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Editorial

Dear authors, reviewers, and readers

It has been a month since I was given the privilege to serve as the Chief Editor of the International Journal for Innovation Education and Research (IJIER). It is a great pleasure for me to shoulder this duty and to welcome you to ***THE VOL-2, ISSUE-11 of IJIER*** which is scheduled to be published on **30th November 2014.**

International Journal for Innovation Education and Research (IJIER) is an open access, peer-reviewed and refereed multidisciplinary journal which is published by the International Educative Research Foundation and Publisher (IERFP). IJIER aims to promote academic interchange and attempts to sustain a closer cooperation among academics, researchers, policy makers and practitioners from a wide range of disciplines, which contribute to state of the art in science, education, and humanities. It provides a forum for the exchange of information in the fields mentioned above by welcoming original research papers, survey papers, and work-in-progress reports on promising developments, case studies, and best practice papers. The journal will continue to publish high-quality papers and will also ensure that the published papers achieve broad international credibility.

The Chief Editor, appointed by the Associate Editors and the Editorial Board, is in charge for every task for publication and other editorial issues related to the Journal. All submitted manuscripts are first screened by the editorial board. Those papers judged by the editors to be of insufficient general interest or otherwise inappropriate are rejected promptly without external review. Those papers that seem most likely to meet our editorial criteria are sent to experts for formal review, typically to one reviewer, but sometimes more if special advice is needed. The chief editor and the editors then make a decision based on the reviewers' advice.

We wish to encourage more contributions from the scientific community to ensure a continued success of the journal. We also welcome comments and suggestions that could improve the quality of the journal.

I would like to express my gratitude to all members of the editorial board for their courageous attempt, to authors and readers who have supported the journal and to those who are going to be with us on our journey to the journal to the higher level.

Thanks,

Dr Eleni Griva
Ass. Professor of Applied Linguistics
Department of Primary Education
University of Western Macedonia- Greece
Email: chiefeditor@ijier.net

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The Need for In-Service Training for Teachers and It's Effectiveness In School

Assoc. Prof. Dr. Che Mohd Zulkifli Che Omar
Faculty of Management and Economics
Sultan Idris Education University
35900 TanjongMalim, Perak, Malaysia.
mohd.zulkifli@fpe.upsi.edu.my

Abstract

This essay discusses the need for in-service training for teachers and the effectiveness of in-service training in school. In-service training act as a catalyst for teacher's effectiveness. It is also a way of updating teachers' skills and knowledge for improving teaching and learning which lead to better job performance. In-service training is important for teachers to face new challenges and changes in the education world. In-service training is also a fundamental aspect to improve teacher professionalism. The effectiveness of in-service training is important so that teachers can apply the knowledge acquired in teaching and learning. Few factors that contribute towards the effectiveness of in-service training are role of administrator, attitudes of teachers, training needs and strategies in conducting in-service training.

Introduction

Training program in an organisation is a process by which people are taught with skills and given the necessary knowledge or attitude to enable them to carry out their responsibilities to the required standard in the present job and to undertake greater and more demanding roles for effective job performance. Organisations are facing many changes which are related to economic needs, social needs and technology needs. As such, training programe plays an important part to overcome these problems and to cater the needds of the organisations.

Training program is also important in the education sector same as the other sectors or organisations. The need for training in education particularly for teachers are important to improve the quality of education in Malaysia. Teachers are crucial in implementing educational reforms in accordance with the aspiration of the National Philosophy of Education. The success of a school curriculum is closely related to its effective implementation. Teachers have to be personally aware of the school curriculum, improve and enhance the neccessary skills to interpret the concept changes accurately and to implement the modified curriculum according ti its requirements, aims and objectives.

As such, the need for in-service training or staff development programme for teachers plays an essential role in successful education reform. It also serves as a bridge between prospective and experienced educators to meet the new challenges of guiding students towards higher standards of learning and self development. In developing the professionalisme status of teachers, the training program such as in-service training should not be run away from the reformation that occurs.

In-service training has for many years been the driving force behind much changes that has occured in the area of teaching and learning. As in any other profession, it is vital that teachers keep up to date on the most current concepts, thinking and research in their field. This, in turn supports in their 'lifelong learning' as educators, as professionals and as individuals who are responsible for the education of the next generation. Teachers play and active and vital role in the development of productive and dedicated Malaysian citizens.

The knowledge, idea, skills and attitude of the educator must be developed through integrated and systematic way. According to Marsha & Naftaly(1999), one of the important component to improve the quality of education is through in-service training for teachers. With respect to this, even though there are many in-service training programme been organised by the Ministry of Education, State Education Department and District Education Office, but the effectiveness of in-service training in schools should not be taken lightly by school management and also teachers.

The need for in-service training for teachers

The need for in-service training in schools is getting more attention for teachers to equip with new knowledge and skills for them to face new challenges and reformation in education. In-service training can enhance the professionalism of teachers who can contribute to the organisation to achieve it's goals. In-service training is a professional and personal educational activity for teachers to improve their efficiency, ability, knowledge and motivation in their professional work.

In-service training offers one of the most promising roads to the improvement of instruction. It includes goal and content, the training process and the context. According to Ong (1993), In-service training is the totality of educational and personal experiences that contribute toward an individual being more competent and satisfied in an assigned professional role. The primary purpose of in-service training is to enable teachers to acquire new understanding and instructional skills. It focuses on creating learning environments which enable teachers to develop their effectiveness in the classroom.
In this aspect, in-service training for teachers is the driving force behind much change that has occured in the are of teaching and learning. It is vital that teachers keep up to date on the most current concepts, thinking and research in their field and also promote professional growth among teachers in order to promote excellent and effective teaching and learning environment for students. According to Kazmi,Pervez & Mumtaz (2011), in-service training for teachers enables the teachers to be more systematic and logical in their teaching style.
In-service training is a planned process whereby the effectiveness of teachers collectively or individually is enhanced in response to new knowledge, new ideas and changing curcumstances in order to improve, directly or indirectly the quality of pupils education. According to Abdul Rashid (1996), in-service training comprises two main elements, that is the fulfillment of pupils leraning needs and ensuring personal and career development of the academic staff.

In-service training is a fundamental aspect for the enhancement of teachers profesionalisme related to the teachers vision to improve the quality of their work. Through in-service training, teachers can identify and evaluate critically the culture of the school which can bring changes to the working culture. Studies by Ekpoh,Oswald & Victoria (2013) shows that, teachers who attend in-service training perform effectively in their work concerning knowledge of the subject, classroom management, teaching method and evaluation of students. Studies by Jahangir, Saheen & Kazmi (2012) also shows that in-service training plays a major role to improve the teachers performance in school.

Beside that, in-service training also provide teachers with ample opportunities to learn new concepts, methods and approcahes through professional development. In-service training is d deliberate and continous process involving the identification and discussion of present and anticipated needs of individual staff for furthering their job satisfaction and career prospects and of the institution for supporting its academic work and plans, and the implementation of programmes of staff activities designed for the harmonious satisfaction of these needs.

In-service training can also change the attitude and skills of teachers and further increase the performance of students. It also can help to change the procedures, approaches and practices teacher teach, the way student learn and would also help to create an excellent school culture in schools. According to Frederick & Stephen (2010), during the in-service training, teachers will schools management skills, evaluation techniques and master wider content areas of their subjects. For this reason, teachers and educational experts should increase their effort in fostering and implementing in-service training in schools so as to improve the effectiveness of development in schools.

In-service training have undegone considerable change in the recent years. As a practice, "result-driven in service training is concerned with changing behaviour and/or attitudes of teachers, administrators and staff members rather than being concerned with the number of participants in such programs".(Ronald,2004:169). It is literally impossible today for any individual to take on a job or enter a profession and remain in it without any changes. Therefore "in-service training is not only desirable but also ab activity to which each school system must commit human and fiscal resources if it is to maintain a skilled and knowledgeable staff".(Ronald, 2004:170)

The importance of in-service training should be looked in various perspectives. It promotes a very flexible environment and allow teachers to adapt with the working situation and it is also one form of motivation for employees or employers and it will continue to increase creativity in teaching and learning process. It also enable teachers to acquire new understanding and instructional skills to develop their effectiveness in the classroom.

In-service training for teachers should have a positive effect on teachers in increasing knowledge, communication with their involvement i n planning school activities and also it increased the staff motivation. Studies done by Thompson (1992) shows that, after going through in-service training, there are positive change in teachers attitude, increace self confidence and also follow up with teachers readiness in facing any various resistance situation. This shows that, training program that is planned and implemented well will give a positive effect on students, teachers and schools.

In-service training places teachers at the centre of any improvement effort and assumes that the work of the teacher and the visions that teachers have about improving their work. According to Owen, "the positive aspect concerning professional development of teachers are that the program will make sure that learning activities is planned and concentrated on empowering effectice teachers to correct policies, curriculum development, teaching and views on how to achieve high productivity and students performance". (Owen, 1990:175). It is vital that the positive performance result from the students will bring profits to teachers themselve based on the additional recognition from collegues at work place and the administration. In-service training for teachers will not only bring positive effect to the teacher, but also students and school because the changes that is expected has a close relation between teachers,students and schools.

Effectiveness of in-service training in school

The important factor in conducting in-service training for teachers is the effectiveness of the programme. Many researchers stated that, an effective training programme should be conducted in the school itself because the teachers will be involved in the planning and implementation of the training from the beginning to the end. Besides that, the effectiveness of the training programme is very much related to the awareness of teachers for self-improvement and development. There are few factors that contribute towards the effective of in-service training for teachers in school. The factors are:

i. Role of administrator

In-service training must be proactive rather than reactive and its effectiveness depends on the extent to which it is personalised and based on positive constructs. In this aspect, in-service training in schools requires strong leadership. This leadership usually comes from the principal, but it is sometimes provided by an assistant principal. Administrators as leaders, establish an atmosphere of support and trust, offer incentives and rewards for participation and provide sustained moral and material support. Administrators should serve as a role models by participating fully in the training activies.

School administrators face the challenging task of providing for the professional development of teachers in their schools. According to Allice, “this responsibility is assigned to them because administrators have ready access to data that provide a clear picture of strenghs and weaknesses of the individual staff members, the needs of the students, the week areas of curriculum, the values and desires of the community and how their school measures up to Education Ministry’s goals and objectives”. (Alice Ong,1993 :158). In this aspect, it is necessary for administrators to provide a process of involving teachers in the identification of professional skills that need to be improved and for involving them in the design of activities and programme to provide this skill development.

The principal of a school is the most influence person in implementing the in-service training even though he or she doesn’t involve technically. Principals own style, level of activity, authority, leadership and the relationship with teachers, seems to be interacted well with idea of school improvement. The principal is seen as the potential person to manage the in-service training, and also become the facilitator to the teachers.In this aspect, an administrator should play the role as a teacher, counselor and friend and must be able to give full support and encouragement to the teachers in training.

The role of principal is identified as significance in terms of creating a positive climate conducive to collaboration in matters pertaining to staff development. The absence of a supportive work context can create difficulties for teacher development and change-based initiatives. In this aspect, principals need to be pro-active in their creation of psychological conditions within their schools so that in-service training will be possible. The success of in-service training depend on attitudes and interpersonal relationship within the school. School principals is the best position to establish the conditions necessary for collegiality.

Principal’s leadership behaviour are related to the success of the school, the training program, evaluation and the decision making process. According to Steyn (2011), the effective of leadership are related to the active involvement of the administrator in learning and development process in the school. Besides that, Heaney

(2004) & Lee (2005) stated that, the principal or headmaster should be committed in identifying the training needs for teachers and prepare a suitable training based on their needs.

School administrators should create awareness regarding the need for in-service training for teachers. The need for in-service training must be identified and accepted by the staff's themmselves. In this aspect, the administrators must be able to create the awareness among teachers by using a proper approach in ordert for the staff members to accept the responsibilities to attend the in-service training. The effective training programme depent on the administrator who are willing to stimulate and encourage staff members.

Teachers have the perception that evaluation that is done by administrator after attending the in-service training is very important and useful in motovating teachers. This is because the administrator was able to prepare specific data on certain aspect and help in overcoming classroom problems and at the same time give positive feedback on teacher's skill. The role of the principal or headmaster in making evaluation based on program objectives and also giving recoomendation on teacher skills is one of the important aspect that principals are supposed to have so as to ensure achievement of the in-service training for teachers.

Obviously, the roles by the school and espeacially the administrator is very effective in bringing changes because administrator have to make sure teh needs of the teachers in the school is fulfilled. Teachers have the view that the role of principal are important in making sure the success and effectiveness of the training program. Therefore, even though principals do not run the program in their school, teachers still hope the assistance and full support from principals when they attend any training program.

ii. Attitudes towards in-service training

The effectiveness of in-service training in school is also related to the attitude of teachers in school. Teachers should have a positive attitude towards in-service training organised by their school. Teacher's attitude towards teaching philosophy, in-service training and educational reform can influence their response towards training that is conducted. Attitudes are reflections of employee's beliefs and opinions that support or inhibit behaviour. "In a training context, we are concerned about employee's attitudes that are related to job performance". (P.Nick Blanchard & James W.Thacker :1999)

Relating to this, teachers that have high positive attitudes toward their job are more interested to try new techniques and strategies, including those that they have learn from training conducted in thetir schools. Apart from that, the objectives of in-service training in schools is to change attitude and work schedules of teachers so as not to depend solely on instructions or circulars that will cut down the emphasis on prescriptive culture. In nthis way, teachers will emphasis on team spirit and feeling of ownership as a source of importance when they attend in-service training and this will contribute towards the effectiveness of the training.

Attitudes are important issues for training because they effect motivation. Motivation is reflected in a person's selection of goals and the amount of effort expended in achieving those goals. According to P.Nick Blanchard (1999), goals and effort are influenced by how the person feels about things related to the goal. Because of the relatively strong relationship between a person's attitude and behaviour, attitudes that motivate teachers to perform or learn more effectively need to be addressed by in-service training.

Since teachers in schools participate in the planning and delivery of in-service training, it's only natural that they would consider the programs to be worthwile. Teachers must have a positive attitude and consider that continous in-service training to be absolutely essential to their professional growth and the improvement of teaching. Teachers must describe in-service training as a 'way of life' in their schools – a way of life that they never want to give up and its effect is also important in changing teacher's attitude and confidence towards teaching and learning.

One of the important aspect in in-service training is self-development. To achieve self-development, teachers must have a positive attitude towards in-service training in schools. Teachers must be ready to attend training with a positive attitude and participate actively during training. Growth is personal in the sense that what motivates each individual is an individual matter. In-service training is self-development in that growth begins with a personal need and teachers develop by taking responsibility for their own growth with a positive attitude when attending a training program. This will definitely lead towards the success and effectiveness of the in-service training attended by the teachers.

iii. Needs analysis for in-service training

The primary purpose of in-service training is to increase the knowledge and skills of employees and thereby increase the potential of the school to attain its goals and objectives. The process of assessing employee needs is essentially the process of determining the discrepancy between the existing and the needed competencies of the staff. This analysis also must consider projected human resource needs. According to Robert, "the data obtained from the human resources inventories used in the human resource planning process along with the data obtained from needs assessment techniques provide the framework within which program goals and objectives can established". (Ronald W.Rebore, 2004: 119)

An effective in-service training must be able to identify systematically the needs of employees because it's the base to develop the objectives and the activities for training program. In identifying the training needs, many aspects have to be taken into consideration. It's important to understand that training need analysis is a process to identify employees that need training and what kind of training they need. A need analysis shoukld precede the planning and execution of a training program. In a need analysis, the school administrator determines exactly what the staff training needs are, before designing a program to meet them.

There are several methods of determining which needs to focus on in the in-service training. The first method is to evaluate the school district's output variables such as performance levels and growth levels of employees, school community relations, employee-management relations, employee job satisfaction and the like. Another method is direct feedback from school district employees regarding what they feel on organisations development needs. The final method of determining training needs involves projecting. If the new programs, procedures or equipment are predicted, some type of corresponding training will be needed.

As can be seen, training needs analysis is important to determine the objective and the content of training and to identify the teachers really need training for their professional development and to improve their knowledge in many aspects of teaching and learning which will give benefit to the students. With this, the training will run well and will be very effective with the aim of improving the quality of the teacher.

iv. Strategies of in-service training

In-service training shall be implemented according to a through, comprehensive and well organised plan than includes goals, objectives, strategies, activities, materials, assessment plan and program evaluation procedures that are well defined and cordinated with each other. In making sure that the process og channeling knowledge becomes reality, the approaches used in presenting in-service training should be appropriate with the needs of the participants. Through the process of andragogy, an adult can obtain knowledge more effectively. This is based on theory that adults have higher level of self-development effort and learning through experience.

Each method and approach used in in-service training in schools have its strong and week points. Therefore, to use the right methods or approaches should be suitable to the objectives, contents, ability of the participants and facilities available in the training program. (Pusat Perkembangan Kurikulum, 1992). The effectiveness of such method and approach used will depend on the knowledge, skills and discretion of the coaches or facilitators with respect to the concept, planning, implementation and evaluation of the approaches used.

The contents that is delivered should be suitable and be able to increase and develop the level skills, knowledge and positive attitudes of teachers. In schools, the contents are more emphasized on tghe subject syllabus, the pedagogy of learning, teaching and learning strategies of certain subjects or skills and classroom management. According to Matnoh Minan (1995), the suitable course content will only developed through observation, listening and feedback from potential participants by the facilitator or coaches.

A crucial important aspect in conducting in-service training is what kind of materials and media is suitable and effective in delivering the course content. The choice of equipments and materials must be suitable with the contents and training objectives that will be presented. The materials and equipments must be evaluated from time to time to make sure its effectiveness and suitability. According to Hacer (2012), the effectiveness of in-service training is also very much depend on the materials and resources used and whether new materials are created during the course.

In conducting in-service training in schools, time factor will affect the effectiveness of training. Too long of the training session will interfere the teachers concentration. While session held just after schooling time will not be suitable because teachers are tired after teaching. If it is conducted during weekend, some teachers would think that it is a holiday for them. Therefore, it is importnt to identify the most suitable time and session for training, teachers recommendation should be taken into account. This will make sure that teachers will be more ready and prepared to attend the training program.

Conclusion

From the discussion above, it clearly shows that in-service training is important for teachers in school as a tool for professional development and to enhance their knowledge and quality of teaching and learning.Teachers are facing new challenges and changes in the education world and it's important for teachers to equip themselves With new knowledge and skills by attending in-service training in order for them to play an important and effective role as an educator. Besides that, the effectiveness of in-service training is important to ensure that the training is suitable and bring positive effect to the teachers. The effectiveness of the in-service training is influenced by the role of administrator, teacher's attitude, needs analysis and strategies used in the training program.

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Self-Confidence in Mathematics: A case Study on Engineering Technology Students in FTK, UTeM

Iskandar Waini[a], Khairum Hamzah[b], Rahaini Mohd Said[c], Nor Hamizah Miswan[d], Nurul Amira Zainal[e], Aminah Ahmad[f]
Faculty of Engineering Technology, Universiti Teknikal Malaysia Melaka, Malaysia

Abstract

Self-confidence towards the studied subject is very important in order for students to succeed in their field of study. There is some relationship between self-confidence and the students' achievement. The main objective of this study was to understand and examine Engineering Technology (ET) students' attitudes towards the level of self-confidence or self-efficacy in mathematics during their class sessions at the Faculty of Engineering Technology (FTK), Universiti Teknikal Malaysia Melaka (UTeM). This study investigated the attitudes of 332 second year students in several field of studies at FTK, UTeM in the second semester of the 2013/2014 session. Students were given a set of questionnaire consisting of statements on their attitudes towards self-confidence in mathematics. This activity was performed during one of the classes. From the findings, a conclusion was drawn regarding the attitudes of ET students towards self-confidence in mathematics. The result shows that most ET students had positive self-confidence in mathematics. However, the level of confidence was not as high and depended on the students' situations and current environment.

1. Introduction

Nowadays, mathematics and factors influencing students' achievement in the subject of mathematics have become the most important issues in the educational system in Malaysia (Wan Zah et al., 2005). Although mathematics has been introduced as early as at the primary school level, a large number of students still have problems in solving basic mathematics questions at higher level institutions. Students are expected to already have achieved a certain level of standards in their mathematical knowledge prior to entering the university. However, the debate about the falling standards of students' achievement in mathematics has produced increasing attention among researchers, parents and educational authorities because of the importance of mathematics in all realms of life (Khairum, H. et al., 2014).

This is because most studies on mathematics achievement related it to psychological factors. The most important psychological factor related to mathematics achievement is mathematics self-confidence or self-efficacy. The Oxford Dictionary defines confidence as 'self-assurance resulting from a belief in one's own ability to achieve things'. According to Bandura (1977), self-efficacy is 'not a measure of the skills one has, but a belief about what one can do under different sets of conditions with whatever skills one possesses'. As seen, the definitions of self-confidence and self-efficacy are generally similar.

Researchers have demonstrated the value of self-efficacy in predicting a student's performance in mathematics. For example, Bandura (1977) postulated that self-efficacy, as a person's belief concerning his/her ability to successfully perform a given task or behavior, is a major determinant of whether a person will attempt at a given task and the amount of effort and persistence produced in pursuing the task. It was also demonstrated that based on the social cognitive theory, students' self-efficacy beliefs in the judgment of confidence in performing academic tasks or succeeding in academic activities will determine their subsequent capability to accomplish such tasks or succeed in the activity (Bandura, 1986). Meanwhile, the research by

Campbell and Hackett (1986) found that students believe their ability in mathematics is an important factor that will contribute toward their achievement in mathematics. Also, research findings by Hackett and Betz (1989) on 262 undergraduate students found a moderately strong relationship between mathematics self-efficacy and mathematics performance.

Believing in self-confidence or self-efficacy influences many aspects of life such as choosing goals, making decision, level of continuity and stability and encountering challenging problems. For example, Zimmerman et al. (1992) and Pajaris and Miller (1994) found that self-efficacy predicts mathematics problem-solving to a greater degree than self-beliefs such as mathematics anxiety or self-concept, previous mathematics experience, or self-efficacy for self-regulatory practices. Similarly, Pajares et al. (1999) showed that students' confidence in mathematics problem-solving skills is related to their problem-solving competence.

On the other hand, Parsons et al. (2009) conducted a study on engineering students' confidence in their ability in mathematics matter. It was found that the majority of students were fairly confident during their first year of university study. Similarly, according to Parsons et al. (2011), students gained confidence in mathematics during their first year of study and felt sufficiently confident in their future use of mathematics. Most students used the support for mathematics and described how it had helped them improve their ability and self-confidence.

Furthermore, Ayotola and Adedeji (2009) and Khezri Azar et al. (2010) revealed a strong positive relationship between mathematics self-efficacy and achievement in mathematics. Meanwhile, Wan Jaafar and Mohd Ayub (2010) found a positive correlation between mathematics performance and mathematics self-efficacy in a group of Malaysian university respondents. In addition, Shams et al. (2011) studied the mediating role of academic self-efficacy in the relationship between Five-Factor Model (FFM) of personality and mathematics performance. The finding showed a positive and significant correlation between openness to experience, conscientiousness, and agreeableness of FFM and mathematics performance. Recently, Ünlü and Ertekin (2013) investigated the relationship between mathematics teaching self-efficacy and mathematics self-efficacy, in which the results showed a positive relationship between them. In conclusion, the study about mathematics self-confidence or self-efficacy is important to identify how it contributes towards achievement in mathematics. Therefore, the main purpose of this study was to understand and examine mathematics self-confidence or self-efficacy in Engineering Technology (ET) students from the Faculty of Engineering Technology (FTK), Universiti Teknikal Malaysia Melaka (UTeM).

2. Methodology

This study was primarily quantitative, and adopted from the previous study by Galbraith and Hines (1998) that used the method of mini survey for data collection. This mini survey used questionnaires in order to understand and examine the students' attitudes towards the level of confidence in mathematics. The focus was on ET students' self-confidence or self-efficacy in mathematics involving 332 second year students in FTK, UTeM as a sample for the whole population. The survey was conducted by the authors during the final week of the semester. The results were than analyzed using Microsoft Excel to obtain the statistics for each of the questions.

3. Results and Discussion

All 332 questionnaires distributed to ET students' were analyzed. Most of the ET students' had confidence in mathematics. Table 1 below shows the descriptive statistics of ET students' attitudes towards confidence in mathematics.

Table 1: Students' Attitudes towards Confidence in Mathematics

Statement	Percentage (%) Agree	Percentage (%) Disagree
Mathematics is a subject in which I get value for effort	97	3
The prospect of having to learn new mathematics make me nervous	66	34
I can get good results in mathematics	83	17
I am more worried about mathematics than any other subject	59	41
Having to learn difficult topics in mathematics is always difficult for me	52	48
No matter how much I study, mathematics is always difficult for me	52	48
I am not naturally good at mathematics	66	34
I have a lot of confidence when it comes to mathematics	67	33

Majority of ET students had the level of confidence or self-efficacy towards mathematics. However, the level of confidence was not quite high, as shown in Table 1 above. This result gave some ideas to achieve the objective of this study, which was to understand and examine ET students' attitudes towards self-confidence in mathematics during their class session at FTK, UTeM. Most of the students believed that by studying mathematics, they could get the value from their effort. This was shown in 323 out of 332 respondents, which was 97%, who agreed with the statement that mathematics was a subject in which they could get value for their effort. In other words, ET students' understood and believed about the importance of mathematics in their fields of studies.

In order to succeed in studies, especially at the university level, the level of confidence is very important, similar to mathematics, which is one of the core subjects for ET students'. From 332 respondents, 276 were confident that they could get good results in mathematics, while the rest were not confident about their results, which show that most ET students, which was 83%, had very high confidence that they could get good results in mathematics. This attitude towards mathematics is very important because the level of confidence is the first step to success in mathematics and also in their field of studies. When the statement was directed to the confidence towards mathematics, then they did show high confidence from ET students', which was shown by just 67% respondents agreed with the statement that they had a lot of confidence when it comes to mathematics. However, this result did not show the lowest confidence about mathematics, but the percentage was not high compared to what the students should have. It can affect the achievement in mathematics because the attitude of ET students towards the level of confidence in mathematics is very important.

This study revealed that some ET students' were not sure about their confidence on the difficulty of mathematics because almost half of the respondents, which was 52%, agreed with the statement that having to learn difficult topics in mathematics was always difficult for them. ET students' also did not have confidence on their hard work, which was shown by 52% of respondents agreeing with the statement that no matter how much they studied, mathematics was always difficult for them. This finding shows that the attitude of ET students about the level of confidence towards mathematics was not quite high and they were still not sure about their confidence level. These results can affect their success in mathematics and are not good signs for the ET students' towards their field of studies.

Some ET students were more worried about mathematics compared to others subjects, as shown by 196 out of 332 respondents, which was 59%, who agreed that they were more worried about mathematics than any others subjects. This situation could also affect because the ET students' already had a negative mindset about mathematics. For example, 66% of ET students' had the mindset that they were not naturally good at mathematics, which show that the attitudes of the ET students' towards their level of confidence in mathematics were very weak.

4. Conclusion

The main objective of this study was to understand and examine ET students' attitudes towards their level of self-confidence or self-efficacy in mathematics during their class session at FTK, UTeM. Nowadays, students' attitudes in their studies play a crucial role because of the environment of the new century itself. The same situation also occurs on the attitudes of the students towards their self-confidence in mathematics because of the importance of mathematics, especially for ET students. It is also important for students' to achieve better results in mathematics. From this study, it can be concluded that most ET students, as discussed previously, had good attitudes towards their self-confidence in mathematics during their studies at FTK, UTeM. However, the level of self-confidence were not very high and depended on the situation of the ET students' themselves. Some students had the mindset that mathematics was difficult for them, but were confident in obtaining good results in mathematics. If this situation could not be controlled by the students, it could become the negative side and the effect would be poor achievement of the students' in mathematics and of course also their field area.

Most of the ET students who responded to the questionnaire felt confident in their abilities to be successful in mathematics. Much like the “Chicken and the Egg” debate, it could not be determined whether ET students' self-confidence came from their general success in mathematics or if their success in mathematics built their self-confidence. Likely, it was some combinations of the two and may be a subject for further study. In future studies, larger samples should be collected and ET students from other year of study should be included, so that a proper conclusion may be derived for all ET students.

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Family images in modern society: pictures from Taiwan

Yvonne Liu
Minghsin University of Science and Technology, Taiwan
yvonneok@gmail.com

Abstract

In Taiwan, world lowest birth-rate was caused by economic and social environment. Family-friendly policies and benefits from government were conducted in years. The birth-rate, however, were still not raise gradually. Aims of this study were present family images of happiness and challenge from Taiwan and gather voice from parents who lived in this context. Iconology was adopted as the methodology to conduct data collection. Research data were gathered from 50 Taiwanese families which included family pictures and semi-structure interviews. Two main findings were as follow: (1)Most pictures that parents named as 'happiness moment' were going out because of the precious moment of 'being together'. (2)Most challenging moment exited when children were sick or parents' transition in new parenthood. Policy of 'home care day off' in most enterprise is not good enough to support parents. Family friendly policies or systems in Taiwan are either complicated or short term only.

Keywords: parenting stress, parenting experience, iconology, Taiwan

1. Introduction

In modern society, member composition, function and core values of family are changing and influenced by context. The common trends such as smaller family size, late parenthood and challenges in family financial are easily seen as a global phenomenon [1]. In Taiwan, birth-rate reached 'lowest-low fertility' level which is a significant situation in the world [2] [3].

Family-friendly policies and benefits such as financial support, tax deduction, child care benefit and free tuition for 5-year-old children from local and central government were conducted in years [4] [5]. The birth-rate, however, were still not raise gradually. Parents' who have their own children are stressed due to firstly, economic and social context [6][7] and secondly, complex and unhelpful policies [8].

It is obvious that there is a gap between government policies and parents' need. The aim of this study, therefore, is trying to explore families' need from parents' point view. Research questions are as below: First, present family images from Taiwan. Second, gather voice from parents who lived in this very low birth rate society. Third, try to link parents' opinions to social context to present a whole picture of family images in Taiwan.

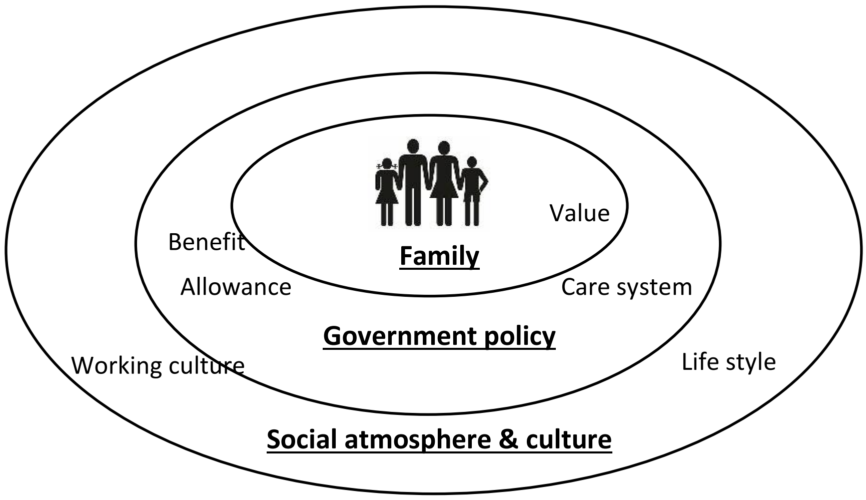
2. Theoretical framework

2.1 Ecological system Approach

Urie Bronfenbrenner first pointed out ecological system to describe the contextual influences in human's development process since 1970's. Sequence layers from microsystems, mesosystems, exosystems, macrosystems to chronosystems. "*The ecological environment is conceived as a set of nester*

structures…moving from the inmost level to the outside… [9]". It showed that the influential elements are linked from inner to outer level and interplayed.
In order to initially analyse the family image and present the whole map, framework of ecological system in this study were adjusted from Bronfenbrenner's approach due to families are the unit in this study. The core is family which might include parents' value and the way they raising their children. The intermediate level is about something influences or interact with family (e.g. policies or activities from school, community and government). Last level is the social and culture atmosphere that people might not easy to recognized and tell but showed in the same large group (e.g. life style, culture or trends).The three levels of ecosystem for family are as Figure 1.

Figure 1: Family in the Ecological System



2.2 Iconology

Iconology was firstly a way to describe the content and understanding of art in 20 century. Erwin Panofsky pointed out the three strata of iconology are description analysing and explanation. Sequential steps of iconology in visual art are describe about the nature of the subject then analyse the meaning (in general, in society) of the art piece and followed by the meaning from the author or combine with the contextual factors for explanation[10].
In most studies, opinions of parenthood has been explored from either questionnaire or interview [11][12][13]. Iconology, however, might have the chance to transmit some other information from parents. In this study, therefore, family pictures were gathered as the main resource to present image from family. Content of the pictures, interpretation from parents and researchers all considered into the process in the analysing to show information beyond parents' opinion only from interview.

3. Method

Qualitative approach was conducted in this research. The initial sample consisted of 50 families who had multiple backgrounds and lived in northern of Taiwan. In order to accomplish data collection that refer to family stories and parents' thinking, interview families were selected from interviewers' relatives or friends. Those interviewers who took the class of 'family and parenthood' in early childhood education and care programme 2014 and had basic understanding of trends and current situations in modern families.
The semi-structured approach was chosen because parents' opinion might be varied from family to family. Three dimensions of questions were designed for all the interviewee but adjusted by interviewers.

Interviewees were asked to offer at least two pictures to show the moments of happiness and challenge before the interview. Also, they received the interview questions in advance. Interviewees who joined this study were explained about the purpose of this study and aware their family pictures were used in academic study.

4. Findings

4.1 Family Images

4.1.1 Happiness Moment

Most pictures that parents names as 'moment of happiness' were took when they travelled somewhere or ate out in restaurants (n=39); second were having some ceremony such as graduation or birthday party (n=8); third were children's pictures only that parents choose to represent the happiness of children's growing process.

According to the photos from parents which be named as 'happiness moment', the nature of them were formed from 'going out': travel, trip, friends visiting etc. Not even one picture of happiness moment form 50 families was taken 'at home'. The reason from interviews is clear: family members going out only when they (usually fathers) finally have TIME. Most of the main financial burdens (36 in 50 families) were on fathers' shoulder. They usually don't have quality time during weekday so mothers arrange trip or dinning family event when fathers have time.

"During weekday, both of us have to work, especially my husband. He usually works late sometimes he even can't see the children. We can only have a proper time to meet when we go out for meal in weekends. (N21-1)"

"*My husband is always busy. The reason I named it as the happiness moment is because he promised us to have a small trip for such a long time then he finally made it last month. (N16-1)*"

Therefore, the reasons behind the nature in those pictures are not only the fun to eat and travel, but the precious moment of 'being together'.

Pictures also showed that happiness came out in important moment in children's ceremony. Parents recall about the developmental process during these milestones. "*My son was very shy when he went to kindergarten at three. In the graduation ceremony, I saw a very confident boy with big smile. I feel so happy…. (N26-1)"*

There are also chosen pictures presented happiness moment that show children only. Parents thinking about these pictures is that they appreciate the process of development. "*It's hard to bring up three children. However, when I see their smile faces in this picture, it worth everything… (N35-1).*"

4.1.2 Challenging Moment

More than half (28 in 50) interviewee's think that most challenge moment in parenthood is when children are physical ill. Those pictures of 'challenging moment' showed the images of sick children. The reason for parents to define them as challenging moment is obvious that they suffered from watching their sick children.

Also, they have to squeeze time or ask for day off to take care of children at home/hospital. Furthermore, the policy of 'home care day off' in most of the business is not good enough to support parents.

"*When my child was sick, I felt so bad to watch him but can't do anything to help him. It's like forever in that week. I and my husband have to take turns to ask for day off and take care of him. We used all the day off chance we could ask…(N47-2)*"

"*It's just like a nightmare when children are sick. We parents have to again ask help from boss, colleagues. I'm so stressed because of I can't sleep well, my salary was cut down and I have to do triple things when I go back to work…(N01-2)*"

Initial parenthood is another challenging moment in parenthood. Many of the interviewees (18 in 50) name it as the most unforgettable challenging period mainly because they lacked of knowledge and experience to raise new born baby.

"*Both of us love child, we expected this child for a long time. When he finally came to our lives, however, we felt very difficult to take care of him. We don't even know how to hold such a fragile baby. I was so afraid I'll hurt him. As to the breast feeding, oh…it's really killing me… (N06-2)*"

This is quite similar as the previous research that parents face the raising challenge in other countries (White etc., 1999; Lu, 2006). In Taiwan, however, parents have to face difficulty from financial dimension. When we talked about benefit from social welfare, local government and day care system, only two parents' think they are helpful. Most parent's opinions are family friendly policies or systems in Taiwan are either complicated or short term only.

"One of my relative said that she got about USD 700 allowance when she has the new born baby. I tried to find where I can apply this support than I realized those support were different in each county and actually I didn't know where I can find the accurate information. (N11-2)"

5. Discussion

To see the reasons that make most parents happy, we firstly find the family going out event then realized it was because that's probably the only chance family members can finally being together. From the view of the very basic need in a family relationship, being together is essential and unreplaceable. In the working field, however, work over time is the common situation in Taiwan. According to the statistic from Ministry of Labor, about 50% of labor experienced it and 1/3 of them usually work over 12 hours per day [14]. Moreover, the myth of 'work longer means work harder' is existing in this society [15]. In recent years cases of sudden death from overwork in Taiwan finally forced people to think about this value of hard working [16]. Therefore, it is easy to understand that why arrange travel and dinning event can make the happiness moment in family life.

As to the challenging moment, except the common new parenthood challenges all over the world, parents in Taiwan suffered from the support mechanism from enterprise and government. Continuing the working culture above, only few enterprises have enough support for family care such as the day off for family care, special policy of home-based working when employee's children are sick…etc. [17]. Family friendly regulations and policy for labors in Taiwan were not applied in employee's working life. From the point of view in social support for family, there are actually multiple benefit and financial supports from government in recent years. The comments from parents, however, are disappointed due to the confusing information resource and the long term support.

6. Conclusion

Family images from Taiwan tell about the moments of happiness and challenging. In traditional Chinese culture, having a son to carry on father's name is very important. Though this paper did not show how this tradition influence in Taiwanese society, but it is obvious that parents face a severe environment support them to bring up their children. Culture atmosphere of hard working, regulations of family friendly policy in enterprise, clear and long term information are really necessary from parents' point of view. There is a good chance that images of happier parents who have time and support to enjoy their parenthood will be presented in the future while the family friendly environment was meet parents' need.

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The Analysis of UPSI Teacher Clinical Experience In Comparative Perspective and Suggestion for New Teacher Clinical Experience Structure

Wong Yeou Min
Faculty of Education and Human Development, Sultan Idris Education University
yeouminwong@gmail.com
Mohd. Hassan Abdullah
Faculty of Music and Performing Arts, Sultan Idris Education University
mohd@fmsp.upsi.edu.my
Rosnidar Mansor
Faculty of Education and Human Development, Sultan Idris Education University
rosnidar@fppm.upsi.edu.my
Syakirah Samsudin
Faculty of Science and Mathematics, Sultan Idris Education University
syakirah@fsmt.upsi.edu.my

Abstract

This study was conducted to compare and discuss the teacher clinical experience structure offered by the Sultan Idris Education University (UPSI) and the chosen universities from Singapore, Hong Kong, Canada, United States of America, United Kingdom, and Australia. This comparative analysis is carried out using a qualitative approach which will focus on the purposes, duration, timing and phases or components of the teacher clinical experience offered by the UPSI and the chosen universities. This analysis has identified that the time allocation for the teacher clinical experience of the UPSI was too short; the timing for pre-service teachers to undergo teacher clinical experience was inappropriate, and the phases or components of teacher clinical experience adopted was insufficient. This paper will suggest a new teacher clinical experience structure and provide implications that can be learnt by the UPSI from other universities abroad to enhance its existing teacher clinical experience.

Keywords: Comparative analysis, teacher clinical experience, pre-service teachers, teacher education, Sultan Idris Education University (UPSI).

Introduction

In order to produce 21st century teachers who are sufficiently prepared for the challenges in their teaching profession, it is important to provide a comprehensive teacher clinical experience for pre-service teachers. It is beyond doubt that teacher clinical experience is often perceived as the most essential component of teacher education programmes by pre-service teachers and teacher educators (Lourdusamy et al.; Ramsey; Alexander & Galbraith; and Tisher, as cited in Atputhasamy, 2005; Grudnoff, 2011). Teacher clinical experience helps to develop pre-service teachers' practical competence (Cochran-Smith and Fries, 2005) and prepare pre-service teachers to experience and 'experiment' their knowledge and skills in a real teaching and learning environment (Kennedy, 1996). Not only content knowledge and pedagogical knowledge, pre-service teachers are required to equip with pedagogical content knowledge as well (Shulman, 1986, as cited in Jusoh, 2012). It is the time for pre-service teachers to familiarise themselves with school environment by observing teachers in class, understanding the functions of administration in school, socialising with staff, being aware of teaching and learning process in real context and so on, as well as to prepare for teaching in real classroom.

According to Tang (2003) (as cited in Cheng, 2013), teacher clinical experience plays an important role in the development of teaching skills and acquiring pedagogical knowledge and also internalisation theories learned in university into their own knowledge by practising the theories in a real classroom under the guidance and mentoring of their cooperating teachers. Essentially, teacher clinical experience is established to bridge the gap of theory and practice in initial teacher education (Darling-Hammond, 2006).

Critical informants have been raising a number of relevant issues on teacher education of Malaysia and one of the concerns is the components of the teacher clinical experience. Ong et al. (2004) (as cited in Goh and Matthews, 2011) asserted that the pressure felt from the teacher clinical experience hampered pre-service teachers from positively engaging in theory and practice. They also stated that most pre-service teachers are overwhelmed by supervision, workload other than teaching, pedagogical and content knowledge during their teacher clinical experience. So it is necessary to keep up-to-date and study the teacher clinical experience of different universities from different countries to improve the UPSI teacher clinical experience structure.

Research Objective

The purpose of this study is to analyze the teacher clinical experience offered by the UPSI in comparing with those offered in universities of developed countries such as Singapore, Hong Kong, Canada, United States of America (USA), United Kingdom (UK), and Australia. The result of this study would provide some insights and guidance for the UPSI to improve its existing teacher clinical experience structure.

Methodology

The design of this study is qualitative which employed comparative analysis methods. This approach allows the researchers to understand the phenomenon of teacher clinical experience (Karamustafaoğlu, 2009). Specifically, the methods of document analysis and literature review are used in this study. This comparative analysis analyses the teacher clinical experience offered by the UPSI as compared with that of the other countries from the aspects of purposes, duration, timing and phases or components of the teacher clinical experience. The teacher clinical experience structures are studied directly through practicum handbooks or from the university websites.

Structure of Teacher Clinical Experience in Different Countries

Teacher Clinical Experience of the National Institute of Education (NIE) Singapore

The teacher clinical experience offered by the NIE Singapore interwoven throughout the entire BA/BSc (Ed) programme and it is developmental in nature. It is composed of four school attachment periods totalled 22 weeks, namely School Experience (SE), Teaching Assistantship (TA), Teaching Practice 1 (TP1), and Teaching Practice 2 (TP2).

Table 1. Teacher Clinical Experience Structure of the NIE Singapore, Singapore

School Experience (SE)	• 2 weeks; before Semester 1 of Year 2 • 1 week in primary school; 1 week in secondary school • Observation
Teaching Assistantship (TA)	• 5 weeks; before the Semester 1 of Year 3 • Intensive observation and reflection
Teaching Practice 1 (TP1)	• 5 weeks; before the Semester 1 of Year 4 • Guiding pre-service teachers to develop beginning teaching competencies
Teaching Practice 2 (TP2)	• 10 weeks; Semester 2 of Year 4 • Intensive development of beginning teaching competencies to teach independently

(Adapted from NIE, 2014)

Teacher Clinical Experience of the University of Hong Kong

The teacher clinical experience of the University of Hong Kong consists of three phases, one in each year starting from the second year. Teaching Practice 1 (TP1) is offered in second year for 3 weeks; Teaching Practice 2 (TP2) is offered in third year for 8 weeks; and Teaching Practice 3 (TP3) is offered in fourth year for 8 weeks.

Table 2. Teacher Clinical Experience Structure of the University of Hong Kong

Teaching Practice 1 (TP1)	• 3 weeks; second year • Play the role of "Teacher Partner" and "Observer" • Assist cooperating teacher(s) both inside and outside the classroom • Observe a specified number of lessons in Major subject and some other lessons in a different subject(s)
Teaching Practice 2 (TP2)	• 8 weeks; third year • Conduct at least 8 lessons to a maximum of 12 lessons per a 5-day teaching week
Teaching Practice 3 (TP3)	• 8 weeks; fourth year • Similar to TP2

(Adapted from University of Hong Kong, 2014)

Teacher Clinical Experience of the Brock University, Canada

The Brock University offers 11-weekteacher clinical experience during the last year of their four or five year program. The teacher clinical experience programme comprises three blocks (3weeks+4weeks+4weeks) which exceeds the legislated minimum of 40 days. Pre-service teachers will be assigned to different schools for each block to allow them to experience different school communities and different learning environments.

Table 3. Teacher Clinical Experience Structure of the Brock University, Canada

First Block	• 3 weeks; November; last year • Exposes pre-service teachers to teaching responsibilities with a lesson the first day and additional lesson each day until they are teaching one-half time
Second Block	• 4 weeks; January-February; last year • Increases pre-service teachers' teaching load progressively as their supervisors convinced with their competency
Third Block	• 4 weeks; April; last year • Pre-service teachers assume full responsibility for the classroom and their supervisor's timetable

(Adapted from Wilson, 2003)

Teacher Clinical Experience of the University of Massachusetts Boston (UMass Boston), Massachusetts, USA

The UMass Boston offers the teacher clinical experience structure that requires 75 hours pre-practicum experience and one full semester of classroom practicum experience that lasts almost four months (minimum 14 weeks).

Table 4. Teacher Clinical Experience Structure of the UMass Boston, Massachusetts, USA

Pre-Practicum Placement	• 75 hours; should complete at the beginning of the programme • Observations in a classroom • Assignments are integrated into the field experience to relate the theoretical work of their courses in the practical realities of schools and children's learning
Practicum Placement	• Full-time (14-week minimum), full semester of classroom practicum experience; last year • Assigned into the classroom of a cooperating teacher who will provide ongoing supervision, coaching and mentoring

(Adapted from University of Massachusetts Boston, 2014)

Teacher Clinical Experience of the University of Glasgow, UK

The University of Glasgow provides a 34-week school experience programme which consists four phases; one in each year. School Experience 1 (SE1) which is conducted in Middle Primary can be divided into SE1A and SE1B. SE1A is offered in the second half of the first semester of the first year for 4 weeks while SE1B is offered in second semester of the first year for 5 weeks. School Experience 2 (SE2) is conducted in Nursery and Lower Primary schools for 9 weeks and School Experience 3 (SE3) is managed in Upper School during the second semester of the third year for 6 weeks. The 10-week School Experience 4 (SE4) is offered in lower, middle or upper level schools during the second semester of the last year.

Table 5. Teacher Clinical Experience Structure of the University of Glasgow, UK

School Experience (SE1) Year 1	• Observational and practical placement • School Experience 1 A • Serial placement one day per week for at least 4 weeks; second half of Semester 1 • School Experience 1 B • Block placement of 5 weeks from May to June; Semester 2
School Experience (SE2) Year 2	• 4-week block in August/September prior to the start of Semester 1 • 5-week block placement in May/June • Help pre-service teachers to acquire generic classroom skills in the primary school
School Experience (SE3) Year 3	• 6-week block ; Semester 2 • Emphasise on developing teaching and learning skills to teach curricular of Expressive Arts, and Religious & Moral Education
School Experience (SE4) Year 4	• 10 weeks; Semester 2 • Students assuming full class responsibility for the final 6 weeks • Students will be expected to show professional competence in all subjects especially Modern Languages, Technologies, and Social

(Adapted from University of Glasgow, 2012)

Teacher Clinical Experience of the University of Queensland, Australia

The teacher clinical experience of the University of Queensland, Australia is developmental in nature and well integrated throughout the teacher education programme. Primary Professional Experience (PPE) is offered every year on the second semester except in the second year it is offered during both semesters.

Table 6. Teacher Clinical Experience Structure of the University of Queensland, Australia

PPE1 (Year 1)	• 1 Tutorial hour, 8 Practical or Laboratory hours; Semester 2 • Introduction to school life through workshops and school visits • Develop observation and communication skills in a school context
PPE2 (Year 2)	• 2 Tutorial hours, 8 Practical or Laboratory hours; Semester 1 • Introduce pre-service teachers to school life through workshops and 10 days of school visits • Intensive development of observation and communication skills and begin the process of making lesson plans
PPE3 (Year 2)	• 2 Tutorial and Practical hours (2TP); Semester 2 • Introduce pre-service teachers to school life through workshops, school visits and a 15 day practicum • Intensive development of observation and communication skills and begin the process of mastering sequences of lessons • Introduce the professional standards of the Queensland College of Teachers

PPE4 (Year 3)	• 2TP; Semester 2 • More introduction to teaching by going to workshops and a 20-day block practicum • Emphasise on the relationship between the professional standards advocated by the Queensland College of Teachers and the work of a teacher
PPE5 (Year 4)	• 2TP; Semester 2 • 15 day block supervised practicum followed by 30 day block internship • Achieve the professional standards of Queensland College of Teachers in teaching competency • It is developmental and builds on Primary Professional Experience 1-4

(Adapted from University of Queensland, 2014)

Teacher Clinical Experience in the UPSI

From a Malaysian context, teacher education is managed by the 27 Teacher Education Institutes of Malaysia (IPGM) as well as public universities (IPTA) and private universities (IPTS). IPGM provides training to pre-service teachers to teach in primary schools while IPTA and IPTS are tasked to produce both primary and secondary schools teachers. All the IPTA in Malaysia that are involved in teacher education have Faculty of Education to offer teacher education programmes in various fields and subjects. The UPSI is the only exception as it only focused on offering rigorous, professional and accredited teacher education for pre-service teachers. This paper will use the teacher clinical experience structure of the UPSI to compare with the teacher clinical experience structure of other prestigious universities that were discussed above.

