specialization students, (3103A) Grammar for third year Thai specialization students, the use of synonyms is included and the students can get advantages of using different synonyms in Myanmar and Thai languages.

Conclusion

In learning foreign languages, the role of vocabularies is very important. If you have enough knowledge of word meaning, you can be skillful the language you're studying. In literature, synonyms are called "deception of speech" and it is also found that using deception of speech in groups is very impressive in literature. Therefore, studying synonyms supports the correct and easy usage of Thai vocabularies and it is recommended that the students can use the language more fruitfully and beautifully.

Acknowledgements

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