The UPSI offers only Practicum Experience (PE) in Semester 7 of its teacher education programme. Prior to the PE, pre-service teachers are given the opportunity to conduct mock lessons in Microteaching class whereby their classmates will act as students. During the PE, pre-service teachers will be sent to the schools around the university campus in a group of three for their teacher clinical experience. A university advisor and cooperating teachers will be assigned to each group of pre-service teachers. Pre-service teachers are required to undergo the PE for 16 weeks. The purpose of the PE is to expose pre-service teachers to real school setting and they are expected to learn about teaching and learning, school culture, co-curriculum activities, and school socialization. This is to prepare pre-service teachers to teach in real classroom environment and to practice the knowledge that they learnt in the UPSI during their teacher clinical experience.

Discussion

Having looked at the teacher clinical experience structure of other countries, there are a number of issues identified from the UPSI teacher clinical experience structure which can be grouped into several themes. One of the themes is the the time allocated for the teacher clinical experience is too short. Sixteen weeks are not sufficient to carry out the teacher clinical experience comprehensively as the NIE Singapore, the University of Hong Kong, the University of Glasgow, and the University of Queensland allocated more than 16 weeks for their teacher clinical experience. It is unquestionable that longer time period of teacher clinical experience will allow pre-service teachers to be more familiar with the school environment, school socialization, co-curriculum activities and gain a better mastery of teaching strategies through observing expert teachers conducting lesson as well as allowing them to practice actual teaching in classroom based on the prepared lesson plan.

Furthermore, the second theme that was deduced is inappropriate timing of the UPSI teacher clinical experience. Wang and Ren (2002) (as cited in Manzar-Abbas & Lu, 2013) indicated that the development of the pre-service teachers will be jeopardized if teacher clinical experience is placed at the end of the teacher education programme. By comparing the teacher clinical experience structure of all the universities, it is apparent that the timing of both the Brock University and the UPSI teacher clinical experiences are inappropriate as their whole teacher clinical experiences are structured only in the last year of the teaching programme. On the contrary, the NIE Singapore, the University of Hong Kong, the University of Glasgow, and the University of Queensland provide teacher pre-clinical experience in the earlier stage of the teacher education programme to strengthen the development of teaching practice among pre-service teachers. According to Ure (2009), both the duration and the timing of teacher clinical experience are keys to the success of teacher education programme.

Thirdly, the phases or components of the UPSI teacher clinical experience are identified to be insufficient. Except the UPSI and the UMass Boston which only have 1-2 phases of teacher clinical experience, all other universities offer 3-5 phases of teacher training well-interwoven throughout their teacher education programmes. It is evident that more phases of teacher pre-clinical experience are needed in our teacher education (Manzar-Abbas & Lu, 2013). The NIE Singapore, the University of Hong Kong, the University of Glasgow and the University of Queensland have their pre-service teachers to undergo teacher pre-clinical experience almost once a year and teacher clinical experience on the second semester of the last year. It is important to divide teacher pre-clinical experience into different phases or components as it will be more developmental in nature and more effective to build on and incorporate the knowledge learnt across the four years teacher education programmes during the teacher clinical experience. In addition, different phases of teacher pre-clinical experience allow pre-service teachers to reflect over the first phase and better prepare themselves to undergo the following phases of teacher pre-clinical experience and teacher clinical experience.

Moreover, the UPSI places the pre-service teachers to schools around the university campus according to the zone area of the university campus instead of different school settings. However, the teacher clinical experience structure of the NIE Singapore and the Brock University take on the approach of sending their pre-service teachers to different school settings. This move is highly applauded as pre-service teachers are exposed to diverse school environments, students from different age groups or even various cultural and social backgrounds. This also provides a great opportunity for pre-service teachers to meet the needs of students having different levels of motivation and education as well as different learning styles and paces.

Conclusion and Implications

The purpose of having teacher clinical experience is similar but the implementation of teacher clinical experience varies across countries. This paper has discussed the teacher clinical experience structure of the NIE Singapore, the University of Hong Kong, the Brock University, the UMass Boston, the University of Glasgow, and the University of Queensland and compared it with the existing teacher clinical experience structure in the UPSI. This paper acknowledged that the universities which were analyzed for their teacher clinical experience structure may not be a representative of their countries.

This comparative study is conducted to provide suggestions and new approaches for the improvements of the teacher clinical experience structure for the UPSI. The UPSI can consider extending the period of the teacher clinical experience and dividing it into more phases as well as spreading them throughout the teacher education programme. This can ensure its teacher clinical experience to be more developmental and gradual in nature. In addition, it is also advisable for the UPSI to place the pre-service teachers in different school settings.

Summarily, based on the comparative analysis, this study suggests a new teacher clinical experience structure as followed. The proposed teacher clinical experience structure contains nine phases and well-integrated throughout the teacher education programme. It is our hope that this proposed teacher clinical experience structure will be able to provide a comprehensive teacher training, close the ties between theory and practice as well as improve the teaching skills and professional competencies of pre-service teachers.

Table 7. New Proposed Teacher Clinical Experience Structure

School Exposure 1 (Year 1)	• 2 weeks; Semester 1 • Understand the functions of administration in school by observing the school culture and identifying school organisation chart • Be aware with the diversity of teaching and learning process in real context through continuous critical reflection of their field experiences • Assist cooperating teacher in lesson and administration
School Exposure 2 (Year 1)	• 2 weeks; Semester 2 • Be aware with the diversity of teaching and learning process in real context through continuous critical reflection of their field experiences • Formulate a critical analysis of teaching decisions based on the theoretical knowledge about teaching and learning process learnt in their teacher training course • Observe cooperating teacher randomly
School Exposure 3 (Year 2)	• 2 weeks; Semester 3 • Be aware with the diversity of teaching and learning process in real context through continuous critical reflection of their field experiences • Formulate a critical analysis of teaching decisions based on the theoretical knowledge about teaching and learning process learnt in their teacher training course • Observe cooperating teacher randomly
Apprenticeship 1 (Year 2)	• 4 weeks; Semester 4 • Assist cooperating teacher • Observe cooperating teacher at least 4 times • Conduct 2 periods of major subject lesson per week • Be aware with the diversity of teaching and learning process in real context through continuous critical reflection of their field experiences
Apprenticeship 2 (Year 3)	• 4 weeks; Semester 5 • Assist cooperating teacher • Observe cooperating teacher at least 4 times • Conduct 2 periods of minor/elective subject lesson per week • Be aware with the diversity of teaching and learning process in real context through continuous critical reflection of their field experiences
Teaching Practice 1 (Year 3)	• 8 weeks; Semester 6 • Conduct 6-8 periods of major subject lesson per week • Conduct 2-4 periods of minor/elective subject lesson per week • Conduct 2-4 co-curriculum activities

	• Critical reflection • Assist in school administration
Industrial Training (Year 4)	• 4 weeks; Semester 7 • Demonstrate characteristics of professional subject matter experts during industrial training in any relevant institution context • Develop the knowledge of best practices in any relevant institution through constructive feedbacks from supervisors based on a common, clear vision of good practices through supervision of industrial training • Complete tasks assigned by the institution during industrial training
Teaching Practice 2 (Year 4)	• 16 weeks; Semester 8 • Conduct 8-10 periods of major subject lesson per week • Conduct 2-4 periods of minor/elective subject lesson per week • Conduct 2-4 co-curriculum activities • Critical reflection • Assist in school administration
Induction	• 1 week at any suitable place after completion of Teaching Practice 2 • Student must attend all sessions and complete any module in induction programme. • Apply subject matter pedagogical knowledge and content knowledge in actual school context • Understand the range of concepts associated with declarative and procedural knowledge and how they are applied in practice through critical reflection of the teaching and learning process

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Social, Contextual and Psychological Correlates of Alcohol andIllegal Drug Use by College and Non College Attending Youth

Gail E. Thomas, Ph.D., Professor of Sociology
Soka University of America
E-mail: thomas@soka.edu
Stephanie Kimura
University of London
Institute of Education
E-mail: skimura@ioe.ac.uk

Abstract

Adolescent and young adult alcohol and illegal drug use and abuse in the U.S. are public health and social problems of epidemic proportions. This study attempts to identify social, contextual and psychological correlates of levels of alcohol and illegal drug use for a local sample of college and non-college youth. Results from regression analyses indicated a significant influence of friends on level of alcohol and marijuana use and on illegal use of prescription and other drugs. Frequency of marijuana use was significantly associated with being male and frequently feeling depressed. In addition, attending a four-year college was positive and significantly related to higher levels of alcohol consumption. Implications for college and university and social policymakers and for future research are discussed.

Introduction

A significant proportion of young adults in the U.S. continue to use and abuse alcohol and illegal drugs (White and Hingson, 2005; Johnston, et. al. 2013; Redonnet et. al., 2012; Goldberg, 2012; Meich, 2013; National Institute of Drug Abuse, 2014). National reports and surveys on student health indicate that compared to a decade ago, there has been a substantial increase in binge drinking and the abuse of over the counter and prescription drugs among college students and young adults ages 18-15 (National Survey on Drug Use, 2010; Student Health Infographic, 2014). Based on a report from a four year Columbia University study which indicated similar findings, former U.S. Secretary of the previous Office of Health, Education and Welfare, Joseph Califano commented that, “In this world of fierce global competition, we are losing thousands of our nation’s best and brightest to alcohol and drugs, and in the process robbing them and our nation of their promising future (2007; p.1).”

Findings from the Columbia University study by its National Center on Addiction and Substance Abuse revealed that 49% (3.8 million) of full time college students were binge drinkers and/or abused prescription and illegal drugs; and that 23% met the medical criteria for substance abuse and dependence. The abuse of prescription drugs was even higher for young adults in this study. Between 1993 and 2005 among college students in the U.S., there was a 343% increase in the user of opioids, 93% increase in the abuse of stimulants, ,and a 450% increase in the abuse of tranquilizers (Columbia University, National Center on Addiction and Substance Abuse; 2007). In addition to the mental and physical health consequences and social costs of drug and alcohol abuse, data from the National Institute on Drug Abuse (2014) indicate a high economic cost of addiction and drug abuse to American families and tax payers, totaling approximately $559 billion dollars annually in increased health costs, crime and human productivity. In 2012, 183,000 sexual assault and rape cases (37%) in the U.S. involved alcohol use by offenders (National Council on Alcoholism and Drug Dependence, 2013).

While there have been previous studies on youth and young adult use and abuse of alcohol and other drug related substances, very few have made distinctions regarding the type of college students attend. In this study, students attending both two and four year colleges were surveyed along with a small sample of young adults who were not enrolled in college at the time of the survey. The main objective of this study is to examine the influence of gender, college type, and various social and social-psychological factors on alcohol and substance for young adults.

Individual and Socio-Demographic Factors

Findings from studies examining the influence of social class on substance use and abuse indicated a positive relationship between lower socioeconomic status and alcohol and illegal drug use. (von Sydow et. al., 2002; MacLeod et. al., 2004). In addition, gender was found to be positively and significantly related to levels of alcohol consumption and marijuana use, with males reporting higher levels on both variables than females (Wilsnack et. al., 2009; Redonnet, 2012; Grant et. al., 2004; Patrick et. al., 2011; Khan et. al., 2014). Males were also more frequent users than females of psychoactive drugs and to be poly-substance users (Grant et. al., 2004; Wilsnack et. al., 2009; Maslowsly et. al., 2013). Wastila-Simoni (2004) reported that females were more likely to take and abuse prescription drugs than males.

Sex roles and gender socialization, and gender stereotypes have been employed to explain these gender differences (Wastila-Simoni, 2004; Shimmin, 2009; Khan, 2014). Referring to the "Boy Code" coined by William Pollack, this code comes with, numerous expectations and reinforcers about how boys and men should feel, think and behave: "be tough," "don't cry," "go it alone" and don't show any emotion except for anger (Shimmin, 2009; p.2). Consequently some men and young men may view taking prescribed drugs, especially for depression and emotional problems in general as taboo for men and as behavior reserved for women. Traditional sex-typing cast women as being the weaker of the sexes and more in need of medical attention and social-psychological support. However, the use of alcohol and conventional 'street drugs" entail more risk taking behavior that is more align with male stereotypes and the "masculine image" and that may be more acceptable and tolerated in a male dominated world.

Peer and Family

Studies examining the effect of peers on adolescent and young adult alcohol and marijuana use have consistently reported a strong, positive and significant influence (Simon-Morton and Forhat, 2010; Hansen et. al., 1987; Manson and Windle, 2001; Buehler, 2006; Kuntsche and Jordan, 2006). Bransteller et. al., (2011) noted that friends and peers who drink and use drugs provide and facilitate access; and model substance use behavior for their friends and for newcomers and neophytes

Regarding the influence of parents and family, Von Sydow et. al., (2002) found that youth who reported feeling loved or cared about by family members or by someone, and youth who have strong bonds with their parents were less likely to abuse drugs and alcohol than those who did not feel loved or cared about and who were more detached from their parents. In addition, Manson and Windle (2004) found that family social support was indirectly associated with decrease in alcohol consumption.

Type of College Attended

National data from a U.S. study indicated that 1 in 4 (23%) college students met the medical criteria for substance abuse or dependence (Center for Addiction and Substance Abuse, 2011). Slutske, (2004) found that students living on college campuses drank more and were significantly more likely to be diagnosed with an alcohol use disorder than non-college attending youth. White and Hingson (2005) also reported that college drinking was lower at women's colleges than at coed colleges, and at colleges with strong drug and alcohol policies and educational programs accessible to students.

One of the few studies on the effects of college attendance (Velazques et.al., 2011) reported that students at four year colleges were more likely to drink and binge drink than students at two year colleges. One explanation is that four year college students are more likely to live on college campuses than two year college students (Velazques et. al., 2011). In addition, for many residential students, the college campus is their first residence away from home; one that provides an opportunity for freedom, independent living and experimentation away from parents and family (Borsari et. al., 2007).

Social Psychological Influences

The influence of a variety of psychological, social psychological factors and childhood experiences on youth substance abuse on has been investigated studies on adolescents but fewer on young adults. For adolescents, an earlier study by Scott et.al.,(1998) revealed that optimism, hope and high self-esteem were important and positive intra-personal factors in deterring substance use. In addition, frequent feelings of depression, stress, social anxiety, and lack of satisfaction with life and self were found to be positively related to alcohol, and marijuana abuse (Ross et. al., 1999; Lingford-Hughes, 2002; Tesson, 2002; Rao, 2006, Buckner et. al., 2007). Ross et al., (1999) reported that college students, especially freshmen, had higher stress levels and higher levels of binge drinking. The effects of social psychological variables are examined in this study.

Surveys of students on U.S. college campuses revealed a substantial use and increase in students taking adderrall and other ADHD drugs to focus, to reduce anxiety and to boost their studies and grades (Aaron Cooper, 2011; The National Survey on Drug Use and Health, 2009). Findings from the National Survey on Drug Use and Health (2009) indicated that full-time college students ages 18 to 22 were twice more likely to abuse Adderall than young people of similar age who were not enrolled in college. Results from the survey also showed that 90% of college students who used adderall without a doctor's prescription were binge drinkers and 50% were categorized as more frequent heavy drinkers (National Survey on Drug Use and Health.

Theoretical Framework

It is argued that the use and experiences of young adults with alcohol and drugs must be viewed from the perspective of their relations with and expectations from significant others (i.e. parents, peers, mentors, role models) coupled with societal norms and expectations transmitted via socialization, social media and popular culture. Therefore, *socialization theory* with an emphasis on sex role socialization and Robert Merton's *reference group theory* form part of the theoretical perspective underlying this research. These theories articulate the process by which children and youth learn about expected gender behavior and their place and status within their families, schools and other social institutions (Merton, 1986; Risman, 2004). Sex roles and messages based on sex-typing convey that drinking and drugging," challenging, rebelling and deviating from cultural norms and rules are more often tolerated and viewed as expected male than female behavior.

Urie Bronfenbrenner's *Ecological Systems Theory* (1994), offers an additional theoretical perspective for understanding the impact of peer and youth culture on young adult behavior and social choices. Bronfenbrenner proposed that human development and behavior during various stages in the life cycle are influenced and shaped by different types of micro and macro environments. During early childhood and prior to adolescence, children are largely engulfed, directed and influenced by the micro and more immediate and controlling environments of family, schools and in some instances religious organizations. However upon transitioning to adolescence and young adulthood, friends, peer networks and peer pressure become important and powerful micro environmental spheres of influence for youth and young adults (Bronfenbrenner, 1994). At such time, family, authority and adult values and expectations are often challenged, questioned and sometimes rejected. In addition, during the transition to adulthood and beyond, the broader macro-environment through more formal institutions of government the world of work exert influence the behavior and outcomes of youth through a system of performance expectations, rewards and sanctions.

Wagner and Anthony (2002) formulated an *exposure opportunity* hypothesis noting that young adults who experiment with and use alcohol, illegal and non-prescribed drugs are: (1) more likely to be offered a chance to do so with their peers; and that (2) once the initial opportunity exists and is pursued, peer support and approval provides the gateway or subsequent exposure and use. While the current data does not permit a test of this hypothesis it is argued that youth and young adult exposure to alcohol and drugs is also facilitated and possibly enhanced by social media and increasingly advanced technology which often excludes adults, thereby reinforcing the ecological sphere of peer influence.

Main Hypotheses

Given the literature, four hypotheses are formulated and examined in this research:

(1) *Male respondents will have higher levels of alcohol and marijuana consumption and use of psycho-pharmaceuticals than females*.

(2) *Respondents' level of alcohol, marijuana and illegal drug use will be positively related to friends' use*.

(3) Given the greater chances of having more frequent peer-to-peer interactions in a residential college environment, respondents enrolled in four-year residential colleges will report higher levels of alcohol use than those attending commuter community colleges.

(4) Respondents who report higher levels of depression and lower levels of feeling cared about will have higher levels of alcohol, marijuana and psycho-pharmaceutical drug use.

Data and Methods

The data for this study are from a twenty-five item pre-tested survey formulated by the principal researcher. The survey was administered to 206 young adults in Orange County, California in the spring of 2012. An attached cover letter to the survey informed respondents regarding: (1) the purpose, of the survey; (2) that their participation was voluntary; (3) that participants would not be personally identified in the study; and (4) that the results would be summarized and presented primarily in group form.

Of the 206 surveys returned, eight were not usable, resulting in a final sample of 198. One hundred and two males (52%) and 96 females (48%) comprised the final sample. Ninety percent (90%) of the respondents were between the ages of 18-25. The remaining 10% were 26-32 year olds. Eighty-two (41%) of the respondents were enrolled in a mid-size four year private college in Orange County, California. Ninety-three (47%) were enrolled in two Orange County public community colleges. Twenty-three (12%) of the respondents were not enrolled in college at the time of the survey. With instructors' permission, the survey was administered in class in the four-year private college and in one of the two public community colleges. In the remaining public community college, to invite participation, visits were made to campus coffee shops, dining halls and student social meeting places. Surveys included a small number of respondents who were not enrolled in college at the time. In some cases, these students were friends of college students and were on or off campus in student coffee shops, fast-food restaurants and coffee shop. Therefore a non-probability survey sampling technique was employed based on the accessibility and location of potential student participants.

Inter item correlations and linear and logistic regression analyses were employed to analyze the data. Linear regression was used to determine the influence of a set of predictor variables on two dependent variables: (1*) level of alcohol consumption*; and (2*) frequency of marijuana use*. *Level of alcohol consumption* was measured by a five-category item that asked respondents if and how much they drank. Categories were: (1) do not drink; (2) a little; (3) a modest amount; (4) a lot; and (5) an incredible amount). Thirty percent (30%) of the respondents indicated that they did not drink; 23% said *a little; 35%* said they were *moderate drinkers; and 12% indicated that they drank a lot or incredible amount.*

Frequency of marijuana use was measured by a question that asked respondents that indicated they used marijuana, the frequency with which they used. A *frequency of use* scale ranging from 1 to 8 (1=low frequency; 8=high frequency) was constructed to measure the frequency of use. Forty-three percent (43%) of the respondents indicated that they did not use marijuana. Of the remaining 57% who had used, 28% said they did so occasionally and 51% said they did so "often to very often".

Logistic regression analysis was used to determine what factors might account for respondents' illegal use of prescription drugs (i.e. Ritalin, adderall, vicodin, oxycontin) and popular street drugs (i.e. ecstasy, marijuana, LSD, heroin, cocaine meth, crack). Each drug that respondents had taken was coded 1 and each that they had not taken was coded (0). Therefore, a dichotomous composite dependent variable was constructed as a measure of *illegal drug use*. Thirty (30%) of the respondents indicated that they had at some point illegally used prescription and/or illegal "street" drugs.

Logistic rather than linear regression analysis is appropriate when a dependent variable is nominal or has only two categories (Fields, 2009). This statistical procedure allows the researcher to predict which of two dichotomous categories a respondent belongs. In this study the logistic model predicts the probability of *illegal drug use* and the degree of fit of the model containing the independent variables. To establish the maximum comparability to the *R Square* in linear regression, Cox and Snell's *R Square* was used to assess the overall fit of the twelve variables logistic model subsequently presented.

Predictor Variables

Based largely on the literature regarding drug use and abuse among youth and young adults the following predictor or independent variables were included in this study:

1. *Gender (male=0; female=1);*
2. *College Type (four year college=1; two-year college=0);*
3. *Drink Alcohol (yes=1; no=0)*
4. *Age at first drink (an open ended question that asked respondents who indicated that they drank, the age at which they took their first drink);*
5. *Number of friends who drink frequently (an ordinal measure with a scale of 1-5 that asked respondents if they currently consume alcohol, how much they drink (5= an incredible amount; 1=I do not drink)?*
6. *Feel cared about (a five point likert scale item that asked respondents the extent to which they agreed that most times throughout their lives they felt cared about or loved by someone (5=strongly agree; 1=strongly disagree)*

7. *Often feeling sad or depressed(a five point likert scale item that asked respondents the extent to which they agreed that they often felt sad or depressed (5=strongly agree; 1=strongly disagree);*
8. *Satisfaction with: (a) my life; (b) my home life; (c) my ability to succeed; (d) the type of friends I have. These items were measured by a seven point satisfaction scale ranging from 0 (not at all satisfied to 7 (extremely satisfied).*
9. *Number of Friends who frequently use illegal drugs including marijuana (a five item ordinal scale that ranged from none=0 to 5=a lot).*

Results

The results from linear regression regarding factors that might contribute to understanding *level of alcohol consumption* for the current sample are presented in Tables 1 and 2 (see all Tables in Appendix). Table 1 presents inter item correlations, means and standard deviations. It reveals moderate to small correlations between level of alcohol consumption and the following variables: (1) *number of friends who drink frequently* (r=.43); (2) age of first drink (r=-.18) which indicates that starting to drink at a later than an earlier age is negatively correlated with a high level of alcohol consumption; (3) often feeling sad or depressed which is positively related to high levels of drinking (r=.16); and (4) attending a four-year which is positively related to high levels of alcohol consumption (r=.16).

The results from linear regression analysis in Table 2 are consistent with the modest significant correlations noted in Table 1. Contrary to the hypothesis in this study and previous literature, the results indicate that being male or female was not significantly related to alcohol consumption. However, as originally predicted, respondents who drank a lot were more likely to have friends who drank frequently (b=.38; p<.001). The resulting betas also show that students enrolled in four-year colleges have a higher level of alcohol consumption than their two-year college peers (b=.22,p<.05). This is consistent with the initial hypothesis in this study.

While not hypothesized, Table 2 also reveals that respondents who began drinking at a later age were less frequent drinkers than those who started at an earlier age (b= -.18; p<.05). However, as initially hypothesized, respondents who felt cared about drank less frequently than respondents who did not (b=-.21, p<.05). Lastly, the *R Square* of *.33* in Table 2 indicates that that collectively, the independent variables explained 33% of the variance in level of alcohol consumption for the present sample with friends' level of consumption, four-year college attendance and feeling cared about being the strongest predictors of this outcome variable.

Frequency of Marijuana Use

The correlations in Table 3, indicate that for the present sample, the strongest relationships between *frequency of marijuana use* and the independent variables are: gender (r= -.27), satisfaction with home life (r=-.22), feeling depressed (r=.21), and number of friends who use illegal drugs (r=.19). Being female and being satisfied with home life are negatively related to frequency of marijuana use while often feeling depressed and having friends who use are positively related to frequency of marijuana use.

Linear regression results in Table 4 (see Table in Appendix) show that *gender* (b=-.29, p<.001); often *feeling sad or depressed* (b=.26, p<.05); and number of friends who drink frequently (b=.21, p<.05) are significant predictors of frequency of marijuana use. The negative beta coefficient for gender indicates that the present sample of males were more likely to report higher levels of marijuana use than females. Often feeling sad or depressed and having friends who frequently drink are positively related to frequency of marijuana use.

Contrary to the initial hypothesis, the social-psychological predictors: feeling cared about, feeling good about oneself; being satisfied with home life; and perceived ability to succeed did not significantly influence frequency of marijuana use. In addition, the model in Table 4 accounted for only 23 percent of the variance in explaining this outcome variable. Therefore, follow-up studies are needed to explore other possible factors. These might include more college contextual factors such as the presence of fraternities and sororities and other social clubs on campus; and the type of college and university policies regarding use of marijuana.

Illegal Use of Prescription and Other Drugs

SPSS logistic regression was employed to predict the final outcome variable in this study, *illegal use of drugs*. The findings in Table 5 (see Table in Appendix) show the beta coefficients and the log odds of respondent's use (coded 1) or non-use (coded 0) of these drugs when the predictor variables are considered. Contrary to the initial hypothesis, the beta coefficient for gender (B=-.448) is not significant. However, the negative coefficient indicates that males more often than females reported that they illegally used pharmaceutical prescription drugs and street drugs.

Table 5 also reveals that the initial hypothesis regarding the positive and significant influence of friends on respondents' illegal drug use is supported. The beta coefficient (B=.995; p<.0l) indicates that respondents whose friends frequently illegally used drugs are more likely to illegally use them. The corresponding log odds indicate more specifically that respondents who have friends that illegally used drugs are 2.7 times more likely to illegally use than respondents whose friends did not.

Level of alcohol consumption (B=.797;p<.01) is also a significant predictor of illegal drug use. The log odds ratio of 2.2 indicate that respondents who reported higher levels of alcohol consumption were twice as likely to report use of illegal drugs than respondents who had lower levels of alcohol consumption. The unique contribution of each of these two independent variables to the model is indicated by the Wald statistics The Wald coefficients for the variable, *friends using drugs frequently*, is 23.3 and for *level of alcohol consumption*s 10.2. The Wald both variables contribute substantially more to the overall predictability of the model than the remaining variables in Table 5.

While not significant, it is worth noting that Table 5 reveals that respondents who had friends that drank frequently (B=.325) were more likely to illegally use prescribed drugs and street drugs. In addition, while not significant, respondents who reported feeling cared about (B=-.377) were less likely to do so. Finally, the goodness of fit of the overall model in Table 5, shows a significant Chi Square value of 73.7 (p<.000) which suggests a relatively good fit. The resulting Cox and Snell R Square value of .336 is comparable to the R Square in linear regression and shows that the twelve variable model accounts for 34% of the variance in illegal drug use.

Reasons for Drug and Alcohol Use

To obtain some perspective regarding young people's motivations for using alcohol and drugs, respondents were asked why they believe young people used alcohol and drugs. The top three reasons given regarding alcohol were: (1) peer and family influences (35%); (2) fun and enjoyment (31%); and (3) to reduce stress and escape from problems and life challenges (18%). Similar reasons were given for illegal drug use: (1) experimentation (33%); (2) for fun and enjoyment (21%); and to relax and reduce stress (16%).

Summary and Conclusions

This inquiry was an effort to understand and extend current knowledge regarding alcohol consumption and illegal drug use among young adults. Despite the inability to generalize beyond the present sample, the findings in this study were fairly consistent with past studies and have implications for future research and possible policy consideration. The significant influence of peers on respondents' use of alcohol and illegal drugs was the most important and consistent finding in both the present research and in past studies.

That young people socialize with their peers and are more likely to drink, experiment and use substances with trusted and influential friends are not surprising and is reflective of youth and young adult culture. Therefore, beyond efforts by parents and adults to counter the potential negative influences of peers, investing greater efforts and research in understanding the process of peer influence; and the dynamics of peer networks, peer modeling and friendships may be useful. This may be especially important in the present age of social media and advanced technology, both providing additional opportunities for young adults to expand their social contacts and networks.

Social-Psychological and Economic Well-being

The significant positive effects of (1) depression on marijuana use, and (2) feeling cared about on lower levels of alcohol consumption suggest that expanding knowledge about the social-psychological needs and well-being of young adults may be informative regarding substance, family and school intervention efforts. In addition, learning more about the objective needs of young people in terms of job access, quality of work, housing access and affordability, and economic resources also may be important. When asking survey respondents the major thing that would improve the quality of their lives, the top three responses given were: (1) good jobs; (2) education and (3) "more money." Therefore future research also may be needed to examine the possible relationship between these more objective factors and substance use and abuse among young people.

Perceived Risk of Excessive Use of Alcohol and Marijuana

Respondents were also asked about their perception of risk to their health associated with excessive use of alcohol and marijuana. Respondents perceived excessive use of both substances as potential impairment to their health. However excessive use of marijuana was perceived as a much lower risk factor than excessive use of alcohol (67% vs. 86%). Their perception is consistent with their reported excessive use of both substances. Only 12% of the respondents reported that they drank excessively. However, 51% of the respondents who reported having used marijuana said they did so very often. This may suggest the need for more dialogue, education and possibly debates about the short and long-term effects of these substances.

Extended Inquiry of College Life and Environment

Given the higher level of drinking on four-year college campuses found in this research and in previous studies, follow-up studies may be useful that collect survey and interview data regarding the views and perceptions of college student life by knowledgeable campus officials; and about school policies and practices regarding substance use and abuse. Information on the availability and use by students of health resources on college campuses aimed at addressing and mitigating stress, depression and anxiety, given their effects on academic performance (Winograd and Hais, 2011), might also prove useful. Lastly, learning about how young people perceive the quality of their lives, and what it means to be successful in an increasingly competitive global world may be important in further understanding the attitudes and perspectives of youth and young adults regarding substance use and abuse.

Study Limitations

The use of survey and largely quantitative data did not permit more in-depth analyses and details. Given more time and resources, interviews of respondents may have been useful in gaining additional information about their friendships and social networks; and providing an opportunity to engage in dialogue and learning from more open-ended sharing by respondents. In addition a larger survey sample of males and females based and interview data may have been useful in better unraveling and understanding the varying influence of gender on alcohol and illegal drug use.

Although surveys outside of class were distributed by females, males were more approachable and more eager to participate in this study than females. Therefore formulating alternative and perhaps more gender sensitive data collection methods may be needed to encourage greater participation of females and males. This may permit in the future, separate and comparative analyses by gender if warranted. However, preliminary disaggregation of the descriptive data by gender (i.e., crosstabs by gender) in this study did not reveal substantial differences for males and female. Therefore analyses were conducted for the total sample.

A final important limitation of this study was the small number of non-college attending youth included in the survey. Extending the number of non-college respondents was desirable but proved difficult, as they were not as contained and locatable as students on college campuses. However, the decision was made to include the small number of non-college attendees in the data analysis given their desire to participate and that a comparison of preliminary frequency distributions did not reveal any substantial difference in the responses of non-college and college attending participants. Non-college attending young adults constitute an important group for future studies and possible comparative analyses. Despite their underrepresentation and the limited and local nature of the current sample, the results of this study updated and confirmed major previous findings, and provided additional insights for future research and policy consideration.

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Appendix

Table 1 Descriptive Statistics and Inter Item Correlations for Key Variables (Level of Alcohol Consumption)									
	1	2	3	4	5	6	7	8	9
1. Level of Alcohol Consumption	_	-.07	.16*	-.18*	.43**	-.04	.16*	.01	-.11*
2. Gender		_	.00	-.02	.06	.10	.06	.12	.04
3. College Type (4yr/2 yr)			_	-.10	.33**	-.25**	--.07	.11	.22**
4. Age First Drink				_	-.37**	.02	.00	-.06	.02
5. Number of Friends Drink					_	.13	..08	.02	.14*
6. Feel Cared About						_	.31**	.20**	.31**
7. Feel Sad & Depressed							_	-.36	-.28**
8. Satisfy With My Life								_	.27**
9. Satisfy with Home Life									_
M	2.41	.51	.47	2.44	4.18	4.32	2.11	5.18	5.10
SD	.95	.50	.50.	.1.18	1.04	.96	.98	1.31	1.68

Note: *p<.05, **p<.01

Table 2 **Regression Analyses Predicting Level of Alcohol Consumption**			
	B	Std. Error	Beta (*Standardized Coefficient*)
Gender	-.08	(.15)	-.04
College Type (4yr/2yr)	.41	(.16)	.22*
Age at First Drink	-.14	(.06)	-.18*
No. of Friends Drink Frequently	- .34	(.07)	.38**
Satisfied with ability to succeed	.18	(.24)	.09
Feel cared about	- .20	(.08)	-.21*
Often sad/depressed	.09	(.08)	.09

Satisfied with my life	.04	(.07)	.06
Satisfied with my home life	-.07	(.05)	-.13
R Square .335 (N=142)			
*p<.05, **p<.001			

Table 3 Descriptive Statistics and Inter Item Correlations for Key Variables (Marijuana Use)

	1	2	3	4	5	6	7	8	9
1. Frequency of MJ Use	_	-.27**	.12*	.19**	-.07	-.13*	.21*	-.15*	-.22**
2. Gender		_	-.06	.05	.00	-.06	.08	-.11	-.05
3. Alcohol Level Consume			_	-.03	-.12	-.09	.16*	-.11	-.17**
4. Number of Friends Use				_	.21**	.32**	-.31**	.42**	.45**
5. Feel Cared About					_	.22**	.00	.04	.01
6. Feel Good About Self						_	-.52**	.38**	.29**
7. Often Sad & Depressed							_	-.38**	-.41**
8. Satisfy With My Life								_	-.52**
9. Satisfy with Home Life									_
M	5.03	.50	2.63	5.48	4.23	3.78	2.25	4.99	5.03
SD	2.67	.50	. 88	1.78	.97	.90	.96	1.35	1.68

Note: *p<.05; **p<.01

Table 4
Regression Analyses Predicting Frequency of Marijuana Use

	B	Std. Error	Beta (*Standardized Coefficient*)
Gender	-1.54	(.56)	-.29**
College type (4yr=1; 2yr=0)	- .24	(.60)	-.05
Number friends drink frequently	-.67	(.40)	.21*

Number of friends use	.27	(.25)	.13
Childhood drugs prescribed	.58	(.67)	.10
Alcohol consumption level	.44	(.33)	.15
Satisfied with type of friends	-.01	(.24)	-.01
Satisfied with ability to succeed	.26	(.26)	.12
Feel cared about	.21	(.31)	.07
Often sad/depressed	.72	(.36)	.26*
Feel good about self	-.06	(.38)	-.02
Satisfied with my life	-.97	(.96)	-.13
Satisfied with my home life	-.01	(.63)	-.00
R Square .231 (N=105)			
*p<.05,** p<.001			

Table 5
Logistic Regression Results
Dependent Variable: Use of Illegal Drugs (Yes)

Variables	B	Std. Error	Wald	Odds Ratio
Gender	-.488	.425	1.322	.614
Friends Use Drugs Frequently	.995**	.206	23.394	2.705
You Drink Alcohol (yes=1/ no=0)	.079	.449	.031	1.083
Level of Alcohol Consumption	.797**	.249	10.262	2.218
No. of Friends Drink Frequently	.325	.140	5.366	.723
Satisfied With Ability to Succeed	-.107	.206	.270	.899
Feel Cared About	-.377	.230	2.695	.686
Feel Sad/Depressed	.016	.288	.003	1.016
Feel Good About Self	-.133	.301	.195	1.142
Feel Good About my Life	-.080	.199	.162	1.083
Feel Good About my Home Life	-.107	.145	.544	1.113
Overall Model Chi-Sq. (df)	**73.762 (12)** **Sig. p<. 000**			
Cox & Snell R Sq.=336 **N=192**				

Note: The Wald statistics are distributed chi-square with l degree of freedom and test the unique contribution of each predictor while holding others constant.
*p<.05; **p<.01

Facebook Privacy Attitudes: A Comparison of Two Minority Groups

Sathasivam Mathiyalakan (mathiyalakansa@wssu.edu)
George E. Heilman (heilmang@wssu.edu)
Sharon D. White (whitesd@wssu.edu)

Department of Accounting and Management Information Systems
Winston-Salem State University, Winston-Salem, NC, USA

Abstract

Because of Facebook's ubiquitous nature, users who fail to properly configure their Facebook account privacy settings could be unintentionally revealing personal information to millions of people. This study analyzes data collected from African American and Hispanic college students regarding Facebook privacy setting attitudes and use. The findings indicate African American students have been members of Facebook longer and have more "Friends" than Hispanic students. Both ethnic groups spend about the same amount of time on Facebook during each session, although Hispanics log on more frequently. Virtually all the students claim awareness and use Facebook privacy settings. Hispanics have more restrictive Facebook privacy settings than African Americans. Neither ethnic group trusts Facebook to protect privacy, but African Africans show less concern while Hispanics indicate greater worry about Facebook privacy and data security. Both ethnic groups are more concerned about Internet privacy than Facebook privacy, Hispanics significantly more so.

1. Introduction

Facebook, founded in 2004, estimates that it now has over a billion monthly active users, of which nearly 20% live in the U.S. and Canada [4]. In a study issued by the Pew Internet Research Project and based on a sample of 1,445 U.S. Internet uses, Duggan and Smith [2] reported that 71% of respondents had a Facebook account. Additional findings included: female Internet users are more likely to have a Facebook account than male Internet user; among three ethnic groups (White, Black and Hispanic), Blacks had a higher percentage of Facebook accounts; 16% of respondents who indicated an age category selected "between 18 and 29" (the youngest of four possible categorical responses); 84% of respondents in the 18-29 age category had Facebook accounts (the highest membership rate among age categories); more than half of the respondents with Facebook accounts were educated beyond high school, had incomes greater than $50,000 and lived in urban or suburban areas.

Because of its ubiquitous use, Facebook has provided a rich setting for studies on a variety of topics. Many of these studies have focused on the Facebook usage by college students. Examples include explorations of issues involving gender, ethnicity and other demographics [5], [6], [10], [15], [18]; assimilation [7], [8]; privacy [12], [14], [15], [16], [21], [23]; stress [5]; social roles [13]; student engagement and academic performance [1], [5], [10], [17]. Of particular interest in this study are relationships between Facebook, ethnicity and/or privacy concerns.

2. Related literature

2.1 Facebook use and attitudes

There is a growing body of research focused on student use of social networks in general and Facebook in particular, and on the role that social networks play in the lives of college students. For example, in an examination of social networking behavior of students at a northeastern U.S. university, Case and King [1] found that approximately 65% of the respondents indicated social networking was somewhat or very important, females felt that social networking was more important than males, and the perceived importance of social sites fell as students rose in academic class. The findings also indicated that, at the time of the study, Twitter was not used as much as Facebook but was increasing in popularity.

Ellison, Steinfield and Lampe [3] looked at Facebook's importance in forming and maintaining social capital among college students. They reported a strong association between Facebook use and three types of social capital - bridging, bonding, and maintenance. An interaction between Facebook use and measures of psychological well-being suggested that Facebook can provide greater benefits to users having low self-esteem and low life satisfaction. A strong link was also found between Facebook use and maintaining connections with high school friends, leading the authors to hypothesize that Facebook helps in maintaining relationships as people move between various offline communities. Pempek, Yevdokiya and Calvert [20] added support to this view of maintaining social capital when they found that users tend to spend their time socializing with others based on pre-existing relationships.

While a number of studies have investigated use of and attitudes toward Facebook, little work has been done to assess the applicability of these findings among ethnic minorities. Study of minority groups is important as it gives insight into how groups learn, connect with others, and the values they hold. One study that included an ethnic dimension was conducted by Hargittai [6], who investigated social networking at the University of Illinois, Chicago. Her examination assessed the impact of gender, ethnicity, and parental influences on social network use. Included in her results were findings that 18-19 year old students were significantly more likely to use Facebook than 20-29 year old students, students whose parents were more highly educated were significantly more likely to use Facebook, students who lived with their parents were significantly less likely to use Facebook and Hispanic students were significantly less likely to use Facebook than others ethnic groups.

Gabre and Kumar [5] also included an ethnic dimension in their examination of the effects of stress on accounting majors, including the relationship between stress and Facebook use. Using samples drawn from accounting majors at two schools, one an HBCU (Historically Black College/University) and the other a metropolitan university, they examined the effect of perceived stress on academic performance. They found that African American students reported higher levels of stress than their peers, female students reported higher levels of stress than males, and students who used Facebook while studying had lower academic performance after controlling for stress.

Recent studies have begun focusing exclusively on students from minority serving institutions. These include investigations of Facebook assimilation and use by HBCU students across a variety of demographic categories [7], [8], [14], [15], [16], [17], and Facebook privacy and use issues among HSI (Hispanic Serving Institutions) students [15], [18], [23].

2.2 Facebook privacy

Facebook contains a number of privacy controls that can be used to block or limit access to specific information. However, default privacy settings for new Facebook accounts are generally intended to provide the greatest amount of sharing rather than the greatest amount of privacy. One major criticism of Facebook is that the default privacy options can lead to a higher degree of information disclosure than might be intended [21]. For example, Facebook Likes are publicly available information by default. Using a logistic linear regression modeling methodology, Kosinski, Stillwell and Graepel [11] found that Facebook Likes can be used to accurately predict a number of highly sensitive personal attributes such as gender, age, ethnicity, religious and political views, sexual orientation, intelligence, happiness, use of additive substances, and parental separation. The authors note that, while such a predictive ability could be used positively in the provision of improved products and services, the predictions could also be used negatively, especially since they could be easily applied to large numbers of people without their individual knowledge or consent.

Facebook does provide some privacy controls, but these controls do not work if they are not used. Many college students misunderstand or misuse available privacy controls, or are unaware of best practices for protecting data within Facebook, resulting in a mismatch between what they think they are revealing and what they are actually disclosing [19], [22]. They routinely provide personal profile information and share large amounts of personal data that may be viewed by many unknown people, creating risk of privacy exposure that might be used in potentially harmful ways to compromise their online accounts [12], [21], [23]. Interestingly, some studies have found that female students tend to be more aware of these privacy and security risks than males [12], [15], [23].

2.3 Facebook use in MSIs

Historically, little has been done to evaluate the use of Facebook within Minority Serving Institutions (MSIs).These studies can inform on how students learn in a digital, global environment, as the world population shifts in terms of which groups are becoming minorities and/or majorities. Additionally, as noted by White and Lester [24], traditional minority groups have lagged in technology acceptance for various reasons, including cultural relevance and ethnic values which informs learning communities. Several recent studies, however, have focused on Facebook use in HBCUs and HSIs.

For example, studies investigating gender differences in Facebook attitudes and use among HBCU students found that students were more trusting of Facebook privacy than they were of Internet privacy in general; that women were more trusting of Facebook than men; and that females considered Facebook to be a better tool for maintaining social capital and had integrated it into their lives to a greater extent than males [7], [14]. Studies looking at differences across majors and between traditional and non-traditional HBCU students found that non-traditional students had a greater affinity for Facebook and had a higher opinion of its role and impact; that traditional students tended to log on to Facebook less frequently than traditional students but stayed longer once logged in; that non-traditional accounting majors tended to use Facebook more for social outreach and social maintenance more than traditional accounting students; and that MIS majors used Facebook more for socialization and communicating about courses than accounting majors [16], [17].

A few studies also have evaluated the use of Facebook within HSIs. The findings indicate that HSI students check Facebook frequently from a variety of locations but do not tend to stay logged on long; that they use Facebook a lot for academically-related activities but seldom for communicating with instructors; that they feel they spend too much time on Facebook, but it doesn't impact them academically; that they are highly concerned about privacy and security on both the Internet and Facebook, females more so than males; and that they are aware of and use Facebook's privacy settings, females more so than females [15], [18], [23].

2.4 Motivation for the study

Prior researchers suggest that examination of social media use by minorities is a research area that has not been addressed [10]. This has prompted an interest in further assessment of Facebook's role in diverse segments of academia and motivated the collection of Facebook-related data from minority serving institutions, specifically HBCUs and HSIs. This investigation compares Facebook use by African American students at an HBCU and Hispanic students at an HIS. The study looks at student attitudes toward privacy and security and evaluates differences in attitudes between the two sets of students. To address these issues, a survey was developed from questions in earlier studies (Tuunainen, Pitkanen & Hovi [22] in an attempt to gain an understanding of minority student perception toward privacy for both the Internet and Facebook.

3. Methodology

A survey was administered to students enrolled at two universities. The first institution was an HBCU located in southeastern U.S. The second institution was a HSI located in southwestern U.S. Students from the HBCU were enrolled in undergraduate and graduate Management Information System (MIS) and Accounting courses, but were not necessarily MIS or Accounting majors. Students from the HSI were enrolled in undergraduate and graduate business courses and were primarily business majors. Students at both institutions were given course credit but no financial incentives for completing the survey.

The respondents were asked to provide selected demographic and background information such as gender, age, ethnicity, school classification, GPA, and academic major. Respondents were also asked whether they had a Facebook account and, if they had an account, the year that they joined, how often then logged in, the length of stay for each log in, their approximate number of friends, and their awareness and use of Facebook privacy settings.

Additionally, the survey included perceptual questions about online privacy and security. Six questions were related to Internet Privacy and Data Security concerns and five questions were related to Facebook Privacy and Data Security concerns. Responses to each of these 11 items was measured on a five point Likert-type scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree."

4. Results

4.1 Demographics

A total of 345 complete and usable survey were collected - 239 from students at the HBCU and 106 from students at the HSI. All students who did not indicate their ethnicity as African American or Hispanic were dropped from the study. This resulted in an overall sample of 290 students composed of 187 African Americans (all from the HBCU institution) and 103 Hispanics (96 from the HSI and 7 from the HBCU). Table 1 shows relevant demographic data for the respondents.

The majority of respondents were female and most were business majors. About two-thirds of the African American respondents and nearly three-fourths of the Hispanic respondents were below the age of 23. The majority of the students are upperclassmen. A Fisher's Exact Test on each of the demographic categories reveals a statistically significant difference in distribution only for the Academic Major category ($p<.01$). The proportion of Hispanic students identifying themselves as business majors is a significant higher than for African Americans.

Table 1: Demographic information

		African American N = 187	Hispanic N = 103
Gender	Male	67 (36%)	45 (44%)
	Female	120 (64%)	58 (56%)
Major	Business	147 (79%)	95 (92%)
	Non Business	40 (21%)	8 (8%)
Age	<18	1 (1%)	1 (1%)
	18-22	122 (65%)	73 (71%)
	23-26	31 (17%)	16 (15%)
	27- 30	8 (4%)	3 (3%)
	>30	25 (13%)	10 (10%)
Class	Freshman	17 (9%)	13 (13%)
	Sophomore	52 (28%)	24 (23%)
	Junior	60 (32%)	37 (36%)
	Senior	44 (24%)	27 (26%)
	Graduate	14 (7%)	2 (2%)

4.2 Facebook usage

All of the respondents in the study had a Facebook account. Table 2 shows statistics regarding their account and usage information including the year of joining Facebook, log in frequency, length of stay per visit, and number of friends. Fisher's Exact Test was used to assess differences in distribution between ethnic groups within each category.

A statistically significant relationship exists between ethnicity and year of joining Facebook ($p<.001$). Sixty-one percent of the African American students joined Facebook in 2008 or earlier as opposed to 42% of Hispanic students. The mean categorical value for year of joining is 4.40 (2009) for African Americans and 3.88 (2010) for Hispanics. A t-test of the difference in categorical means is also statistically significant ($p<.001$). This indicates that African Americans are longer term users of the site.

Table 2: Facebook account use statistics

		African American N= 187	Hispanic N:103
Year joined Facebook	1: > 2012	0 (0%)	4 (4%)
	2: 2011	6 (3%)	6 (6%)
	3: 2010	28 (15%)	31 (30%)
	4: 2009	39 (21%)	19 (18%)
	5: < 2009	114 (61%)	43 (42%)
Log in frequency	1: Several times/day	35 (19%)	56 (54%)
	2: About once/day	48 (26%)	27 (26%)
	3: 3-5 days/week	24 (13%)	8 (8%)
	4: 1-2 days/week	26 (14%)	5 (5%)
	5: Every few days	15 (8%)	0 (0%)
	6: Less often	39 (21%)	7 (7%)
Stay length per visit	1: < 15 min.	109 (58%)	56 (54%)
	2: ≥ 15 but < 30 min.	52 (28%)	36 (35%)
	3: ≥ 30 but < 60 min.	17 (9%)	8 (8%)
	4: ≥ 1 but < 3 hrs.	8 (4%)	2 (2%)
	5: ≥ 3 hrs.	1 (1%)	1 (1%)
Number of friends	1: < 25	2 (1%)	3 (3%)
	2: 25-50	2 (1%)	4 (4%)
	3: 51-100	2 (1%)	12 (12%)
	4: 101-200	18 (10%)	19 (18%)
	5: 201-500	52 (28%)	31 (30%)
	6: >500	111 (59%)	34 (33%)

A statistically significant relationship exists between ethnicity and Facebook log in frequency ($p<.001$). A majority (54%) of the Hispanic students logged into Facebook several times per day, as opposed to 19% of the African American students. The mean categorical value for log in frequency is 3.29 (3-5 days a week) for African American students and 1.90 (about once a day) for Hispanic students. A t-test shows this difference in categorical means is statistically significant ($p<.001$), indicating that Hispanics tend to log in to Facebook more frequently than African Americans.

Fisher's Exact Test indicates no relationship between ethnicity and stay length per visit. The mean categorical value for stay length per visit to Facebook is 1.61 for African American students and 1.63 for Hispanic students (both ≥ 15 minutes but < 30 minutes). A t-test on the difference in categorical means is also not significant ($p>.10$), supporting the lack of relationship.

A statistically significant relationship exists between ethnicity and number of Facebook friends ($p<.001$). The mean categorical value for number of friends is 5.40 (201 to 500 friends) for African American students and 4.68 (101 to 200 friends) for Hispanic students. A t-test on the difference in means is also statistically significant ($p<.001$). This indicates that African American students tend to do more "Friending" than Hispanic students.

4.3 Privacy setting awareness and use

Table 3 shows a comparison of Facebook privacy setting awareness and use among African American and Hispanic students. All the respondents had a Facebook account, almost all indicated they were aware that Facebook offered privacy settings, and almost all of those who were aware of the settings claimed to be using them. There are no statistically significant ethnic differences in awareness or use of the privacy settings.

Table 3: Privacy settings awareness and use

Facebook Privacy Settings	Yes	No
Aware of privacy settings:		
African American	180 (96%)	7 (4%)
Hispanic	97 (94%)	6 (6%)
Total (N = 290)	277 (95%)	13 (5%)
Use privacy settings:		
African American	171 (91%)	16 (9%)
Hispanic	96 (93%)	7 (7%)
Total (N = 290)	267 (92%)	23 (8%)

4.4 Facebook friending restrictions

In Facebook, a Friend is a user who is connected to another Facebook user through Facebook's site. Friending is the term used for the process of granting Friend status to another user. Endowing people with Friend status gives them access and privileges in other parts of Facebook that may not be available to non-Friends. So for example, a user can restrict Facebook settings like "Who can see my stuff?" or "Who can contact me?" to Friends only.

Facebook provides some control over the friending process through a Friend Request privacy setting labeled "Who can send you friend requests?" Two options are provided - Everyone (the default value) or Friends of Friends. Students were asked which value they had chosen. Table 4 shows a summary of their responses. While Hispanics are somewhat more likely to have friending restrictions, and African Americans are somewhat more likely not to know what their privacy settings are, the differences are not statistically significant.

Table 4: Privacy setting for friending

	Total N = 290	AA N = 187	H N = 103
Everyone	60 (21%)	41 (22%)	19 (19%)
Friends / Friends	156 (54%)	96 (51%)	60 (58%)
Don't Know	74 (25%)	50 (27%)	24 (23%)

4.5 Facebook posting restrictions

While much of a Facebook user's information is public by default, some control over the visibility of information is provided. An example is user posts, which may include messages, comments or media (pictures,

audio, video, etc.) displayed on the user's Facebook page (wall). In the survey, students were asked what privacy settings they used to "control privacy when you post" (called "Who can see your future posts?" in Facebook).
As shown in Table 5, a high percentage of both African American and Hispanic respondents have opted to establish some type of restrictions on the visibility of their post, limiting access to Friends only or to a Custom access setting. However, a Fisher's Exact Test of independence indicates a significant relationship between ethnicity and privacy settings for posts ($p=0.029$). A comparison of proportions within each privacy setting reveals that African Americans are more likely than Hispanics to allow public access to posts (7.5% v. 1.9%, $p<.05$), less likely to use a custom setting (15% v. 23.3%, $p<.10$) and more likely not to know what they have for privacy settings (14.4% v. 7.8%, $p<.10$).

Table 5: Privacy settings for posts

	Total N = 290	African American N = 187	Hispanic N = 103	Sig. Diff.
Public	16 (6%)	14 (8%)	2 (2%)	p<.05
Friends	187 (64%)	118 (63%)	69 (67%)	
Custom	52 (18%)	28 (15%)	24 (23%)	p<.10
Don't Know	35 (12%)	27 (14%)	8 (8%)	p<.10

4.6 Facebook look up restrictions

Facebook allows users to enter a variety of personal information such as gender, name, email address, relationship status, phone number and other personal information that can affect their privacy. Some protection of personal information is provided by Privacy Settings and Tools in the "Who can look me up?" section. Users can restrict "Who can look you up using the email address you provided?" and "Who can look you up using the phone number you provided?" where they have the option of assigning these capabilities to Everyone, Friends, or Friends of Friends. The students were asked "Who can look you up using phone number or email address?" Their responses are summarized in Table 6.
A Fisher's Exact Test for independence indicates a significant relationship between ethnicity and privacy settings for look ups ($p=.006$). A comparison of proportions within each look up privacy setting reveals that Hispanics are more likely than African Americans to use the Friends (61% v. 57%, $p<.10$) and Friends of Friends restrictions (13% v. 3%, $p < .05$) and less likely not to know their privacy settings (13% v. 23%, $p<.10$). When looking at those who know they have created restrictions versus those who don't know or who allow access to Everyone, the proportion of Hispanics with some kind of known restriction is significantly higher than for African Americans (74% v. 60%, $p<.05$).

Table 6: Privacy settings for look ups

	Total N = 290	African American N = 187	Hispanic N = 103	Sig. Diff.
Everyone	45 (15%)	32 (17%)	13 (13%)	
Friends	170 (59%)	107 (57%)	63 (61%)	p<.10
Friends / Friends	19 (7%)	6 (3%)	13 (13%)	p<.05
Don't Know	56 (19%)	42 (23%)	14 (13%)	p<.10

When looking at specific types of look ups, almost two-thirds of African Americans and three-fourths of Hispanics had restricted access on look ups using their email address and phone number to Friends or Friends of Friends. Interestingly, among respondents who knew their privacy settings, the percentage of respondents with restrictions on look ups is significantly smaller than the percentage with restrictions on access to posts (65.2% v. 82.4%, $p<.01$).

4.7 Internet privacy and data security

The students were asked to respond to six questions addressing concerns about privacy and data security while using the Internet. Their responses were measured on a 5-point Likert-type scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree." Higher mean scores indicate higher levels of agreement with the statement. Table 7 summarizes the results, showing mean scores and standard deviations. Questions with significant differences in mean response scores between African American and Hispanic students are noted.

Table 7: Internet privacy concerns

	Total Mean (SD)	African American N:187	Hispanic N: 103	Sig. Diff.
I worry about my privacy & data security while using Internet	3.58 (1.14)	3.37 (1.18)	**3.95** (0.95)	p<.05
I worry if I use credit cards to buy something on the Internet, that my credit card # will be intercepted	3.42 (1.17)	3.23 (1.17)	**3.78** (1.09)	p<.05
I worry people online are not who they say	3.40 (1.11)	3.33 (1.14)	**3.54** (1.04)	
I worry if I use Internet with my mobile phone and someone steals it, he/she can find some of my personal information	3.40 (1.23)	3.24 (1.25)	**3.68** (1.14)	p<.05
I feel that identity theft could be a real privacy risk	3.99 (1.00)	3.86 (1.02)	**4.23** (0.90)	p<.05
I'm generally familiar with protection and data security while using the Internet	3.83 (0.98)	3.80 (1.04)	**3.87** (0.88)	

Hispanic students had higher mean values than African American students on all six items, showing that they had a higher level of agreement with the statements. This indicates that Hispanic students have greater concern about Internet privacy and security than African American students.

4.8 Facebook privacy and data security

The students were asked to respond to five questions addressing concerns about privacy and data security while using Facebook. As with the previous set of questions, their responses were measured on a 5 point Likert-type scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree." Higher mean scores indicate higher levels of agreement with the statement. Table 8 summarizes the results, showing mean scores and standard deviations. Questions with significant differences in mean response scores between African American and Hispanic students are noted.

Table 8: Facebook privacy and data security

	Total Mean (SD)	African American N:187	Hispanic N:96	Sig. Diff.
I worry about my privacy and data security while using Facebook	2.90 (1.12)	2.63 (1.03)	**3.39** (1.11)	p<.05
I worry I will be embarrassed by wrong information others post about me in Facebook	2.79 (1.05)	2.55 (0.97)	**3.23** (1.05)	p<.05
I feel privacy of my personal information is protected in Facebook	2.77 (0.94)	**2.88** (0.91)	2.55 (0.97)	P<.05
I trust that Facebook will not use my personal info for any other purpose	2.82 (0.99)	**2.57** (0.95)	2.57 (1.02)	P<.05
I feel comfortable writing messages on friends' walls	3.52 (0.95)	**3.45** (0.93)	3.46 (0.98)	

Hispanic students had higher mean values than African American students on the first two questions, phrased negatively as concern about Facebook. African American students scored higher on the last three questions, worded positively as trust or faith in Facebook. Four of the five scores differed at a significant level ($p<.05$). These differences in mean scores indicate that, in addition to being more concerned about Internet privacy and security, Hispanic students also have greater concerns about Facebook privacy and security than African American students.

The overall score for worry about Internet privacy (I worry about my privacy and data security while using the Internet, mean = 3.58) is higher than worry about Facebook privacy (I worry about my privacy and data security while using Facebook, mean = 2.90). The difference is statistically significant ($t=7.246$, $p<.001$), indicating that the respondents fear the Internet more than Facebook. This difference in levels of worry exists within both the African American ($t=6.339$, $p<.001$) and Hispanic ($t=3.890$, $p<.001$) ethnic groups.

5. Conclusion

Using survey data, this study examines and compares Facebook privacy settings and attitudes toward the risks associated with both Facebook and Internet usage among minority students. The sample was drawn from U.S. college students attending a Historically Black College or University (HBCU) in the southeast U.S. and a Hispanic Serving Institution (HSI) in the southwestern U.S. Since the intent of the study is to focus on minority student attitudes and usage, only African American and Hispanic students were included in the analysis. The surveys were collected from students enrolled in business courses. Even though all the students were taking business courses, a greater proportion of African Americans respondents identified themselves as business majors.

All the students completing the survey had Facebook accounts. African Americans indicated longer term use of Facebook than Hispanics and, perhaps because of this, tended to have more Facebook Friends. Hispanics logged in to Facebook more frequently than African Americans, but there was no significant difference in the amount of time they stayed on Facebook once logged in.

Almost all the students claimed to be aware of and use Facebook's privacy settings. Looking at specific privacy settings, most of the respondents had established restrictions on who could send Friend requests. There was no significant difference in this setting between African Americans and Hispanics. A large majority of respondents had restrictions on who could post to their walls. A larger proportion of African Americans either allowed public access to their walls or didn't know if they had restrictions on posting, while a larger proportion of Hispanics tended to use Custom settings to establish restrictions. Hispanics were also more restrictive on whom they allowed to perform lookups using email addresses or phone numbers. The proportion of Hispanics who restricted lookups to Friends of Friends was higher than for African Americans, while the proportion of African Americans who did not know if they had restrictions on lookups was higher. It is interesting to note that 92% of students indicated that they used Facebook's privacy settings, even though the percentage of students who did not know their settings on specific privacy items ranges from 12% to 25%. This result could be indicative of problems with the ease of use or understanding of the privacy settings.

Even though students tended to agree that they knew about data protection and security while using the Internet, they still indicated concern about their Internet vulnerability. Hispanics were more likely than African Americans to worry about privacy and data security. They were also more likely to be concerned about identity theft, credit card interceptions and loss of personal information if mobile phones that had been used for Internet connections were stolen.

Concern about privacy and data security on Facebook showed a greater ethnic divide than attitudes toward the Internet. African American students tended to disagree with the notion that they were worried about Facebook privacy or data security or about embarrassing information about them being posted, even while indicating that they did not feel Facebook was protecting their privacy or personal information, nor that Facebook could be trusted not to improperly use their personal information. Hispanic students, on the other hand were worried about Facebook privacy and security and the effect of incorrect postings (their scores were positive and significantly higher than African Americans). Hispanics were also significantly less trusting of Facebook than African Americans. This result could give insight into what minority groups feel is culturally relevant to them, such as the possibility of identity theft/damage through the use of Facebook and the Internet, trust issues of social media use, and the possibilities of negative impacts of decision-making based on generalizations of unprotected personal data.

Overall, students were more concerned about privacy and security on the Internet than about privacy and security on Facebook. This finding held true across both ethnic groups, an indication that students might feel that they have more control of their personal information on Facebook specifically than on the Internet in general. All of these findings are interesting in that they highlight differences in understanding and use of technology, in particular social media, as it pertains to cultural relevance of minority groups.

6. Study Limitations and Future Research

As with other academic studies that use college students, there are weaknesses in this study. The analyses are based on data collected from convenience samples taken at two universities. As a result, the findings may not be applicable to the larger population. To improve generalizability, larger samples should to be taken from a more diverse set of institutions. Additionally, while this examination included information disclosure and privacy for some of the items that a user may share, it must be noted that there are other items that can affect privacy.

Despite these shortcomings, we did have some interesting findings. We are currently in the process of expanding the generalizability of our findings through the use of a larger data set as well as through the use of a student population with different demographic characteristics.

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Holistic Teaching Competence Aspects: Study Analysis In State Senior High School Of Makassar City Indonesia

Andi Ernawati, Ahmad Johari B Sihes
Education Faculty, University Technology of Malaysia
Skudai-Johor, Malaysia
e-mail: ernaandi40@yahoo.com & joharis2000@yahoo.com

Abstract

This research aims to determine the aspects of holistic competence in teaching in secondary schools. This study involved 370 respondents of teachers in the State Senior High School of Makassar City, South Sulawesi, Indonesia. The method of quantitative survey used in this research. Data were analyzed using the computer software Statistical Package for Social Science. Descriptive findings showed that the four aspects of holistic competence is required in teaching namely aspects of teaching knowledge, teaching skills, emotional, and spiritual of teachers have a mean of> 4 on a Likert scale of five points.

Keywords: *aspects of competence, holistic, teaching.*

1. Introduction

Teaching is an operational concept implemented in all units and levels of formal education, it is a structured and progressive education comprises primary education, secondary education and higher education (PP No. 19, 2005). Teaching is a very complex job, very challenging and one of the most important professions in the world that requires high skills and professionalism (Bhargava & Pathy, 2011; Sulaiman, 2004; Guskey, 1994; Hung, Oi, Chee, & Man, 2007 ; Parkay, 2006; Provenzo, 2002; Simpson, Jackson, & Aycock, 2005). Expertise and professionalism embodied in teacher competence as an indicator of the quality of education (Achwarin, 2009; Marinkovic, Bjekic, and Zlatic, 2012; Ololube, 2006).

Improving the quality of education at schools with various efforts are underway regarding the extent to which teachers' competence in teaching, which is very affecting the success of the educational process in schools (Rosyada, 2004; Wachidi, 2010). Musfah (2011) adds that the teacher competencies include knowledge, skills and behaviors that must be fully integrated with each other. The third part is to determine the process of teaching and learning in classrooms and education in schools. Keeping in, teachers as professionals have the functions, roles, and some very important positions with the main task of educating, teaching, guiding, training, and evaluating student (PP RI 74, 2008; Salamuddin, Harun, & Abdullah, 2011).

Competence plays an important role for the success of the organization (Sanghi, 2004; Vathanophas & Thai-ngam, 2007). School is an educational organization where teachers have a very important role in it. That teachers should be reflected of not only how to cultivate their knowledge in disseminating knowledge, creating surrounding teaching and classroom management, but also requires skills such as how to make the effectiveness of teaching using technology, and more, as well as reflecting the behavior to be role models for students. Therefore, it is necessary for teachers to have aspects of holistic competence.

Teacher competencies include knowledge, skills, and behaviors, particularly in the classroom is an important factor affecting the educational goals and learning in schools in order to produce graduates with quality education (Khatoon, Azeem, & Akhtar, 2011; Passos, 2009; Selvi, 2010; Wachidi, 2010). And an effective teacher views of the quality and effectiveness of teaching (Lin, et al., 2010; Nadeem et al., 2011). In a study of Camerino (2009) also suggests that the competence of teachers play an important role in the pursuit of change in a positive direction and to achieve its successful. Can be assured that the success of the teacher in his task has direct implications for the quality of student learning. Instead, teachers who are not competent to represent determine the underlying factors in the learning and education process in general (Hamdan, et al., 2006).

Of the spotlight problems in many studies in Indonesia, it was found that teachers' competence is not maximum (Irtanto, et al., 2010; Mahmud, 2011; Mattarima & Hamdan, 2011; Lee, 2011; Sarkadi, et al., 2006; Wasimin, 2009). Especially in senior high schools in the city of Makassar, the results show that teachers still have many problems with limited competence in teaching (Mattarima & Hamdan, 2011; Djajadi, et al., 2012; Pare Pos, 2012).

The implications of the low competence of teachers led to lower quality of education. Therefore, it should be identified on the aspects of a holistic teacher competence in teaching and learning. And the basic principles of competence models is that the performance of a person in the job will increase when all of the aspects of the competencies necessary to perform the task (Siraj and Ibrahim, 2012). By Siraj & Ibrahim (2012) that the concept of competence refers to the knowledge, skills, and character necessary to perform a duty and responsibility.

The word holistic is derived from the English translation of which has a comprehensive holistic, in the sense of emphasizing the importance of the whole and the interdependence of the parts into a single element. Means, in the process of holistic education, there is a combination of engagement and ethical knowledge to argue for a common goal (Argyros, 2012). If the word is used in the context of holistic teaching in schools, it has the meaning of the instruction given to students by showing them the ability to make full and balanced range of aspects of the competencies necessary to understand and appreciate the role of these aspects, and how teachers can implement in teaching practices. So a holistic teaching competencies in this study is the ability of teachers to aspects of comprehensive competencies ie knowledge, skills, emotional, and spiritual holistic and integrated in the learning activities.

Aspects of competence as a whole / holistic is very important to study because of what is known and can be done by the teacher affects what students learn. Thus, this study aims to answer the question: what aspects of holistic competencies required in teaching in senior high schools in Makassar City?

2. Methodology

This study used a survey method by distributing the questionnaire as an instrument that seeks to determine the aspects necessary competence in teaching teachers holistically. In addition, the survey method is a typical way to gather information of a large group of the population (Champion, 1991). The questionnaire is the most effective way to obtain information from the respondents by providing a set of written questions to the respondents (Yahaya, et al., 2006; Ghafar, 2009; Sugiono, 2006; Tuckman, 1998).

A questionnaire study was divided into two parts; A, portion of the background of the respondents; Next, Part B is divided into four parts questionnaire which aspects of teacher competence in teaching as a whole: teaching knowledge, teaching skills, emotional, and spiritual aspects of teacher. This research successfully deploy a questionnaire of 370 senior high school teachers in the city of Makassar. The data collected were analyzed using descriptive analysis with the help of the software Statistical Package for the Social Sciences.

3. Findings

Demographics of respondents were analyzed based on information obtained of the questionnaire. Background of high school teachers who responded to the quantitative study describes the frequency and percentage distribution of respondents by gender, level of education, years of service (tenure), the specificity of the subjects taught, certification status, participation in training, other school assignments, and participation in the organization of teaching / network is shown in table 3.1 as follows:

Table 3.1: Demographics of Respondents of Senior High School Teachers

No.	Items	Total	
		frequency	percentage
1	Gender		
	A. Male	135	36.5
	B. Female	235	63.5
2	Level of Education		
	A. Diploma		
	B. Bachelor	264	71.4
	C. Master	106	28.6
	D. Doktoral		
3	Group of Subjects:		
	A. Religion and Morality	68	18.4
	B. Citizenship	69	18.6
	C. Science and Technology	90	24.3
	D. Aesthetics	75	20.3
	E. Physical, Sports & Health	68	18.4
4	Training participation		
	A. Yes	341	92.2
	(1) 1-5 times	211	57.0
	(2) 6-10 times	125	33.8
	(3) More than 10 times	34	9.2
	B. No	29	7.8
5	Certification Status:		
	A. Yes	295	79.7
	B. No	75	20.3
6	Tenure:		
	A. < 10 years	73	19.7
	B. 10 – 19 years	145	39.2
	C. 20 – 29 years	143	38.6
	D. More than 29 years	9	2.4
7	Other task at school		
	A. Yes	231	62.4
	A.1 Laboratory	9	2.4
	A.2 Library	8	2.2
	A.3 Assistant principals	44	11.9

	A.4 Advisor cocurricular	124	33.5
	A.5 Homeroom teachers	68	18.4
	A.6 Other	117	31.6
	B. No	139	37.6
8	Organization of Teaching /Network		
	A. Yes	231	62.4
	B. No	139	37.6

Table 1 shows the number of respondents, 63.5% are females more than males 36.5%. Most of the respondents 71.4% at the level of undergraduate education, and there is no longer a diploma. While respondents in each group of subjects, namely: religion and morality of 18.4%; Nationality of 18.6%; science and technology, 24.3%; aesthetics of 20.3%; and the physical, sports and health 18.4%. The number of respondents taking part in the training was 92.2%. Further, the majority of respondents who have graduated and received a certificate of 79.7% and the tenure of the respondents ie 39.2%, had been a teacher for more than 10 years.

As Table 1 also shows that the respondents in the other tasks of the school is a laboratory teacher for 2.4%, 2.2% of the library teacher, assistant principal of 11.9%, 33.5% co-curricular advisor, homeroom teacher 18.4%, while only 31.6% who do not have other assignments at school. Respondents who cultivate teacher organizations of 62.4% compared to respondents who were not active in the organization.

While responden comments about aspects of holistic competence in teaching based on the items discussed in four aspects. First, aspects of teaching; This aspect is important because the teachers implemented responded positively (mean = 4.32), the skills taught are so positive perception (4.35). This means that the ratio of teacher competence holistically very important by teachers. Then the emotional aspects of teachers is an important point as well as the teachers, as educators, must also be emotionally intelligent to be able to be a role model to his students. Finally, the spiritual aspect of the teachers are very positive for almost all teachers agree with the implementation of the spiritual aspects of the teacher in teaching. It is clear with the mean values are very high (4.79). This finding can be seen in Table 3.2 below:

Table 3.2: Aspects of holistic teaching competence

No.	Description	Mean	Standard Deviation
1	Aspects of teaching knowledge	4.32	0.502
2	Aspects of teaching skill	4.35	0.489
3	Aspects emosional of teacher	4.32	0.491
4	Aspects spiritual of teacher	4.79	0.407

From the findings of this study, it can be seen that teaching and learning is seen as a problem professionally is important to ensure that teachers have the competence includes the skills, knowledge and understanding required to provide a quality education (Department of Education and Training, 2004; Ololube, 2006). However, the knowledge and skills is not enough, the ability of teachers to be supported by the behavior as a reflection of emotional competence (Goleman, 1995; PP RI 74, 2008), and should also be supported primarily by the spiritual aspect (Ernawati & Sihes, 2014). In other words, teachers must come up with a comprehensive and holistic competencies that would make him eligible as a teacher and educator for students (Darling-Hammond & Snowden, 2009; Pantić, 2011).

This study is based on the support of the various views that knowledge is the key to teaching effectiveness (Campbell, Kyriakides, Muijs, & Robinson, 2004; Cothran & Crummenauer, 2008; Gurney, 2007; Shulman, 1986, 1987). In addition, a teacher is someone who is able to perform certain skills to perform the functions of his ministry (Hamdan, Ghafar, & Li, 2010; Kyriacou, 1991). Hence, this study supports the findings Mortiboys (2005) that teachers should develop and use emotional intelligence to complement the subject expertise and pedagogical skills to students. Therefore, without personality and social life strong, the teachers would be difficult to carry out his task well and be successful, it will even bring negative influences on students. This item is required to promote emotional growth and social environment in order to minimize disruption in the classroom (Goleman, 1996, 2000; Jordan & Metais, 2000). In this study, aspects of holistic competence in teaching is derived from aspects of teaching knowledge, teaching skills, emotional and spiritual aspects of a teacher. Aspects of competence is not necessarily just based on the appearance-oriented and as a trainer of teachers of science, but also a lot touching on appearance of the teacher as an educator.

4. Conclusion

This study focuses on the competence of holistic teaching is the ability of the teachers as a whole and balanced encompasses the aspects of teaching knowledge, teaching skills , the emotional, and spiritual of the teacher so that the character and values can be obtained by students through the process of teaching and learning can be changed towards better. The results showed that the descriptive teachers agree on the importance of having and applying the four aspects of a holistic teacher competence. What's interesting about this study is that the spiritual aspects of holistic competence of teachers received very positive where teachers agree on the spiritual aspect as educators. Further research is recommended to investigate more deeply into this matter in order to obtain a more comprehensive understanding relation to teachers' competence in teaching outside the context of Makassar. In addition, future researchers can use a technique more comprehensive analysis is the study reveals the potential of broad and meaningful.

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Effects of Integrating Technology on the Fitness Levels of Elementary Students

Dr. Shelia L. Jackson
Arkansas Tech University
sjackson@atu.edu

Dr. Annette Holeyfield
Arkansas Tech University
aholeyfield@atu.edu

Ms. Jeanie Strasner
Elementary Movement
Specialist

Abstract

The purpose of this research was to determine the effects of using technology in physical education classes on the cardiovascular endurance of fourth grade students. Three classes of fourth grade students were randomly assigned to Heart Rate Monitor (HRM), Pedometer, or Control groups and participated in the same physical education activities for 24 weeks. Comparisons on the ½ mile fitness run of the 3 groups were not significantly different from each other (p = .3580) at the beginning of the study. There were no significant correlations (p > 0.05) between activity levels and mile run times after the 24 weeks. A two-way (Treatment x Gender) ANOVA was used to analyse mile run times after the 24 weeks. The main effect of gender (p < 0.01) was significant while the effect of treatment (p > 0.05) and the Treatment x Gender interaction (p > 0.05) were not.

1. Introduction

The United States Surgeon General [1] emphasized the need for children to become more physically active. As one means to attain that goal, the Surgeon General recommended that well-designed school physical education programs be implemented. The National Association of Sport and Physical Education [2] further proposed content standards for well-designed school physical education programs. One of the standards identified was to achieve and maintain a health-enhancing level of physical fitness. In pursuit of this standard, quality physical education programs have an emphasis on increasing the physical activity of their students.

Researchers have used pedometers, heart rate monitors, and other activity monitors to assess physical activity levels [3, 4, 5, 6, 7, 8, 9, 10, 11]. Consequently, they have also devoted much research to determining whether or not pedometers and/or heart rate monitors are accurate indicators of physical activity in children [12, 13, 14, 15].

Cardon and De Bourdeudhij [12] found a moderate correlation ($r = 0.39$) between pedometer step counts and reported moderate-to-vigorous physical activity (MVPA) over 6 consecutive days. However, Scruggs, Beveridge, Eisenman, Watson, Schultz, and Ransdell [13] reported strong positive correlations between pedometers and MVPA during physical education ($r = 0.74$-0.86). Similarly, Eston, Rowlands, and Ingledew [13] reported strong positive correlations between pedometers and oxygen consumption ($r = 0.92$) and between heart rate monitors and oxygen consumption ($r = 0.80$). Welk, Corbin, and Kampert [16] assessed children's physical activity during a 30-minute physical education class and found the mean within-subject correlation between HR and observed physical activity was 0.79. The results of these and other research studies suggest that both pedometers and heart rate monitors provide accurate and quantifiable evidence of physical activity in children.

Physical educators are increasingly integrating these technologies into their physical education programs [17, 18, 19, 20, 21, 22]. Few studies to date have investigated the effect of providing physical activity feedback using these technologies on the fitness level of children as measured by commonly used tests such as the one mile run found in the Fitnessgram [23]. Further, if providing physical activity feedback through the use of technology does affect fitness, then it would be helpful to know which technology (heart rate monitors or pedometers) affected a greater change. This information, along with an instrument cost comparison, would help physical educators make appropriate choices in their selection and use of technology.

2. Purpose of the Study

The purpose of this research was to determine the effects of using technology (heart rate monitors and pedometers) in physical education classes on the cardiovascular endurance of fourth grade students as measured by the mile run following the protocol of the Fitnessgram [24]. A secondary purpose was to compare the physical activity of males and females during physical education.

3. Methods

3.1. Subjects

Prior to their participation in the study, all subjects obtained written informed consent from his/her guardian. Three classes of fourth grade students (n = 51, males = 22, females = 29) at a rural elementary school in Arkansas were randomly assigned to Heart Rate Monitor (HRM), Pedometer, or Control groups. The HRM and Pedometer groups wore heart rate monitors or pedometers for each of their physical education classes for 24 weeks. The physical education classes met twice a week for 30-minute sessions. All fourth grade classes completed a ½ mile fitness run and attended a presentation concerning the anatomy of the heart and the importance of exercise, proper nutrition, and not smoking in decreasing heart disease before being assigned to groups. The study was approved by the Institutional Review Board.

3.2 Instrumentation

The HRM wore POLAR Electro S810 or LS 110 heart rate monitors. The Pedometer group wore the New Lifestyles Digi-walkers.

3.3 Groups

Using the formula 220-age to calculate maximum heart rate, the target heart rate zone for each child in the HRM group was set between 70 and 85% of her/his maximum heart rate [25]. The HRM group (n = 16, males = 8, females = 8) received feedback from the heart rate monitors by the monitors beeping when the participants were out of their training zone. In addition, they received weekly charts showing them what their heart rates were at 5 s intervals and bar graphs indicating the percentage of time they were in and out of their training zones. A research assistant was present at each of the HRM physical education classes to assist the physical education teacher in putting on the monitors, distributing the charts, and collecting the monitors in order to download the information onto the laboratory computer.

The Pedometer group (n = 16, males = 6, females = 10) noted how many steps they took each class period and wrote the number down on their individual charts. The Control group (n = 19, males = 8, females = 11) participated in the same activities as the other two groups with the same certified elementary physical education teacher but without the feedback from the technologies.

3.4 Statistical Analyses

A one-way ANOVA was run on ½ mile fitness scores taken during the fourth week of school to determine differences among the three groups prior to beginning the study. A t-test for Independent Samples was run on the mean number of steps per minute male and female subjects in the Pedometer group took during the 24-week treatment period. A t-test was also run on the means of the % time in the target heart rate zone data for males and females in the HRM group gathered during the last 10 weeks of treatment. Pearson Product Correlations were run on the mile run scores and the activity levels of the Pedometer and Heart Rate Monitor groups. A two-way (Treatment x Gender) ANOVA was applied to the one mile run scores completed at the end of the 24-week treatment period.

4. Results

Comparisons on the ½ mile fitness run of the 3 groups were not significantly different from each other (p = 0.3580) at the beginning of the study. There were no significant differences (p = 0.3841) between male and female mean steps per minute in the Pedometer group for the 24-week treatment period (see Table 1). Likewise, there were no significant differences (p = 0.4068) between male and female mean % time in target zone in the HRM group for the last 10 weeks of treatment (see Table 1). In addition, the correlations between the mile run scores and activity levels of the Pedometer (r = 0.4659, p = 0.1269) and the HRM (r = 0.3938, p = 0.2053) groups were not significant.

A two-way (Treatment x Gender) ANOVA was used to analyze mile run times following the 24 weeks of treatment. The main effect of gender (p = 0.0016) was significant while the effect of treatment (p = 0.2704) and the Treatment x Gender interaction (p = 0.7800) were not.

Means and standard deviations of each group by gender are reported in Table 2. Post-hoc tests using a Scheffe multiple comparison tests revealed significant differences between the Male Control group and the three female groups and the Male HRM group and the three female groups (see Table 3). However, there were no significant differences between the Male Pedometer group and the female groups.

Table 1. Means and Standard Deviations of Physical Activity

Group	N	Mean	SD
Pedometer (spm)			
Males	**6**	**51.3567**	**9.1346**
Females	**10**	**52.4640**	**11.4944**
HRM (bpm)			
Males	**8**	**30.5438**	**10.4472**
Females	**8**	**29.1912**	**12.0101**

Note: HRM = Heart Rate Monitor; spm = steps per minute; bpm = beats per minute

Table 2: Means and Standard Deviations of Times on Mile Run by Group

Group	N	M	SD
Male HRM	**7**	**10.1500**	**2.1240**
Male Control	**4**	**10.3825**	**1.4490**
Male Pedometer	**5**	**12.1720**	**1.7715**
Female HRM	**6**	**12.9500**	**2.3818**
Female Pedometer	**7**	**13.0757**	**2.0532**
Female Control	**10**	**13.2970**	**2.0818**

Note: HRM = Heart Rate Monitor.

5. Discussion

Most of the literature integrating technologies such as heart rate monitors and pedometers into the physical education setting has focused on the activity level and not the fitness level of children [12, 13, 14, 15]. Many researchers have reported that males exhibit significantly greater vigorous activity than females [12, 26, 27, 28, 29]. The results of this study differ in that there were no significant differences between males and females' activity levels in either the HRM or the Pedometer group. One possibility for the difference between the findings of this study versus those in previous research might be the length of time in which the data were gathered. Also, most of the previous studies had the children wear the monitors during unstructured times such as home and recess as well as during physical education.

Trost, Pate, Dowda, Saunders, Ward, and Felton [30] found males to have greater physical fitness than females. The results of this study are in agreement with Trost et al in that males were significantly faster than females on the one mile run.

Although the results of this research did not find any significant differences among the three treatments, it was interesting to note that when looking at the differences in the times between males and females, the female groups using technology did have faster mean times than the female control group. That was not the case, however, for the male groups. The male pedometer group had the slowest times of the male groups and was not significantly faster than the females. Thus, the significant differences between males and females lessened as the females were provided with more information about their performances and/or were given more attention. This is in agreement with the meta-analysis of pedometer-based physical activity interventions conducted by Minsoo, Marshall, Barreira, and Jin-Oh Lee [31] who found technology using pedometers had a greater effect with females in increasing participation in physical activity.

The Hawthorne Effect might have attributed to the two technology female groups performing better than the female control group. The HRM groups did receive additional attention in that another person was at every one of their classes to help put the heart rate monitor straps on, collect the monitors, and give them the weekly charts. Although the female pedometer group did not have an additional person in their physical education classes, they may have tried "harder" in order to please their teacher. If this, however, was the case, why did it not happen with the male pedometer group?

When looking at the original research regarding the Hawthorne Effect, a criticism of the original three studies was that they did not take into account gender differences. For the most part, the subjects from the Western Electric assembly line were young women, and the researchers were young males attending Harvard [32]. If the Hawthorne Effect does have a greater impact on females than males, it might also contribute to the differences found in this study and the literature regarding physical activity and gender. Additional research looking at the Hawthorne Effect with regard to gender might prove to be valuable in providing better physical education experiences to females.

6. Conclusion

The use of heart rate monitor and pedometer technology did not have an effect on the fitness levels of fourth grade students as measured by the one mile run, and male and female activity levels during physical education did not differ.

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Parallelisms in Arabic: Morphological and Lexical, Syntactic, and Textual

Hisham Monassar, Ph.D.
Assistant Professor
Department of English and Foreign Languages
Cameron University

Abstract

Parallelism in Arabic is investigated through data from three Arabic varieties: Modern Standard Arabic (MSA), Classical Arabic (CA), and (Yemeni) Adeni Arabic (AA). Parallelism in Arabic is examined at different linguistic levels: morphological and lexical, syntactic, and textual. Parallelism seems to be inherent and is more likely in writings that aim to convince or restate theses and topics. However, the occurrence of parallelisms is genre-specific, purpose-oriented, and situation/context-dependent. It is predictable in sermons, public speeches/addresses, and opinion writing. Apparently, parallelism, particularly beyond reduplication and lexical level, triggers resonance in the mind of the listener/reader, retaining the respective information in short term memory and thus marking it for emphasis.

Keywords: (Modern Standard) Arabic, Classic Arabic, Adeni Arabic, parallelism, repetition, cohesion, coherence, resonance, assonance, oral tradition, and emphasis.

1. Introduction

It is worth noting that the phenomenon of parallelism is rather a linguistic universal, not a quality exclusive to Arabic. It is a well-known fact that all languages have been spoken before they were ever written, and as such they have developed their own tools and styles. Such styles and tools have been lumped as the oral tradition. In contrast to written language, which is precise and more linguistically economical, they rely on alliteration, reiteration, repetition, rhyming, assonance and resonance much like poetry. Not only did this tradition rendered texts, and hence their contents, memorable and quotable, but also enhanced the esthetic value of the form and its presentation. This work will focus on Arabic represented in three varieties.

Parallelism may be described as the recurrence of linguistic structures, constructions and meaning in a certain setting and context. The concept of *parallelism* was proposed by Roman Jacobson (1957) as a constant structure of poetry, which obtains when a poet chooses comparable (similar or adversative) lemmas to use in a poem or verse. It applies to form and content in prose and poetry. It has been associated with repetition and coordination in contrastive rhetoric literature over the last four decades. It may be discerned through the various linguistic levels: morphological, lexical, and syntactic, and textual. Whether it is repetitive or redundant, that is a cross-culturally relative issue. It has been used and discussed by many in the field of contrastive rhetoric to refer to the zigzag (Kaplan, 1966), parallel and repetitious (Koch, 1981) style in ESL writing of Arab students (Kaplan, 1966: Derrick-Mescua and Gmuca, 1985) and in a select essays written by prominent Arab authors (Koch, 1981).

As a style (written or spoken), parallelism occurs in Standard Arabic, Classical Arabic and Arabic dialects to various degrees. However, it is unfair to generalize parallelism as the only or the prominent writing style available in Arabic; there are other styles, in which parallelism is less prominent. Classical Arabic, in which parallelism is predominant, attests to such parallelism as an oral aesthetic aspect. Most Arabic dialects are spoken, hence reflecting oral tradition properties such as parallelism, and are rarely written. Modern Standard Arabic offers diverse styles including those inherited from Classical Arabic and those affected by Arabic dialects.

This paper aims to provide a close textual investigation of parallelisms in the different linguistic levels and in three Arabic varieties: Classical Arabic (CA), Modern Standard Arabic (MSA), and (spoken/transcribed) Yemeni Adeni Arabic (AA) dialect.

While exploring such varieties for parallelisms, it delves into the possible purposes and motivation for such parallelisms in the relevant texts. One track of previous research in the field focused mainly on errors in English compositions written by students of Arabic background as a result of interference of the so-called zigzag, parallel and *repetitious* style/pattern of Arabic. In comparison, the other track, less prominent and miniscule (Koch, 1981) concentrated on a select set of texts in specific genres of writing in Modern Standard Arabic. Al-Jubouri (1984), on the other hand, contends that the parallelism is a rhetorical tactic used for persuasion. This paper aims to fill in gaps and clarify issues motivated by previous research. Halliday and Hasan (1976) explain that literal repetition is one of the many cohesion devices that enhance textuality, i.e., coherence.

1.1 Background

It used to be that parallelism was a prominent style in Classical Arabic for many apparent reasons. First is the oral tradition, in which Classical Arabic is deeply rooted. Second, the lack of an orthographical system, in which space including white space management, text organization and structure are crucial. Third, the spoken form, poetry especially, was the only medium to chronicle daily events, tribal and personal concerns of people, i.e., it was the only mass media available until Arabic script was introduced around the 7th century. This form had developed elaborate and ornate linguistic features, which have survived to date and are mostly drawn on in speech acts of persuasion and argumentation, even in the written form in some genres. Public political speeches and Friday sermons, in which the orator/author assumes agreement of hearer/reader with speaker based on shared, mutual knowledge, are good examples of such speech acts, with high frequency of parallelisms and ornate language.

1.2 Terminology

The term *parallelism* here is used loosely to cover both so-called *repetition* and *parallelism* which have been used in the literature to describe the respective phenomena with respect to Arabic. I use *parallelism* to the exclusion of the term *repetition* in an effort to avoid any negative implications the term *repetition* may imply. For example, repetition may be associated with redundancy. What has been labeled as *repetition* in the literature, I relabeled as *reiteration* and treated as one manifestation of parallelism.

Morpheme is the smallest meaningful unit in language. Lexeme is an independent morpheme that in itself constitutes an entry in the lexicon. It may consist of one morpheme or more. It may be used interchangeably with *word* and *lexical item*, and *vocabulary item*.

As for the varieties of Arabic discussed herein, they have been abbreviated as follows. Classical Arabic, CA; Modern Standard Arabic, MSA; and Adeni Arabic, AA. CA is the variety spoken by the tribe of Quraish in Mecca around fifteen centuries ago, which has persisted through its descendent MSA. Its usage has continued until roughly the turn of the Eighteenth century, when the area had to deal with the Western culture and influence via colonization and otherwise. It is discernable in the Holy Qur'an, classical Islamic manuscripts, and classical literature including pre-Islamic literature. MSA began as a variety in the beginning of the nineteenth century to cope with the scientific advancement and resulting terminology and to compete with Western languages, particularly English and French. AA is a dialect spoken in southern Yemen in the city of Aden and its vicinity. In contrast to CA and MSA, AA is spoken only, not written. For AA, samples are transcriptions of spoken texts quoted from Feghali's *Arabic Adeni Reader* (1990).

2. Parallelism: the scope

Parallelism pervades throughout the various linguistic levels: morphological, lexical, syntactic and textual. I have identified four types of parallelism, permeating morphology and lexicon, syntax, and text. These are *duplication*, recurrence of root; *replication*, recurrence of the same thought in different forms; *reiteration*, recurrence of the same word; and *alternation*, recurrence of alternatives. The term *Text,* as used here, designates language beyond the sentence level and is interchangeable with *discourse*. As such, this work is a taxonomy of parallelisms. It is descriptive rather than prescriptive.

2.1 Morphological and Lexical Parallelisms

Observations of parallelisms include occurrence of morphemes, words, and phrases with similar or common meanings and sometimes forms in the same phrase, clause, or sentence. Four manifestations of parallelism are identified and discussed herein. The first is confined to the appearance of two or more words that share the same root, for example, قرّ قرارا '[1]*admitted admittedly*'. In this phrase, part of the form and meaning are replicated but across different parts of speech, namely verb and adverb. Let us call this *Root Duplication*. The second occurs in the form of lexical couplets and triplets such as the English *rave* and *rant* or *way, shape,* or *form*. This lexical and semantic parallelism is referred to as *replication*. The third is the repetition of the same word; let us dub this *reiteration*. The fourth consists of providing alternatives, using the Arabic equivalent of *but* 'لكن' *rather* 'بل' and *or* 'أو'. Let us call this *alternation*.

2.1.1 Root Duplication

In this form of parallelism the root of the word is duplicated to a complement of some sort, usually an adverbial complement. Examples 1-3 illustrate this morphological pattern.

1.

فالعمارة التي نشأت في ظروف مناخية حارة اتسمت بسمات تلائم المناخ

ʔalmanax tulaʔim bisimat itasamat ḥarah manaxiya őuruuf fi nashaʔat ʔallati falʕimara

)Munif, 1992: in *Al-kitaab*, 182)

Masonry, which has developed for example in a tropical climate, is characterized by characteristics that are commensurate with such a climate.

Where an (American) English speaker may use *reflects characteristics compliant with the climate*. Utilizing Arabic morphology, the same root is used for two derivations: two different parts of speech, verb and noun. The noun is in turn prefixed with the preposition ب 'with' to become the headword of the prepositional phrase بسمات تلائم المناخ functioning as an adverb of manner. The parallelism here is partially semantic, partially morphological, yielding the respective lexical options.

Example 2 shows the same pattern in Classical Arabic. Describing his book in his famous introduction, Ibn Khaldun says:

[1] Ill-formed in English

2.
(Ibn Khaldun, 2001: in *Al-kitaab*, 373(تهذيبا مناحيه فهذبت
tahðiban manaḥih fahaððbtu

So I trimmed its edges proficiently.
The two parts of speech resulting from the morphological derivation from the root hðb are هذبت, verb and تهذيبا adverb. This part of speech in Arabic is known as mafʕuul muṭlaq, which has the function of an adverb. The same process is discerned in AA as in 3.
3.
إشترط عليه شروط كثيرة
(Feghali, 1990: 115) katiira šuruuṭ ʕaluh ʔištaraṭ
He made so many demands (for his daughter's dowry)
In 3 the root ش ر ط has yielded past tense for the verb إشترط 'impose conditions' and a plural noun شروط 'demands'. This example demonstrates the resourcefulness of Arabic morphology—not to say that this aspect is exclusively unique to Arabic, which may be conceived by some as repetitious. What is repetitious is the root, which occurs in the different parts of speech, as illustrated in 3.
Root duplication as used here may be economical and efficient in terms of memory and processing. This may be an efficient use of memory; where instead of accessing two different entries in the relative locations in the brain, only one entry is accessed and manipulated through morphological derivations compliant with grammatical (including syntactic and semantic) rules, involving more processing in the short memory and less long term memory space. Thus, root duplication could be viewed as a function of parallelism. Arabic morphology so readily lends itself to this function. This leads us to the third kind of morphological and lexical parallelism, *reiteration*.

2.1.2 Replication

Replication as explained above is like alternation; only in replication the lexical items are within the same semantic field, usually implying congruity or concordance, no synonymy or semantic identicalness is implied here. The examples in 4-6 illustrate this.
4.
الحالة العربية باحتمالاتها وتصوراتها وإمكانية تكرارها لتجربة
litajribati tikrariha ʔimkaniyat wa taṣawuratiha wa biḥtimalatiha ʔalʕarabiyatu ʔalḥalatu
(Huwidi, 1992: in Al-Kitaab, 15(الثورة الإسلامية في إيران
ʔiraan fi ʔalʔislamiya ʔaththawrati
The Arabic situation in its possibilities, prospective, and potential of repeating the Islamic Revolution of Iran
Example 4 from MSA shows two parallelisms, morphological and lexical. Morphologically speaking, Arabic object and possessive pronouns, unlike Arabic subject pronouns, are suffixes, i.e., attachable bound morphemes. Note in example 4 the recurrence of the feminine possessive pronoun morpheme ـها [-*haa*], which is co-referential with the N(oun) P(hrase) الحالة العربية "*the Arabic situation*." Unlike English, in which one occurrence of the possessive pronoun may suffice, recurrence of the possessive in Arabic is a mandatory grammatical process. This *grammatical* process crucially involves inflection, which is a morphological process, to ensure coreferentiality, which is a syntactic rule. This is in accordance with the definition of grammar which encompasses morphology, phonology, syntax and semantics.
Lexically, the three phrases إمكانية تكرارها, تصوراتها احتمالاتها are not exactly synonyms—although there are no real synonyms, they are within the same semantic field. In this context, they have a common meaning that may be translated into one word in English "potential (of recurrence)." They may be rendered as *probabilities,*

preconceptions, potential respectively. An American English speaker would use one of these, most probably *potential*. Without the parallelism, 4 could be alternatively rephrased as

The potential of the Arabic situation, especially of repeating the Islamic Revolution in Iran . . .

This pattern is pervasive in CA and has been passed down into Arabic in its variant forms, as in example 5 from MSA.

5.

و بدأت فيه أوليّة الدول و العمران عللا و أسبابا (Ibn Kahldun, 2000:(in *Al-Kitaab*, 373

asbaban waʔ ʕilalan alʕumraan wa addiwal liʔawaliyati fihi ʔabdeitu wa

I have described the rudiments and origins of states and social structures [societies].

Here the relationship of أسباب ‘causes’ to عللا ‘reasons’ is one of parallelism semantically speaking. It would suffice to have one أسباب causes, but the author here is rhyming and satisfying meter (prosody) creating a resonating effect.

From AA, which is, like any Arabic colloquial dialect, unwritten and only spoken, example 6 shows the same tendency.

6.

الطيّارة تنخفض و ترتفع، تنزُل و تطلع (Feghali, 1990: 123)

tiṭlaʕ w tinzul tirtafiʕ w tinxafiḍ ʔaṭṭayyara

The plane descends and ascends, dips and rises.

It is possible to use one construction (conjunct), تنخفض وترتفع or تنزل وتطلع, instead of the two to make the point.

2.1.3 Reiteration

Reiteration is a form of parallelism that is characterized by reproduction of the same lexical item, phrase, clause or construction verbatim. In other words, reiteration is literal repetition. The utterances in 7 from MSA, 8 from CA, and 9 from AA illustrate such a pattern.

7.

فالمهم أن النتيجة واقعة واقعة مهما حاول بطلها الهرب (Edriss, *al-Kitaab*: 55)

alharab baṭaluha ḥawal mahma waqiʕa waqiʕa annatijata ann falmuhim

What is crucial is that the end is inevitable despite the hero’s attempt to escape it.

8.

فصّلته في الأخبار و الاعتبار بابا بابا (Ibn Khaldun, 2001: in *Al-kitaab*, 373)

baaban baaban alʔiʕtibaari w lʔaxbaari fii faṣṣaltuhu wa

I have divided it [the book] into events and instances, chapter by chapter.

9.

بندخل الحوافي حافة حافة، و سكّة سكّة (Feghali, 1990: 1)

Sikka sikka w haafa haafa alḥawaafi baandxul

We will tour neighborhoods, block-by-block, road-by-road.

In examples 7-9 the same word is repeated. The respective words, underlined, are repeated verbatim. I doubt that the speaker/author means to be repetitive here just for the sake of repetition. The reason may either be aesthetics/poetic or rhetorical, i.e., emphasis. Obviously, the speaker in 9 means to say that they will explore the neighborhood thoroughly. Therefore, emphasis overrules aesthetics, as the goal of reiteration.

2.1.4 Alternation

In this type of parallelism the speaker/author provides alternatives and/or contrasts to drive the point home. So a speaker/author would be dwelling on the same topic or subtopic from different angles, as in examples 10-13 below from MSA, CA, and AA, respectively.

10.

و لكن ا ولية ية. . . ليست سببا بل نتيجة، و ليست فعـ بل ردة فـعل،

fiʕl radat bal fiʕlan laisat wa natiija bal sababan laisat alʔislamiyata alʔuṣuuliyata lakin wa

و ليست نصا بل هامش، و ليست أصـ بل فـرع،و ليست ثابتا بل متحول، و

wa mutaḥawil bal θabitan laisat wa farʕ bal ʔaṣlan laisat wa haamiš bal matnan laisat wa

ليست مركزا بل طرف (Shaheen, 1998: in *Al-Kitaab*, 217).

ṭaraf bal markazan laisat

But Islamic fundamentalism . . . is not a cause but an effect; [it is] not an action but a reaction; [it is] not a (body) text but a margin, [it is] not a root but an offshoot; [it is] not a constant but a variable; and, [it is] not a focus but a periphery.

In 10 there are twelve words forming six pairs of alternate couplets. Each member of the pair is the opposite of the other, i.e. the pairs consist of antonyms. Example 11 from CA features the same pattern.

11.

وتسقط م يعلمها و حبة فـي ظلُمات ا رض و رطب

raṭibin laa wa alʔarḍi ðulumaati fii ḥabbatin laa wa yaʕlamuhaa ʔilla warqatin min tasquṭ wa

و يابس فـي كتاب مبين (The Holy Qura'an, the Cattle, 6:59)

mubiin kitaabin fii ʔilla yaabisin laa wa

Not a leaf falls but with His knowledge: There is not a grain in the darkness (or depths) of the earth, not anything fresh or dry (green or withered), but is [inscribed] in a record [clear to those who can read] (Translated by Ali, 1998).

Once more, the alternatives are conjoined with 'but', using the structure [not (a/n) NP but NP]. The alternatives are opposites. Example 12 from AA reveals the same pattern.

12.

في اليمن، لمّا الشخص يتوفّي فـي حادث أو موت طبيعي (Feghali, 1990: 103)

ṭabiʕi mɔt ʔaw ḥaadit fii yitwaffi ššaxṣ lamma alyaman fi

In Yemen, when someone passes away in an accident or natural death

The speaker uses the disjunctive أو 'or' to state the alternation of two types of deaths, natural and accident-related. It would have sufficed to use "يتوفّي", since it is a hyponym, whose meaning covers both types of death. There is redundancy here, which could only be explained as a way of emphasis by way of elaboration.

2.2 Syntactic Parallelism

Syntactic parallelism occurs in the form of replication, recurrence of similar content/meaning in different forms, and alternation. Duplication, recurrence of the root in different speech parts, and reiteration, replication of the same word, are more morphological and lexical features than they are syntactic.

2.2.1 Replication

Syntactic replication is the recurrence of independent (coordinate) and dependent (subordinate) clauses with similar meaning and topics within the same sentence. This feature is discernable in MSA, CA and AA, as examples 13-14 illustrate, respectively.

13.

لأننا نسمي بها الكائنات والأشياء التي تظل ضائعة مجهولة بعيدة عن

naʕ baʕiida majhuula ḍayiʕa taðʕal allati alʔašyaʔ wa alkaʔinat bihaa nusammi liʔanana

وعينا حتى نسميها فإن سميت خرجت من المجهول إلى المعلوم، أي

ʔay almaʕluum ʔila almajhuul min xarajat summiyat faʔin nusammiha ḥatta bihaa waʕiyina

.(Hijazi, 2000: in *Al-Kitaab*, 135(من العدم إلى الكينونة

alkaynuuna ʔila alʕadam min

With it [language] we name beings and things, which would remain lost and unknown, outside our consciousness until they were named; once named, they emerge from the unknown to the known, i.e., from vacuum to existence.

The utterance in 13 contains two independent clauses. The first contains a relative clause modifying the object الكائنات و شيء ‘beings and things’, followed by an appositive (adjectival clause) also modifying the object. The second independent clause consists of two prepositional phrases. The latter prepositional phrase من العدم إلى الكينونة ‘from the unknown to the known’ modifies the former prepositional phrase من المجهول إلي المعلوم ‘from vacuum to existence’, both of which form the predicate. The appositive in the first independent clause and the first prepositional phrase in the second rephrase the content in the clause they modify. Thus, there is a recurrence of meaning or thought. In the underlined chunks in the two independent clauses, the second is similar in thought and meaning to the first, and the fourth to the third.

In 14 Ibn Khaldun describes the organization of his famous book, that his approach was meticulous and creative. The asterisk seems to be for punctuation.

By observing the structure and semantics of example 14, symmetry becomes utterly clear.

There are four independent clauses coordinated by و [wa] ‘and’, the topic of which is the author’s book; the subject in the first three is the author in first person singular; the last clause contains an appositive as an object complement, the object being the book, asserting that it is a genuine method and approach.

14.

فهذبت مناحيه تهذيبا* و قربته لأفهام العلماء و الخاصة تقريبا* و

wa taqriban alxaṣa wa alʕulamaʔ lʔafhaami qarrabtuhu wa tahðiban manaḥih fahaððabt

سلكت في ترتيبه و تبويبه مسلكا غريبا* و اخترعته من بين المناحي

almanaḥii bain min axtaraʕtuhu wa ġariban maslakan tabwibih wa tartibih fii salaktu

(Ibn Kahldun, 2000: in *Al-Kitaab*, 373(مذهبا عجيبا* و طريقة مبتدعة و أسلوبا*

ʔusluuban wa mubtadaʕa ṭariiqa wa ʕajiiban maðhaban

I have edited it properly; [and] I have made it easily accessible to the learned and the layman; [and] I have adopted a unique way in arranging and ordering it; [and] I have invented it as a brilliant approach and creative way and style.

Example 14 bears evidence from CA for the same pattern. The first sentence marked by the first asterisk is a general statement explaining that he edited it efficiently. The rest of the example is an ornate description of the

organization: how meticulous and considerate it is. That is an instance of recurrence of detailed rephrasing of the first sentence, i.e., parallelism of thought and syntax.
Example 15 is from AA and exhibits the same tendencies of replication.
15.

هدا الشي كلكم تعرفونه، القات الملعون، اللي خرّب بيوتنا و شتت بنحنا و
w banaḥna šattat w biyuutna xarrab lli llaʕiina lqaata taʕrifunnuh kullukum ašši hada
خلانحنا ضايعين. و قدرنا نبني بلادنا، و قدرنا نربي
nrrabbi qadarna la wa blaadna nabni qadarna la wa ḍaiyʕiin xallanaḥna
.)Fegahali, 1990: 111(عيالنا
ʕiyaalna

This thing, you all know, damned qaat, which wrecked our homes; [and it] scattered us; [and it] rendered us lost. Neither could we build our country. Nor could we raise our children.

The example in 15 consists of two sentences with a total of six clauses. The first sentence contains one independent clause هدا الشي كلكم تعرفونه 'This thing, you all know', followed by an appositive القات الملعون 'damned qaat', qualifying the object الشي 'thing'. Embedded in that independent clause there are three dependent clauses by virtue of a relative pronoun *ʔalli* 'which' and conjoined with و [wa]; خرّب بيوتنا 'wrecked our homes'; شتت بنحنا 'scattered us'; and خلانحنا ضايعين 'rendered us lost'. The three dependent clauses in the first sentence are parallel in meaning and syntax.
The second sentence falls into two independent clauses conjoined with و [wa] 'and'. The subject is qaat, a plant that has the effect of a stimulant and is chewed by some in Yemen. The topic is the negative effects of the tradition of chewing qaat. All these clauses are replicate parallels, different ways to explain the effects of qaat with similar meaning. Scrutiny of the constituents and contents thereof reveals that parallelism is pervasive in form and content in example 15. The two independent clauses in the second sentence are parallel in form and slightly in the general meaning, negative effects of qaat.

2.2.2 Alternation

Syntactic alternation is the recurrence of a number of alternatives for the same thought, i.e., content, using different phrases and/or clauses/sentences, i.e., form. Such alternation could be conjunctive or disjunctive, i.e., indicating terms as alternatives or options. Often, it employs a connective such as بل 'rather' and أو 'or' for disjunctive alternation as in 16 and 17, respectively, and و 'and' for the conjunctive alternation.
16.

ليس صحيحا أن المسيحيين العرب هم أمام قدر محتوم بل أن المسيحيين
almasiiḥyiin ʔan bal maḥuum qadar ʔamaama hum alʕarab almasiiḥyiin ʔan ṣaḥiḥan laisa
العرب هم أمام خيارات و عليهم أن يحسنوا تحديد خيارهم الأفضل.
alʔafḍal xiyarahum taḥdiid yuḥsinu ʔan ʕalaihim wa xiyaarat ʔamaam hum alʕarab
)Shaheen, 1998: in *Al-Kitaab*, 218)

It is incorrect that Christian Arabs are facing an inevitable fate; rather, Christian Arabs are facing options. They have to choose wisely.

Using the connective بل 'rather', Shaheen links two parallel clauses that have a similar structure to the that-clause. The two clauses offer two alternative views: خيارات 'options' vs. قدر محتوم 'inevitable fate'. Shaheen repeats the subject NP. Not only that but also the subject pronoun هم 'they' (which translates to English as *are* in this context). The two conjoined clauses in 16 exhibit parallelism of syntax, and semantics in the form of antonymous relationship. Moreover, there is a reiteration of the full noun phrase in the conjunct clause. It is possible to state the alternative NP خيارات‘options’ or even prepositional phrase أمامخيارات ‘facing options’ following the connective بل‘rather’ and avoid repeating the rest of the clause. Could the reason be anything other than emphasis on the alternative?

Along the same lines, this pattern is discernable in CA, as in 17:

17.

و هما العرب و البربر* إذ هما الجيلان اللذان عرفا بالمغرب مأواهما و

wa maʔwahuma bilmaġrib ʕarafa allaðaan aljilaan huma ið albarbar wa alʕarab huma wa

طال فيه عليهما الأحقاب مثواهما* حتى لا يكاد يتصور فيه ما عداهما* و

wa ʕadahuma maa fiih yutṣauwar yakad laa ḥatta maθwaahuma alʔaḥqaab ʕala fiih ṭaal

(Ibn Kahldun, 2001: in *Al-Kitaab*, 373(لا يعرف أهله من أجيال الآدميين سواهما

siwaahuma alʔaadamiyiin ʔajyaal min ʔahluhu yaʕrif laa

They are the Arabs and the Berber, for they are the two generations, who established in Morocco their dwelling and for centuries their abode, so much so that it could not be thought of without them and its people knew no humans other than them.

Ibn Khaldun offers alternatives for one thought, one referent, العرب والبربر‘the Arabs and the Berbers’, putting it in different words, so to speak. The referent is the first underlined string of words; the rest are the alternatives: in this case they are alternatives connected with the transition/conjunction و ‘and’, not أو ‘or’ or بل‘rather’, i.e., additions. The alternatives denote the long establishment of the two peoples/ethnicities in Morocco.

The example in 18 from AA shows the same pattern, recurrence of form and thought.

18.

الواحد يلاقي نفسه داخل عدن محصور بين جبال من كل جنب، من كل

kull min ganb kull min gibaal bein maḥṣuur ʕadan daxil nafsuh yilaqi ʔalwaaḥid

)Fegahali, 1990: 111(محل

maḥal

One finds himself in Aden, surrounded by mountains all around, on every side.

As in 17, 18 offers two alternatives for the anchor prepositional phrase بين جبال‘amidst mountains’. The first alternative is من كل جنب literally ‘on every side’ i.e. ‘all around’, which functions here as an adverb of place. The other alternative is من كل محل, literally ‘from every place’, i.e., ‘all around’. The idea is that mountains surround Aden proper. Both alternatives are prepositional phrases functioning as adverbs of place and are augmentative, not disjunctive and no conjunction used.

To sum up this section, alternation is a form of syntactic parallelism that takes the form of paraphrase and rephrase by way of offering alternatives. Such alternatives modify an anchor, referent, and have similar or dissimilar thought. As the examples above show, emphasis may be the primary goal of alternation. Apparently, syntactic parallelism is conducive to emphasis, a conclusion reached by al-Jubouri’s (1984) based on his analysis of Arabic newspaper articles. He rightly argues that parallelism is tactical, a rhetorical style used for persuasion.

2.3 Textual Parallelism

In this section I discus text organization and structure in terms of order of thoughts, flow (development) and cohesion. Cohesion, as defined by Halliday and Hasan (1976) is the interconnectedness of parts of a text through the use of lexical and grammatical devices.
I look into text organization by following paragraphing and relation of thoughts vis-à-vis the main topic and supporting material, be it sub-topics or supporting facts and examples. In analyzing cohesion, on the other hand, I rely on the use of reference devices (pronouns) and conjunctions, particularly intersentential conjunctions (transitions).

2.3.1 Cohesion

As far as parallelism is concerned, I discuss lexical cohesion and referential cohesion. Lexical cohesion is a basic cohesion strategy according to Halliday and Hasan (1976), which helps pull the text together, improving textuality, i.e., coherence. Lexical cohesion falls into repetition (identical form), synonymy, antonym (e.g., 'day' and 'night'), meronomy (e.g., 'brim' and 'crown'), acronymy (e.g., USA), hyponymy (e.g., 'automobile' and 'car'), metonymy (e.g., Washington and the US government). The speaker or writer here strives to connect utterances topically, i.e., via lexical items referring to the topic. Some of these forms of lexical cohesion have been projected in section 2 above, "Morphological and Lexical Parallelism". Referential cohesion, on the other hand, is achieved by using pronouns, demonstratives, relative pronouns, deixis, and the definite article to achieve coherence.

In addition, like in many languages, Arabic verbs and adjectives are inflected for person/subject, number and gender (verb- and adjective-agreement). This (morphological inflection) in and of itself contributes significantly to cohesion and ultimately coherence. So much so that inflection may be considered a cohesion device in Arabic on par with those identified by Haliday and Hasan (1976). Consider example 19:

19.

ن فقط أستطيع أن أقول بشيء من اليقين لقد ضاعت [فلسطين] بسبب الجهل،
al<u>jah</u>l bisabab [filisṭiin] ḍaʕat laqad ʔalyaqiin min bšaiʔin ʔquul ʔann ʔastaṭiiʕ faqaṭ ʔalʔaan
و هو جهل لا أستطيع أن أشير لأحد أنه سببه فهو جهل مركب و
wa murakkab <u>jah</u>l fahuwa sababu<u>hu</u> ʔanna<u>hu</u> liʕaḥad ʔušiir ʔann ʔastaṭiiʕ laa <u>jah</u>l huwa wa
.(Arrumaihi, 2001: in *Al-Kitaab*, 357(سار فينا طويلا
ṭawiilan fiina saar
Now I can say with some certainty that Palestine has been lost because of <u>ignorance</u>; and <u>it</u> is <u>a type of ignorance</u> I cannot blame anyone for (<u>it</u>); <u>it</u> is a complex ignorance and (<u>it</u>) has permeated through us for so long.

In 19, the anchor/referent NP الجهل 'ignorance' is referenced several times in the text in three different ways: lexically, grammatically, and morphologically. It is lexically referenced by repeating the same word twice. Grammatically, i.e., pronominally, it is referenced four times: twice by the subject pronoun هو 'it'; twice by object pronouns ـه 'it'. English drops the pronoun in this position in relative clauses, zero-anaphora. Arabic does not, hence the parenthetical *it* in the translation. The author chooses to use the subject pronoun هو 'he' to reintroduce a topic that has just been mentioned in the previous sentence instead of ـه'it' which is, to me, more appropriate in this situation. The latter ـه'it' seems to be higher on the scale of familiarity, and hence is more unmarked than the former, هو 'it'. Marking a referent lower on a familiarity scale makes the referent more

newsworthy. By using هو ‘he’, which seems to me to be lower on the scale of familiarity for MSA and hence marked, the author places more emphasis on the topic than by using ها‘it’. This choice is governed by information packaging principles which foreground new information thereby drawing more attention to it, i.e., emphasis.
Likewise, this pattern of parallelism through cohesion is instrumental in CA. This is obvious in example 17 above and repeated here in 20, from Ibn Khaldun’s “Introduction.”
20.

و هما للعرب و البربر* إذ هما الجيلان اللذان عرف بالمغرب مأواهما
maʔwaahumaa bilmaġrib ʕarafa allaðaan aljiilaan humaa ʔið albarbar wa alʕarab huma wa
و طال فيه على الأحقاب مثواهما* حتى لا يكاد يتصور فيه ما
maa fiih yutaṣauwar yakad laa hatta maθwaahuma lʔahqaab ʕala fiih taal wa
عداهما* و لا يعرف أهله من أجيال الآدميين سواهما
siwaahuma alʔaadamiyiin ʔajyaal min ʔahluhu yaʕrif laa wa ʕadahuma
(Ibn Khaldun, 2001: in *Al-Kitaab*, 373(

They are the Arabs and the Berber, for they are the two generations, who established in Morocco their dwelling and for centuries their resort, so much so that it could not be thought of without them and its people knew no humans other than them.

Again in 20, after a lengthy introduction, the author introduces for the first time the referent العرب والبربر‘the Arabs and the Berber’, using the subject pronoun هما ‘they are’. He references it anaphorically once with the subject dual pronoun هما ‘they’ and four times with the dual object pronoun suffix -هما ‘them’. He also references them with the dual relative pronoun اللذان‘who’. The recurrence of the pronouns is a structural requirement, syntactic (roles and relationships) and semantic for referentiality, i.e., cohesion.
Likewise, 21 from AA evinces the similar characteristics:
21

الملك شداد بن عاد كان يشتي يحبس أخوه. كيف يحبسه؟ فكر بطريقة انه
ʔinnuh biṭariqa fakkar yiḥbisuh kaif axuuh? yiḥbis yištii kaan ʕaad bin šaddad ʔalmalik
احسن حاجة يفعلها، هي انه يدخله إلى هادي المنطقة اللي محوطة
muḥawwaṭa alli ʔalmanṭaqa haadi ʔila yidaxxiluh ʔinnuh hii yifʕalih ḥaaga aḥsan
بالجبال من كل مكان فأمر قومه بانه يحفروا بغدة او نفق في الجبل.
ljabal fi nafaq ʔaw buġda yiḥfru biʔannuh qawmuh faʔamar makan kul min bilgibaal
فحفروا بغدتين في الجبل، بغدة كبيرة وبغدة زغيرة. البغدة الكبيرة و
w alkabira ʔalbuġda zaġiira buġda w kabira buġda lgabal fii buġdatain faḥafru
البغدة الزغيرة كلهم يخرجوا الواحد من عدن إلى المعلّة، اللي هو جبل
gabal hu ʔalli almaʕalla ʔila ʕadan min lwaḥid yixxarigu kulluhum azzaġiira albuġda
الحديد. فحبس الملك شداد أخوه داخل دي القفرة (Feghali, 1990: 1).
alqafra di daxil ʔaxuuh šaddaad almalik faḥabas alḥadiid

King Shaddad bin Aad wanted to imprison his brother. How does he imprison him? He thought that the best way is to confine him in this area, which is surrounded by mountains. So he ordered his people to carve a hole or tunnel in the mountain. So they carved two tunnels, a small tunnel and a big tunnel. The big tunnel and the small tunnel both take one from Aden to Al-Maalla, which is Mount al-Hadeed ‘Iron Mountain’. So King Shaddad bin Aad imprisoned his brother in this arid region.

The story from AA in 21 involves seven noun phrases (NPs). They are, in order of occurrence: King Shaddaad bin Aad, his brother, the desert, his people, the tunnels, and Aden and Al-Maalla. I will analyze the first of these

NPs in terms of cohesion. The NP King Shaddaad bin Aad, the central character, is introduced once in the beginning and referenced 11 times later, a total of 12 occurrences: Twice by name الملك شداد بن عاد 'King Shaddad bin Aad' and الملك شداد 'King Shaddad'; three times by the possessive pronoun ـه 'his' in اخوه 'his brother', قومه 'his people', and again اخوه 'his brother'. It is referenced seven times in verbs: كان يشتي يحبس 'was wanting [to] imprison. This construction consists of three verb forms auxiliary كان 'he was', modal يشتي 'he wants', and main verb يحبس 'he imprisons'. The rest of the verbs are يحبس 'he imprisons', فكر 'he thought, يفعل 'he does', يدخل 'he puts', أمر 'he ordered', حبس 'he imprisoned'. The prefix ي [y-] attached to the verb is the present tense marker and the verb is inflicted for third person masculine singular. Unlike CC and SA, Voweling is irrelevant in AA, as in many Arabic dialects. Hence, the past tense ends with a neutral consonant, i.e., it is unvoweled, and no affixes, which marks it for third person masculine singular.

To sum up, in addition to the cohesive devices common to some languages, inflection for person, gender, as well as tense in Arabic makes use of additional cohesive devices. For example, an answer to the question أين التفاحة؟ 'Where is the apple?' is أكلتها 'I ate it', literally (ate-I-it). This parallelism in local cohesion may confuse a nonnative Arabic speaker/learner who may come from a dissimilar linguistic/cultural background that exhibits less local cohesion. In contrast, a native speaker encounters no coherence difficulties. The reason may be that English among other languages confirms more to Grice's maxims especially that of quantity than Arabic does. This variance in cultural/linguistic conventions may be responsible for judging a text incoherent, repetitive, wordy, and redundancy-laden, and so on and so forth. Although this aspect of extra-cohesion, as well as other parallelisms explored here, may be viewed as negative by a nonnative speaker/learner of Arabic, its purpose is cohesion and it is structurally semantically required for the purpose of referentiality and syntactic relationships.

2.3.2 Text Organization

A note here is in order; paragraphing and punctuation conventions in Arabic are different from Western ones. Paragraphs may or may not be topically or sub-topically independent. That is to say that, text organization, structure and flow do not adhere to principles governing Western prose and rhetoric in the respective the genres. Text organization may develop as has been described in Kaplan's seminal work in contrastive rhetoric in 1966 as zigzag. In this pattern the author would address the point return to it later within the course of the text several times. This pattern is overwhelmingly preferable in writing that seeks to persuade or ignite enthusiasm in the masses, as passion and emotions dominate in this context.

The synopsis outlined in 22 is for an article by Elyas Khori (1999) analyzing the (then) current events in the Middle East. Outlined following the Toulmin argument model (Lunsford, 2009), it is in MSA and it contains textual parallelisms. An educated Arab reader will have no difficulty in following the flow of the topic.

22. Title: [2]Mamlukization and Americanization (*Al-Kitaab*, 2001: 370-372)

A. Introduction

Claim: The world prepares to receive the 21st century by plunging back into the 19th century

Grounds:

- Current events: from the Balkans to Iraq, one empire launching unjustifiable, endless wars, reclaiming 19th century volatile territories, using human tragedies to justify an age of aerial wars;

[2] Mamluks describes aa medieval Muslim dynasty of slave warriors who ruled Egypt and Syria in 1250-1517. It was toppled by the Ottomans, who ruled most of the area for 4 centuries, until the turn of the 20th century.

- The Arab Region falls into 4 categories: 1) under direct occupation, 2) under mandate, 3) under air strikes, and 4) at the brink of constant civil war;
- The Balkans is a mix of all four: Serbia under attack, Kosovo suffering displacement, Macedonia under occupation, Montenegro staggering, and Bosnia in a truce of fear;
- At the turn of the 20^{th} century, industrial revolution afforded qualitative military, economic, and cultural superiority for the North over the South, without temporal separation between the opponents;

Warrant:

- The US inherits the European powers and vies to occupy volatile Ottoman territories;
- The US launches unjustifiable early 21^{st} century wars;

B. Body

Backing:

- The US Empire began its comprehensive expansionary war following the collapse of the USSR;
  - Was war necessary when the cold war was over?
  - Was the war in Iraq and Yugoslavia needed to draw the US borders?
  - Has the war become a psychological/media need?
  - Or was it to completely blockade Russia, ensuring its debility.
  - Franklin Roosevelt [sic]: "Americanizing the world is our nation's destiny and fate"
  - US POV, alleged moral justification for wars;
  - Arab POV: frustration at Western support for our dictatorships in the Arab Region;
  - Frustration for failure to: 1) build a coherent society; 2) confront the Israeli invasion which caused an incurable wound and a profound human tragedy;
  - Frustration at the use of moral justification by the US to drive the Arab Region back into the last (19th) century: to occupation, colonization, and mandate;
  - The chasm between the two perspectives is not insignificant: dialogue is completely lost;
  - The pilot speaks the post modernism language ; the (Arab) ground onlooker perceives self as a picture on the screen/monitor or victim in a lab;
  - (Qualifier): As if the world were split into two; one in the 21^{st} century, the other in the 19^{th} century: Iraq back to the Stone Age, sectarianism, and local oppressive militarism;

C. Conclusion

- Americanization leads to Mamllukization, not vice versa, for dialogue between the 21st century, where they live, and the 19th century, where we live, has become impossible;
  - Citing an interview with a displaced Kosovan refugee in Albania broadcast by a European satellite TV;
  - Comparison between the Palestinian and the Kosovan plights: genocide and displacement;
  - Europe's passive role, as blinded by failure and vengeance;
  - As a result, the world is drawn by the US airman with his/her indiscriminate missiles: a world divided into two zones with no dialogue except for blood, silence, and hate;
  - Quote from Yusef bin Maisra: "We decry the present and lament the past."

This article, among many others, shows that not all Arabic writing in MSA is repetitive and flows in zigzag-like pattern, that not all genres favor a particular style or patter, rather it is the author who adopts a certain style or pattern, and that writing styles or patterns are genre-dependent, as some styles lend themselves easily and are more appropriate to certain genres. In this article the goal is to analyze current events and put them in a historical and logical perspective. It follows the principles of argumentation, as it states a thesis/claim, provides support/grounds, warrant or assumptions that link the facts/support to the claim. It shows more structural parallelism than semantic parallelism. It is arranged into a claim and subclaims with backing up. Throughout the article, the author meticulously maintains an ongoing contrast of parallel two worlds: one living in the 19th century—the Arab World (i.e., living in the Mamluki era), the other in the 21st century—the USA, (i.e., the American Empire). It is organized into beginning (introduction), middle (body), and end (conclusion).

Moving on to CA, Ibn Khaldun in his "Introduction" follows a more rigid format in 23. This format is grounded in CA rhetoric.

23.

A. "In the name of God, Most Gracious, Most Merciful"

B. Introduction:

1. Self and History
2. The significance, purpose, and outline of the book

C. Body:

1. Introduction
2. Book 1: Social Structure/Sociology
3. Book 2: The Arabs
4. Book 3: The Berbers and their allies

D. Conclusion: the title and the scope of the book, apology for any shortcomings

(*Al-Kitaab*, 2001: 373-374)

As cited in *Al-Kitaab* (2001) the passage at the paragraph level shows little parallelism. However, within paragraphs and sentences parallelisms abound.

The following is an outline for an oral description of Aden City extracted from *Arabic Adeni Reader* (Feghali, 1990: 1).

24.

A. Introduction: an invitation to tour Aden City

B. Body:

1. Historical Aden
2. Historical background: Aden-Al-Maala

C. Conclusion: Aden has been well known since; next, the story of Aad

As in 23, in 24 parallelisms are discernible within paragraphs and sentences but not cross paragraphs. Intersentential and intrasentential Parallelisms have been treated in the previous sections. In the next section, I present some examples of Saja [sajʕ], a feature inherited from CA, which is in turn deeply rooted in the oral tradition. MSA has inherited this feature from CA.

2.3.3 Rhyming: assonance and resonance

Rhyming is a characteristic widely used in Classical and traditional Arabic poetry. In the case of Arabic, it has made its way to prose and hence writing styles in certain genres. It is discerned more frequently in writing that aims to persuade: sermons, speeches, political addresses and literary contests among other environments and contexts. Thus, using assonance creates resonance in the mind of the listener/reader. The effect is psychological:

internalization, memorability, quotability, all of which are conducive and appropriate for rote learning. Rote learning is writing/committing data to long term memory while the echoing effect retains the item in short term (working) memory, which may be related to emphasis via retention in active memory space (short term). However, it is less frequent in other genres, e.g. scientific, legislative, judiciary and technical styles of writing/genres, factual writing and scientific writing, so to speak. The following examples, 25-27, illustrate this point.

25.

a. لكنهم لا يعدمون بعض العقلاء والأسوياء (Huaidi, 1992: *Al-Kitaab*, 16).

alʔaswaiya<u>ʔ</u> w ʔalʕuqala<u>ʔ</u> baʕḍ yaʕdamuun la lakinahum

But amongst them there are those who are reasonable and normal.

b. مواجهة هذا الخطر لن تكون بال<u>هروب</u> أو ال<u>حروب</u>

alḥur<u>uub</u> ʔaw bilhur<u>uub</u> takuun lan ʔalxaṭar haaða muwajahat

Confronting this danger will not be by fleeing or war. (Shaheen, 1998: *Al-Kitaab*, 218)

c. ألتمس الطريق إلى مصادر أفراحهم وأحزانهم، اطمئنانهم

ʔaṭmiʔnaani<u>him</u> ʔaḥzaan<u>him</u> w ʔafraa<u>him</u> maṣaadir ʔila ʔaṭṭariiq ʔatalammas

قلقهم، طموحاتهم وإحباطاتهم، تفاؤلهم وتشاؤمهم،

tašaaʔumihim w tafaaʔuli<u>him</u> ʔiḥbaaṭaati<u>him</u> w ṭumuuḥaati<u>him</u> qalaqi<u>him w</u>

هدوئهم وغضبهم، بكلمة مختصرة (إذا أمكن الاختصار)

(ʔalʔixtiṣaar ʔamkan ʔiða(muxtaṣaratin bikalimatin ġaḍabihim w huduuʔihim

أسعى للتعرف إلى أحلامهم وكوابيسهم" (Barakat, 1992: *Al-kitaab*, 287).

kawaabiisihim w ʔaḥlaamihim ʔila littaʕʕarufi ʔasʕa

I grope for the way to their joy and grief, serenity and worry, ambitions and frustrations, optimisms and pessimisms, calmness and anger. In brief (if it is possible to be brief), I strive to identify their dreams and nightmares.

In 25a, the two underlined segments rhyme; likewise in 25b. In 25c, the underlined segments are possessive pronouns that supply the recurring rhyme, which is to say that the rhyme is syntactically and referentially imposed.

26.

a. و <u>هما</u> العرب والبربر* إذ <u>هما</u> ال<u>جيلان</u> اللذان عرف بالمغرب مأوا<u>هما</u> و

wa maʔwa<u>huma</u> bilmaġrib ʕarafa allaðaan <u>aljilaan huma</u> ið <u>albarbar</u> w <u>alʕarab huma</u> wa

طال فيه على الأحقاب مثوا<u>هما</u>* (Ibn Khaldun, *Al-Kitaab*: 2001, 373)

maθwa<u>huma alʔahqaab ʕala</u> fiih taal

They are the Arabs and the Berber, for they are the two generations, who established in Morocco their home and for centuries their abode.

In 26a. *huma* as dual subject pronoun is used twice and *–huma* the dual possessive pronoun is repeated twice. The dual suffix *–aan* appears twice for number agreement. All four instances of *–huma* and the two instances of *–aan* create a rhyming scheme.

b. فأما إذا أبيت فقد أ<u>ح</u>ببت الجلي على عدله بين ال<u>رعية</u>، وقسمه

qismihi w ʔarraʕʕ<u>iyati</u> bain ʕadlihi ʕala ʕallian ʔa<u>h</u>babtu faqad ʔabayt ʔiða faʔamma

بال<u>سوية</u> (Al-Hajoniya, *Al-Kitaab*: 2001, 338) bissawwiyati

But if you refuse, I loved Ali for his justice among subjects, and his fairness.

In 26b, the underlined parts -yati of the words ʔarraʕʕiyati and bissawwiyati rhyme and are parallel in weight (cvc.cvc.cv.cv.cv).

c. و قد كان هذا المذهبُ صار عندهم كالنسب الذي يجمع على التحاب

ʔattaḥaab ʕala yajmaʕu ʔallaði kannsabi ʕindahum ṣaara ʔalmaðhabu haða kaana qad wa

و كالحلف الذي يجمع على التناصُر (Al-Jahid: 2000, 28)

ʔattanaaṣur ʕala yajmaʕu ʔallaði kalḥilfu w

This doctrine had become to them a [form of] kinship which binds by love and an alliance that binds by mutual support.

In 26c, parallelism is in form and content: in form through measure (binyanin) and syntax and in content as both constructs denote a bonding of some sorts amongst a certain stingy people. Syntactically, the underlined phrases are both prepositional phrases, launched by the preposition -ك 'as'. The underlined constructs both contain a relative clause headed by the relative pronoun الذي 'which'. The prepositional phrase in which the relative clause is embedded is repeated in the second construct except for the last word. Even the two final words in the two prepositional phrases have similar weight and measure, measure 6 which is the reflexive-reciprocal/mutual of measure 3. Although they have a seemingly different weights; التناصُرْ ʔattanaaṣur (cvc.cv.cvv.cvc) 'support for each other' and ʔattaḥaab (cvc.cv.cvvc(c)) 'love for each other'. The last consonant in the latter is a geminate and degeminates when concatenated: e.g., تحابَبْنا taḥaababna (cv.cvv.cvc.cv) vs. تناصَرْنا tanaaṣarna (cv.cvv.cvc.cv).

Example 27 from AA shows similar parallelisms.

27.

a. بدون رحمة شفقة (Feghali, 1990, 167).

šafaqa wala raḥma biduun

Without mercy or pity . . .

b. بندخل الحوافي حافة حافة، و سكة سكة (Feghali, 1990, 1).

sikka sikka w ḥafa ḥaafa ʔalḥawafi banadxul

We will go through blocks (neighborhoods), block by block and street by street.

c. وتسع البوابير للرايحة و الواجية (Feghali, 1990, 1).

ʔalwagiya w ʔarrayiḥa ʔalbawabiir tusaʕ

[It] fits traffic in both directions, outbound and inbound.

There is rhyme in addition to reiteration (exact word repetition) in 26. Rhyme is in the sound of the phoneme /a/ in 27a written as ـة and realized (phonetically) as [a] in isolation. Aside from repetition, the weight of the respective words are parallel: in a رحمة [raḥma] (cvc.cv) 'mercy' and شفقة[šafaqa] (cv.cv.cv) 'pity', rhyme. In 27b, حافة [ḥaafa] (cvv.cv) 'block' and سكة[sikka] (cvc.cv) 'street', rhyme. In 27c, الرايحة [ʔarraayiḥa] (cvc.cvv.cv.cv) 'going' and الواجية[ʔalwaagiya] (cvc.cvv.cv.cv) oncoming, rhyme and have similar weight.

3. Conclusion

In this paper data from three Arabic varieties MSA (Modern Standard Arabic), CA (Classical Arabic), and AA (Adeni Arabic) have been presented to examine the extent of parallelism in Arabic and its purposes and motivation. Generally speaking, parallelism as defined here has been examined and throughout the linguistic levels: morphologically, lexically (section 2.1-4), syntactically (section 2.2), and textually (cohesion: 2.3.1; and textual organization: 2.3.2). Parallelism is in the fiber of Arabic, so to speak. It dates back to the oral tradition and the poetic style before the emergence of Arabic writing. Such characteristic has been passed down through generations over history. As the examples show, it is most discernable in CA, and more in AA than in MSA.

However, according to the examples in this paper, parallelism falls into two types: structural (formal) and Semantic (content). Structural parallelism is the recurrence of morphemes across words in a sentences or clause to satisfy some syntactic rule or requirement, for example, personal pronouns inflected on verbs and nous. Another motivation for it is the derivation a lexeme for a different part of speech from a root morpheme, *duplication*. The latter is linguistically economic and efficient for memory space and processing. Arabic morphology has a bountiful derivational system. For example, accessing the root entry of a lexeme (concept) and applying the necessary morphological, phonological, syntactic, and semantic-pragmatic rules saves (processing) effort, time and memory space than applying as multiple entries as needed for a similar construction.

As far as semantic parallelism is concerned, it is the recurrence of thoughts and concepts within the same sentence or across sentences. Most often, emphasis is the motivation for this type of parallelism. For some, it may be stylistic, a venue to showcasing linguistic skills and eloquence. Nonetheless, the goal is to impress into memory.

This begs the question: which of the manifestations of parallelism identified here are emphasis-oriented and which are not. Here is the break down. Morphological and lexical parallelism of duplication is purely structural: syntactically imposed or morphologically induced, as such emphasis is not the goal. Replication, reiteration and alternation are semantic or conceptual in most cases: intellectually and psychologically driven, thus emphasis and impression may be the goal. This is understandable especially that memory was the only chronicling media for data/information, as it was in the oral tradition prior to writing.

Semantic parallelism also involves cohesion (2.3.1) for reference. That is, cohesive parallelism aims to interconnect the text and enhance coherence. The same applies to text organization (2.3.2). As for rhyming (2.3.3), a property deeply grounded in the oral tradition, the motivation and purpose of it seems to be to impress to memory, which may be somewhat related to emphasis.

There remains the question whether this pattern of parallelism is negative. The answer is no, not necessarily. It is relative to the beholder's cultural rhetoric, i.e., it is a matter of perspective and background. If one views it form the perspective of a diametrically opposed cultural rhetoric, say American English rhetoric, then it may be negative; but if one views it from a cultural rhetoric similar or close to Arabic rhetoric, then it may not be so.

Pragmatically, parallelism in its different manifestations has the effect of foregrounding the respective part of the message. It creates a resonating effect in the mind of the listener/reader conceptually (meaning, thought) and or formally (structurally; rhythm, beat, meter, rhyme, assonance and resonance, etc.). Thus the purpose of such semantic or conceptual parallelism is strategic or tactical; it is not by any means pointless or purposeless. Therefore, it is used to convince, persuade or dissuade. Accordingly, it is crucial here not to generalize such parallelisms as the only or the dominating style of writing; for writing is genre/context/situation-specific and as such it adapts to the goal, purpose of writing and the topic addressed. If the goal is to persuade, in the general sense, and the topic is social, political, religious or cultural, history-related, then such parallelisms are more likely to occur. If the goal is to describe, serialize, argue, for example in the scientific, logical and philosophical sense, then such pattern of writing is less likely to be prominent.

3.1 Implications for Teaching/Learning AFL/ASL

This work provides a relatively comprehensive structural and rhetorical account of Arabic through three varieties: MSA, CA, and AA. Structurally, like many other languages, Arabic morphology is very resourceful: the derivational system is bountiful. There are structural, particularly morphological parallelisms that may seem lexically repetitive. ASL/AFL learners should be alerted to parallelism where applicable and appropriate. Teachers should inform their students:

- that Arabic is a Semitic language that is relatively rooted in the oral tradition;
- that modern varieties of Arabic including MSA evince oral tradition values such as parallelism;
- that parallelisms abound certain styles of writing, which are residual from the oral tradition and Classical Arabic;
- that the purpose is rhetorical, and that there are other styles that show less parallelism or lack thereof;
- that such parallelisms are more obvious and common in certain styles that aim to persuade and advocate, but not as common, even absent in other styles such as the scientific, technical, logical, syllogistic, and factual writing and reporting.
- to appreciate it as is, adapt to it and adopt it as a mode in order to understand the Arabic culture and language better;
- that what may seem to them as redundancy may not be so to native speakers for the matter is one of perspective and is culturally-specific;
- not to scoff at Arabic parallelisms as that may undermine any intrinsic motivation they might have to learn Arabic; and
- not to impose their own rhetorical patterns on Arabic and expect Arabic to behave like their own language.

Bearing in mind such awareness, the students will seldom find themselves lost or perplexed when they approach a cross-cultural rhetorical clash zone. This awareness will facilitate their understanding of the language with its parallelisms and the discourse conventions pertinent to Arabic. They will be able to tease apart the topic, the topic statement, the support material, and the argument from their surroundings and context.

Moreover, having this awareness in perspective will help the students earlier on in their learning process. Such awareness may increase comprehension, listening and reading, since there is semantic commonality and interchangeability in most cases, which give more room for guessing and inferencing. By the same token, it will save students the time to look each lexeme (word) up in the dictionary. Above all, students gain an Arabic perspective in addition to their native language perspective on rhetoric and language. My recommendation is that this awareness if conveyed early on in the process of learning Arabic the students/learners are forewarned and not taken by surprise. It should be emphasized here that learners need only be made aware of, not be taught, parallelisms. They should not plunge into the language with expectations dictated by the cultural rhetoric of their mother tongue.

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The Effectiveness Symbolic Technique In Speed Reading Arabic-Malay Writing

Tety Kurmalasari1
UMRAH Tanjungpinang (Phd Student Curiculum and Teaching, Faculty of Education UTM)

Abdul Rahim Hamdan2
Lecturer in Curriculum and Teaching, Faculty of Education, University TeknologyMalaysia
p-rahim@utm.my

Abstract

This study aimed the process of learning to read quickly Student Class V Elementary School 001 Bulang, Batam, Indonesia. This research was pre experimental research using design pre-test and post-test group, samples involved in this study were 36 student. The technique used to collect data in this study is the test pre and post. The pretest was done after learning by symbolic technique. Learning was done for 4 weeks with 80 minutes for each learning session. Training activities was done about 40 minutes during each learning lesson. The result show the student that are able to quick-speed read are the enough which is 118.125 word per minute with reading comprehension content of 62.5% (0.65.5) in the pretest. In the post test, student's reading speed increased to 179.20 words per minute with reading comprehension content of 73.3% (0.733). Effective speed reading (CAMP) on both tests are classified well at 111.633 words per minute on the pre-test and 179.05 words per minute on the post-test.

1. Introduction

Reading proficiency is one of four language proficiency i.e. listening, speaking, reading, and writing. The fourth aspect is very concerned and very important, so is reading is important in public life forward and civilized (1; 2; 3; 4; 5). The ability to read is one of the requirements for dissemination of information and the message the message conveyed through the medium of words/writing (6) language that reads not only Indonesia, but could have been presented in a variety of forms of writing using a variety of languages, such as language that uses Arabic writing of Malay and can only be obtained through reading. Understand that reads Malay Arabic reading isn't as easy as we might imagine because Malay Arabic writing is written using Arabic letters (7). Indeed very sharp, precision is needed, and understanding, when one does not have the capability of reading Malay Arabic writing, then she will experience obstacles to understanding a hint or a written announcement.

Malay Arabic writing is one of the cultural treasures of the community especially for high-value Malay Riau Islands. There are many books written and published in the field of Islamic education and works in other fields. Like Gurindam Dua Belas by Raja Ali Haji. "If you want to get to know the people, see the mind and language". This paper succeeded in forming the concept of nation Malay as a nation that has its own identity (8). In general students lately, has an interest read less of a Malay Arabic writing.

Someone less skilled reading cause he is reluctant to read. This situation is more severe if left will be continuous and must be trained early on, then it is not impossible if the Malay Arabic writing will only stay a history that will be forgotten by younger generations to come. Whereas this writing system has been a major transportation containers communities around the archipelago (9).

Arabic writing of Malay formally taught of the III degrees to degrees VI. The subjects received the 80 minutes for the purpose (10). So that needs to be done quickly to cope with steps that students who lack reading skills is to find an appropriate and efficient techniques. With the development of the educational world today, lots of new techniques that are more innovative, one of them with symbolic techniques

The ability to read is to say the words of the text and understand the meaning of those words as intended by its author.(11; 12) . According to Listiyanto speed reading including activities involving the working of the brain and the motion eye (13).Reading is a process of thinking in information processing (14). In line with the opinion of the Matlin defines the reading as a work activity involving a number of cognitive, including recognition and perception (15). Reading is a cognitive process of translating written symbols.

Reading has three basic components, namely the recording, encoding, and giving meanings (14). The process of understanding the meaning of the process of reading that emphasizes with comprehension content. The intention is in this sense comprehension cognitive processes to be able to understand the content of the readings in the not too long. Therefore, to obtain the meaning of the text can be done with speed reading. By Fitria, speed reading does not mean the origin of speed reading course, so after you finished reading no one remembered and understood (16). The two main things that should be identified in the speed reading is the level of understanding of the contents and percentage of speed reading at less students master contents readings as much as 70%

Speed reading will be improved with the use of symbolic techniques. Symbolic technique is one of the techniques developed by (17). In teaching reading symbolic techniques is indispensable to facilitate students remember the letter symbols? According to Lorayne and Lucas": "we can remember something knowledge if he has something to do with something existing knowledge related to something we already know or remember." (18) Symbolic technique is a technique that can maximise the power of recollection, by taking the first letters should re-establish the word or sentence and linking with existing experience and knowledge in understanding and comprehension vocabulary words introduction on primary school students.

In addition, the read speed is not controlled with immediately, but it is not a difficult as long as we know the technique how a quick way to remember. Ian Hunter says:
'The mastery of some simple mnemonic system may lead some people to realize, for the first time, that they can control and modify their own mental activities. And this realization may encourage them undertake that self-critical experimentation with their own learning and remembering procedures which is such an important part of intelectual development (p. 302)

This symbolic techniques in line with the work of the brain to process information or ideas that are accepted by the eye through visual imagery, graphics and colors. He can deliver the images to the brain and the brain interpret against what is seen by the eyes became a symbol.

This needs to be done so that students can master these techniques to improve memory when reading the paper continuously,

2. Methods

This research was Pre-Experimental Design using design pre-test and post-test group. Experiment done to 36 students of class V primary school 001 Bulang, Batam. The experiment was carried out for 4 weeks with 80 minutes learning sessions each time. During the experiments, students got the learning Malay Arabic writing reading with symbolic techniques and workout activities for 40 minutes in each learning session. Training activities focused on ways of improving reading speed with symbolic techniques are accompanied by reading comprehension content.

Exams are given twice the pre test and post test. Implemented pre-test at the beginning of the meeting, after carrying out 4 times learning implemented the test post-test. The test aims to measure speed and reading comprehension content.

As for the design are as follows:

$$\boxed{O_1 \longrightarrow X \longrightarrow O_2} \quad (19)$$

Description:

O1: Pre-test is performed before the application of symbolic techniques
X: application of symbolic techniques
O2: Post-test is performed after the application of symbolic techniques

Speed reading students tested with text reading. Then given the ten reserved objective according to the text read. If the answer to question objectively true then obtain the value 1, and if a wrong answer is given a value of 0.

Speed measurement using the formula:

$$KPM = \frac{\text{Number of words read}}{\text{The number of seconds in reading}} \times 60$$

KPM = words per minutes

In addition, for reading comprehension content (PI), use the formula:

$$PI = \frac{\text{The number of correct answers}}{\text{The number of ideal answers}} \times 100\%$$

To measure effective speed reading (CAMP), which is the combined speed of reading words per minute with reading comprehension content used formula:

$$KEM = \frac{KB}{JD: 60} \times \frac{PI}{100}$$

KEM = Effective Speed Reading
KB = the number of words in the readings (text)
JD = the number of minutes used in reading
PI = Score reading comprehension content

3. Results

Based on a quick reading exam results are given to pupils obtained results are as follows.

Speed Reading

Exam results first (pre-test) showed rapid reading skills of pupils is enough category, i.e. 118.125 word per minute. In the first test of time spent on reading 300 words is 1 minutes 14 time (1 ' 14 "), while on the test post time spent 1 minute 08 time (1 ' 08") with reading speed as much as 179.20 word per minute. The results of both the tests described in Table 1.

Table 1: results of tests Pre and Post

Numbers (N)	Nnumber of words	Mean time	Word per minute	Categories
36	300	1 ' 14 "	118.125	Enough
36	300	1 ' 08 "	179.200	Well

Table 1 shows the results of tests pre and post class V students reading speed SDN 001 Bulang, Batam, Indonesia. On the pre test can be seen that the reading skills as much as 118.125 word per minute To read as many as 300 words, the pupil takes an average of 14 minutes for 1 time (1 ' 14 "). With a time of 1 ' 14 "and reading speed 118.125 word per minute, the read speed is classified category (< 200 word per minute). On the test post reading speed as much as 179.20 word per minute and to read 300 words, the student takes 1 minutes 08 time (1 ' 08 "). The acquisition puts students on the word per minute 179.20 category well (< 201word per minute). Table 1 shows the read speed difference also students. The contrast of picture presented in table 2.

Table 2: rate of speed reading students

Number (N)	Number Of Words	Word Per Minutes	Mean	Std. Deviation	Significantly
36	300	118.125	1.1381	0.21933	0 .000
36	300	179.200	1.0767	0.22091	

Table 2 shows the contrast ratio of the read speed (mean) test of pre and post test. Reading speed ratio of students on the examinations exam and at 1.1381 pre post 1.0767.This distinction significant categorized (0.00 < 0.05). This means that the speed test on the student post higher or faster on the pre test by 0.614 moments.

Reading Comprehension Content

Reading comprehension content described in table 3. Pre test results show ranked reading comprehension content students during the speed reading as much as 62.5% (0.625). Post test results shows higher results, i.e. 73,3% (0.733). The contrast ratio, viz. reading comprehension content 6.2500 than 7.3333 and have difference 10833. This distinction significant (. 000 <. 005).

Table 3. The level of student reading comprehension content

Number (N)	Reading Comprehension Content	Mean	Std. Deviation	Significantly
36	62.5%	6.2500	0.99642	0.000
36	73.3%	7.3333	0.92582	

Effective Speed Reading (CAMP)

Effective speed reading (CAMP) not the same as reading speed because the results have been combined with kefahaman contents (PI). Based on the results of pre-and post test it can be seen that the ratio between reading comprehension content both different types of reading. Description of the distinction results , pre and post test described in table 4 as follows:

Table 4 the effective Speed reading students

Number (N)	Number Of Words	Mean	Reading Comprehension	Content CAMP	Categories
36	300	1 ' 14 "	62.5%	111.63	medium
36	300	1 ' 08 "	73.3%	179.05	good

Table 4 shows the effective speed reading (CAMP) students in the pre and post test. On the pre test, students are only able to read effective as much as 111.63 word per minute and spend time 1' 14 "and reached 62.5% reading comprehension content, this means the score obtained on the pre test categorized is because it is under the 200kpm (200 < word per minute). Test post exposing the CAMPS of student 179.05 word with time spent 1 ' 08 " and reached 73.3% reading comprehension content. This means an increase in, both in the use of time, and CAMP reading comprehension content. But this change improved the final category of the CAMP which was good because it was under the 201 word per minute (< 201word per minute) and a simple reading comprehension content

4. Discussions

Speed Reading

Based on the acquired research, speed reading students are classified into the category of being i.e. 118.125 on pre test. According to Asep Sadikin, et al , the score for elementary school students, categorized are (100-159-being). However, the read speed on the test post increased to 179.20. The read speed on a score of 151-200 words per minute is good. There are several factors that affect the reading of which is the ability of the eyes, ears, and brain(20), the ability of visual information (letters) and non visual information (knowledge) (1), and the vocabulary or vocabulary (21). Besides the use of methods, techniques or strategies (22)

Reading Comprehension Content

The acquired research shows pupils reading comprehension ranked 73.3% after learning with symbolic techniques. Reading comprehension content this stage according to Listiyanto are classified as simple. (13) According to Nik Rosiliah acquired a mastery study Malay Arabic writing secondary school in Shah Alam and Kualu Lumpur, Malaysia shows that there is a significant relationship between mastery of Malay Arabic writing and the attainment of students in Islamic education. (23) In addition, the results of the study of reading comprehension of Malay Arabic writing in Indonesia by Riky Amanda, and his friends demonstrate the ability of reading comprehension of discourse of Arab and Malay student education courses language and literature and Pedagogy of the University of Indonesia Riau with low average 58,29 category.(24) In General, the integration of both proficiency in reading and learning in schools of reading is important (25)

Effective Speed Reading

Based on the acquired study (test post) is the effective Speed Reading score obtained (CAMP) as much as 179.05 word per minute. This score is classified as well. According to Hardjasujana , based on the results of studies the expert reading in the Americas, adequate speed for final ranking students of the primary school of approximately 200 word per minute, Ranking students Junior High school between 200-250 word per minute, students rank high school between 250-325 per minute, and ranks the University between 325-400 car loans with minimum reading comprehension content 70%. Thus the effective Speed Reading (CAMP) each rating, the rating Primary School = 200 x 70% = 140 word per minute, Junior High School = 200 x 70% up to 250 x 70% = 140-147 word per minute, rating High School 250 x 70% = up to 350 x 70% = 175-245 word per minute, and ranks the University of 350 x 70% up to 400 x 70% = 245-280 word per minute (26).

Furthermore, according to Soedarso, reading Activities carried out jointly by the eyes and the brain. (27). In order for the brain to quickly absorb by using font symbols via the connection between what is seen with the visual eye. The inability of the mind absorb quickly without any information. To get the speed and efficiency of reading can be achieved with speed reading exercises with symbolic techniques

5. Conclusion

Based on the acquired research and discussion, it can be concluded that the present increase in the speed of reading pupils than the pre- test and post- test , i.e. instead of 118.125 word per minute became 179.20 word per minute in addition, reading comprehension content are classified good, which is 73.3%. However, effective speed reading (CAMP) classified as good, i.e. 179.05 word per minute . Thus, a symbolic technique in speed reading can improve the speed of reading and ability of pupils significantly, and may increase effective speed reading (CAMP)

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Chinese Principal Perceptions on the American School Leadership Standards: The Disparity among Leadership Dimensions

Mingchu Luo
Assistant Professor
Emporia State University
Campus Box 37, 1 Kellogg Circle, Emporia, KS 66801
mluo@emporia.edu
620-341-5835

Paul Bland
Professor
Emporia State University
Campus Box 37, 1 Kellogg Circle, Emporia, KS 66801
pbland@emporia.edu
620-341-5078

Edwin Church
Professor
Emporia State University
Campus Box 37, 1 Kellogg Circle, Emporia, KS 66801
echurch@emporia.edu
620-341-5742

Caitlin Burk
Graduate Assistant
Emporia State University
Campus Box 37, 1 Kellogg Circle, Emporia, KS 66801
cburk@g.emporia.edu
620-341-5078

Abstract

The purpose of this study was to examine the perceptions of Chinese school principals on the importance of American Educational Leadership Program Standards. Seventy three principals from a county in Guangdong, China completed the Principal Leadership Standards Questionnaire. The results of the study revealed that the Chinese principals perceived the majority of American leadership standards to be either important or very important in school administration. Perception differences among the leadership dimensions were significant. The principal leadership standards in the management of school organization and school instruction were perceived to be significantly more important than the leadership dimensions of school vision and collaborative partnership. The results of the study contribute to the development of school leadership training programs in China. Recommendations were made in using the framework of American leadership standards in China for the development and re-development of university programs and professional trainings in school leadership.

Keywords: principal, importance, leadership program standards, leadership dimension

Introduction

Leadership in schools significantly impacts the quality and effectiveness of education. School leadership has important effects in promoting the learning and enhancing the achievement of students in the school setting (Leithwood & Jantzi, 2008). Principal leadership in schools has the core functions of providing direction for school success and exercising influence on teachers and students for school improvement. Effective school leaders develop visions that embody the best thinking about teaching and learning, enable the school to function as a professional learning community to support and sustain the performance of teachers and students, and respond productively to challenges and opportunities created by the accountability-oriented policy context (Leithwood & Riehl, 2003).

Fullen (2014) advocates for a balance of the role of the principal, one that consists of the principal as the leading learner, a system player, and an agent of change. He systematically demonstrates that the principal's role should change in order to meet the needs of challenging the status quo and fulfilling the commitment of continuous improvement. In order to improve and maintain standards of excellence, school leadership programs that produce future school leaders must be continually reviewed and evaluated. Based upon the results of previous studies and research, the Education Leadership Constituent Council (ELCC) in the United States has developed and re-developed school leadership program standards (2011), which are adopted by the Council for the Accreditation of Educator Preparation (CAEP). The CAEP (2011) school leadership standards encapsulate principal leadership into six paradigms: school vision, school instruction, school organization, collaborative partnerships, moral perspective, and larger-context politics. These dimensions are used in school leadership programs and also as the foundation for professional development in established administrators. The standards also work as guidelines for the CAEP, which accredits the advanced programs of educational leadership in the United States.

Similarly in China, the government has issued and revised qualifications and criteria for principals. Although these individuals must be first-class or senior teachers before entering an educational administrative role, they must also be willing and able to provide services in the realms of moral, political, and ideological education (Finnish Board of Education, 2012). While political party and experience heavily influence selection process for principals, there is a lack of emphasis or acknowledgement of school leadership skillsets. In many Chinese schools, other administrative positions take up educational leadership roles while the principal primarily maintains the status quo as an overseer rather than necessarily a leader (Lee & Pang, 2011). To counteract any lack of school leadership abilities of candidates, the Ministry of Education in China established the Chinese Education Revitalization Plan, emphasizing the importance of school leadership training and focusing on the integration of this training through continuing education (Li, 2007).

Despite the requirements of continual training, no comprehensive theory of educational leadership has been accepted in China. With this in mind, educational systems in their country are investigating the suggestion of a reform in the role of principal with emphasis on training and leadership programs similar to the educational system established in the United States. This exchange of ideology and practices could create a more universally accepted educational leadership theory, which emphasizes independent thought and embracing greater responsibilities in educational administration (Yang & Frick, 2007).

Although the CAEP (2011) standards work well with the American education system, the possibility of integrating these standards in other countries of the world may prove to be a challenge. Despite the global trend of education development, every country has its own educational philosophy, unique purposes and pedagogical goals impacted by its distinctive culture, which may not fall in line with the standards established by the United States. For example, in Asian-Pacific countries such as China, Japan, and Korea, the cultures find the Confucian model of education more applicable and effective (Marginson, 2011a). The Confucian model rests on the following interdependent elements in strong nation-state shaping of structures and funding, universal tertiary participation, focus on family commitments to education, and accelerated public investment. These elements enable the systems to move forward rapidly on education (Marginson, 2011b). Although over the past century, it has not been rare for China to learn and adopt educational models from the United States, the different regions or provinces of China have the power to resist the global universal forms of education models or standards by adopting what they need and/or changing the global flow of ideas about education within their local contexts (Spring, 2009). Therefore, if the CAEP standards are to be implemented in China, the Chinese education leaders must see that the CAEP standards meet the needs of the local contextual setting that they will be implemented in regard to school leadership education. Considerations would also have to be made to insure the Chinese were provided evidence that the CAEP standards were supported by research that insured alignment with the priorities and focuses of China and its cultures.

The purpose of this study is to examine the perceptions of Chinese school principals on the importance of American school leadership program standards and to determine if there are any differences in the importance of American school leadership standards as perceived by Chinese principals among the school leadership dimensions. The aim is to use the results to gauge the appropriateness in recommending the use of ELCC (2011) leadership program standards as a policy or design framework and also form an opinion on the development and re-development of university programs and professional trainings in school leadership.

Method

Design and Instrument

This study used a cross-sectional survey research to investigate the Chinese principals' perceptions on the importance of American school leadership program standards. The research is quantitative with the combination of descriptive and explanatory nature.

Principal Leadership Standards Questionnaire (PLSQ). PLSQ was developed to measure Chinese principals' perceptions on the importance of American leadership standards based on the framework of the Building Level Educational Leadership Program Standards by the Educational Leadership Constituent Council (ELCC, 2011). The ELCC standards are also adopted by the Council for the Accreditation of Educator Preparation (CAEP) standards. The PLSQ used a five-point Likert scale for principals to rate the importance of American leadership standards by indicating their level of assessment on each of the PLSQ items with 1 representing "no or little important", 2 representing "somewhat important", 3 representing "moderate important", 4 representing "important", and 5 representing "very important". The PLSQ was also composed of items designed to collect demographic information such as teachers' gender, age, and years of leadership experiences, principals' gender, age, and years of leadership experiences, and school location.

Content validity. The initial PLSQ items were created by the researchers using the framework of ELCC (2011) building level standards. The PLSQ included items of the six standards of leadership in school vision, school instruction, school organization, collaborative partnerships, moral perspective and larger-context politics. Items of the PLSQ were developed and translated into Chinese with emphasis placed on being suitable in the context of Chinese school administration. Therefore, the PLSQ items provide a representative sampling of the dispositions, skills and knowledge deemed necessary for Chinese principals from the lens of American standards.

In order to have the PLSQ better reflect the Chinese school administration context, a panel of two Chinese professors and two Chinese principals were asked to review all the items of the translated questionnaire. The professors worked at Guangzhou, the capital city of Guangdong Province, who had enriched expertise and experience in principal leadership. The two principals served in the county where the PLSQ was administered. Based on their inputs, items were reworded so that the items would be applicable to principals in a variety of backgrounds and locations. The revised PLSQ were distributed to 26 principals at different levels in April 2012 as a pilot test. Based on the results of the pilot test and the teachers' comments about the questionnaire, six items were reworded and three items were discarded, resulting in a 32-item questionnaire for principals to perceive the importance of the American leadership standards.

The validity of PLSQ was also assessed with factor analysis on the 83 completed surveys by using PASW (SPSS) Statistics 18. Principal components analysis was conducted utilizing a varimax rotation. The initial factor analysis and the corresponding scree plot indicated that a four-construct solution fitted the data. The four constructs accounted for 60.45% of the variance in the PLSQ items.

Construct 1 included six items with positive loadings, which covered the items in the leadership dimension of school vision (ELCC Standard 1, 2011). Construct 2 included eight items with positive loadings, which covered the items in the leadership dimension of school instruction (ELCC Standard 2). Construct 3 included seven items in positive loadings, which covered the items in the leadership dimensions of school organizational operation and moral perspective (ELCC Standard 3 and 4). Construct 4 included seven items with positive loadings, which covered the items in the leadership dimension of community collaborative partnerships (ELCC Standard 5). Four items with negative loadings were eliminated from the PLSQ. Therefore, the final PLSQ version for analyses was a 28-item instrument (see Table 2).

Reliability. Reliability analyses were conducted by using Cronbach's alphas on each of the four constructs of the PLSQ. The reliability coefficients of Cronbach alphas for the PLSQ's four dimensions in (a) school vision, (b) school instruction, (c) school organizational operation and moral perspective, and (d) community collaborative partnerships were .74, .81, .70, and .77, respectively. The results of Cronbach's alphas confirm the high reliability of all the constructs.

Participants and Data Collection Procedure

Participants of this survey study were the principals in a rural-based county from Guangdong Province. Guangdong is one of the densely populated provinces and one of the leading provinces in economic development in China. They were serving as principals at different levels of schools including elementary, middle and high schools in the whole county. Therefore, the participants provided a good sample of principals representing different school grade levels.

The PLSQ was administered to the 83 principals from the same county who participated in a curriculum professional training program at the county-level Educational Administration Bureau in June 2012. The surveys were distributed to different groups of principals by their group leaders at the end of the training. A cover letter was attached to each survey. It briefly explained the purpose of the survey and indicated that participants would take the survey voluntarily and anonymously. Individual survey results would not be disclosed. The principals from different levels of schools were asked to assess their perceptions on the American school leadership program standards. The surveys were returned to the group leaders after the principals completed them. Of the 75 returned surveys, 73 (97%) contained the necessary information to be used in the study (i.e., valid responses, missing no more than 3 survey items), providing a return rate of 84% of all the principal population of the county.

Table 1 presents the description of the 73 principals and their high schools' demographic and other information (due to the missing data, the totals in some of the demographic items did not add up to 73). The majority of the high school principal respondents were male (92.1%), reflecting the fact that the principals population in the county is predominantly male. There were more principals in the age group of 40 to 50 (52.1%). Respondents with associate degrees were 42.9%, with bachelor's degrees were 47.1%, whereas only 4.3% of the respondents received master's degrees. More than half of the respondents had been holding the principal position for the range of five to fifteen years while 30.6% of the respondents were novice principals (less than 5 years). A majority (73.3%) of the schools that the principals worked for were large-sized (more than 1000 students).

Table 1
Demographic Information of the Survey Respondents and their Schools

		Frequency	*Percent of Total*
Gender (n =73)			
	Male	67	92.1%
	Female	6	7.9%
Age (n =71)			
	Under 30	4	5.6%
	30-40	13	18.3%
	40-50	37	52.1%
	More than 50	17	23.9%
Educational Attainment (n = 70)			
	Vocational Degree	4	5.7%
	Associate Degree	30	42.9%
	Bachelor Degree	33	47.1%
	Master's degree	3	4.3%
Length of Total School Administrative Experience (*n* = 60)			
	Less than 1 to 5 years	22	36.7%
	More than 5 to 10 years	21	35.0%
	More than 10 to 15 years	11	18.3%
	More than 15 years	6	10.0%
Length of Holding the Principal Position at Current School (n = 62)			
	Less than 5 years	19	30.6%
	More than 5 to 10 years	21	33.9%
	More than 10-15 years	16	25.8%
	More than 15 years	6	9.7%
School Size (Enrollment) (*n* = 71)			
	500 or less	6	8.5%
	More than 500 to 1000	13	18.3%
	More than 1000 to 2000	34	47.9%
	More than 2000 to 3000	18	25.4%

Data Analysis

Data were analyzed using the PASW 18 software. Mean scores and standard deviations for each of the 28 PLSQ items and the four subscales were calculated to investigate the Chinese principals' perceptions on the importance of the ELCC (2011) Building Level Standards. One-way repeated-measures analysis of variance (ANOVA) was utilized to determine if there are significant differences in Chinese principals' perceptions on the importance across the four leadership dimensions. The alpha level of .05 was used for the ANOVA test for the determination of significant differences. For the follow-up tests of ANOVA, the alpha level of .008 (.05/6) was applied in order to decrease the Type I errors.

Results

Table 2 presents the descriptive statistics of overall mean scores and standard deviations for each of the four leadership constructs in (a) school vision, (b) school instruction, (c) school organizational operation and moral perspective, and (d) community collaborative partnerships. Means and standard deviations of the 28 individual items are provided in Table 2. The items of each construct were ranked in an order from the highest to the lowest mean for the purpose of understanding the extent of differences of principals' perceptions of the importance on American leadership standards among the individual items.

The overall mean scores revealed that school principals perceived the American leadership standards to be either moderately important or important among the four leadership constructs. The highest overall mean score among these four constructs was the leadership dimension of school organizational operation and moral perspective (M = 3.81, SD = 0.65). The importance level of principals' perception in the leadership dimension of school instruction was also relatively high (M = 3.69, SD = 0.67). The overall mean scores of the principals' importance perception in the leadership dimension of community collaborative partnerships were in third place (M = 3.45, SD = 0.64). In comparison to the above three dimensions, the importance of the American leadership standards in school vision (M = 3.38, SD = 0.73) was perceived to be the lowest level.

Mauchly's test in the one-way repeated-measures ANOVA indicated that the assumption of sphericity had been met ($\chi^2(5) = 4.812$, $p = .439$), therefore statistics related to the sphericity assumed were used for analyses. ANOVA yielded results of significant difference among the mean scores on the four leadership constructs ($F(3, 216) = 25.163$, $p < .001$, $\omega^2 = .22$). Follow-up paired t-tests for the six pairs of differences in the four leadership constructs evaluated at the p-value of 0.05/6 or 0.008 level using Bonferroni procedure indicated that only two pairs, school vision versus community collaborative partnerships (p = .923) and school instruction versus school organizational operation and moral perspective (p = .101) were non-significant. Chinese principals perceived the school vision leadership standards to be significantly less important than school instruction standards ($t(72) = -5.411$, $p < .001$, $r = .54$), and school organizational operation and moral perspective ($t(72) = -7.552$, $p < .001$, $r = .66$). Similarly, Chinese principals rated the leadership standards of community collaborative partnerships to be significantly less important than school instruction standards ($t(72) = 4.216$, $p < .001$, $r = .45$), and school organizational operation and moral perspective standards ($t(72) = 6.070$, $p < .001$, $r = .58$). The effect sizes (r) of the differences in these paired comparisons are all at the medium and large levels, which indicates the actual existence of the practical differences between these different dimensions.

Table 2

Means and Standard Deviations of the P3DMI Constructs and Individual Items

Item No.	*Item*	*Cronbach's*	*M*	*SD*
School Vision	*Leadership*	*.74*	*3.38*	*0.73*
1.	To collaboratively develop a shared vision of learning for school;	4.18	1.03	
2.	To identify organizational practices that promote sustainable school improvement;		3.58	1.18
3.	To involve school stakeholders in the visioning process;		3.23	1.14
4.	To evaluate school progress for implementing the vision;	3.34	1.04	
5.	To identify possible problems in vision implementation.		3.21	1.09
6.	To create evidence-centered strategies (plans) to achieve school goals;		2.70	1.11
School Instructional Leadership		*.81*	*3.69*	*0.67*
7.	To use multiple measures in assessing student outcomes for school improvement;		4.02	1.01
8.	To evaluate the instructional capacity of the school staff;		3.92	0.92
9.	To sustain a culture conducive to student success of learning;		3.85	0.94
10.	To collaborate with faculty to improve a coordinated curriculum;		3.65	1.07
11.	To design professional growth plans to increase the capacity of school staff;		3.60	1.06
12.	To work collaboratively with school staff to improve teaching and learning;		3.56	1.01
13.	To use research-based evidences in making instructional decisions.		3.55	0.97
14.	To use evaluation evidences to monitor learning programs;		3.35	1.21
School Organizational Leadership		*.70*	*3.81*	*0.65*
15.	To develop strategies supporting safe and secure learning environments;	4.33	0.94	
16.	To ensure effective management to achieve high quality instruction.		4.30	0.72
17.	To promote an environment for improved student achievement;		3.89	1.03
18.	To insure that staff members are treated fairly;		3.66	1.31
19.	To assign human resources in ways that promote student achievement;	3.53	1.18	
20.	To develop school operational policies that promote success for all students;		3.50	1.12
21.	To monitor school organizational processes and operations;		3.44	1.20

(Table 2 continued)

Means and Standard Deviations of the P3DMI Constructs and Individual Items

Item No.	*Item*	*Cronbach's*	*M*	*SD*
School Community Collaborative Partnership Leadership		*.77*	*3.45*	*0.64*
22.	To gauge the effectiveness of collaborative relationships with the community;		3.80	0.99
23.	To generate approaches with school stakeholders that reflect their concern;		3.62	1.00
24.	To develop effective communication plans with the community;	3.55	0.94	
25.	To measure the effectiveness of outreach to the community.		3.52	0.88
26.	To involve community partners in the decision-making processes at the school;		3.47	1.11
27.	To develop effective relationships with a variety of community Partners;	3.31	1.17	
28.	To use diverse community resources to improve school programs;		3.11	1.08

Discussions

The self-reported responses reveal an overall picture of the Chinese principals' perception on the American school leadership standards. The results of this study indicate that the Chinese school principals generally perceive the American school leadership program standards for building level (ELCC, 2011) to be important in their position as the key school administrator. The level of importance of (a) school instruction, and (b) school organizational operation and moral perspective perceived by school administrators transcended the following two constructs of school leadership in (a) school vision, and (b) community collaborative partnerships from "very important" or "important" to "moderately important". These results seem to be consistent with the assumptions imbedded with the ELCC building-level leadership preparation standards. The findings reflect that the shared central responsibility of school leadership between China and USA is to improve student achievement through effective instruction while importance of managing the "business" of school is also very well understood and accepted (ELCC). The findings tend to support the notion that Chinese school leaders perceive a coexistence of Chinese and American leadership and management values. Chinese school leaders can be affected by both Chinese and Western values and practices in school leadership and management. The differences between Chinese and Western school management practices should not be over-stressed (Law, 2010).

National standards for leadership preparation program provide a framework for the important knowledge and skills building the foundations of professional identities. The ELCC (2011) standards are research-based, widely used standards for advanced programs in educational leadership. They are designed to serve as broad national policy for any leadership preparation programs intended to train school administrators including principals, assistant principals, supervisors, curriculum and instruction leaders, teacher leaders, school business officials and special education directors in the US (The National Policy Board for Educational Administration, 2012). Based upon the results of the importance of the ELCC standards perceived by the Chinese principals in this study, it is recommended that the ELCC standards be used as the policy framework to guide the various preparation and training programs for school leaders in China.

This study found the relatively low level of perceived importance in the leadership dimensions of school vision and community collaborative partnerships, which also are perceived significantly less important than the leadership dimensions of school instruction and school organizational operation. These might suggest the impact of national cultures and political systems on school leadership and management that is different from that in the western countries (Law, 2012). Governance systems differ considerably in terms of centralization and decentralization of school administration between China and the United States. Strictly centralized systems in school administration can be found in China and while the Anglo-American system is fundamentally decentralized (Finnish National Board of Education, 2012). The hierarchical and strictly regulated leadership structure in Chinese schools can possibly impact the relatively low perceived importance in principals' development of school visions. The overemphasis on the principal's role of instructional leader and accountability of student learning outcomes in China can possibly lead the principals' low perception in the importance of community collaborative partnerships.

The importance of shared school vision, mission and goals has been demonstrated in numerous studies in school effectiveness and improvement (e.g., Hallinger & Murphy, 1986; Kurland, Peretz, & Hertz-Lazarowitz, 2010; Leithwood & Jantzi, 2000). Building level leaders must have knowledge of strategies to collaborate with faculty and community members and understand the diverse community interests and needs (Barnyak & McNelly, 2009; Epstein & Sanders, 2006, Halverson, 2010).

Lee and Pang (2011) insist that principals managing and leading a school in China need to focus on establishing and maintaining appropriate relationships with external authorities and internal staff. The findings of this study in the low level of importance perceived by the Chinese principals in school vision and community collaborative partnerships do not seem to be consistent with the results of the previous research. These might suggest that there could be principals unaware of the importance and benefits of school vision and collaborative partnerships in school leadership. Fullen (2014) challenges the current focus on instructional leadership by stating that "the principal as direct instructional leader is not the solution" (p.6) and "a narrow focus on instructional leadership and student achievement can shut out other dimensions of leading for learning" (p. 41). From this perspective, the disparity in perceived importance across the leadership dimensions suggest the need of Chinese school leadership programs to enhance leadership knowledge and skills in developing context-based visions and collaborating with communities in school leadership preparation and training programs.

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Online Forum: A Platform that Affects Students' Learning?

Premagowrie Sivanandan, Kalai Vaani Rajandram & Ho Ree Chan
Taylor's Business School, Taylor's University, Malaysia

Abstract

In the current era of globalization, constant and perpetual advances in information technology are reshaping learning styles and the way students learn in higher education. Thus, the purpose of this study was to determine the usage of online forums as a platform and learning tool. It also investigated how online forum affected students' learning, particularly in active learning and independent learning. A survey was conducted amongst 113 business foundation students from a private university in Malaysia. The study found that learning experience and learning satisfaction gained from online forum influence both active learning and independent learning. Conversely, learning ease only affects active learning and not independent learning. These findings draw attention to facets of online forums, which could have an impact on how instructors transfer knowledge and how students learn.

Keywords: online forum, learning ease, learning satisfaction, learning experience, active learning, independent learning

1. Introduction

As early as the mid-1970s, it was hypothesized that the emergent forms of telecommunications media vary in their degree of social presence and, therefore, have effects on group interaction (Thomas, 2002). The "world to the desktop" interface is now complemented by multi-user virtual environments. People's avatars interact with each other, computer-based agents, and digital artifacts in a simulated context; and augmented realities in which mobile wireless devices infuse overlays of digital data on physical real-world settings (Dede, 2005). The virtual real-time effect created is able to match the sense of immediacy the learner gets from an actual physical interaction. The time and place flexibility provided by these online environments are so conducive that anyone can learn at any time; thus, garnering an increasing number of learners (Moore and Kearsley, 2005; Simonson et al., 2009). In the light of this, institutions of higher learning are driven to adapt and use the various modes of information technology to not only effectively deliver their instructional materials but to also achieve the modules' learning outcomes. Hence, classrooms are more mediated today, than they were before. The present classroom scenario is built around the instructor utilizing Course Management Software (CMS), such as Blackboard and Moodle. Instructors are encouraged to use podcasts, online discussion groups and other technologies to engage and connect with students. This integration between traditional face-to-face format and technology-based learning is said to complement learning experience through an increased understanding (Dillon and Gabbard, 1998) and better student learning. However, it must be pointed out that as instructors, one must determine what technologies to use and how to use these new technologies appropriately for effective learning to take place.

In the midst of these new emerging technologies in online learning, the popularity of using online forums as a tool for discussion cannot be undermined. The flexibility of responding to messages and posts at preferred times and being able to view comments as often as one likes can be viewed as consistent with what a digital native would appreciate. It has been highlighted that online forums are structured in a manner that requires a putting down of ideas via writing. This can be viewed as an effective training ground for deep learning, cultivation of

original thought and application of data acquired in the course. In fact, if a learner feels in control of his choice to learn as he has made the conscious decision to tune in at that specific moment, it is likely that some form of learning will occur. However, the degree of learning that actually takes place warrants further investigation by way of mode of assessments that can be used to gauge the extent of understanding of the subject matter.
Therefore, the objective of this study is to determine whether the use of online forums as a learning platform influences active learning and independent learning. This study also analyses whether the use of online forums such as Today's Meet, Facebook, blogs and discussion threads in Moodle, influences the way students perceive, understand and absorb knowledge, which could affect learning experience, satisfaction and ease. This paper will be structured as follows: Section 1 explains the background to the research, Section 2 explores the literature, Section 3 describes methodology and analyzes the findings, Section 4 discusses the limitations, and Section 5 summarizes and concludes.

2. Literature Review

2.1 Online Forums, Active Learning and Independent Learning

The common notion about online forums is that it is a virtual learning environment that stimulates interaction and sharing of ideas. Whether or not the forum is synchronous or asynchronous, when used in the appropriate context, its value exceeds from just merely increasing student engagement to fostering critical analysis, reflection and social construction of knowledge (Thomas, 2002). Given this, students are not only likely to learn in a connected way from one another but also learn as much as they would from course materials or attending classes. All these can be accomplished without the constraints of time and space. Naturally, institutions of higher learning are coming to terms with the opportunities and possibilities offered by this online facet of teaching and learning. It is thus not surprising to see this trend manifest itself gradually as educational institutions turn to blended learning: a convergence of internet-based learning with face to face interactions (Garrison and Hanuka, 2004). Being a computer-facilitated conference, online forums are growing into essential mediums for continuing professional education and group collaboration (Kanuka and Anderson, 1997). This is further supported by Hammond (2005) when he states that asynchronous online discussion is seen as offering additional value by providing learners with the experience of computer communication tools and opportunities for participating in group work. When groups collaborate in a mediated online forum, the interaction between individuals using different learning theories, styles and activities, and technologies can lead to the creation of vibrant communities of learners (Anderson, 1996). What Anderson implies here is twofold; the conception of a breed of thinkers and the propagation of a dynamic way of acquiring knowledge.

Active learning is defined as instructional activities that involve students in doing things and thinking about what they are doing (Bonwell and Eison, 1991).The collaborative nature of online forums encourages active learning that focuses the responsibility of learning on the learners. It involves meaningful activities that require students to do more than merely watching, listening and taking notes in a classroom setting. This is the meeting point at which online forums are in tandem with the nature of active learning. Online forums facilitate a largely self-directed active learning process through open-ended discussions that promote problem-solving, analysis, synthesis and evaluation of a topic. McKeachie et al. (1986) explain that active learning via discussions lead to long-term retention of information, motivates students to learn more, allows application of knowledge in new settings and develops students' thinking skills. However, the usefulness of discussions via online forums is dependent on the expertise of the instructor. Effective questioning and discussion technique will solicit expected outcomes. In addition, constructive feedback and motivating responses from the instructor will sow the seeds to intellectual and emotional input on the part of the learner. Once the comfort level and confidence is established over a period of time, the natural inclination of the learner is to now explore on his own. This independence endows the learner to propel himself forward.

Independent learning enables the student to deal with new information and draw independent conclusions. According to Sit et al. (2005), independent learning empowers students to be accountable for their own study. In the context of online forums, students do assume responsibility for their own learning. Unlike traditional classroom teaching, online discussions are conducive for learning at one's own pace, level and depth. This "virtual community of enquiry" which online forums support, provides a leeway for personal freedom of expression in a sense. The pressure to perform is also a less of a hindrance when the learner has made the conscious decision to be a part of this process. Consequently, the learner is led to construct experiences and knowledge through analysis of the subject matter by questioning and challenging assumptions (Garrison et al., 2001). According to Rowntree (1995), what students learn can be seen not so much as a product but as a creative cognitive process of offering up ideas, having them criticized or expanded on, and being able to reshape ideas in the light of peer discussions. By reflecting on the ideas and thoughts that are shared online by peers, students are able to independently articulate their own thoughts towards reaching an understanding about the topic of discussion.

Based on the literature review, the research question for our study is:
"Do online forums influence active learning and independent learning among students?"

2.2 Learning Experience

Learning experience is defined as any interaction, course, programme or other experience in which learning takes place, whether it occurs in classrooms or outside classrooms, or whether it includes traditional educational interactions (students learning from teachers and professors) or non-traditional interactions (students learning through online forums and interactive software applications) (The Glossary of Education Reform, 2013). The key element that influences a student's learning experience via online forums is familiarity. It is natural to assume that learners are generally more comfortable communicating with peers of their same needs and wants. Based on that premise, it is possible to think that they would be more at ease making discussion points and critiquing a particular topic with their fellow learners. It is just about getting used to the fact that group interaction can start from a physical discussion but should move on to an asynchronous discussion online (Baker, 2011). This nurtures what Brandon and Hollingshead (1999) call cooperative learning. The experience of cooperative learning is one that demands interdependence. Online forums can be seen as suitable grounds for the proliferation of this interdependence. Threaded discussions allow learners to capitalize on other learners' resources, especially in a group forum where everyone is working collectively towards one objective. This give-and-take experience is perhaps what Ross and Smyth (1995) deem as "intellectually demanding" and sets the pace for "higher order tasks". Therefore, online forums do actually qualify as a sufficient measure to evaluate the development of communication, interaction and collaboration in online courses as pointed out by Hammond (1999).

In their study of the experiences of learning via online forums, Shea and Bidjerano (2009) also validate the prospects of online forums in developing learners from novice to expert status. Lin, Cheng and Liu (2013) add that students using more elaborate online question and answer discussion forums are more likely to actively participate in online discussions, engaging at a higher cognitive level and enjoying superior learning performance when compared to those using forums that are more rudimentary. It has been shown that online discussion forums increase participation and collaborative thinking through the provision of asynchronous, nonhierarchical and reciprocal communication environments. Bates (1995) further believes that by reflecting on peers' contributions in online discussions, students engage in higher-order processing of information after which through the act of articulating their own emergent understanding, are led towards the construction of personal meaning, which is not individualistic. According to DeSanctis et al. (2003), interactivity promoted by online forums is an opportunity to allow students to access other opinions and information not residing within the classroom or the instructor. This is critical in the process of students becoming independent and interdependent learners.

Therefore, technology mediated learning becomes more than merely to facilitate the transfer of declarative knowledge as it now promotes the construction of complex knowledge structures through multiple modes of representation and configuration (Thomas, 2002). Furthermore, technology has also been shown to support active learning where students must articulate and negotiate their developing knowledge structures (Greening, 1998). Through the use of online discussions, students participate in learning where they are confronted by a variety of different perspectives and engage in critical reflection, which leads to a change in their outlook as a result of the exercise (Harrington, 1992). In order to enhance students' learning experience via online forums, it is also imperative that the instructors play a pivotal role in monitoring the online discussions, facilitating enquiries and providing feedback to students promptly.

Hence, this study intends to verify that the online forum is a learning platform that affects student learning:
H_1: Learning experience influences active learning.
H_2: Learning experience influences independent learning.

2.3 Learning Satisfaction

Learning satisfaction refers to the degree of perceived learner satisfaction towards e-learning environments as a whole. Perceived learning satisfaction is widely used in evaluating effects of learning environments and activities both academically and practically (Sun et al, 2007). It is used as a key indicator of whether or not learners would continue to adopt a particular learning system (Arbaugh, 2000). Students usually prefer online learning via discussion forums as it removes geographical and time barriers in addition to allowing them to maintain their lifestyle choices while accomplishing academic goals (Braun, 2008; Edmonds, 2010; Yukselturk and Bulut, 2007). According to Lombardi and McCahill (2004), students involved in ongoing conversations in a community of practice makes the learners feel the supportive presences of participating peers, mentors and experts. This level of comfort stimulates learning satisfaction that will further encourage students to think independently and reflect on what is said during online discussions. In other words, learning satisfaction affects independent learning and active learning in students.

On the other hand, online forums promote independent learning that could also lead students to isolate themselves in their comfort zone, which could pose a potential concern despite the flexibilities provided by online forums. Benson and Samarawickrema (2009) used Moore's transactional distance theory to explain student isolation by suggesting that the physical separation between learner and instructor can contribute to psychological and communication gaps, which creates the potential for miscommunication. However, this could be improved by implementing collaborative learning and community building (Tirrell and Quick, 2012), which are integral constituents of online discussion forums. Fostering a sense of community seems to be an effective method for buffering student isolation in asynchronous learning. This is supported by research that shows retention and satisfaction rates have improved when online learners have a sense of community (Ali and Leeds

2009; Lee et al. 2011). Furthermore, a positive learning environment encourages and stimulates the exchange of ideas, opinion, information and knowledge that will lead to better learning satisfaction (Prieto and Revilla, 2006). This happens when learners believe that online forum provides effective student-to-student and student-to-instructor interactions. However, Straus and McGrath (1994) argue that introverted students are more likely to benefit from computer-mediated communication than extroverted students as introverted students find it easier to express their thoughts in the depersonalized forum. Hence, the lack of face-to-face communication is most likely to boost these students' confidence and satisfaction in learning as they are able to express their thoughts and ideas without involving any facial expressions, hand gestures or body language.

Hence, this study intends to verify that the online forum is a learning platform that affects student learning:
H_3: Learning satisfaction influences active learning.
H_4: Learning satisfaction influences independent learning.

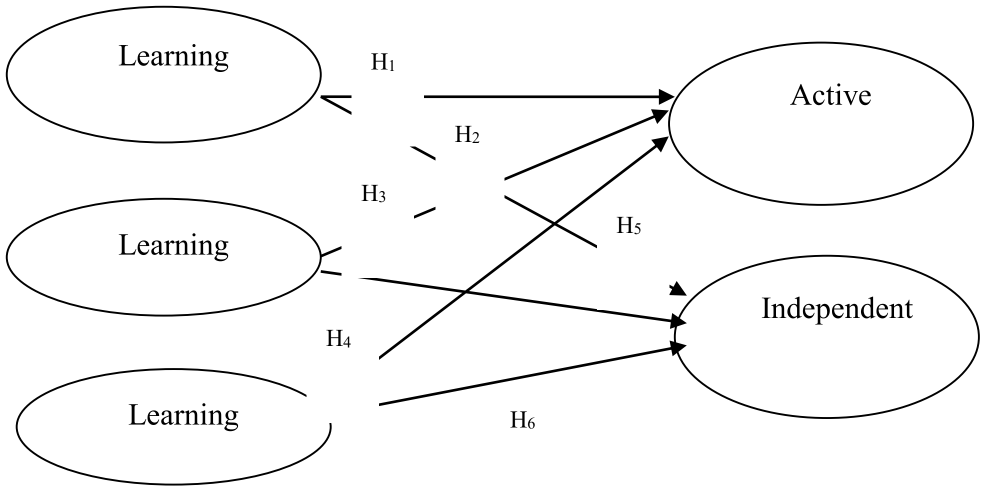
2.4 Learning Ease

Learning ease is the ability of students to decipher how to accomplish tasks and how easily they remember what they have learned. The user-friendly layout of an online forum allows students to hold discussions, and interact with instructors and peers in an effortless manner. It is an asynchronous learning network that provides an online space where students can access coursework and interact all in the student's own time frame (Gerlock and McBride, 2013). Harasim (1989) describes interaction, a major component of online forums, as the most striking characteristic of computer-mediated communication and the factor with the greatest potential to have an impact on learning. According to Condon and Cech (1996), computer-mediated communication helps students to increase communication efficiency, decrease typing requirements, and reduce the use of unneeded elaborative statements and repetitions. This is consistent with Garrison et al. (2001) that describe written communication, which is present in online discussions as being "leaner" because many of the non-verbal signals present in face-to-face oral communication such as body language, pauses and facial expressions are not necessary. This would enable students to learn the subject matter in an easier and less complicated manner. Sproull and Keisler (1991) suggest that computer-mediated communication has been shown to place the focus on what is said a dimension of active learning and remove seemingly extraneous aspects of face-to-face communication. Since there is no need for non-verbal cues and the associated depersonalizing of communication, the mode of communication is unrestricted (Willis, 1991; Ruberg et al., 1996). Furthermore, Jahnke (2010) points out that students who experience the sense of information being lost in the classroom will be able to revert to the online forum where information is preserved for future investigation. So, now the system is reaching out to a further group of learners; the ones that were previously inhibited from learning because the teaching tool required non-verbal cues and the ones who take a longer time to digest chunks of information. However, it is still important to consider what McCreary (1990) highlights about written communication in online discussions. He postulates the necessity of exactness, and organization and clear expression of thoughts for effective threaded discussions. This then begs the question of whether or not this tool actually increases the anxiety levels of learners who find difficulty in expressing themselves in words for various reasons.

Hence, this study intends to verify that the online forum is a learning platform that affects student learning:
H_5: Learning ease influences active learning.
H_6: Learning ease influences independent learning.

The conceptual framework that provides the foundation of our study is shown in Figure 1 below. The ovals on the left-hand side represent independent variables, which are learning paradigms that are experienced by students from the usage of online forums in their learning. The ovals on the right-hand side represent the type of learning that takes place, i. e., active learning and independent learning. The solid lines are direct influences of online forums on student learning.

Figure 1: <u>Conceptual Framework</u>



3. Methodology And Data Analysis

This section explores the instruments to investigate the usage of online forums as a platform and learning tool in addition to examining how online forum affects students' learning in terms of learning experience, learning satisfaction and learning ease. This study used business foundation students from a private institution of higher learning in Malaysia as its research sample. The sample was selected based on the extent of usage of online discussion forums in facilitating student learning. The data collection was conducted through an online questionnaire that was created through Google docs and posted in Moodle. Data collected through online questionnaire is more accurate and there is a much smaller margin-of-error as responses are inputted directly into an MS Excel spreadsheet. Furthermore, online questionnaire guarantees respondents' anonymity, enhances objectivity of responses, increases accessibility by respondents, reduces administration costs and saves time. 114 questionnaires were received from student respondents with 113 usable questionnaires returned with a response rate of 94%. The 113 respondents consisted of 59 males and 54 females with an average use of online forum of 1.81 hours per day.

The questionnaire was created based on the five-point Likert's scale ranging from 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree. The six-part questionnaire consisted of 35 questions. Section 1covers questions on student demographics (gender, age, semester and programme), Section 2 contains the list of different platforms used for learning, type of devices used when engaging in an online forum and number of hours per day spent on average engaging in online forum, Section 3 comprises questions that measure learning experience, Section 4 consists of questions that assess learning satisfaction, Section 5 includes questions that gauge learning ease and Section 6 is made up of the list of graduate capabilities developed through the use of online forums. Participants of the study were informed on the purpose of the study and the extent of researcher interference in our study is minimal.

The Statistical Package for Social Sciences (SPSS) software was used to process and analyze the data. In order to establish the boundary of the descriptive variable and constructs, and to ascertain the internal validity and convergence, exploratory factor analysis (EFA) was carried out. The factor analysis reduced the number of variables and grouped variables with similar characteristics together. The extracted variables were then rotated using component principle analysis with Varimax rotation to identify the common factors. Five (5) factors emerged, namely, Learning Experience, Learning Satisfaction, Learning Ease, Active Learning and Independent Learning. This is consistent with our conceptual framework. Prior to running the exploratory analysis, the goodness of fit on data collected was assessed. The Kaiser-Meyer-Oilkin (KMO) measure of sampling adequacy test yielded an outcome of 0.848, which is considered good as it is greater than the minimum requirement of 0.5. This ascertains that the data is suitable for factor analysis. Furthermore, Bartlett's test of sphericity yielded an outcome with a p-value that equals to 0.05, which shows that the pair wise correlation is significant. This was followed by a 2-stage confirmatory factor analysis. The confirmatory factor analysis was conducted by using partial least square method as the model involved the impact of a block of independent variables on a block of dependent variables. Measurement model was applied to test convergent and discriminant validity. Here, Cronbach alpha coefficient and composite reliability were assessed. The convergent validity was achieved as all both tests attained acceptable threshold values as shown in Table 1 below. This confirmed that the measurement model was good.

Table 1: Measurement Model Test Results

Construct	AVE	Composite Reliability	R^2	Cronbach's Alpha
Learning experience	0.716	0.899	-	0.906
Learning satisfaction	0.755	0.940	-	0.918
Learning ease	0.642	0.899	-	0.859
Active learning	0.709	0.907	0.867	0.863
Independent learning	0.725	0.930	0.886	0.905

Structural equation modeling path analysis was used to test the hypotheses formulated in the conceptual model. The goodness of fit for the model was confirmed with R^2 values, an indicator of the predictive power of path models. They indicate the amount of variance in the construct that is explained by the path model (Barclay et al., 1995). The R^2 value of 0.8666 showed that a substantial percentage of variance was able to explain active learning. In addition, the R^2 of 0.886 also showed that a substantial percentage of variance was able to explain independent learning. Table 2 below explains the results for the structural model.

Table 2: Structural Model Test Results

Path	Path Coefficient	Sample Mean	Standard Error	T-value	P-value (2-tailed at 0.05)
Learning experience →Active learning	0.229	0.224	0.052	4.429	0.000
Learning experience →Independent learning	0.721	0.720	0.050	14.526	0.000
Learning satisfaction → Active learning	0.406	0.408	0.062	6.567	0.000

Learning satisfaction → Independent learning	0.189	0.188	0.063	2.997	0.000
Learning ease → Active learning	0.383	0.385	0.049	7.830	0.000
Learning ease → Independent learning	0.086	0.088	0.052	1.641	0.104

After hypotheses testing, the relevant test results which justify the theoretical model are shown in Table 3 below.

Table 3: Hypothesis Testing

No	Hypothesis	Path	Significance
1	H_1	Learning experience →Active learning	Supported
2	H_2	Learning satisfaction →Independent learning	Supported
3	H_3	Learning ease →Active learning	Supported
4	H_4	Learning experience →Independent learning	Supported
5	H_5	Learning satisfaction →Active learning	Supported
6	H_6	Learning ease →Independent learning	Not Supported

The results of the t-test in Table 2 and Table 3 above show that student learning experience learning satisfaction and learning ease from using online forums demonstrate a significant influence on active learning. The means of learning experience, learning satisfaction and learning ease on active learning are significantly different at $p = 0.05$. Therefore, H_1, H_3 and H_5 are supported. In terms of influence, learning ease is the most powerful followed by learning satisfaction and learning experience. The ease with which students engage in online forums can affect their sense of satisfaction and overall experience of learning. Discussions via online forums can increase ease of access, eliminate geographical barriers and improve convenience for effective collaborative learning. This will enhance learning satisfaction and learning experience of students. Learning experience exerted influences on active learning (path coefficient = 0.229, $t = 4.429$, $p < 0.05$), learning satisfaction exerted influences on active learning (path coefficient = 0.405, $t = 6.568$, $p < 0.05$) and learning ease exerted influences on active learning (path coefficient = 0.383, $t = 7.830$, $p < 0.05$). However, the results of the t-test also show that while learning experience (path coefficient = 0.229, $t = 4.429$, $p < 0.05$) and learning satisfaction (path coefficient = 0.189, $t = 2.998$, $p < 0.05$) exhibit their influences on independent learning, learning ease is found to be insignificant. The means between learning experience and learning satisfaction on independent learning are significantly different at $p = 0.05$. On the other hand, the mean of learning ease on independent learning is insignificant (path coefficient= 0.086, t = 1.642, p > 0.05). Therefore, H_2 and H_4 are supported and H_6 is not supported. Jenkins (2007) rationalize that participation in online discussion forum seems to particularly enhance the development of the competency of "collective intelligence", the ability to pool knowledge and compare notes with others toward a common goal, which makes learning easier. Collaboration through online forum encourages learners to move to the higher levels of cognition made possible by the intensity of exchanges in arriving at a consensus (Geer, 2005). The collaborative nature of online forums shifts the focus of literacy and knowledge from an individual learner to a community of learners. The independence of one learner over the other is uncertain. It is also impossible to ascertain the extent to which the contribution of an individual learner is his actual intellectual capacity when there are no limitations to knowledge sharing in this context. Since the lines are blurred between the individual's contribution and the group's collaborative contribution, it is thus possible to see why learning ease does not influence independent learning. Students' reliance on their peers and instructor for answers potentially reduces their individual engagement in structuring their very own thought processes and solving problems on their own.

4. Limitations Of Study

There are areas in which the research can be further improved. Firstly, the rather small sample size of 113 respondents may affect the accuracy of the estimations and its consequent implications on student learning based on the percentage of margin of error and confidence level. Secondly, this is not a cross-sectional study that encompasses students from different levels of study. As the sample is focused on business students from the foundation programme, it remains to be seen if using online forums as a learning platform would have the same impact on undergraduate and post-graduate students. Thirdly, the conceptual framework was validated using sample data gathered from one target institution of higher learning in Malaysia. This limits the generalizability of the results.

5. Conclusion

In computer-mediated instructional design, there is an increasing focus on facilitating human interaction in the form of online collaboration, virtual communities and instant messaging in the blended e-learning system (BELS) context (Graham, 2006). In order to facilitate interaction among students, collaborative learning, learning environment and social interaction are important precursors of beliefs about using an online discussion forum. The findings in this study corroborate the influence of online forum on student learning, particularly active learning and independent learning. Learning experience, learning satisfaction and learning ease achieved from using online forum are shown to influence how a student processes and retains information. Learning experience and learning satisfaction gained from using an online forum influences both active learning and independent learning. Previous studies indicate that instructors' timely response significantly influences learners' satisfaction (Arbaugh, 2002; Thurmond et al., 2002). When students face problems during discussion in online forums, prompt and timely assistance from the instructor encourages them to learn continuously. A boost in learning satisfaction leads to a better overall learning experience. However, the influence of learning ease displays mixed results whereby learning ease influences active learning but not independent learning. This means independent learning is not promoted with the use of online forum. This could be attributed to the collaborative and discursive nature of online forums that influences students to rely on each other to learn. Moreover, in terms of their influences on independent learning, learning experience is tested to be more critical than learning satisfaction. The learning experience provided by online forum help more students learn better by placing them in an intellectual environment that encourages effective, thoughtful and equal participation from all comers (Althaus, 1997), which could supersede learning satisfaction. Future studies would include testing other independent variables of online forum such as provision of feedback and instructor's interference on student learning. The impact of online forums on dependent variables such as learning styles (visual, auditory and kinesthetic), experiential learning, domains of learning (cognitive, psychomotor and affective) can also be explored. It would be interesting to examine the variables that effect learning satisfaction as an extension to the current study.

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Knowledge of Cardiovascular Medications in a Culturally Diverse Elderly Community: Health Assessment Outcomes by Nursing Students

Kimberly H. Kim[1]
California State University East Bay kimberly.kim@csueastbay.edu
Min Sohn[2]
Inha University sohnmin@hotmail.com
Andrew Lee[3]
California Polytechnic State University
Joshua Yi[4]
California State University, East Bay

Abstract

Lack of knowledge in medication use appears a major hindrance in managing cardiovascular diseases. The cross-sectional study examined the determinants of knowledge of cardiovascular medications in elderly community, using the survey questionnaire and structured interviews to collect data from 99 culturally-diverse elderly people at independent-living facilities in California. Results indicate that the majority of participants was women (82.8%), living alone with an educational level of high-school or higher. Sixty-six participants took at least one cardiovascular medication, and the average number of cardiovascular medications taken was 2.02 (±1.10). The most frequently used cardiovascular medications were lipid-lowering agents and aspirin. Thirtyeight participants demonstrated a lack of knowledge of cardiovascular medication use. After adjusting for age, gender, education, and living status, it was found that having a BMI higher than 25 (OR: 5.46; 95% CI; 1.12, 26.52), drinking alcohol beverages (OR: 0.075; 95% CI: 0.01, 0.83), and having a history of ever-smoking (OR: 54.90; 95% CI: 4.39, 686.29) were statistically significant, independent predictors of a lack of knowledge about cardiovascular medications.

Key Words: Medication, knowledge, elderly, cardiovascular diseases, independent living facility, nursing students.

1. Introduction

Current evidence shows that the cardiovascular disease (CVD) is the leading cause of morbidity and mortality among the elderly population. It was estimated that one in every six deaths occurred from coronary heart disease in 2012 [1]. Cardiac disease was estimated to result in >17.3 million deaths annually worldwide [2]. Absolute and relative risk assessments demonstrated that a considerable proportion of CVD events could be attributed to poor adherence to vascular medications [3]. Approximately, 50% of patients with the cardiovascular disease and its major risk factors showed poor adherence to their prescribed medications [4; 5]. And, an appropriate adherence to vascular medications could reverse the subsequent adverse outcomes. This study explored the knowledge of cardiovascular medication use in a culturally diverse elderly community utilizing health assessment data collected by nursing students in the state funded California University.

2. Literature review

Literature indicates that medications are an essential part of the treatment regimen for patients with cardiovascular diseases (CVD). However a substantial proportion of people did not adhere adequately to cardiovascular medications; and the prevalence of suboptimal adherence was similar across all individual CVD medications [3]. The benefits of medication therapy were well documented for secondary prevention in patients who had CVD [6; 7; 8]. Furthermore Hope, Wu, Tu, Young, and Murray [9] claimed that the patients' lack of medication knowledge and non-adherence to the CV medication was associated with frequent visits to emergency department and re-hospitalization.

Poor understanding of the medications is one possible reason for having lack of medication adherence in elderly people. Wolfe and Schirm [10] asserted that the elderly were more likely to suffer poor understanding of their medications because they might be taking various medications for multiple comorbidities. And they might be experiencing age-related degradations such as decreased memory and impaired vision and hearing. Molloy and colleagues who evaluated the reasons for hospitalization found that poor recall and lack of knowledge of the medication regimen among the elderly resulted in medication noncompliance [11]; and that medication noncompliance was directly associated with hospitalization [10]. In a cross sectional research, Rajpura and Nayak [12] also reported that the elderly suffering from hypertension with the greater level of perceived illness burden had the lower level of medication adherence.

Lack of knowledge about the medications could increase drug adverse effects, complications, substantial drug interactions and eventually poor health outcomes [9]. Recognizing the name of the medications and understanding why the medication should be taken would be helpful in self-care, communication with health care providers and tracking their own health information.

In particular, increasing numbers of authors were interested in knowledge of CV medicatons as well as cultural and behavioral health determinants of CV medications. Wu, Moser, Chung, and Lennie [13] argued that ethnic minorities were less likely to adhere to the medications among patients with CVD. And, limited English language proficiency presented a significant challenge for substantial numbers of minority elderly in the community [14]. Difficulty in maintaining proper medication use was observed more in Latino [15] and Chinese communities [16]. Finding innovative strategies to help patients improve their adherence to existing evidence-based cardiovascular drug therapies would be enormous potential for improving health outcomes while potentially reducing health care costs [4].

This study utilized the partial data obtained by the first year nursing students who participated in the community-based eldercare project with their clinical instructors at one of the state funded California universities. The community-based eldercare project was developed by nursing faculty and implemented to the nursing curriculum in 2003 as a mandatory project for all first year nursing students enrolled in fundamentals of nursing courses. By participating in the project, students could demonstrate knowledge, skills and attitudes related to the fundamentals of nursing; as the goal of this project was for students to apply the nursing process cycles and teaching-learning principles in their practice, and improve their therapeutic communication skills. The student roles were to visit their clients with the assigned faculty and assess the client's health conditions, develop health education projects based on assessment data, provide health education to the clients, and evaluate outcomes.

The project involved four senior housings that accommodated low income elderly residents.

This project was especially valuable for understanding the culturally diverse, elderly population in the Bay Area as no research had been conducted on the groups. The Bay Area is one of the most culturally diverse communities in the United States. Alameda County, where the university is located, is the most ethnically diverse county with the smallest percentage of Caucasians (33.2 %) and the largest percentage of African

Americans (12.4 %) in the Bay Area, as well as comparably large percentage of Asian Americans (28.2%) and Hispanic (22.7%) populations [17]. In addition to the cultural diversity, the Bay Area has the highest median age of any region of California; and over one twelveth (12.3%) of the Bay Area residents are 65 years or older [18]. Among the first year nursing students at the state funded California university 50-55% could speak another language fluently, such as Chinese, Hindi, Korean, Russian, Spanish, Tagalog, etc. This is extremely helpful for understanding the health care management of this culturally diverse, elderly population. The nursing students and elderly participants have been very appreciative with outcomes of the project. Therefore, the study aimed to describe the knowledge of medication use in culturally diverse, elderly communities and examine the determinants of knowledge of cardiovascular medications in elderly living at independent living facilities in the Bay Area.

3. Design and Methods

This study used a cross sectional, descriptive design with a convenience sample of culturally diverse elderly clients (n = 99) residing at four independent living facilities in the San Francisco Bay Area from October 2008 to November 2010. Data were collected by nursing students who were supervised by their faculty. Prior to data collection, students received a four-hour orientation about the study project, how to present the study questionnaire and conduct interview skills before they met the elderly. Before the nursing students began the project, they also took courses in therapeutic communication and principles of nursing practice in community. Nursing students in the first year of their baccalaureate nursing program understood well on how to interview and assess the relatively healthy elderly clients in the community. The students were also aware of that the data collected would be used for education and research purposes.

Both nursing faculty and students recruited the study participants from four independent senior apartments in the Bay Area. The inclusion criteria included those aged 65 years old or older and those living in independent living facilities. The study participants included both non-English and English speakers as translators were available. When a subject preferred to speak in another language and a student able to speak the same language fluently was present at the time of data collection, the student translated the questionnaire into the language and translated the subject's answers back to English in the questionnaire. The study was approved by the institutional review board of the human subjects (IRB-HS) at the university and facilities. Flyers and posters were used to announce the nursing students' visits at each site, and potential participants were asked to visit the designated places in the apartment. On the visiting day, the faculty and students welcomed the potential study participants in the designated place, introduced themselves and explained about the project and research opportunity. After obtaining informed consents, students conducted an interview using the structured questionnaire and collected the data under the supervision of their faculty. Each data collection process took approximately 25-30 minutes.

3.1 Measurements

The study questionnaire was developed and content analyzed by this author and faculty experts in the community health and geriatrics [19]. Four faculty teaching fundamentals of nursing courses reviewed the questionnaire which was then revised according to their recommendations. Evaluation of the questionnaire by the nursing faculty helped to establish content validity. The pilot study was performed to residents in one of the facilities to establish reliability when the questionnaire was first developed and implemented in 2003.

The data were collected using a questionnaire that included vital signs and blood glucose assessed by nursing students at the time of interview. The additional information nursing students obtained from the survey included weight and height to calculate the body mass index (BMI), demographics, medical history, including health/nutrition histories and medication use, health behaviors, and cultural background. Data collected regarding medication use included the name and the indication of medication use. Cultural background data included ethnicity, how many years they had lived in the U.S., and the language they preferred to speak with health care providers.

3.1.1. Medical Histories.

The researchers evaluated the medical histories by asking if the study subjects had ever been hospitalized or undergone surgery, and to specify the reasons for these events. For medical diagnoses, the researchers listed the following ten medical diagnoses which had previously been reported as the most common medical diagnoses among this population [20]: Myocardial infarction, congestive heart failure, peripheral vascular disease, angina, hypertension, lipid abnormality, arthritis, diabetes, depression, and kidney insufficiency. The study subjects were asked if they had been diagnosed with any of the ten conditions. They were also asked to specify other medical diagnoses.

3.1.2. Health Behaviors.

To assess physical activity, the participants were asked, “During the past month, other than your regular job, did you participate in any physical activities or exercises, such as running, bicycling, calisthenics, golf, gardening, or walking for exercise?” This question has been used by the behavioral risk factor surveillance system (BRFSS) [21]. If participants answered “yes”, they were asked if the exercise was moderately intense physical activity for at least 30 minutes and how often they exercised in this way.

Current drinking behavior and alcohol dependence were measured to evaluate alcohol use. The participants were asked if they drank alcohol. If they indicated so, they were also asked using the four-question CAGE instrument [22]. The total score ranges from 0 to 4 and a cutoff point of 2 or above indicates alcoholism. CAGE was easy to administer and reported to demonstrate good sensitivity and specificity for alcohol abuse or dependence (74% to 89% and 79% to 95%, respectively) for both inpatients and outpatients [22]. The participants were also asked if they smoked ever, were a current smoker, how many packs per day they smoked and if they wanted to quit smoking.

3.1.3. Knowledge of cardiovascular (CV) medications.

The participants were asked the name and reasons for taking their medications with an open ended question, “Tell me about the medications you are taking. Do you know the name of the medications and the reasons for taking the medications?” If the participants indicated that they knew the name of the medication, the students asked the participants to state the name. The students used a table to list the names of the medications and the reasons for taking the medications if the participants took multiple medications.

The researchers determined the CV-medication takers if the participants indicated that they were taking any CV medications, irrespective of whether they were aware of the name of the CV medications. The participants were considered knowledgeable; (a) if they were aware of the name of the CV medication and the proper use of the medications, or (b) if they did not know the name of the medications, but they were aware of why they were taking the CV medications.

Lack of knowledge of CV medications was defined if the participants met any of the following conditions for at least one CV medication: They knew the name of the CV medication however, (a) they did not know the reasons for taking them, or (b) the reasons for taking the medications that the participants stated were pharmacologically or clinically inappropriate.

3.2. Data Analysis

The Statistical Package for the Social Sciences (SPSS-20) was used for data entry and analyses. The researchers reviewed the distribution of the variables and the missing data to evaluate the quality of the data and data entry. Descriptive statistics such as frequencies, percentages, means and standard deviations were calculated to describe the demographics and cultural characteristics, medical diagnoses and health risk behaviors of the study participants.

To meet the first study purpose, the researchers used descriptive statistics to describe whether or not the study participants were aware of the name and the use of the CV medication they were taking. The researchers categorized the name of the CVD medications taken by the participants into eight categories; aspirin, diuretics, beta blockers, calcium channel blockers, angiotensin converting enzyme inhibitors, angiotensin receptor blockers, anticoagulants and lipid lowering agents. For the second study purpose, logistic regression was used to explore the determinants of lack of knowledge of CV medications.

4. Results

The study participants were 99 culturally diverse, elderly residents in four independent living facilities. The majority of the participants was women (n = 82), very old, had graduated from high school or had completed additional education, were living alone and were not employed. Slightly less than half (n = 41) of the participants were born outside the U.S; and most of them preferred to speak their native languages with their health care providers (see Table 1).

“Table 1. Demographic and cultural characteristics of the participants (N= 99)”

Demographics	%	n
Age	Mean: 81.5 (± 7.4)	
Women	82.8	82
High school graduate or more	70.7	70
Living alone	70.7	70
Employed: full or part-time	2.0	2
Ethnicity		
Caucasian, not Hispanic	49.5	49
Asian-Pacific Islander	35.4	35
Black, not Hispanic	4.0	4
Others including Hispanic	12.1	12
Were you born in the U.S?		

Yes	**58.6**	**58**
No	**41.4**	**41**
Average length of stay in the U.S (n=41)	**Mean: 21.4 (± 16.1) years**	
Do you prefer to speak English with your health care providers? No (n=41)	**65.9**	**27**

The most common medical diagnoses were arthritis (n = 47) and hypertension (n = 46). Average BMI was 26. Less than one third was physically inactive (n = 22) and drinking alcohol (n = 28). The average CAGE score among the drinkers was 0.07 (± 0.258). Only two participants presented a CAGE score of 1; and none were indicated as suffering alcohol dependence. Only five participants were current smokers (see Table 2).

"Table 2. Medical Diagnoses and Health Risk Factors (N= 99)"

	%	n
Current Medical Diagnoses		
Arthritis	**47.5**	**47**
Hypertension	**46.5**	**46**
Diabetes	**20.2**	**20**
High cholesterol	**18.2**	**18**
Depression	**16.2**	**16**
Angina	**11.1**	**11**
Arrhythmia	**3.0**	**3**
Health Risk Factors		
Body Mass Index	**Mean: 26.4 ± 0.6**	
Physical inactivity	**22.2**	**22**
Drinking alcohol beverage	**28.3**	**28**
Current smokers	**5.1**	**5**

4.1. Knowledge of CV medications

Two thirds (n = 66) of the participants were taking at least one or more CV medications. Among these 66 participants, the average number of CV medications being taken was 2.02 (±1.102). The most frequent CV medications were lipid lowering agents and aspirin (see Table 3). Among the participants who were taking CV medications and were able to state the name of the medications, up to 66.7 % of them were either unaware of the reason for these medications or indicating inappropriate reasons for taking them. About one fifth of the participants indicated that they were taking medications for hypertension, high cholesterol and/or heart; however they could not remember the exact name. Approximately 38.4% (n = 38) of the total participants were identified as lacking knowledge of CV medications.

"Table 3. Lack of knowledge of cardiovascular (CV) medications in elderly (N = 99)"

Classification of CV medications	Aware of the name of the medications % (n)	Unaware or inappropriate reasons of taking the medication among the users (n = varies)
I am taking CV medications.	**66.7 (66)**	
And I know the medication names	**47.5 (47)**	
Lipid lowering agents	**32.3 (32)**	**15.6 (5)[1]**
Aspirin	**24.2 (24)**	**45.8 (11)[2]**
Diuretics	**16.2 (16)**	**12.5 (2)**
BB/CCB	**19.2 (19)**	**10.5 (2)**
ACEI/ARB	**20.2 (20)**	**5.0 (1)**
Nitrates	**3.0 (3)**	**66.7 (2)**
Anticoagulants	**6.1 (6)**	**50.0 (3)[3]**
		19.2 (19)[4]
But I don't know the names	**19.2 (19)[5]**	
Lack of Knowledge of CV medications	**38.4 (38)[6]**	

Acronym definitions: beta blockers, BB; calcium channel blockers, CCB; angiotensin converting enzyme inhibitor, ACEI; angiotensin receptor blocker, ARB.

[1] Depression, diarrhea, hypertension, [2] Bone, cholesterol or hypertension, [3] Arthritis, depression, hypertension, [6]= 4+5

4.2. The determinants of lack of knowledge of CV medications

The dependent variable was lack of knowledge of CV medications among the participants who were taking at least one CV medication. The correlation analysis showed that only BMI and history of ever smoking had a statistically significant correlation with the dependent variable. For the multiple logistic regression analyses, participants' demographic variables, health risk factors, and the number of CV medications taken were included, in addition to BMI and history of ever smoking. In this model, BMI and history of ever smoking remained statistically significant determinants of the dependent variable. Drinking alcohol was also statistically significant. Therefore, the participants who had a BMI higher than 25 (OR: 5.46; 95% CI: 1.12, 26.52), were drinking alcohol beverage (OR: 0.075; 95% CI: 0.01, 0.83), or had a history of ever smoking (OR: 54.90; 95% CI: 4.39, 686.29) were more likely to lack knowledge of CV medications. Table 4 provides odds ratio (OR) with 95% confidence interval (CI), using multiple logistic regression analysis with six independent variables that predicted lack of knowledge of CV medications. Other variables such as ethnicity, first language, preferred language for communication with health care providers, and the number of CV medications being taken were not associated with knowledge of CV medication.

"Table 4. Odds ratio (OR) with 95% confidence interval (CI) using multiple logistic regression analysis with six independent variables that predicted lack of knowledge of CV medications (n=66)"

Variables	OR	95% CI for OR	p-value
Age: ≥ 82	1.418	0.343, 5.867	0.630
Gender: Women	1.981	0.163, 24.121	0.592
Level of education: ≥ High school graduation	1.766	0.343, 9.096	0.496
Living alone	0.725	0.142, 3.697	0.699
BMI*	5.460	1.124, 26.517	0.035*
Physical Activity	0.931	0.165, 5.236	0.935
Drink alcohol beverage*	0.075	0.007, 0.826	0.034*
History of ever smoking*	54.901	4.392, 686.288	0.002*
Number of CVD medication taking: ≥ 2	0.517	0.099, 2.694	0.434

*** Statistically significant**

5. Discussion

The participants in this study were aged, mostly women, and very culturally diverse. The study results supported several important findings regarding the participants' knowledge of the CV medications. First, the substantial numbers of study participants were not sufficiently knowledgeable about their CV medications. Lipid lowering agents and aspirin were the most commonly taken CV medications, however 16-46% of the users were not aware of why they needed these medications. Hypercholesterolemia is a chronic metabolic disease that is major risk factor for CVD [23], and it is important that the patients clearly understand the need for life-long management. A previous study reported that side effects were powerful determinants of noncompliance for lipid lowering agents [14]. Therefore, it is important for healthcare providers to educate the clients on the reasons for taking these medications with sufficient information about the common or critical side effects.

Aspirin reduced the risk of any serious vascular event [3; 24] by 32% in high risk patients [25]. A low dose of aspirin (75-150 mg daily) is an effective antiplatelet regimen for long term use, and its absolute benefits substantially outweigh the absolute risks of major bleeding. Lack of knowledge about the benefits of aspirin to CVD can decrease aspirin use and increase the risks of developing CVDs.

In addition, although only a few study participants were taking nitrates and anticoagulants, most of them were not knowledgeable about the benefits of these two medications, which required substantial knowledge of the medication to maintain therapeutic goals and prevent side effects. Lack of knowledge on the reasons why the participants needed to take the medications could be potentially harmful, as described by Yee and colleagues [26]: In their examination of drug-related emergency department visits with 2,169 elderly veterans, they found that the main causes of drug-related visits were adverse drug reactions and that the major medications leading to adverse effects were anticoagulants.

Second, although the present study participants had multiple health problems, they were managing their health risk behaviors well. About one third were drinking alcohol however their CAGE scores were minimal, indicating a trivial level of alcohol dependence. In addition, very few participants were current smokers. More than two thirds of the participants were physically active, which was substantial considering that half of the participants had arthritis. The significant finding was that the participants with non-healthy behaviors such as being overweight, having a history of ever smoking and drinking alcohol beverages were more likely to be less knowledgeable about CV medications. It should be noted that all of the drinkers were very light drinkers. Only two participants had a CAGE score of 1, and none of the participants was indicated as alcohol dependent.

Lastly, the number of CVD medications being taken and the study participants' cultural characteristics were not determinants of knowledge of CV medications. This finding is consistent with that of Conn and colleagues [27] who studied the association between the medication complexity index that determined the complexity of the patient's medication regimen and medication adherence. Although the two variables were negatively correlated, the link was not statistically significant. In addition, our findings were not consistent with a previous study which presented that ethnic minorities were more often less adherent [13].

In conclusion, the substantial numbers of elderly living in the culturally diverse community lacked knowledge of their CV medications, even of the widely used lipid lowering agents and aspirin. The elderly who preserved healthy behaviors such as maintaining proper body weight and not ever smoking were more likely to have better knowledge about their CV medications. The study results indicated that healthy behaviors were beneficial not only for general health maintenance, but also for maintaining more accurate medication regiments in this aged, culturally diverse population.

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Gross Motor Development Level Of The Children Age 9 Years: A Case Study

Masri Baharom (Ph.D)[1], Ahmad Hashim (Ph.D)[2] , Mahaliza Mansor (Ph.D)[3]

Teacher Training Institute, Campus Sultan Abdul Halim, Malaysia.
Faculty of Sport Science and Coaching, Sultan Idris Education University, Malaysia.
Faculty of Management and Economics, Sultan Idris Education University, Malaysia.
masri@ipsah.edu.my, a.hashim@upsi.edu.my, mahaliza@fpe.upsi.edu.my,

1. Introduction

Physical education plays a role in contributing to the growth and development of the children through the learning experience to meet the needs of the psychomotor, cognitive, and affective domain [1,9,8,11]. All children will go through a learning process based on Physical Education syllabus as set out in the primary school integrated Curriculum (KBSR). In the Physical Education curriculum, children have been encourage to develop fitness, skill and sportsmanship. The focus of this study is about teaching of fitness in gross motor skills which consist of the locomotors and manipulative skills. Children age seven to nine years have been involved in teaching and learning process based on these skills. Children will apply all the locomotors and manipulative skills since they are in level one primary school.

Elements of gross motor development will be developed, nurtured and learned through the subject of Physical Education in KBSR, implemented in all primary schools through the country. Gross motor development is very important as basic movement to allow children to engage in physical activity and learning activities. Development has been defined by researcher [12], as a process of continuous change in motor behavior during the life cycle. Researcher [16], also explains the development of gross motor as a change in the ability of nerve-muscle system in the control of motor skills throughout life as a results from the interaction between tasks, the individual and the environment. In gross motor movement and behavior, children need guidance and ongoing training so that they can maintain the movement that are related. According to the researcher [4], the primary goal of Physical Education subject is to provide opportunities to all school children to have efficiency in gross motor skills.

2. Literature Review

Gross motor development is an important element to be developed according to chronological age so that children will not fine difficulties to engage in more complex motor behavior at a higher age [26,27,29]. Review of the Physical Education and Health subject regarding developmental aspects [31], shown that the gross motor development of children, can be achieved. However, the children seemed to be not interested in getting involved in the gross motor activities.

Researcher [19], found that the development of motor skills for children are affected by time, experience and knowledge. Gross motor development has varied in complexity, which the children cannot perform well. In addition, the development of gross motor skills for children vary according to the increment of their age level, [3,23]. Resulting the movement of the body in children is through the combined senses of sight, mind and movement [19]. Gross motor development is critical in the formation of the gross motor skills of children. According to researcher [13], children age 7, 8 and 9 years old should have mastered the basic movement phase of gross motor development. Gross motor development at this age should be in accordance with chronological age [29]. Gross motor development of children ages 7, 8 and 9 years should be at a good level [28]. Researchers attempted to detect whether there are development and improvement of gross motor development scores (GDMQ) of the child's ability to perform locomotors and manipulative activities in accordance with their age level.The Health and Physical Education teachers should be more exposed to and focus on how to measure the performance of children in terms of increasing the level of physical fitness. This occurs because the teachers are less knowledgeable in gross motor development of the school children. Physical Education teachers are not exposed to the practical measurement of any form of test about the gross motor development at the school level. The Physical Education curriculum also does not have a validate instrument and procedure to measure this aspect. As a result, many teachers of children age 9 years do not know the level of gross motor development. Therefore, these skills are not being monitored.

Gross motor development is important because it contributes to the involvement of children in sports activities in the future, [24,15]. Children who do not have competency in gross motor development are not unable to perform efficiently. They are most likely behind the actual gross motor development, [13,14, 23, 28, 25]. Measurement component of motor development is often used as a basis for assessing the progress of an individual based on chronological age. However, the Test Gross Motor Development / TGMD-2 , Ulrich is the most suitable to measure gross motor of the children in this research.

2.1 Sampling

Overall, a total of 64 male children ages 9 years from the National School Mutiara Perdana, Bayan Lepas, Penang have been selected as subjects in this study. The sample has been selected through the Cohen Table Power of Sampling [7].

2.2 Instruments Of Gross Motor Development.

TGMD Test-2 [28] has been used as an instrument in this study. According to the researcher [28], locomotors skills are defined as run, hop, gallop, leap, horizontal jump, and slide. Meanwhile manipulative skills are defined as dribble, catch, kick, overhand throw, and underhand roll. If the examiner does not wish to compare student test scores with normative data then the instructions, procedures and performance criteria can be adapted to meet the unique needs of the child. The test takes 15-20 minutes to administer per child. Set up and clean-up may take an additional 10 minutes. There is some measuring of distances. To avoid delays and reduce time spent retrieving balls the examiner should gather several balls to use and move the student through the test items quickly.

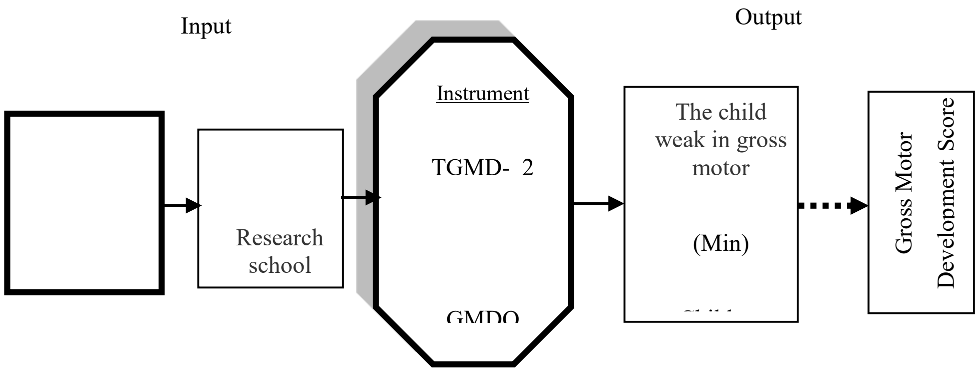

Figure 1: Conceptual Framework shows the level of Gross Motor Skills of Children 9 years.

Usually only one session is required to get through the test, but to provide favorable circumstances so that the evaluation is optimal, several sessions may be needed for certain children.

2.3 Equipment and procedure review

Research related to the level of gross motor development of children involves the following equipment: four sets of Sony (DRC-SR42) with a 40x optical zoom capability, Four tripod (Stein Seizer SZ-01), Software Ultimate Studio 14, a desktop computer, Pro CS4 Adobe Premiere, Skytel, Measuring Tape, Bladder Nut, 4 Rubber Balls, Plastic Bat, Batting tee, Basketball, 4 Plastic Balls, Foot Ball, Tennis Ball, Baseball / Soft Ball, Score Form Motor Development Test, [28], and four Handheld digital camera.

2.4 Data analysis

Statistical analysis of gross motor development test in this study has been done by using SPSS Windows 14.5. Descriptive statistical analysis also has been carried out in this study.

3. Methodology

This research uses exploratory design (exploratory). The purpose of this study is to evaluate the Locomotors Standard Score (LSS), Age Equivalents Locomotors Score (AELS), Manipulative Standard Score (MMS), Age Equivalents Manipulative Score (AEMS) and Gross Motor Development Score (GMDQ) in children ages 9 years. Figure 1 shows the conceptual framework of the study.

4. Results

Overall a total of 64 male children age 9 years from the National School Mutiara Perdana, Bayan Lepas, Penang have being selected as the sample of the study.

4.1 Descriptive information on the Gross Motor Development of children age 9 Years.

Descriptive statistic has used to obtain values of mean and standard deviation scores of LSS, MSS, AELS, AEMS and GDMQ. Table 1, showed the result for the subject of chronological age is between 8.23 years to 9.83 years (M = 9,30, SD = .431). Overall, subjects obtained mean LSS (M = 3.34, SD = .127), AELS (M = 4.61, SD = .629), MSS (M = 3.91, SD = 1.277),

Table 1 Descriptive statistics for Overall Score Based on Age

Variables	**Class**	**N**	***mean***	***SD***	**Descriptive Rating**
AGE (IV)	9 Years	64	9.30	.431	-
LSS (DV)	9 Years	64	3.34	.127	Very poor
AELS (DV)	9 Years	64	4.61	.629	Poor
MSS (DV)	9 Years	64	3.91	1.276	Poor
AEMS (DV)	9 Years	64	5.52	.619	Poor
GMDQ (DV)	9 Years	64	61.79	6.441	Very poor

Table 2 showed of the subjects of 9 years experienced a delay in Age Equivalents Locomotors Score (M = 4.70) and a delay in Age Equivalents Manipulative Score (M = 3.79). Children aged 9 years 1 day to 9 years 11 months 29 days counted as 9 years [28]. The findings show that children 9 years of age have experienced delays in locomotors and manipulative equivalents. The finding show that, the subjects age 9 years have problems in gross motor development.

Table 2 The analysis showing the age equality

Age	**Mean Value**				
	Chronological Age	**Age Equivalents locomotors**	**Age Equivalents Manipulative**	**lokomotif Delay**	**manipulative Delay**
9 Years	9.30	4.61	5.52	4.70	3.79

5. Discussion

The result of descriptive analysis indicated that the performance of children age 9 years do not develop to the level of Age Equivalents Locomotors Score, Manipulative Standard Score and Age Equivalents Manipulative Score. The lowest score of all is LSS and MSS. This finding indicated the subjects of children 9 years experienced lowest gross motor developmental level based on the mean scores of the LSS, AELS, MSS, AEMS and GMDQ. AEMS(M = 5.62, SD = .62) and GMDQ (M = 61.79, SD = 6.44). The scores indicated the position of children aged subjects were actually in the proper group age. The dependent variable is LSS, MSS, AELS, AEMS and GMDQ and the dependent variable is children aged 9 years.

According to Table 1, the descriptive rating [28] for the LSS, AELS, MSS, AEMS and GMDQ show that the performance of children age 9 years are poor of Age Equivalents Locomotors Score, Manipulative Standard Score and Age Equivalents Manipulative Score. Meanwhile, the performance in Locomotors Standard Score and Gross Motor Development Score are very poor. Therefore, his finding the children of age 9 years experienced poor in level gross motor development. This finding explained that the performance skills of the child should be increased parallel as the age of children increased, [20], but children age 9 years in this study showed are not achieved to the level, so that appropriate intervention should be given for the children gross motor recovery.

This situation occur because children do not know the gross motor skills. According to the researchers [21; 22], lack of knowledge in locomotors skills cause to the whole body movement, stability and flexibility. This finding explained that the problem in locomotors skills are closely related to problems in the manipulative skills. The finding of this study is in line with previous study [5], which stated that manipulative skills have an impact on locomotors skills.

Children age of 9 do not showed a good patterns of gross motor development according to chronological age. This group was still left behind in the AELS, AEMS and Age Equivalents. Delay in the AEL and AEM showed that children age 9 years experienced serious problems in gross motor development. Delays in gross motor skills development explained that the pattern of motor development vary because not all children achieved a similar point at the same age. The children age 9 years who suffered from gross motor development should be supported by providing an appropriate intervention program to improve gross motor development according to their chronological age. According to the researcher [12], children at the age of 9 years should be ready for gross motor development according to chronological age. AEL and AEM Score of children nine years should have mastered basic locomotors skills and manipulative skills. This situation is supported by the findings of the study [2], that increasing age in childhood will affect not only physical characteristics but also influence their skills. Based on the findings, children at the age of 9 years are at the critical phase in gross motor development. Their gross motor development was not according to their chronological age. As conclusion, the gross motor of children in this study are not developed regarding locomotor and manipulative according to the age equivalence.

6. Conclusion

Gross motor development of children should receive attention and being monitored by the teachers who teach physical education. They have to ensure that children do not experience problems in the development of gross motor skills. Unfortunately, the teachers did not know the sub-skills tested in determining the level of gross motor development of children ages 9 years. This factor may have a major impact on the proficiency of the movement and development of gross motor skills of children ages 9 years. This occurs because the physical education curriculum for trainee teachers at the Institute of Teacher Education is seen as not providing teachers with the need to test gross motor development of children, The teachers should strive to attract children to participate actively in the learning of Physical Education in schools.

The problem of testing the knowledge of science gross motor development among children occurred because of Physical Education, trainee teachers at the Institute of Teacher Education do not provide knowledge about the TGMD-2 test, the method of implementation and the need to test gross motor development of children. Relevant parties should introduce relevant test and measurement test of gross motor development of children to teacher trainers and teachers in order to help and child in gross motor development in line with their chronological age. Knowledge should be given to teachers teaching the subject to help them develop teaching and learning programs for children.

7. Future Research

It is recommended that testing or measurement of gross motor development will be used as the main fields for physical education teachers as these will assist them in planning teaching and learning of the children. Therefore, developing a small game for children with delayed physical development can help to improve the level of gross motor development. Knowledge about the level of gross motor development of children can help them to choose the appropriate sport for life-long [4]. This is important because the early childhood development will continue to experience delays in their gross motor development as they are adults.

In determining the gross motor development of the children develop according to chronological age, educational administrators need to ensure the teachers of Physical Education should perform their roles. Children who do not developed gross motor skills according to chronological age, will faces more injuries when involved in sports activities, [10]. In conclusion, gross motor skills should be develop according to the level of the children age.

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Non-traditional Use of Computer Simulation "My Solar System" in Inquiry-based Teaching

Juraj Slabeycius[1], Daniel Polcin[1], Sofia Berezina[2]
[1]Faculty of Education, Catholic University, 034 01 Ruzomberok, SLOVAKIA
[2]Dept. Physics, University of Zilina, 010 26 Zilina, SLOVAKIA
juraj.slabeycius@ku.sk; daniel.polcin@ku.sk; berezi@fyzika.uniza.sk

Abstract

Teaching method plays crucial role affecting students' motivation to learn physics. There are many innovative strategies for teaching physics. One of them is inquiry-based teaching. Investigative approach in physics teaching is very effective tool that gives students the opportunity to try their self-procedures used by scientists in investigation of the real problems. The appropriate object of examination can be an interactive computer simulation. The simulation "My Solar System" developed in University of Colorado Boulder was used for this purpose. Students of grammar school were invited to examine this own "pocket universe". The program simulates movement of 2 – 4 gravitationally bound bodies. The students can measure position, velocity and mass of the bodies versus time. The paper describes step by step how to work with students. The students' activities and obtained skills are described.

1. Introduction

In the last decades Slovak universities feel a decline of interest in engineering study. The cause is not just that these professions are under-appreciated (the most popular jobs are economics, management, law, medicine, etc.), but also in the fact that students have insufficient knowledge and competence in mathematics and physics, which are a necessary prerequisites for successful studying the engineering disciplines. Although the professional level of the best graduates of technological faculties has increased slightly, the average graduate has worse outcomes and competencies in comparison with state of twenty years ago.

To improve this situation, the Ministry of Education adopted in 2008 school reform, which aimed, inter alia, to achieve a greater degree of creativity of students and reduce memorizing encyclopedic data. According to reform, schools were given the opportunity to split some of the teaching hours between subjects in its discretion, divide the class into two groups for laboratory exercises, but, on the other hand, the number of teaching hours for mathematics and physics was significantly reduced. Till yet, in the most primary and secondary schools physics is taught by traditional methods. Modern, efficient methods of teaching are not very extending. Therefore, the issue of increasing the effectiveness of physics teaching is still very important.

Teaching method plays crucial role affecting students' motivation to learn physics. There are many innovative strategies for teaching physics and large number of publications confirms its effectiveness [1]. The fundamental difference between the traditional approach (teacher gives students ready knowledge, and they receive their passive) and modern methods lies in the fact that modern methods require students to work hard and think throughout the lesson because they have to obtain new knowledge alone, or under the guidance of a teacher. In the past decades several new approaches appeared, such as investigative science learning environment - ISLE [2] problem-based learning approach - PBL [3], research based learning method [4, 5], project based learning [6, 7], inquiry based teaching [8 - 10] scientific inquiry method [11, 12] and other. All these new strategies are similar to each other - their common goal is to help students develop understanding of the nature of physics, to support their creative thinking and to deepen their understanding of concepts.

2. Computer simulation in teaching

Physics is an experimental science and therefore experiment play very important role in the teaching. Both, demonstration experiments as well as class experiments have to be an indispensable part of the teaching. However, sometimes can be helpful use a computer simulation instead of experiment. The advantage of computer simulation is that reasonably simplifies physical reality, draws attention to the essential characteristics of physical phenomena and allows visualization also of those phenomena, which is experimentally very difficult if not impossible to observe. A lot of research shows a high efficiency of the use of applets and computer simulation in the teaching [13, 14]. Interactive simulation allows students to change the parameters of the phenomenon and observe the changes brought about, and so better understand the nature of the phenomenon. Therefore, such simulations are very effective tools for inquiry-based teaching.

Investigative approach in physics teaching is very preferable way how to make physics more interesting and attractive. In this approach, the students should, under the guidance of a teacher, investigate some physical phenomenon. The teacher asks students questions and guides them on the path to solving the problem. The students observe investigated phenomena, analyzed them and looking for pattern. They should be able to choose suitable parameters describing the phenomenon and measure them. Then, if it is possible, evaluating dependencies between physical variables and formulate it mathematically.

Of course, such approach requires several conditions: Studied physical phenomenon must be relatively simple, the dependence between parameters must be easy to express mathematically. Necessary experimental apparatus must be relatively inexpensive and available in multiple exemplars, because students must work in small groups (2 – 3 people). Desirable that the apparatus could be easily modified and allow to simply change the parameters of the experiment, so that students can examine different aspects of the phenomenon. Because the financial resources and experimental facilities of schools are limited, we were looking for a way to dispense with expensive apparatuses.

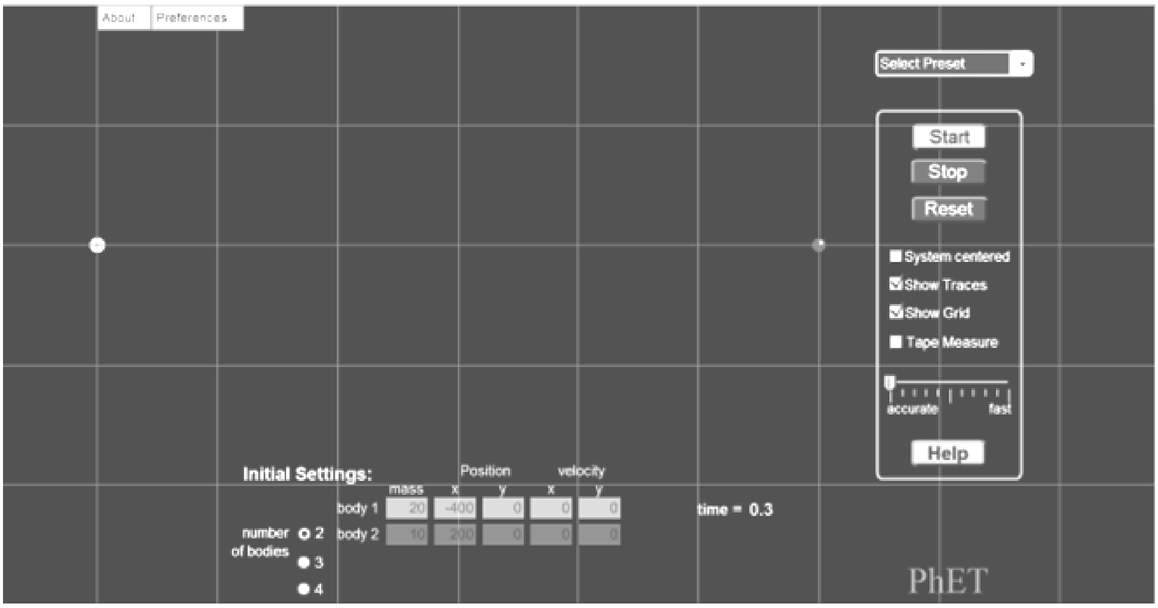

Figure 1. My Solar System

Therefore, we proposed to use instead of the real experiment to work with computer simulation. The appropriate object of examination can be an interactive computer simulation “My Solar System” (MSS) developed in University of Colorado Boulder [15]. The simulation is freely accessible and each student can work with it at home on his PC. The program simulates movement of 2 – 4 gravitationally bound bodies in the XY plane. Program allows the user to set mass of the body (arbitrary positive number) place the body to a point of arbitrary coordinates x, y (only integer) and enter his initial velocity vector v_x, v_y (only integer). The clock shows actual time (Fig.1).
Simulation uses its own units; we named them 1T (tik) for time, 1L (lap) for length and 1M (mot) for mass. Button START run the motion and button STOP stop it. When START button is pressed again, it causes continuance of movement; button RESET returns the system to the initial state. When motion is stopped and cursor is put on the body position, program shows the coordinates and velocity components of the body. Similar to real experiment, these results are not absolutely precise. Accuracy of measurement of time, length and velocity is ±0.1 T, ±0.1 L and ±0.1 L/T respectively. Only mass we can know absolutely accurate. For the proper work with the program it is necessary to set off the SYSTEM CENTERED mode and set the calculation mode to ACCURATE.

3. Work with computer simulation “My Solar System”

The simulation MSS gives large possibility to work with students. There is a variety of tasks, from the simplest ones to complex tasks requiring independent investigative work of students. First of all, the students should be familiar with the program and learned to work with it. Students were encouraged to examine this own "pocket universe". In the next section we will describe briefly how it could look like teacher work with students of guided scientific inquiry.
The instructions were as follows: Imagine that you have just created the universe and you have chosen appropriate units of time, mass and length, so you can examine its properties. We will start with 2 bodies of similar mass (20 M and 10 M, or 20M and 30 M, 10 M and 50 M and so on). It is advantageous if each group of students will select a different combination of masses. Place the bodies on the x-axis, for example into the points (-400, 0) L and (100, 0) L. Initial velocity of both bodies should be zero. Start the program and observe the movement. Reset and start again. Start and stop the motion repeatedly and measure their velocity and position in various stages of movement. Write down intermediate values of time, velocity and position of both bodies. It is preferable to write it into Excel form. Find the position of a point where the bodies collide. How the ratio of the speed of bodies depends on their masses? Calculate (preferably in Excel) the distance traveled by each of the bodies and find how their ratio depends on the masses.
Some examples of this task are shown in Tab.1. In the second part of the table there are calculated values of ratio s_2/s_1 and v_2/v_1. Expected conclusion of students, formulated in words or formula is that the ratio of velocities is equal to the reciprocal ratio of their masses, i.e.

$$\frac{v_1}{v_2} = -\frac{m_2}{m_1} . \tag{1}$$

Of course, our “experimental” data are not quite accurate, as it exhibits measurement uncertainty. As a next step we will discuss students’ observations and conclusions. Edit the formula (1) so, that on the left side of the equation will be only variables related to the first body and on the right side related to the second body.

$$m_1 v_1 = -m_2 v_2 \ . \tag{2}$$

Table 1. Measurement of velocities

t, T	0	7,5	9,3	12	14	14,6
m_1, M	50					
x_1, L	-400	-388,3	-381,3	-366,5	-350,4	-343,7
v_1, L/T	0	3,3	4,4	6,7	9,9	11,8
m_2, M	10					
x_2, L	100	41,3	6,7	-67,5	-147,8	-181,5
v_2, L/M	0	-16,5	-21,9	-33,5	-49,5	-58,9
s_1, L	0	11,7	18,7	33,5	49,6	56,3
s_2, L	0	-58,7	-93,3	-167,5	-247,8	-281,5
s_2/s_1		-5,02	-4,99	-5,00	-5,00	-5,00
v_2/v_1		-5,00	-4,98	-5,00	-5,00	-4,99

Now we can define some physical quantity describing the movement of the body as a product of its velocity and mass – we name it momentum H = m.v. What is the physical meaning of equation (2)? At any point of time is the momentum of first body the same size but opposite direction as the momentum of second body. The sum of both momentums is zero all the time. Therefore, after collision the resulting body will have zero momentum, and, as a result zero velocity. We can verify this by letting the simulation runs into collision of bodies.
How will change the results of the experiment, when the initial velocity of the first body will not be zero, and will have, for example, value of v_0 = 10 L/T in x-axis direction? Trace the change in momentum over time. After analogous procedure we obtain the result

$$m_1 v_1 = m_1 v_0 - m_2 v_2 \,. \tag{3}$$

So, step by step we will guide our students to the concept conservation of momentum, momentum as vector quantity and even to the concept of force and Newton's law of force. Why body changes its momentum? Because other body acts on it. We can define new physical quantity named force as a measure of acting of one body to other. Examine how quickly changes the momentum of the body. Repeat our first experiment with masses twice smaller. We can see that change of momentum is slower. Thus, it is reasonable to define force as a measure of change of momentum in time

$$F = \frac{\Delta H}{\Delta t} \,. \tag{4}$$

The next situation, in which we can use MSS simulation, is measurement of acceleration and investigation how it depend on masses and mutual distance of bodies. Let choose the mass of first body m_1 = 0.001 M and second body m_2 = 100 M with initial velocities equal zero. As we know from first experiment, the velocity of second body will be 100 thousand times smaller than velocity of first one, and so we can neglect it. Second body will stay in its initial position. Place the first body into point (0, 0) L and second body into point (1000, 0) L. Run the program and stop it after few T. How we can measure initial acceleration of the first body? We expect that students know the formulas for uniformly accelerated motion and therefore they propose measuring of acceleration either from formula s = ½ a. t^2 or from formula a = v/t (initial velocity is zero). Of course, it is necessary to discuss the precision of both methods. The students were encouraged to measure the initial acceleration of first body for various initial distances between both bodies (for example 600 L, 800 L, 1000 L and so on). The example of obtained results is shown in Tab.2.

Table 2. Measurement of acceleration

x_2, L	t, T	x, L	v, L/T	a=v/t, LT^{-2}	a=2x/t^2, LT^{-2}	R, L	a.R^2, L^3T^{-2}
600	3,5	17,3	9,9	2,829	2,824	591	988423
800	7	38,8	11,3	1,614	1,584	781	974316
1000	8,9	40,5	9,2	1,034	1,023	980	986934
1200	10,5	38,3	7,4	0,705	0,695	1181	975769
1400	12,2	38,1	6,3	0,516	0,512	1381	980546
1600	17,4	59,5	7	0,402	0,393	1570	980541
1800	19,4	58,6	6,1	0,314	0,311	1771	981118
2000	21,9	60,8	5,6	0,256	0,254	1970	987767
2200	24,1	60,4	5,1	0,212	0,208	2170	987754
2400	25,6	57,3	4,5	0,176	0,175	2371	985897
2600	27,9	57,8	4,2	0,151	0,149	2571	988428
2800	29,6	56,4	3,8	0,128	0,129	2772	987718
3000	33,2	61,7	3,7	0,111	0,112	2969	984729

Expected conclusion of students is that both method of the acceleration measurement give very similar values. To analyze the dependence of the acceleration on the distance we have to construct a graph (Fig.2). Distance R between the bodies was calculated as an average value of initial and final distances, i.e. R = x_2 – ½ x.

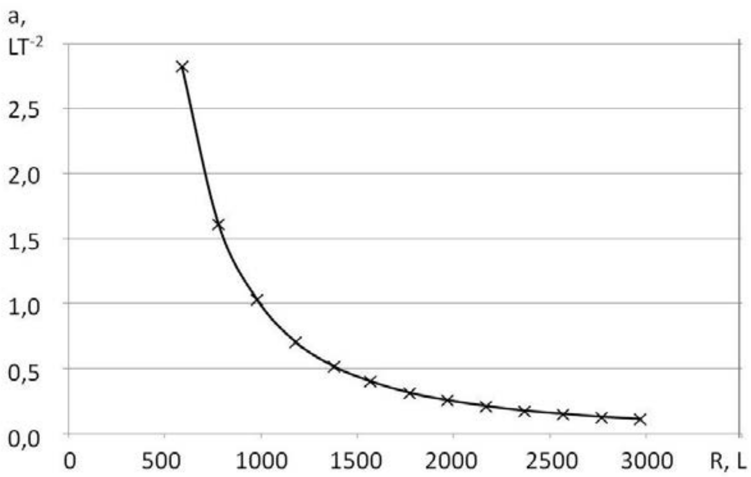

Figure 2. Dependence acceleration on distance of bodies

As we can see from Fig.2, acceleration decreases with increasing distance. For more detailed analysis we have to calculate the product of a.R and then expression a.R^2 for all data from Tab.2. The second attempt is successful (last column in the table) and therefore we can conclude that acceleration is inversely proportional to the square of its distance. Now we have to investigate acceleration dependence on mass of first, resp.

second body. We make some acceleration measurements for m_2= 100 M, 150 M, 200M, 250 M and so on. All other parameters have to be constant. The conclusion is that a is proportional to m_2. Analogously we investigate dependence a on m_1 – result is that acceleration of first body is independent on its mass. Finally, the acceleration dependence can be described by formula

$$a_1 = G\frac{m_2}{R^2} \ , \qquad (5)$$

where constant of proportionality G can be calculated from the last column of the Tab.2. It has value G = 9838 $L^3M^{-1}T^{-2}$. From this result we can easily deduce the gravitational law.

The simulation MSS gives us a lot of other possibilities for guided scientific inquiry. For example, if the students are familiar with concept of energy, we can calculate the kinetic energy of bodies from the values in Tab.1 and investigate how the sum of the kinetic energy depends on mutual distance of bodies. The dependence of kinetic energy on the mutual distance of bodies is shown on the graph in Fig.3.

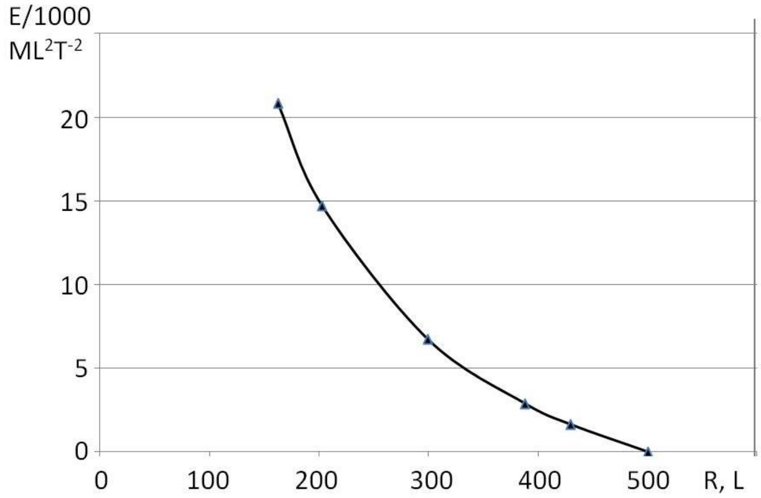

Figure 3. Dependence kinetic energy on distance of bodies

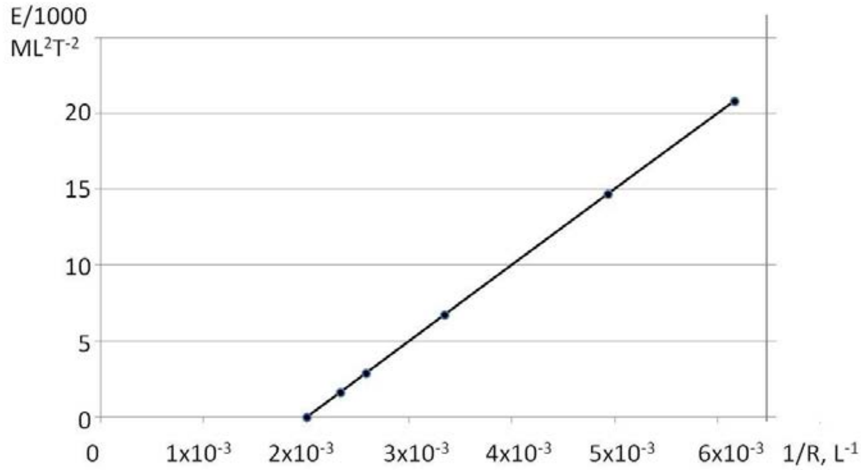

Figure 4. Dependence kinetic energy on inverse of the distance of bodies

Dependence E versus 1/R is shown on Fig.4. As we can see, it is a linear dependence. Therefore we can calculate the parameters of this dependence as follows:

$$E_{kin} = E_0 + \frac{K}{R} \tag{6}$$

where E_0 = -10007 ML^2T^{-2} and K = 5,003 x 10^6 ML^3T^{-2}. From this result we can easily obtain formula for potential energy in gravitational field and also gravitational constant G = 10006 $L^3M^{-1}T^{-2}$. This result is slightly different from previous obtained from acceleration measurements.

4. Conclusions

Modern teaching methods are very effective way how teach science, especially physics more interesting and effectively. Investigative science learning and inquiry based teaching proved its ability to give students more complex knowledge and skills. The understanding of natural law is much deeper and more permanent than a traditional learning. Although the inquiry based teaching gives very good outcomes, most teachers use the traditional method of teaching. There are several reasons why the modern methods of learning are not frequently used.

1. Curricula require teachers take a large amount of material in a relatively small number of lessons. Therefore they have not enough time for active work with students
2. The teachers are not good paid and therefore most of them have a side jobs or extra lessons.
3. Teacher's education is based on traditional teachings; they are not adequately prepared for modern learning methods.

5. Acknowledgments

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Decision-making factors for purchasing a new car in Algeria: A Descriptive Analysis

Mohamed Khalifa REGUIG
PhD candidate, University of Tlemcen, Algeria
Email: mk_reguig@yahoo.fr

Samir B. MALIKI[1]
PhD, Associate Professor, University of Tlemcen, Algeria
samirmaliki@yahoo.fr

Abstract

L'objet de cet article est d'analyser d'une manière descriptive les facteurs déterminants dans la prise de décision d'acheter et de choisir une marque de voiture neuve en Algérie.
La littérature dans ce domaine ne cesse d'introduire de nouveaux facteurs capables de changer la prise de décision en fonction de facteurs internes et externes.

Keywords: Buyer – car_ brand- decision- Algeria

1. Introduction:

The study of consumer behavior has become an important and essential practice in all marketing studies whether theoretical or practical. Since the company by understanding its customers can make reliable marketing decisions.
Indeed, the behavior of consumers as Engel, Blackwell and Minard (1968), includes activities implemented to obtain, use and disposal of products or services, including decision-making processes that precede and follow these actions (Engel and al, 1968).Itamar Simonson and, et al (2001) defines it as a discipline that aims to analyze how individuals, groups and organizations select, buy and use goods, services, ideas or experiences to satisfy their needs and desires (Kotler and *al*, 2009).
While the study of consumer behavior as other studies human behavior, trying to explain the behavior of individuals through a limited number of variable. However, the study of consumer behavior focuses advantage of the activities of choice, acquisition and use (consumption) of goods or service.
The consumer chooses his products based on many criteria, he can do choice on the brand for example. Many factors contribute to brand equity (brand awareness, brand loyalty, brand association and perceived quality), and for the product (implication, familiarity…etc.). Research in the field of consumer behavior has tried to identify and model the psyche of consumers, and that in order to study the variables that determine each consumer.
Consumers are constantly taking decisions. Which product must be bought? Which quality? Where? When? Which brand? With what price? …etc. our study has an objective to determine the factors of the purchase decision in Algeria and to test these factors in the case or when you purchase a new tourist car.

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[1] Corresponding Author: Dr. Samir Baha-Eddine MALIKI, Faculty of Economics and Management, University of Tlemcen, BP 226, Tlemcen, Algeria. Tel/ Fax: +213 (0à 43212166

In addition, we try to explain the key concepts of the purchase decision, the brand and product. For this, the central research question can be formulated as follows: **what are the factors with influence the purchase decision?**
To answer this problem, we have based our analysis to reach of a theoretical outline on the dependent variable (the purchase decision), and the explanatory variables. However, we are going to see the case study in which we have to purchase a new tourist car.

2. Literature review

If the firm really wants to interfere as an expert and evaluate its interventions, it must retrace the way followed by the buyer (Vandercammen and Gauthy-sinéchal, 2006). Yet, researchers like Van Vracem and Janssens-Umflat (1994) suggest that the buyersresponse is not limited by sold quantities and by the parts taken by the firm, but especially to the whole process of buying. According to these researches, the study of process to buy with many types, products and services bought, chosen marks, the use of the consumers and their buying…etc.
From this fact, the decision is known as *« a choice done at a given moment, in a given context, among many possibilities to boost great actions of various changes* » (Charron andSepari, 2004). The purchase decision is a choice of product (or service) very precise among many choices, at a given moment. (AMINE Abdelmadjid, 1999) explains the purchase decision process as « *a psychological way followed by the consumer once he knows that the need is not completed of his choice, use of the good and the evaluation of the performances of the latter* ».
This psychological way followed by the consumer is considered as a representation of the steps and events witch happen during the purchase decision. Researchers in the field have made a purchase decision model which contains five organized and consecutive steps, the knowledge of the problem, research for information, evaluation of the changes, the choice of one of these changes (consumption and use) and evaluation after the purchase (behavior after purchase). (Figure n°1)
D'Astous and *al* (2006) suggest that by constructing this purchase decision process we can latter put the point of the brand choice. That is to say that the brand is among the factors which influence the consumer purchase decision.
In this case, many researchers have been to show the importance of the brand during the purchase decision. Thus Diallo(2011) has observed after the test of a hypothesis that the perception of the consumers of the image of the shop has positive influence directly the purchase intention the distribution brand's (Diallo, 2011). However Aker (1991) has confirmed the influence of the value of the brand on the consumption of product "purchase intention" (Aker, 1991).
Keller (1993) in a research on the conceptualization, the measure and the management of the value of brand has shown the importance of this latter on the purchase decision. Thus (Keller, 1993. PP 1-12),Pappu and *al* (2006) have studied the relationship based on the value of the brand side and the country of origin on the other side. These researchers have proved that the brand is very important factor of decision (Pappu and *al*, 2006)
Ratier (2005) has observed also after having done a study to show the importance of the factors of decision to buy a car through the qualitative study, that the factors of decision are mainly linked to the characteristics of use (reliability, comfort, security, performance economy in use and the functionality), then the psychological dimensions (especially the aesthetics of a car, finish, positives antecedents, by word of mouth), and finally the marketing's variables (the price, brand image…etc.). This study has been realized by French consumers and among 14 brands. The causes of the choice of the brand could be considered as factors of purchase decision (Raier, 2005).

According to Rajneesh Suri and *al* (2003), the brand allows the consumers to identify the provider of a product or a service; it simplifies the purchase process and reduces the perceived risk. Indeed, the clients express what they are through the brand the buy (Rajneesh Suri, 2003). According to Kotler and *al* (2009), the brand can influenced the way in which the clients receive the performance of the products and through the great participation to the evaluation and the intrinsic characteristics and even extrinsic of the products by the consumers. This means that the brand influences the psychological way that the consumer follows (Kotlerand al, 2009).

The most know definition of the brand is that of l'AMM[2]witch defines « *it as noun, term, a sign, a symbol, drawing or any combination of these elements which serve to identify the goods or services of a seller or a group of seller and to differentiate then from the competitors* ». Yet, the brand is a very expensive concept which was defined in many contexts, legal, economical, advertising…etc.).

The juridical definition « *the trade mark, the trade or service is a good sign of a graphic representation serving to distinguish of a moral or physical person* ».(Cit in in laporte-legeaisM. E, 2005). The economists say that the brand is a sign to differentiation and monopolistic profit. Whereas, the specialists in advertising say that the brand is a way of selling in the future in the subconscious of millions of people (Kapferer and Thoening, 1994).

Pappu Ravi and *al* (2006) explain that the capital brand is the value that the client gives to the brand. This value is reflected on the dimensions and the notoriety of the brand, the association to the brand, the perceived quality and brand loyalty. This study has been done on the work of Aker (1991).

Indeed, Keller (2012) gives the following definition « *a brand equity based on the client like the difference provoked by the knowledge of the brand in the manner in which the consumers react to the product and its marketing* ».

Many model have helped to the evaluation of the brand equity, among there, the model of Brand Asset Valuator (BAV), the Brandz model and model of Aaker. The latter is based on the identity of the brand as an essential element to build brandequity. According to this research of, the identity of the brand is based on 8 to 12 dimensions like the quality of the brand, country of origin, its personality…etc. (Kotler and al, 2009. P:317). Aaker defines the brand equity as a collection of active and passive, brand awareness, brand association, the perceived quality and brand loyalty. For him, these four dimensions are the most important for the consumers (Aaker, 1991).

Brand awareness is the capacity of a potential buyer to recognize or to remember that the brand is a member of a certain category of products. There is a link between the class of the product and the brand (Pappu and al, 2006). This notoriety influences the purchase decision. But it is not sufficient for Nedungadi (1990), the brand is then a double spade arm, since the consumers also remember the brand that they do not like.

A study done among 10300 consumers in 9 European countries by the GFK association (2008) has proved that Spanish, Italians, polish and Russians base their purchase decision rather on the brand. This study has confirmed that there is a link between the personal values of the investigation and brand awareness.

Aaker (1991) has identified 4 levels of notoriety classified in sequential way. At first, level zero (the individual has completely forgotten the brand), then the after assist notoriety (a simple knowledge of the brand). The next level is the instantaneous notoriety (the biggest brand that is to say the most known by the consumer) and finally the instantaneous notoriety of the first level (top of mind,these brands come instantaneously to the mind of the consumer when we speak about a spesific product, ex: gaseous drinks – Coca Cola) (Aaker, 1991).

[2] American Association of Marketing

According to Ratier (2003) on the base of Aaker's model for brand equity evaluation, there are four factors of notoriety which give a value to the brand. Before all, notoriety is essential for the aspect of brand image. He creates a feeling of familiarity and brands and it make simply the brand preferred by clients (Ratier, 2003).
Aaker (1991) explain that **Brand association** (attachment to the brand) according to is anything kept in the mind, leaked to the brand. This concept linked to the brand equity has been noticed by many researchers, Onkvisit and Shaw (1987), Park and *al* (1991), Park and Srinivasan (1994), Fournier (1994), Aurier and *al* (2001), Merunka (2002), Michel and Vergne (2004), Matzler and *al* (2006)…etc. The first work has been done by Bowlby in 1979 concerning relations between parents and newborn kids (SmaouiFatma, 2008).
Indeed, according to Lacoeuilhe (2000) the attachment is a psychological factor which translates an evaluating relation guided towards a specific stimulus, which is the brand (Lacoeuilhe, 2000). For this researcher, the brand can be described as a system of communication with the others but also be a sign for oneself. For Cristau (2003) the brand association is « *psychological and emotional relationship strong and last to a brand witch comes from a mixture of friendly feelings and dependence to the brand* » (Cristau, 2003).
Many researchers have identified the dimensions of the attachment, thus Thomson and *al* (2005) identify three dimensions of the attachment, affection, passion and connections (Thomson and al, 2005). Whereas Heilbrunn (2001) has identified six facests of the attachment, hedonic, epistemic, interpersonal substitution, lasting, distribution of values and expressivity (Heilbrunn, 2001).
Smaoui (2008) in a study on the emotional brand association has determined two categories of the explicative variables of the brand attachment. The relational variables and the variables linked to the product. The first category describes the relationship of the consumer to the brand, there are for variables for this category: satisfaction, confidence, nostalgic connections and image-individual relationship. The second category contains three variables, category of the product, implication in the category and country origin of the brand.
Brand loyalty is defined as an attachment; a constancy of the relation in time (Noye, 2004).That is to say this brand is a first choice of the loyal consumers. Aaker has proved that fidelity of the consumers is the essential element of the brand equity. This fidelity depends on the consumer's satisfaction, of the costs of the passage from one brand to another, and of affective relationship between the brand and its consumers (Ratier, 2003).
Brand loyalty provokes a total change of purchase behavior. However, Olivier (2006) has defined loyalty as « *a profound engagement to purchase or to consult again a product or service against the situational factors and efforts of the market which can provoke a change in the purchase behavior*» (Kotler, 2009).
There are two forms of loyalty according to Lehu (2003), the induced loyalty and sought loyalty. The first form relates to the product. Certain categories of products are good to be used in the natural development of a process of loyalty when the consumer's choice is limited by continuing tp purchase the same product/ or service of the same brand. thye second from contains all the elements aiming at seducing the consumer freely until his complete loyalty. Kotler (2009) distinguishes two types of loyalty, one linked to the behavior (it means the buyer always purchases the same brand), and the other linked to the attitude (based on the great brand association) (Lehu, 2003, P: 43 – 68).
Researches on the brand loyalty are numerous. The subject has been discussed in many researches. Pessemier (1959), Cunningham (1967), Newman and Werbel (1973), Jacoby and Chesnut (1978), Drigotas and Rusbult (1992), Dick and Basu (1994), Olivier (1997)…etc. N'goala (2003) in a study on the measure of the brand loyalty of the consumer in a relative perspective thinks that there is a lasting engagement of the brand loyalty on one side, the answers this loyalty facing the critical incidents which come to show the relationship for example continuity / change, cooperation / conflict, loyalty / disloyalty. This researcher has measured loyalty according to two approaches, relational and multidimensional (N'goala, 2003).
The perceived quality is an essential element of the brand equity, it's the idea that me get think of the sensation and opinion that we have. According to Giordano (2006) there are two explications of the perceived quality especially for the material products. The first American explanation considers that the perceived

quality makes the consumers satisfaction and represents a global system of judgment, and the second European explanation which considers the immediate, relational and subjective perceptions of the detail, that the consumer has towards the product (Giordano, 2006).
Indeed, studies on the perceived quality are numerous, thus Grönroos (1984) and Parasuraman and *al*. (1988), Cronin & Taylor (1992) have studied the quality as a result of a process of evaluation where the clients compare their dealing with the received service. Other researchers have participated in creating models on the perceived quality. Parasuraman and *al* (1985) and (1988), Jougleux (2005)…etc. (Balin and Giard, 2007). Many authors have been interested in the perceived and electronic quality and its scales, Donthu (2001), Loiaconoand*al* (2002), Wolfinbarger M. andGilly M. C (2003) ; Jayawardhena (2004), Ming-Hui (2005), Parasuraman, Zeithaml and Malhotra, (2005)…etc. (Ginotti, 2006).
The concept of the perceived quality is multidimensional. Chumpitaz and Swaen (2004) hasproposed two dimensions: quality of the product (dealing with the performance of the brand), and quality of service (dimensions of the service), this study is based on the work of brady and Cronin (2001), Grönroos (1984), Parasuraman (1985) and others. Other researchers have proposed another concept of the perceived quality in three dimensions or even five. Thus, Grönroos (1984), Rust and Olivier (1994) showed that there were three (03) dimensions of the perceived quality (technical quality, functional quality and environment). Parasuraman and *al*. (1991) suggest five dimensions (helpfulness, empathy, reliability, assurance and the presence of tangible elements (Chumpitaz and Swaen, 2004).Aakerhas proved that the perceived quality gives a reason to purchase and a looked for differentiation. It also allows increasing the prices and other parts in the market.
From these four variables linked to the brand equity especially the brand awareness, brans association, brand loyalty and perceived quality, we proposes the following hypothesis to answer all the problems of our research:

H0: the variables linked to the brand equity are seen as variables for the purchase decision.

Tlili (2010) in a study on the explicit antecedents of the nature of the choice of a product, confirms from his study that the variables concerning the individual (need to know, and affective orientation) and the variables linked to the products (implication, familiarity and nature of motivations) can totally explain the nature of the evaluation wanted by the individual. Yet, the same research confirms the necessity to look at these variables especially the variables linked to the product in the analysis of behavior in choice of the consumers (Tlili, 2010). Our study deals with the variables linked to the product.
The implication is one of the most important concepts that we consider in the objective to explain the consumption's behaviors. It can be defined as «*characterized motivation of the importance, interestand the attraction of the consumer towards a product*» (Dubois and Jolibert, 2005). According to Volle (1995), the implication varies depending on the types of consumers, products and situations in purchase. It can be moderated by the perceived risk linked to the purchase of product or its destination (Volle, 1995. PP: 39 – 56).
The subject of the implication has been used in many studies in marketing after its introduction by Krugman (1966). Indeed, the subject has been tackled by many researchers, Houston and Rothschild (1978), Costely (1988), Eagly and Johnson (1989), Petty and Cacioppe (1990), Millar and al (1990), Edward (1990), Strazzieri (1994)…etc. (Volle, 1995).
According to the researchers, the implication has three types and three approaches. Thus, Costely (1988) identifies three approaches of the implication, cognitive approach based on the state of the individual and the other approach based on the answer. Eagly and Johnson (1989) give three types of the implication (an implication linked to the treatment of the individual, an implication linked to the value of the individual and the one linked to the impression) (Tlili, 2010).
Different scales have been made to measure the implication. The scale of Kapferer and Laurent (1986), and scales of Zaichkowsky (1985) and Strazzieri (1994). The first scale prefers the measure of five antecedents (degree of personal interest, value of the pleasure, perceived importance of risk, appreciation of the

probability to a mistake and the value of the sign given by the consumer. The other scales are much easier because they consider the implication as a dimensional concept (Dubois and Jolibert, 2005).

The familiarity as a concept was not neglected by researches in marketing. Many researches have been done for this subject, Russo and Johnson (1980) and (1984), Marks and Olson (1981), Bettman and Parks(1980) and Hitchinsonet Alba (1987) on the cognitive or affective evaluation, Brucks (1985), Rao et Sieben (1992)…etc. (Tlili, 2010).

Familiarity is a rich concept to which many definitions can be given. Its shows «*all that the consumer knows about a category of products* » (Russo and Johnson, 1980). It is also defined according to Alba and Hutchinson (1987) as a number of experiences linked to the product gathered by the consumer

According to Tlili (2010), the familiarity which is the experience that the consumer possesses towards a product has an important impact on the complexity of its processes of decision (Tlili, 2010). This research is based on the fact that an individual who thinks he knows a category of products can evaluate differently from the one who has the feeling that he know little. Its means that familiarity with product reduces the cognitive effort to evaluation. Then, the consumer purchases the product almost automatically.

The nature of the motivations is a variable linked to the product which is interesting in the analysis of the consumer's behavior in their choice. The motivation towards a product according to the work of Tlili (2010) is a concept which gives a better explanation of the behaviors of choice and the processes of decision.

Literature has given many definitions of the motivation; all these definitions have nearly the same sense. But there are many other theories which explained the needs and motivations, it depends on the perspectives. Indeed, Dubois and Jolibert (2005) proposes the following definition « *motivation is the psychic force which incites the individual to act, to behave to reduce the state of tension and satisfy his needs by guiding there to one object*»(Dubois and Jolibert, 2005). « *the motivation indicates the process which incites the individual to act, when we need something. It creates a tension which incites the person to act in order to satisfy his need*» (Solomon and al, 2005).

Many theories have suggested the subject of the motivations and the needs, for example the Freud theory (1916), Neo-Freud theory Adler (1958), the theory of the awakening of the needs, the theory of Maslow (1954), the theory of the self-concept Surgy (1982), the theory of value and the theory of the implication …etc.

Other researches have put the stress on the nature of the motivations as a starting element in the basis of the behaviors. Thus, Vallerand and Thill (1993) has suggested that motivation represents « the hypothetical build base used to describe the external and internal forces producing the start, direction, intensity and persistence of behavior » (Vallerand and Thill, 1993). In the same context, many researches have been done like the types of motivations and its influence on the processes of decision, DeciansRayn (1985), Deci (1975), Holbrook and Hirschman (1982), Maclnnis (1985)…etc. (Vallerand and Thill, 1993).

From the analysis of these three variables linked to the product especially the implication, familiarity towards a category of product and the nature of the motivations, we proposes the following hypothesis to us:

H1: the variables linked to the product are studied as variables of the purchase decision.

The combination of all the variables leads as to propose the following conceptual model:

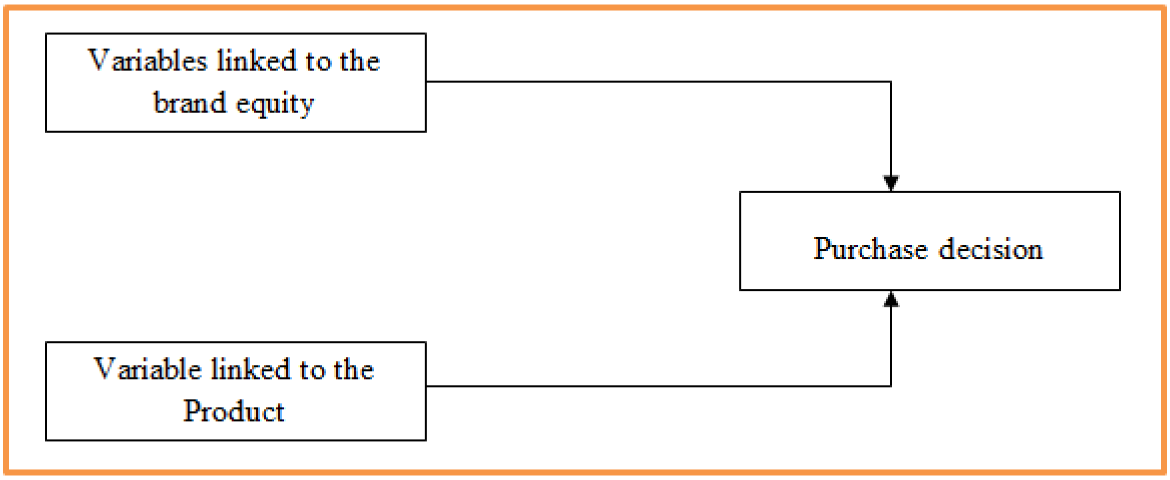
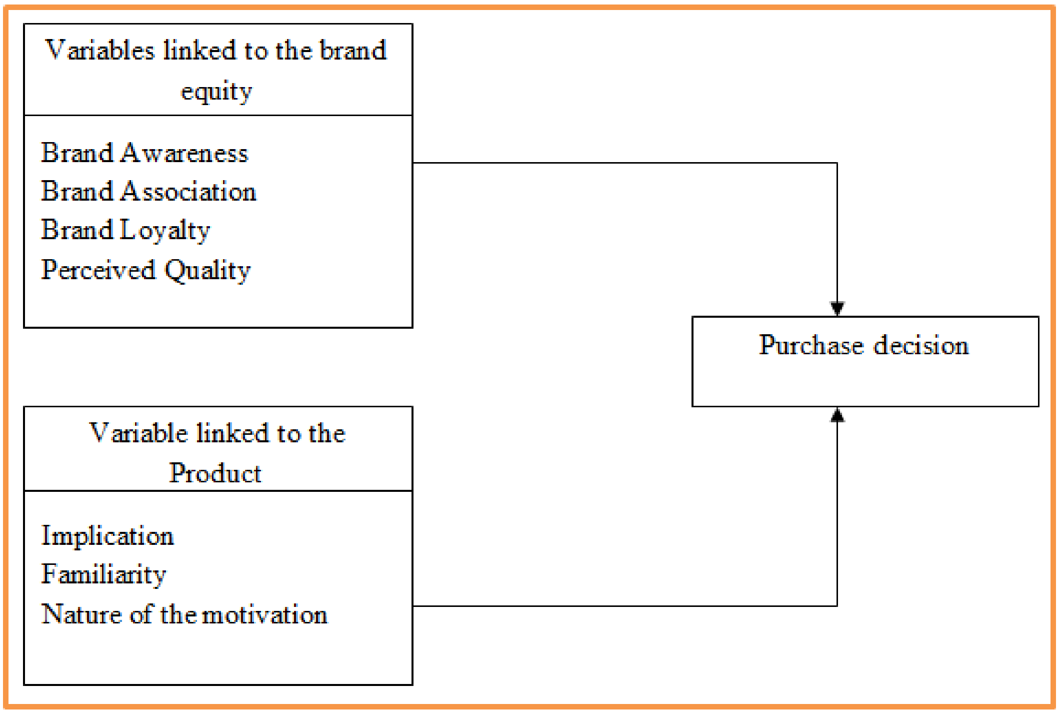


Figure1: Preliminary model

According to Aaker (1991), a brand capital (brand equity) contains the brand awareness, brand association, brand loyalty and perceived quality. And the model of Tlili (2010), the variables linked to the product are implication, familiarity towards the category of motivations, and after combination of two models our conceptual model can be detailed in the following way:

Figure 2: proposed conceptual model



3. Sample and source of data

We conducted a survey among a random sample of 748 car buyers during the period of November and December 2013.

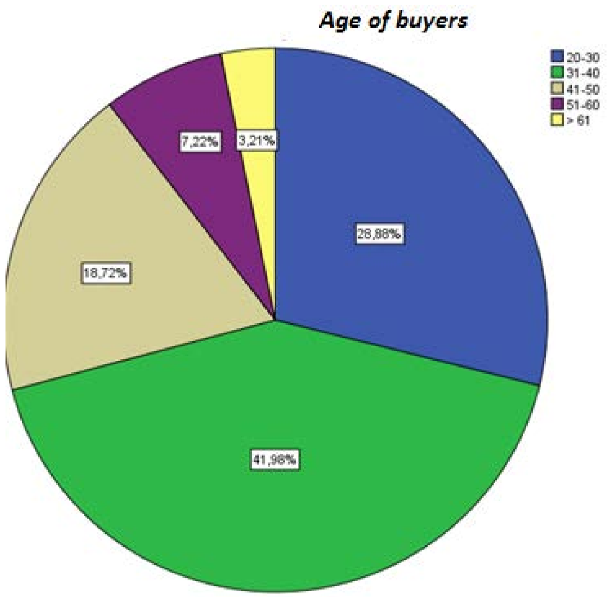
We took advantage of the auto fair to question the maximum of buyers.
After a rigorous control of various questionnaires, we have in our database only 748 valid questionnaires.
Our questionnaire concerns socioeconomic characteristics of buyers and perceived quality after purchase decision.

4. Descriptive results

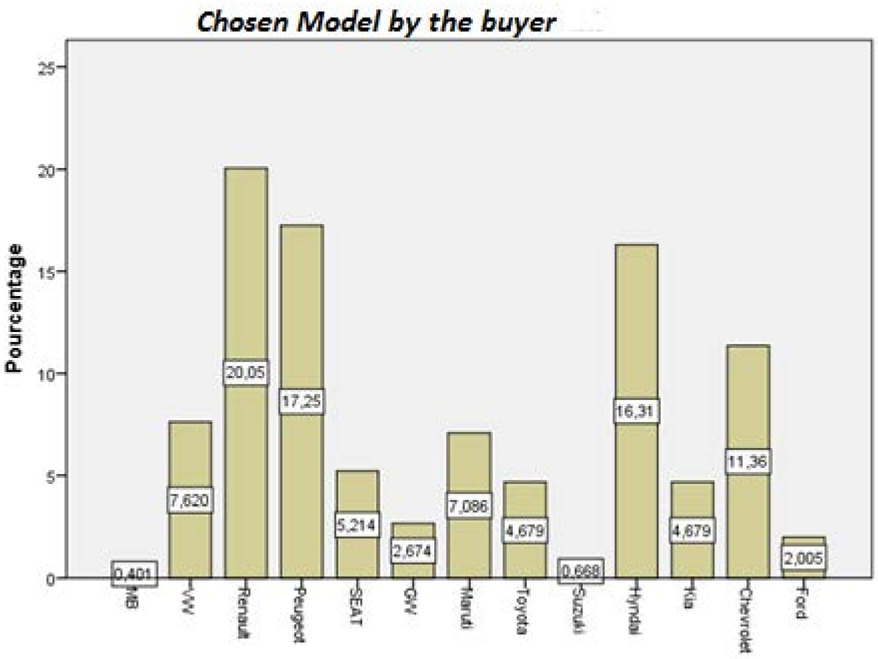
The descriptive results of the survey are as follows:
Regarding the kind of buyers, the table below shows that nearly 80% of buyers are male.

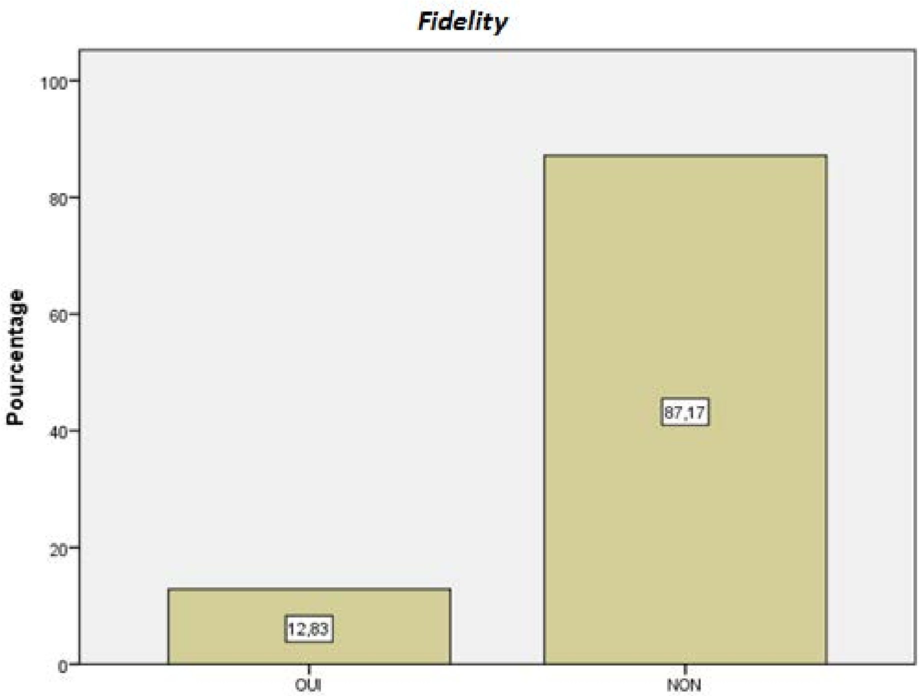
Gender		Frequ.	Percent.	Valid Percent.	Cumul percent.
Valid	Man	594	79,4	79,4	79,4
	Women	154	20,6	20,6	100,0
	Total	748	100,0	100,0	

In terms of age, we notice the dominance of young buyers less than 40 years. They account for 70% of buyers in our sample. The rest is divided among the other age categories.



The car models chosen by buyers show that French cars still occupy first place with 20% for the Renault brand and 17.25% for the Peugeot brand. Hyundai and Chevrolet are the second and third position respectively.





For brand loyalty, the results of the survey explain a large non loyalty 87.7%. This is mainly due to the young age of buyers. This shows that the variable age tend to be brand loyal.

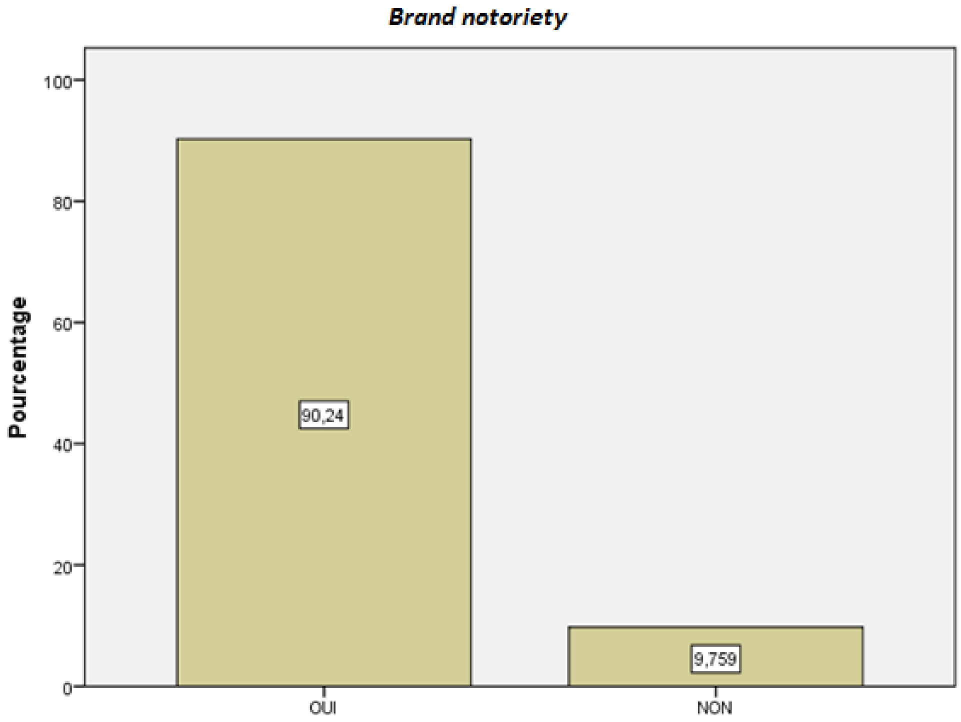
Implication

		Freq.	Percent.	Valid percent.	Cumul Percent.
Valid	Yes	671	89,7	89,7	89,7
	No	77	10,3	10,3	100,0
	Total	748	100,0	100,0	

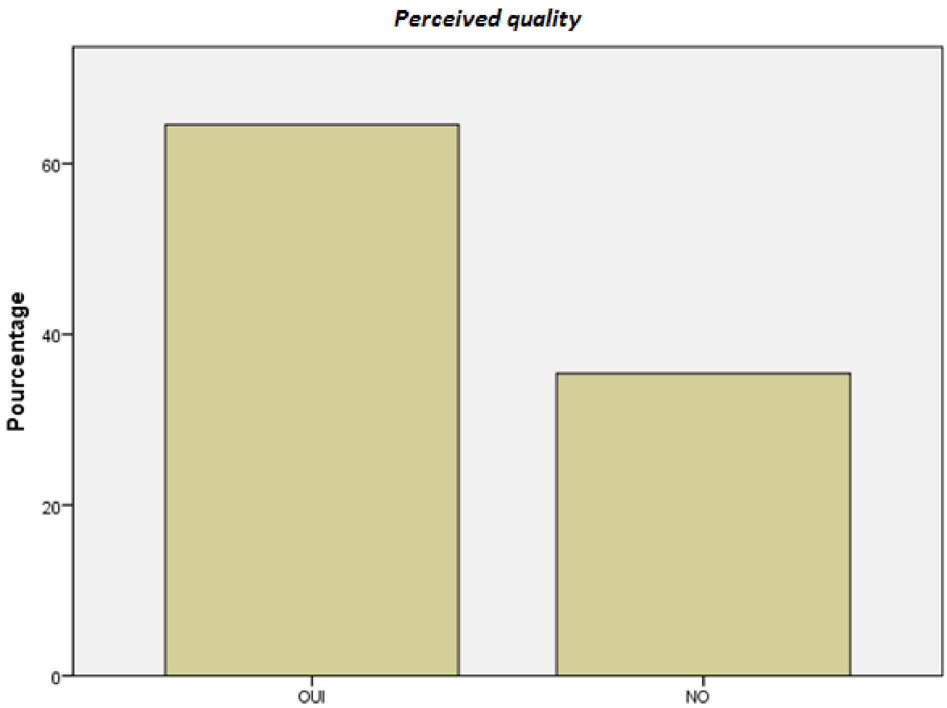
If we consider the involvement, commitment to the brand and reputation, we can see that the buyer is involved in general with nearly 90% and is looking for brand awareness, but this does not make it attached to that brand. Which leads us to conclude that there's other factors that may influence their purchasing decision?

Brand loyalty

		Freq.	Percent.	Valid Percent.	Cumul Percent.
Valid	Yes	54	7,2	7,2	7,2
	No	694	92,8	92,8	100,0
	Total	748	100,0	100,0	



In terms of perceived quality, the buyer receives 90% this quality. Only 10% of respondents admitted to not perceive the product quality.



5. Conclusion

The objective of this paper was to know the factors that influence the decision to buy a new car in Algeria, through a random sample of buyer.
The results show that the decision was based on several socioeconomic and environmental factors.
If age is a determining factor in the choice of the car, the brand perception in turn is based on other multidimensional factors.
These descriptive findings can help manufacturers and sellers to understand the buying trends of new cars in Algeria.

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Integration of LabVIEW for Novel Interactive Learning Courseware on Digital Electronics

Yap Wing Fen, Luqman Al-Hakim Mohd Sabri
Department of Physics, Faculty of Science, Universiti Putra Malaysia,43400 UPM Serdang, Selangor, Malaysia
Functional Devices Laboratory, Institute of Advanced Technology, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia
Email: yapwingfen@gmail.com

Abstract

Digital electronics involves communication between systems or instruments in digital form. Digital electronics is an important field in physics and engineering, and included in the syllabus in almost all higher learning institutions. The main objective of this study is to develop an interactive learning courseware for Digital Electronics with the integration of LabVIEW applications in order to facilitate the learning process of Digital Electronics. The novel developed courseware mainly covers the basics of digital electronics. The integration of LabVIEW enables students to get hands on real time experiences as in a real laboratory. These virtual laboratories can be accessible anytime and anywhere. Students can interact with the courseware which makes the learning process more dynamic.

1. Introduction

It is without a doubt that Digital Electronics stands as a basic fundamentals for students in the physics and engineering courses. The knowledge of digital electronics is prior to learn higher level languages and communication system in machines. Therefore, these fundamentals must be made to be easily understandable by students from different background, other than physics, instrumentations or engineering. Today, there are common needs to adapt these fundamentals for the students with different backgrounds [1]. As the ever evolving world of technologies, electronics have replaced and taken over our daily life routine. Basic digital electronics knowledge might then develop into an even greater idea for innovations.

In order to strengthen the fundamental of the subject, an effective method must be used to conduct the learning and teaching process. Using interactive multimedia orientated teaching material is one of the methods that have been proven to be successful [2]. Each type of teaching aids can lead to different results which are significantly higher than normal teaching methods. Normal teaching methods such as reading from text books and verbal methods may not be sufficient for the student to get the full comprehension on the related subjects. Students need to have hands on leaning experience in order for them to get the full latch of understanding on the topic. Interactive learning aid is one of the alternatives.

Previous research shows that computer aided learning in higher education are still in progress [3]. There are still rooms for improvement and upgrade especially on the content of the courseware. For digital electronics, most courseware revolves around lab experiment, yet there is still a specific courseware on teaching the basics. Furthermore, for practical exercise on digital electronics, the main problem is the equipment availability and the expensive instruments involved. The difficulties by the traditional laboratories are the lack of equipment needed as well as the proper instrument for various lab exercises [4]. Hence in this study, we propose the integration of LabVIEW in our novel interactive learning courseware on the subject Digital Electronics. Virtual laboratories, such as LabVIEW, enable the students and the educators to interact with real laboratory equipment from anywhere, provided they have a working electronic bench. In addition to such easily accessible features, a virtual laboratory is believed to have the potential to be tailored into specific design based on the needs. The range and variety of experiments are vast and there are rooms for mistakes, without damaging the real time instruments which are expensive.

2. LabVIEW method

LabVIEW enables the real-time simulation, such as simulation of the logic gates. The simulation is an excellent addition to the courseware as the user can interact with the courseware directly. LabVIEW program is called a virtual instrument (Vi). A setup of virtual instruments can make up a simple laboratory exercises. The lab exercise is chosen base on the topic and also the complexity of the circuit itself. Figure 1 shows the block diagram window where the visual programming takes place. In the block diagram, the components are dragged on and connected via connecting wires which can be acquired from the tools palette. There are colour codes that represent different function, e.g. blue wires and diagram box represents the integer data type, pink boxes represent strings. Components or instruments can be added into the block diagram by right clicking and choose the desired instrument. These instruments or components are virtual representative of an actual instrument.

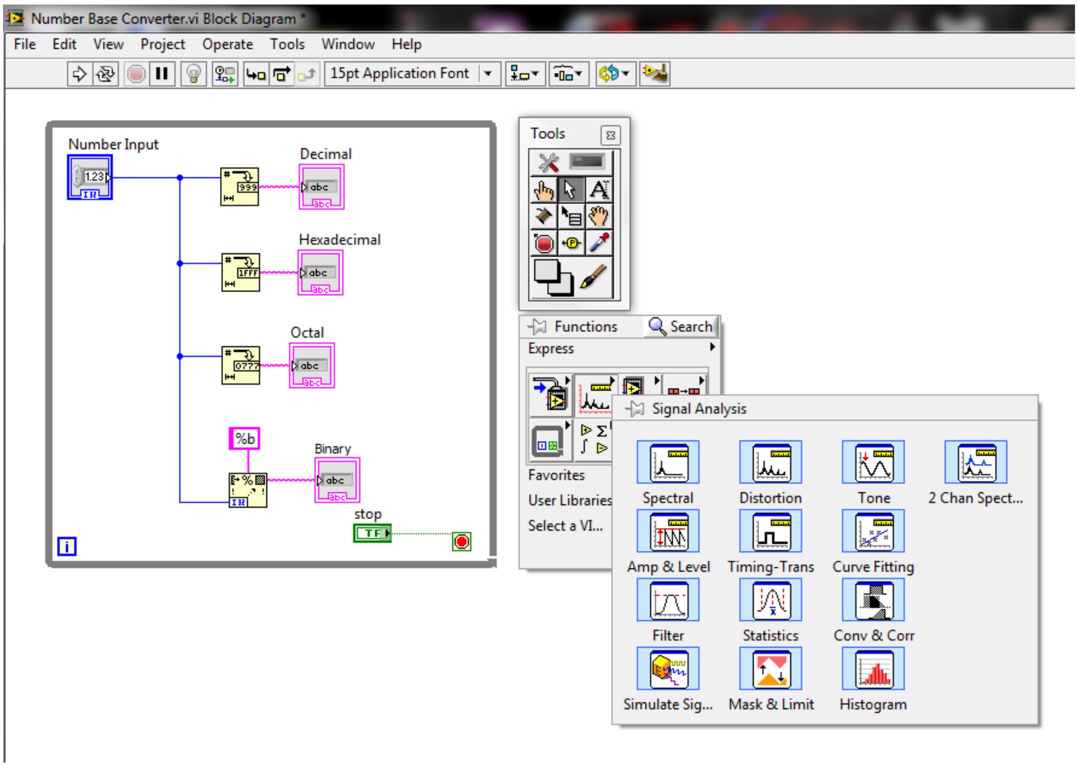

Figure 1. LabVIEW Block Diagram Window

In order to use LabVIEW in the courseware, the Vi must be saved into a standalone application. A standalone application is the application that does not require parent program to run. In this case, the standalone application of LabVIEW in the form of .exe files can be run without installing LabVIEW on the target computer. To produce a standalone application, we must create a new project for the particular Vi. The option can be found under the tab “File” > “New project”. To build an application, the option can be found under the tab of “Build Specification” as shown in Fig. 2. However, LabVIEW Runtime Engine is necessary for the target computer. The runtime engine contains the entire database and the library needed for the components in LabVIEW to work. The installation of the runtime engine can be done by attaching the installer along with the courseware's package. Hence, the user can install the runtime engine first before using the courseware.

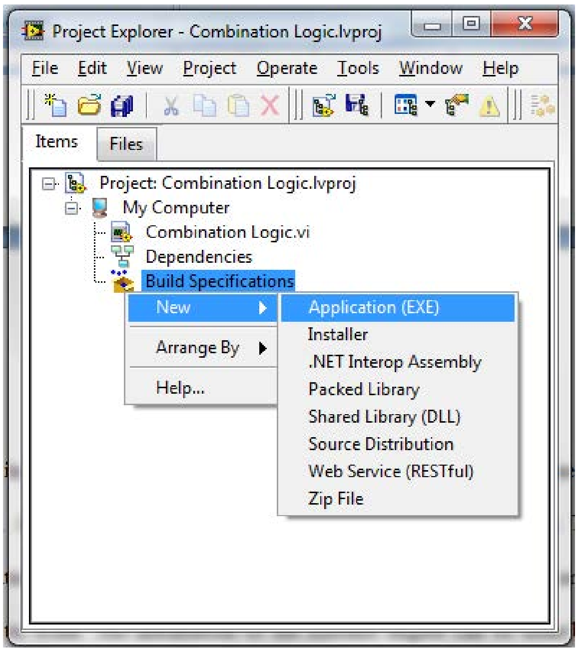

Figure 2. Building LabVIEW standalone application

3. The courseware

This courseware covers four basic topics of digital electronics, i.e. numbering systems, logic gates, boolean algebra and combinational logic. A brief introduction at the beginning of the courseware and quizzes at the end of every topic are also included. The courseware is developed based on the needs of making learning more dynamic and effective. It is useful for students in higher learning institute, with or without prior knowledge on digital electronics. The explanation and examples are easy to understand for the users. The courseware is interactive, which means that there are interactions between the user and the courseware. Users can navigate through the topics easily at their own will. The courseware graphical appearances are interesting and eye-catching.

Figure 3 shows the welcoming screen once the user starts the application. A LabVIEW runtime installer is attached via the button as in the Figure 3. The user need to first install the runtime engine in order to use the LabVIEW exercises later on in the courseware. Upon pressing the button, a window will pop up with instructions to install the runtime engine. The runtime engine will take a few minutes to install depending on the speed of the user's computer.

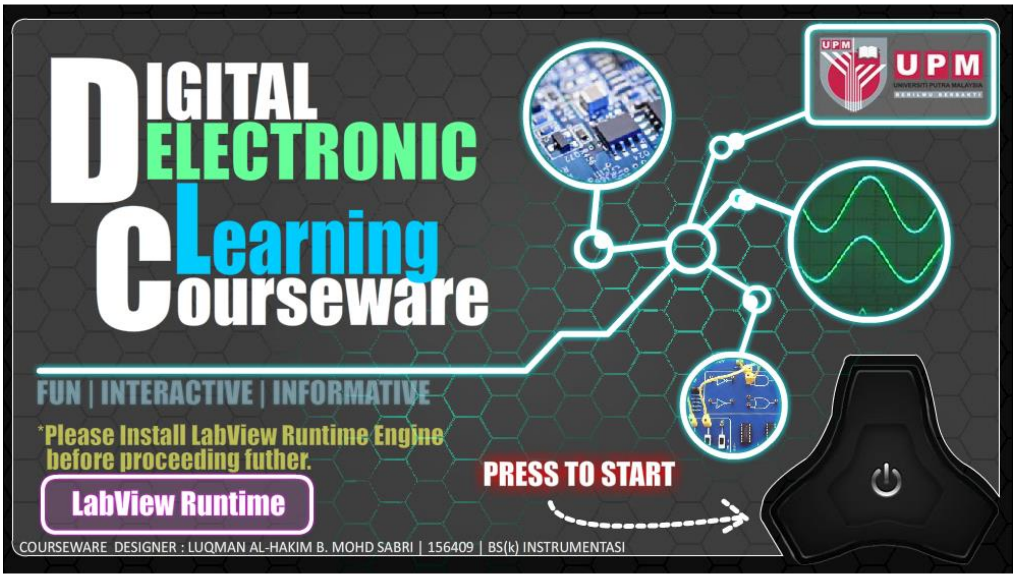

Figure 3. Welcome page of the courseware

After the LabVIEW runtime engine has been installed, the user can proceed by pressing the start button. Users will then be directed to the home screen as shown in Figure 4. The home screen contains side menus for the users to choose from. The side menu buttons are interactive and will automatically provide its description when the mouse cursor hovers on the buttons. Upon clicking the button, the user will be directed to the desired topic. User can always return to this home screen via the home screen button that is located on every pages of the courseware.

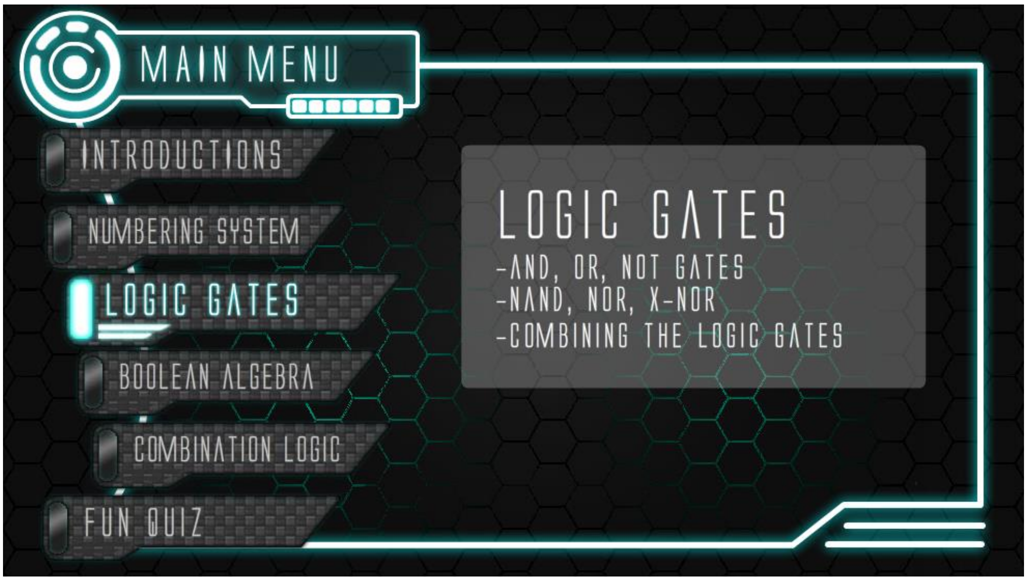

Figure 4. Home screen of the courseware

3.1. Integration of LabVIEW in Numbering System

On of the topics in the courseware is the numbering system. This topic includes four basic numbering systems namely Binary, Octal, Decimal and Hexadecimal. Figure 5 shows the numbering system selection menu with step-by-step instruction on converting the numbers to different bases.

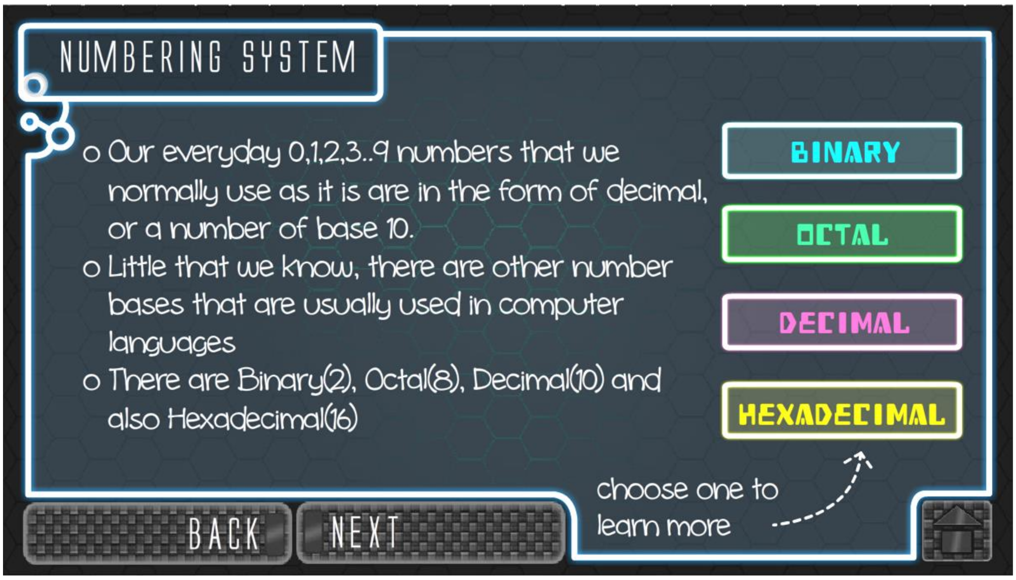

Figure 5. Numbering system menu

A LabVIEW element has been included in this topic. The LabVIEW application is used as a number base converter. It works like a calculator, where user can put in any number in the input box, and the number will be converted to all binary, octal, decimal and hexadecimal numbers. As shown in Figure 6, the number input can be any numbers and it will convert to other base numbers instantaneously. The program can be run and stopped with the buttons provided in the graphical user interface.

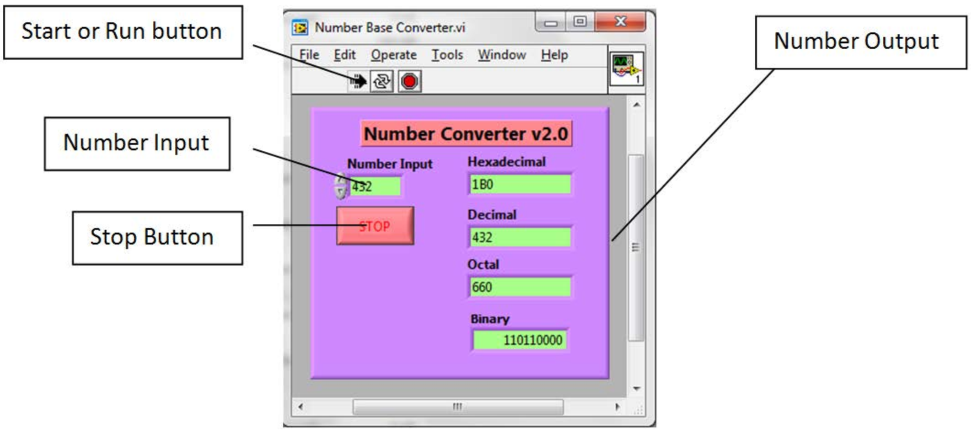

Figure 6. Number converter using LabVIEW application

3.2. Integration of LabVIEW in Logic Gates

Logic gates are the basic building blocks of a digital circuit. There are a few logic gates that are discussed in this topic, i.e. NOT gate, AND gate, OR gate, NOR gate, NAND gate and also XNOR gate. A logic gate has two or more inputs except for NOT gate, which has only one input. At any given moment, every terminal of the logic gate is in one of the two binary conditions, which is low(0) or high(1), represented by different voltage levels. The low state is approximately zero volts (0 V) whereas the high state is approximately five volts positive (+5V) depending on the circuit. In this part of the courseware, the logic gates are explained with their basic information, symbols, equation and also their truth table. User can hover over the truth table button to see the truth table. Figure 7 shows the example from the courseware for the OR logic gate.

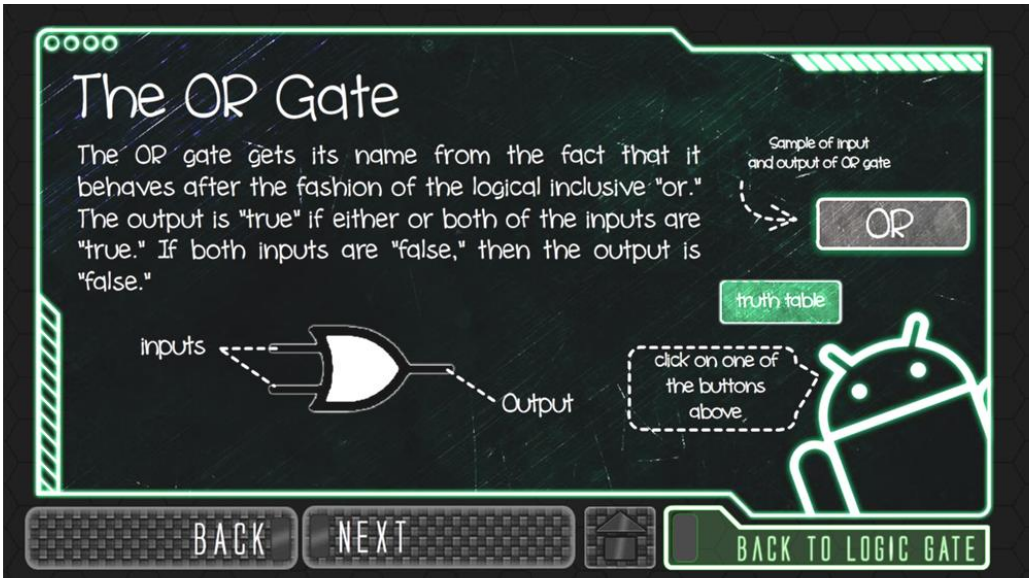

Figure 7. OR gate logic page example

A sample output application, as shown in Figure 8 was developed using LabVIEW. The application shows the output change in the form of timing diagram. In the LabVIEW application, the inputs are both A and B. The output of the logic gate is A + B, implying the OR function. If any of the input is 1, or HIGH, the output will be 1, since 1 + 0 = 1. If and only if both of the outputs are 0, then the output will be 0.

The circuit for the output is constructed in the block diagram of LabVIEW, as shown in Figure 9. Both of the inputs are in the form of "Boolean Array Input". The inputs are both wired to a digital waveform converter since both of the inputs are in form of array. They need to be converted to a digital signal first before they are connected to a digital waveform graph and to the OR gate. The whole circuit is placed inside a "while loop" to keep the program looping until the user stops it manually. All of the logic gates have the sample output which follows this method in LabVIEW.

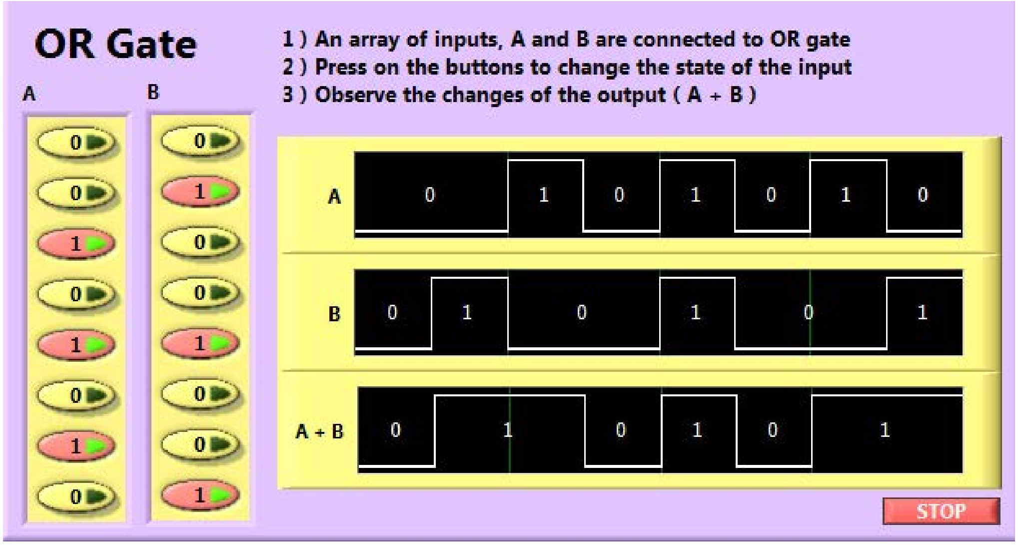

Figure 8. OR logic gate sample output in LabVIEW

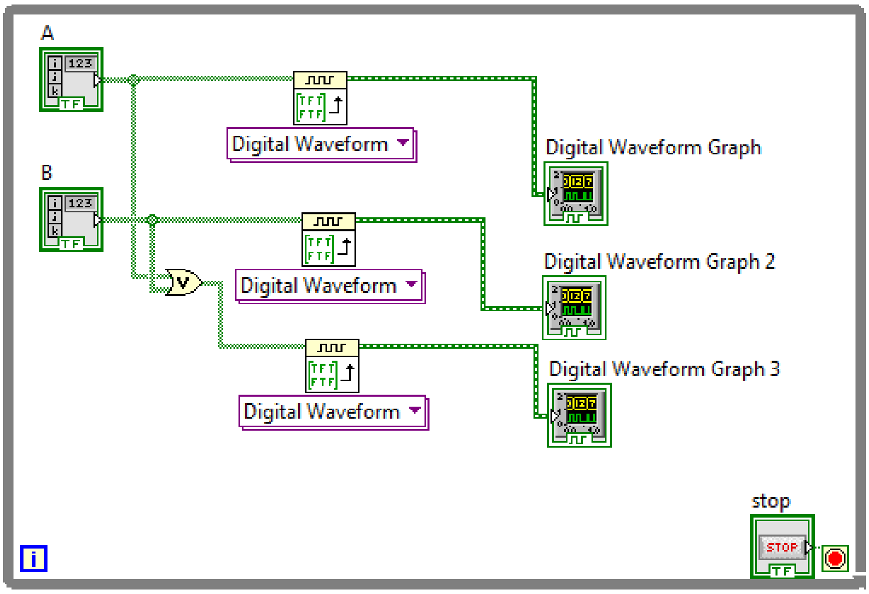

Figure 9. LabVIEW block diagram for OR gate sample output

3.3. Integration of LabVIEW in Exercises and Quizzes

LabVIEW element has also been included in the exercises and quizzes at the end of each topic. For instance, LabVIEW application has been used to develop a quiz in logic gates. Users can interactively choose and find the correct logic gate provided the inputs and output, as shown in Figure 10.

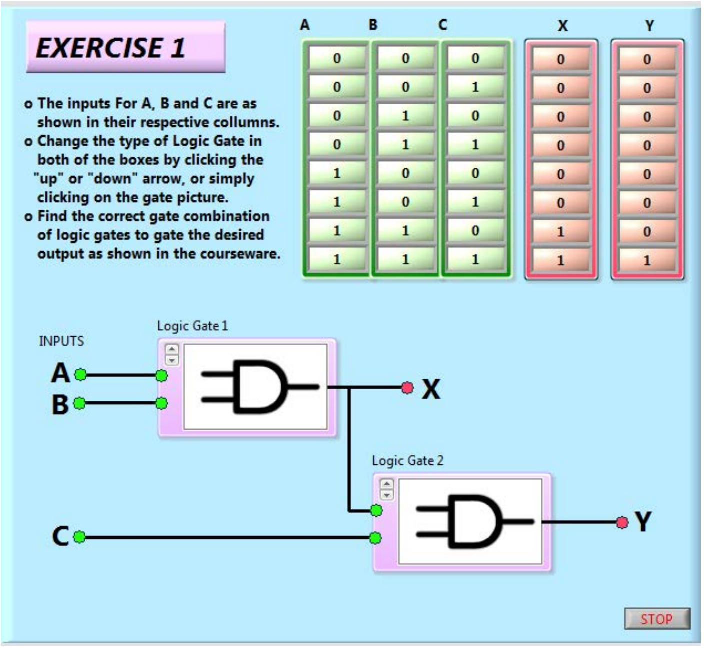

Figure 10. One of the exercises for Logic Gate using LabVIEW

4. Conclusion

This interactive courseware can be as a teaching aid: to help students understand the topics regarding digital electronics. The content of the courseware are complete with explanation, step-by-step tutorial, graphic and animation. Combination of these elements can definitely produce an efficient interactive learning courseware. The LabVIEW application that integrated in the courseware can also help users to visualize the concept, as every simulation can be studied directly. The timing diagram for logic gates can be observed in real time, which is way better than only picture or diagram in the text book.

5. Acknowledgement

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The Impact Of Budget Deficits On Macro-Economic Variables In The Nigerian Economy (1981 – 2012)

Prof. B. O. Osuka
Department Of Banking & Finance
Imo State University, Owerri, Nigeria.
AND
Achinihu Joy Chioma
School Of Post Graduate Studies
Imo State University, Owerrr, Nigeria.

Abstract

This study examined the impact of budget deficits on macro-economic variables in the Nigerian economy for theperiod 1981-2012. This study sought to find out if there is a long-run relationship between budget deficits and other macro-economic variables in Nigeria. The study used the Augmented Dickey-Fuller (ADF) methods for finding out the presence of unit root in all variables and found that they are stationary at first differencing; they are 1(1). We also used Johansen Cointegration test to check for the cointegration of the variables and found that the variables in the study are all cointegrated of order one showing the presence of long-run relationship between budget deficits and our selected macro-economic variables (GDP, interest rate, nominal exchange rate and inflation rate). The Granger Causality results reveal that there is a uni-directional Granger-causality between Budget deficits and GDP with GDP granger causing budget deficit. However, the test for causality showed that there exists no causality between deficits and interest rate, budget deficits and inflation and budget deficit and nominal exchange rate. We thereby concluded that budget deficits exert significant impact on the macro-economic performance of the Nigerian economy. The study recommend that since budget deficits could crowd-in investment through its reducing effects in interest rate, but emphasis should be placed on capital goods expenditure to make it have positive effect on GDP and thereby contribute to economic growth and development.

1. Introduction

1.1 Background Of The Study

Fiscal policy refers to that part of government policy concerning the raising of revenue through taxation and other means and deciding on the level and pattern of expenditure for the purpose of influencing economic activities. This means that fiscal policy deals with taxation, public borrowing, public expenditure and other revenues aimed at influencing economic activities for the achievement of certain desirable macro-economic goals (Anyanwu, 1993). Fiscal policy also aims at the use of government budget to influence economic activities which could be deficit, surplus or balanced. It is deficit when government expenditure outweighs its revenue. Governments' world over often engage in massive investment activities (fiscal deficit) which is believed will not only enhance the development of the domestic economy but also situate the economy on the path of sustainable growth.

Deficit fiscal operations involves the pursuit of fiscal deficit policy which is intended to stimulate the economy through the injection of 'free money' from the central bank of Nigeria or borrowing from financial institutions or from the non banking public. This has the effect of increasing aggregate spending or demand for goods and services by the public and private sector of the economy. By extension employment and output are leveraged in the short, medium and long run.
The relationship between budget deficits and macroeconomic variables such as Gross Domestic Product, interest rates, trade deficit, exchange rate, among others represents one of the most widely debated topics among economists and policy makers in both developed and developing countries (Saleh, 2003). This relationship can either be negative or positive.

In premchard (1984) budget deficit implies an increase in the supply of government bonds. In order to improve the attractiveness of these bonds the government offers them at a lower price, which leads to higher interest rates. The increase in interest rates discourages the issue of private bonds, private investment and private spending. In turn, this contributes to the financial crowding out of the private sector. Miller (1983) argued that government deficit spending is a primary cause of inflation. These studies have supported the proposition that the Central Bank will be obliged to monetize the deficit either now or in later periods. Such monetization results in an increase in the money supply and the rate of inflation.

Aschauer (1989) argued that higher investment may raise the marginal productivity of private capital and thereby crowd-in private investment. He further noted that public capital, infrastructure capital such as highways, water systems and airports are likely to bear a complimentary relationship with private capital. It is also argued that an increase in the budget deficit would induce upward pressure on interest rate causing capital inflows and an appreciation of the exchange rate that will increase the current account deficit.

However, Barro (1989) is of the view that budget deficits have no positive or negative relationship with macroeconomic variables. In his model known as the "Ricardian Equivalence Hypothesis" (REH), he states that shifts between taxes and budget deficits do not matter for the real interest rate, the quantity of investment, or the current account balance. He argues that the value of the new debt (deficits) is simply perceived as the present value of the future tax liabilities. This means that the government deficits are not viewed as net wealth, and as a result money demand would not be affected. Consequently, interest rates and other macro-economic variables remain unchanged as well.

1.2 Statement Of The Problem

It is important to note that budget deficits have many implications for the macro economy. However, this will depend on the level of employment. In a situation of full employment, excessive deficit will bring about macro economic imbalances. Here, large and persistent fiscal deficits usually contribute to macro economic instability. It will adversely affect output growth and raise inflationary pressures in the economy. This is because it increases the reserve base of commercial and merchant banks thereby creating excess liquidity in the financial system. Also, deficits bring about a reduction of loanable funds that are available to the private sector. Specifically, it will crowd out private investment in the real sector, private savings, result to low growth and intensive inflationary pressures, current account deficits, real exchange rate appreciation and external debt crisis if the debt is unsustainable. However, in a situation of less than full employment, budget deficits could contribute to growth as a result of the idle capacities that are being employed in the economy. If the deficits are channeled into investment in productive activities such as capital goods, training or new technology, the economy might grow faster than the burden of the debt. This is because the investment will lead to long term growth. Therefore, deficits could lead to the achievement of macroeconomic stability and growth. This condition holds if the size of the overall deficit is about 3 percent of the gross Domestic Product GDP. Gbosi, (2004).

Available evidence shows that over the years under review (1981-2012), see **Appendix 1**, Nigeria's fiscal operations have resulted in persistent overall deficit. It recorded thirty years of deficits. Deficits are meant to accelerate economic activities during depression through induced aggregate demand. Despite the fact that Nigeria has been operating deficits for these periods and also found itself in a situation of less than full employment, her economy has been in distress, the opposite view of the essence of deficits occur. There were obvious fall in the standard of living of the citizens, decline in the growth of the economy, persistent unfavorable balance of payment, increased public debt; local and foreign, continued depletion of the public reserve, little or no savings, decline in exports, increased inflationary pressure, continuous dependence on external economies etc; all these are indicators of negative growth. Its impact on these macro-economic variables has been unfavourable. One then wonders whether budget deficits no longer stimulate economic growth. Do we believe the Keynesian economists that it crowds-in private investments through its impact on macro-economic variables or the neoclassical economists that it crowds-out private investments through its impact on interest rate and other variables, or even the Ricardian economist that it has no positive or negative impact on aggregate demand? Which side to belong is what this work is meant to address.

1.3 Objectives Of Study

This study seeks to find out the impact of budget deficits fiscal operations of the Nigerian government on its macro-economic aggregates namely, the long-run relationship between budget deficit and macro-economic variables like exchange rate, interest rate, GDP and inflation rate.

1.4 Research Question

Does budget deficit have any impact on macro-economic performance of Nigerian economy?

1.5 Research Hypothesis

H0: Budget deficits have no significant impact on macro-economic performance of Nigerian economy.
H1: Budget deficits exert significant impact on macro economic performance of Nigerian economy.

1.6 Scope Of The Study

This study covers budget deficits as it relates to few selected macro-economic aggregates in Nigeria. These selected macro-economic aggregates include: exchange rate, interest rate, inflation rate and GDP. The study covers the period 1981-2012.

1.7 Organization Of The Study

This study is divided into five sections. The first section is the introduction. In section two, relevant theoretical and empirical literatures are reviewed.

Section three is the methodology. The model used is stated. The sources of the data and their description, the estimation procedure are all stated. Section four shows the presentation, analysis and interpretation of results. The fifth section is the concluding part of the work, the summary of findings and policy recommendations.

2. Literature Review

2.1. Review Of Concepts And Theories

Fiscal policy is an economic guide that determines and directs government's revenue and expenditure for the purpose of achieving some specific social and economic objectives, Okereke et al (2009). CBN (1994) defined fiscal policy as referring to the discretional changes in the level, composition and timing of government expenditures and revenues. It sees Fiscal policy as an effective instrument of policy which can be used to increase employment opportunities or attain full employment, bring about price stability, promote economic growth and development, achieve equity in income redistribution, achieve satisfactory or favourable balance of payments, achieve stable exchange rate and increase the rate of investment.

There are two main approaches to fiscal policy – the countercyclical and compensatory approaches. Under the countercyclical approach, the government is assigned the role of varying its tax and expenditure policies with the objective of moderating fluctuations in income and employment over the economic cycle. Here, the government is required to unbalance its budget during deflationary and inflationary periods. That is, to increase its expenditures and cut taxes when private spending declines to depression levels and raise taxes and cut its expenditure during prosperity or inflationary periods. The proponents of this approach (wiseman and peacock, 1961) subscribe to a balanced – budget philosophy but are reconciled to the logic of a cyclically rather than annually balanced budget since with the proper management of government's budget, the depression deficit will be offset by the prosperity surplus.

The proponents of compensatory fiscal policy on the other hand opine that given the future prospects of secular stagnation and/or secular inflation, deficit financing and surplus financing become a long-run imperative. Thus, if inflation is a continuing problem, long-run surplus financing will be necessary. On the other hand, if persistent deflationary tendencies develop, long-run deficit financing will be required. This is sometimes referred to as functional finance, originally due to lerner (1944) in Anyanwu (1993). The argument here is that the government budget should be used as the major instrument for achievement of macroeconomic objectives and that budgetary changes should be as often as desired and in whatever magnitude desired. Thus, here, the institutional aspects of taxation are subordinated to the compensatory interest since the purpose of taxation according to the proponents is never to raise money but to leave less in the hands of the tax payer.

Fiscal policy techniques include balanced budget, unbalanced budget, and qualitative changes in the tax system. In this sense, fiscal policy instruments or tools are broadly classified into two: automatic or built-in fiscal stabilizers, and discretionary fiscal stabilizers.

Automatic fiscal stabilizers or "passive" fiscal policy are among the most interesting tools in the government anticyclical kit or those ingenious devices that help to bring the economy back to an even keel without any deliberate action on the part of anyone. These are designed to function in a countercyclical fashion to improve the performance of the economy, without the necessity of the ad hoc adjustments in response to an immediate macroeconomic problem. With a given tax and expenditure structure, changes in total output and income result in automatic changes in tax yields, and in certain out lays, the first changing in the same direction as income and the latter in the opposite direction. Automatic fiscal stabilizers aid recovery by reducing cumulative deterioration in economic outlook that would otherwise take place and facilitate the forces of recovery contributing to an early upswing. They are very useful when the economy contracts but are a mixed blessing when it expands. That is, when business conditions recover from a recession, the tax system automatically cuts the growth in private spendable incomes, and hence the expansion tends to proceed more slowly, though when the recovery is strong, automatic stabilizers help to curb the inflationary pressure. In addition, the larger the government expenditures and tax receipts are in relation to the total level of economic activity, the stronger is the impact of the automatic fiscal stabilizers, Omoruyi (1988) The reverse is also true. Automatic fiscal stabilizers include personal income tax, company income tax, unemployment programmes, and farm price supports.

On the other hand, a discretionary or 'active' fiscal policy measure refers to a direct budgetary change responding in ad hoc fashion to a presently recognized macroeconomic problem. That is, discretionary fiscal policy measures are those actions which have to be designed by a legislative or executive action in order to deal with the problem at hand. Their effectiveness is impaired by inaccurate economic forecast as well as lack of promptness on the part of the legislature to enact discretionary measures and the time lag it takes the executive to put them into effect. Thus, discretionary measures require speed of decision and effect and can be successful if temporary and reversible fiscal changes for stabilization purposes are distinguished from permanent and structural changes. Discretionary fiscal policy tools include deliberate changes in tax rates, tax bases and government spending. It is also noteworthy that the recent resurgence of *supply-side economics* has put forward that an across the board reduction in tax rates would spur unprecedented growth, reduce inflation painlessly, increase tax revenue (since it would unleash an enormously depressed supply of effort), and stimulate a spectacular rise in personal saving, Mbanefo and Anyanwu (1990).

The long inside lag in discretionary fiscal policy has partly convinced some economists that the government should get out of the stabilization business altogether. These persons advocate replacing reliance on discretionary policies with a set of rules that would hold the fiscal environment stable. It has, therefore, become customary to relate fiscal instruments to specific norms, rules or guidelines for government to follow.

A continuum of various fiscal policy rules are annually balanced budget norm (100% control orientation), cyclically balanced budget norm, high employment budget norm and functional finance norm or 100% goal norm.

The annually balanced budget norm is based on the notion that a balanced budget indicates fiscal responsibility for government, households and business segments of the private sector. However, during periods of economic recession or boom, the rule, if literally applied, tends to be more perverse in its effects on the economy. Institutional impediments such as lobbying from pressure groups could prevent its realization.

A compromise rule, the cyclically balanced budget norm, advocates budget balance over the course of a complete business cycle rather than in a particular fiscal year. Therefore, tax revenues and expenditures would be equal over the course of the cycle-whether measured from 'peak to peak' or from 'trough to trough'. The policy prescription here calls for the government to apply a surplus budget at the time of a cyclical peak in order to restrain the pressures of demand (monetary) inflation, and to establish a deficit budget to expand the economy under conditions of cyclical recession or depression.

Another compromise rule, the high-employment budget norm (or budget balance at high-level income and employment), states that decisions made regarding taxes and public expenditure should always be made on the assumption that the high-level income and employment are to be maintained, and that balance between the two sides of the account should be present. It attempts to combine the stabilization features of budget balance with the stabilization features of functional finance through the employment of the built-in stabilizers, which automatically tend to produce deficits in recession and surpluses in booms. In other words, the recommendation here is that tax rates should be set only to balance the budget, but also provide a surplus budget for debt retirement at agreed high employment and national income. Once these rates are set, they should be left alone unless there are some major changes in tax rates, except under conditions of major national emergency.

In the review of related concepts and theories on the relationship between deficit fiscal operations (Budget deficits) and macroeconomic performance, one finds three distinct schools of thought. These are the neoclassical, Keynesian, and Ricardian schools, each providing different paradigms. Bernhein (1989) provides a brief summary of the three paradigms.

2.1.1 The Neoclassical School

The neoclassical school proposes an adverse relationship between fiscal deficits and macroeconomic variables. They argue that fiscal deficits leads to higher interest rates, discourages the issue of private bonds, private investments and private spending, increases inflation level, and cause a similar increase in the current account deficits and finally slows the growth rate of the economy through resources crowding out. The Neoclassical school considers individuals planning their consumption over their entire cycle. By shifting taxes to future generations, fiscal deficits increase current consumption. By assuming full employment of resources the neoclassical school argues that increased consumption implies a decrease in savings. Interest rate must rise to bring equilibrium in the Capital markets. Higher interest rates, in turn, result in a decline in private investment, domestic production and an increase in the aggregate price level. Furthermore, Yellen (1989) argues that in standard Neoclassical Macroeconomic models, if resources are fully employed, so that output is fixed, higher current consumption implies an equal and offsetting reduction in other forms of spending. Thus, investment and/or net exports must be "fully crowding out". It is worth noting that it is important to distinguish between "financial" crowding out and "resource" crowding out which occurs when the government competes with the private sector in purchasing certain resources (skilled labour, raw materials and so on). When the government sector expands, the private sector will contract because of the increase in prices on these resources due to an excess demand by the government, hence this leads to a fall in investment and consumption by the private sector. Thus the government sector's expansion crowds out the private sector. It is worth noting here as well that resource crowding out is an important issue to take into account especially in developing countries where resources are scarce even sometimes to the private sector, so any excess demand for these resources by the government will severely impinge on private sector productivity.

2.1.2 The Keynesian School

The Keynesian economists propose a positive relationship between budget deficits and macroeconomic variables. They argue that usually budget deficits result in an increase in domestic production, increases aggregate demand, increases savings and private investment at any given level of interest rate. The Keynesian absorptive theory suggests that an increase in the budget deficits would induce domestic absorption and thus, import expansion, causing current account deficit. In the Mundell-Fleming framework, an increase in the budget deficit would induce an upward pressure on interest rate, causing capital inflows and an appreciation of the exchange rate that will increase the current account balance.
The Keynesians provide a counter argument to the crowd-out effect by making reference to the expansionary effects of budget deficits. They argue that usually budget deficits result in an increase in domestic production, which makes private investors more optimistic about the future course of the economy resulting in them investing more. This is known as the "crowding-in" effect. It is worth noting here that the traditional Keynesian view differs from the standard neoclassical paradigm in two fundamental ways. First, it permits the possibility that some economic resources are unemployed. Second, it presupposes the existence of a large number of liquidity-constrained individuals. This second assumption guarantees that aggregate consumption is very sensitive to changes in disposable income. Many traditional Keynesians argue that deficits need not crowd out

private investment. Eisner (1989) suggests that increased aggregate demand enhances the profitability of private investments and leads to a higher level of investment at any given rate of interest. Hence deficits may stimulate aggregate savings and investment, despite the fact that they raise interest rates. He concludes that “evidence is thus that deficits have not crowded-out investment. There has rather been crowding-in”. Heng (1997) utilized an overlapping-generations (OLG) model to provide a theoretical framework to analyze the “crowding-in” issue of private capital by public capital. He shows that public capital crowds-in private capital through two channels, namely, via its impact on the marginal productivity of labour and savings, and via (gross) complementarity/substitutability between public and private capital.

2.1.3 The Ricardian School

Finally, there is another contrary approach advanced by Barro (1989) known as the Ricardian Equivalence Hypothesis (REH). Ricardian equivalence, or the Barro-Ricardo equivalence proposition, is an economic theory which suggests that government budget deficits do not affect the total level of demand in an economy. In simple terms, the theory can be described as follows. Governments may either finance their spending by taxing current taxpayers, or they may borrow money. However, they must eventually repay this borrowing by raising taxes above what they would otherwise have been in future. The choice is therefore between "tax now" and "tax later". Suppose that the government finances some extra spending through deficits - i.e. tax later, Ricardo argued that although taxpayers would have more money now, they would realize that they would have to pay higher tax in future and therefore save the extra money in order to pay the future tax. The extra saving by consumers would exactly offset the extra spending by government, so overall demand would remain unchanged. Ricardian Equivalence suggests that government attempts to influence demand using fiscal policy will prove fruitless. He argues that an increase in budget deficits, due to an increase in government spending, must be paid for either now or later, with total present value of receipts fixed by the total present value of spending. Thus, a cut in today’s taxes must be matched by an increase in future taxes, leaving real interest rates, and thus private investment, and the current account balance, exchange rate and domestic production unchanged. Therefore, budget deficits do not crowd-in nor crowd out macroeconomic variables. In his view, no positive or negative relationship exist.

In all, there exists a consensus in the literature that an adequate and effective macroeconomic policy is critical to any successful development process aimed at achieving high employment, sustainable economic growth, price stability, long – viability of the balance of payments and external equilibrium. Because of the fact that the development of World economy particularly in the developing part, is an on-going process, majority of governments World over often engage in massive investment activities (fiscal deficit) which they believe will not only enhance the development of the domestic economy but also situate the economy on the path of sustainable growth and Nigeria is not an exception. This is because, increases in public expenditure if efficiently utilized could translate into improved infrastructural developments and consequently enhance general welfare and also put the economy on the path of growth.

The bone of contention, however, on the use of this type of fiscal policy (i.e. expansionary fiscal policy) is how the proposed increase in public expenditure over its revenue should be financed. The two contending options have been money printing and borrowing. Money printing is an exclusive right of relevant monetary authority (usually the Central Bank) which involves raising money supply to match demand in the economy. However, where the rate of increase in money supply (usually called Seignorage rate) rises above the rate of growth of economic activity, and given a stable demand function for base money, inflation will result (Ndung’u, 1995). Furthermore, Easterly and Fischer (1990) argue that where governments print money to cover budget deficits, it is unlikely that rapid money supply growth takes place without fiscal imbalances.

The second contending option of deficit financing is borrowing. The use of borrowing (from both domestic economy and foreign countries) particularly since the World War II has been an inevitable and veritable source of macroeconomic financing most especially in such situations where domestic resources are inadequate to put the economy on the path of sustainable economic growth and development. However, borrowing which may result in debt crisis may lead to high real interest rates in the domestic economy and crowd out private sector investments (Easterly and Schmidt, 1990, 1993;Ndung'u,1995).

2.2. Review Of Empirical Studies

Differing opinions have indeed continued to emerge on how fiscal policy can affect economic activities. The genesis of these controversies has been traced to the theoretical exposition of the different schools of thought namely: the Classical; the Keynesian; and the Neo classical schools of thought (Tchokote, 2001). To the Classical school of thought, fiscal deficits incessantly financed by debt crowds-out private investment and by extension lowering the level of economic growth. As summarized by Tchokote (2001): "The classical economists believe that debt issued by the public has no effect on the private sector savings. To them, a deficit financed by increasing the supply of securities, *ceteris paribus* reduces its price and raises real interest rates and this crowds out private investment. In sum, excessive deficit can lead to poor economic performance."

In contrast, the Keynesian school of thought postulates a positive relationship between deficit financing and investment and consequently on economic growth. This school of thought sees fiscal policy as a tool of overcoming fluctuations in the economy. As put by Tchokote (2001) "This school regards deficit financing as an important tool to achieve a level of aggregate demand consistent with full employment. When debt is used to finance government expenditures, consumers' income will be increased. Given that resources are not fully utilized, crowding-out of private investment by high interest rates would not occur."

The position of the Keynesian school of thought on the possible effects of fiscal deficits on economic activities has been challenged by the Neo classical school of thought on the premise that the former school ignores the significance of how fiscal deficits are financed on the effect of this policy variable on macroeconomic performance. The Neoclassical school postulates that the manner in which deficits are financed is capable of influencing the level of consumption and investment and by extension affect economic growth.

One of the labels attached to the Neoclassical argument is the Ricardian equivalence, which states that consumers foresee tax cut today paid for by deficit and borrowing, will lead to a tax increase in the future. In anticipation of the future tax increase, consumers save rather than spend the income from tax cut. If the Ricardian equivalence holds, reduction of fiscal deficit will not affect the level of consumption or balance of payments in the economy and the basis for deficit reduction, as part of stabilization programmes, no longer exists. (Tchokote, 2001).

In addition to the controversies among the different schools of thought on the possible linkage between fiscal policy and economic growth, efforts have also been made by researchers to authenticate or refute the arguments of these prominent schools of thought.

Ndung'u (1995) attempts to establish whether there is a link between budget deficit, the rate of inflation and money supply growth, on the one hand, and money printing and the rate of inflation on the other. Using multivariate Granger Non-Causality tests, it was found that, at least in the case of the Kenyan economy, budget deficits affect monetary base growth. It was also found that there are both direct and indirect links between money printing and the rate of inflation. It was, therefore, concluded that budget deficits affect growth in the monetary base, money printing affects the rate of interest and hence the rate of inflation. Also, excess money printing affects the rate of inflation.

Phillips (1997) critically analyses the Nigerian fiscal policy between 1960 and 1997 with a view to suggesting workable ways for the effective implementation of Vision 2010. He observes that budget deficits have been an abiding feature in Nigeria for decades. He notes that expect for the period 1971 to 1974, and 1979, there has been an overall deficit in the federal Government budgets each year during the period he studied. The chronic budget deficits and their financing largely by borrowing, he asserts, have resulted in excessive money supply, worsened inflationary pressures, and complicated macroeconomic instability, resulting in negative impact on external balance, investment, employment and growth. He, however, contends that fiscal policy will be an effective tool for moving Nigeria towards the desired state in 2010 only if it is substantially cured of the chronic budget deficit syndrome it has suffered for decades.

Egwaikhide (1998) appraises the implication of Nigeria budget deficit profile for inflation and the current account balance. Evidence indicates that fiscal indiscipline in terms of lack of control over expenditure is the major determinant of budget deficit in Nigeria, while its mode of financing has aggravated inflation in the country. Most importantly, it is revealed that budget deficit correlates highly with current account deficit, implying that external disequilibrium is partly attributable to endogenous factors.

Folorunsho and Abiola (2000) examined the long-run determinants of inflation in Nigeria between 1970 and 1998, using the econometric methods of cointegration and error correction mechanism. They found that inflation in Nigeria could be caused by the level of income, money supply, and public sector balance. The results also indicate that in the long-run, exchange rate, money supply, income and fiscal balance determine the inflation spiral in Nigeria. The study, therefore, concludes that a reduction in fiscal deficits, an increase in domestic production and a stable exchange rate should be pursued as means of controlling inflation in Nigeria.

Dwyer (1982) studied the relationship between budget-deficits and macroeconomic performance of US using Vector Auto regressive model (VAR) for the period 1952-1978. He found no evidence that larger government deficits increase prices, spending, interest rates, or the money stock.

Al-khedir (1996) studied the relationship between budget deficits and macroeconomic performance of the G-7 countries for the period of 1964-1993 using Vector Auto Regressive model. He found out that budget deficits led to higher short-term interest rates in the seven countries. However, the deficits did not manifest any impact on the long-term interest rates. The trade balance was worsened by the budget deficit and economic growth improved in all seven countries.

Nwodo (2001) analyzed the long-run effect of budget deficit on economic growth of Nigeria for the first half of the 1990s. The main findings were that budget deficit did matter, but only to the extent it contributed to the money growth and if not checked, induces inflation, hence, leading to a distorted economy. As most of the budget imbalance was being monetized during that period, it is no surprise that independent influence of the budget deficit on the GDP growth was not found.

According to Omoka and Oruka (2010), who employed Pair Wise Granger causality Test in an attempt to offer evidence on the causal long term relationship between budget deficit, money growth and inflation in Nigeria, considering the broadest definition of money supply, found that money supply causes budget deficit which means that the level of money supply in the Nigerian economy will determine whether there has been or there will be budget deficits. Inflation and budget deficit revealed a bilateral or feedback causality proving that the changes that occur in inflation could be explained by its own lag and also the lag values of budget deficit and in the same vein, changes that occur in budget deficits are explained by its lagged values and the lagged values of inflation. The implication of their findings is that both budget deficit and inflation could be caused by money supply meaning that they are both monetary phenomena.

According to Ben (2010), larger budget deficit has adverse effect on the economy because it tends to reduce national savings, which in turn reduces domestic investment and increases borrowing from aboard. Besides, a low level of national savings raises inflation and domestic interest rates and 'crowds out' private sector investment. The reduction in investment in turn affects employment as firms or business reduces their demand for labour and other factor inputs. All of these reduce national output, which in turn lead to trade deficits and reduction in the overall well-being of the people.

Obi and Abu (2009), explains that fiscal deficits and government debt have positive impact on interest rates, but inflation and international trade were found to have negative effect on interest rates. In their study using vector autoregressive model and covering a period of 1985-2006 suggested that deficit financing leads to a huge debt stock and tends to crowd out private sector investment, reducing the access of investors to adequate funds, thereby raising interest (and/or lending) rates. The rise in interest rate reduces investment demand and output of goods and services. These in turn reduce national income as well as employment rate, and the overall welfare of the people would decline. Thus, government should make efforts to reduce unnecessary spending because experience has shown that a large proportion of government expenditures have been channelled to unproductive ventures.

Mamodouh (2000) analysed the relationship between budget deficit and trade deficit in petroleum economy, by taking the case of Saudi Arabia as an example. Using annual time series data covering the period of 1970-1999, he analyzed the theoretical framework based on the two hypotheses; the Ricardian equivalence neglects any relationship between the two deficits and the Keynesian proposition confirms the existence of a positive relationship between them. Because of the special characters of the petroleum economy, they tried to argue that any of the two hypotheses is not valid in their economy. Considering the important role of oil revenue of the components of trade accounts and the public budget, they expected a positive relationship among budget deficit and trade deficit, but the direction of the causality is reversed, trade deficits causes' budget deficit. From their findings, if the government would like to reduce trade and budget deficits, the government must begin by reducing trade deficit. Since the trade deficit depends on oil prices, the government has to diversity the sources of national income. Also, when the oil revenue becomes less important in domestic income, the structural economic transformation may reverse the causality direction between the deficits, and the Keynesian proposition will be more valid.

Yaya (2010) employed the Granger-causality test using a sample of seven West African countries namely; Benin, Burkian Faso, Cote d' Ivoire, Mali, Niger, Senegal and Togo to examine the causal relationship between budget deficits and economic growth in these countries over a period of 26 years and found out that in three cases, there was no causality between budget deficits and economic growth. The above findings indicate a two-way causality in three countries, deficits having adverse effects on growth. Overall, these results give support to the WAEMU budgetary rule aiming at restricting the size of budget deficit as a prerequisite for sustainable growth and real convergence. In four other countries, there was causality evidence between budget deficit and economic growth implying that deficits retard economic growth rate. These findings have two main implications. First, they lend support to the control of budget deficits within the West African Economic and Monetary Union countries in order to increase domestic savings and finance economic growth. Second, evidence of causality running from economic growth to deficit makes difficult the control of the size of the budget deficit as to depend on the aggregate economic health. In periods of recession, revenues are expected to decrease, generating fiscal imbalance. In periods of expansion, revenues increases which leads to reduction in the size of deficit.

The World Bank (1993) opined that in economies where financial markets are not repressed, higher deficits financed by domestic debt increases real interest rates when external borrowing is not possible. However, if financial markets are integrated with world capital markets, higher domestic borrowing results in international capital inflows and high foreign debt. Thus, the impact on domestic real interest rates will not be much. Moreover, in countries where the financial markets are repressed (that is interest rate control, compulsory public debt placements and controls on external capital flows), given a fixed nominal interest rates, fiscal deficits raises inflation resulting in a repressed (even negative) real interest rates.

This work seeks to study the impact of Budget Deficit on macro-economic variables in the Nigerian economy for the period 1981 to 2012. Using Ordinary Least Square method and employing the Johansen Cointegration and Granger causality tests we will be able to find out at the end of this work whether budget deficit has any significant impact on macroeconomic variables in Nigeria.

3. Research Methodology

Because we are interested in finding out whether a long-run relationship exists between budget deficits and macroeconomic variables, we employed the Johansen Cointegration and Granger causality testss.

3.1 Model Specification

The following four macroeconomic variables are used as regressors to estimate the relationship between budget deficits and economic performance of Nigeria and used the functional model :-

BD = F(GDP, INT, NER, INF)................................... Eqn (1)

Where

BD= Budget deficits defined as federal government retained revenue minus total expenditure

F= Functional notation

GDP: Gross Domestic Product at Basic Prices

INT= Interest rates i.e. Monetary policy Rates

NER= Nominal Exchange Rates

INF: Inflation Rates

Our parametric model on the relationship between Budget Deficits and our selected macroeconomic variables in the form

$$y = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \alpha_4 x_4 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots \ldots (2)$$

is stated below:

$$BD_t = \alpha_0 + \alpha_1 GDP_t + \alpha_2 INT_t + \alpha_3 NER_t + \alpha_4 INF_t \ldots\ldots \ldots (3)$$

Apriori signs are $\alpha_1 > 0$, $\alpha_2 < 0$, $\alpha_3 < 0$, $\alpha_4 < 0$. This is deduced from the apriori expectation below.

3.2 Approri Expectation

By the rule of thumb and assuming every other thing remains equal/constant, since Nigeria is at the level below full employment given the rate of unemployment and low standard of living with increased number of its citizens living below the poverty line, Fiscal Deficit is expected apriori to bring about increased money supply (if financed through external debt and printing more currency) and when supply outweighs demand, cost of fund (interest rate) will go down bringing about an inverse relationship between interest rate and fiscal deficit. This will make more funds available for investment and more investment bringing about increase in Gross domestic Product (positive relationship between GDP and BD). And as more goods are produced and quality enhanced, export will be boosted and/or import reduced bringing about reduction in demand for foreign goods and foreign exchange and increase in demand for local goods and local currency leading to appreciation in the value of local currency (indicating inverse relationship between BD and NER). This increase in production making more goods available will bring about decrease in general price level indicating an inverse relationship between BD and INF. In the case of Fiscal Deficit financed through domestic Borrowing, this will be the case when through domestic borrowing government mops up excess liquidity and funds in the hands of other economic units by borrowing from them and subsequently channel the funds to productive uses (Ezirim et al, 2014).

3.2 Estimation Procedure:

Having stated above that the researcher is using Cointegration as the econometric technique, the researcher also used the Econometric view (E-view 7.0) software in running this regression because of its wide acceptance in the economic world. The various tests that ought to be carried out in this study include:

(1) Unit Root tests: To test for a unit root in the series, we employ the Augmented Dickey-Fuller tests (ADF test) to test for the stationarity of our data at level and at differences. The model for the test is stated below.

$$\mathbf{y_t = \mu + p y_{t-1} + \varepsilon_t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad \mathbf{(4)}$$

Where μ and p are parameters and εt is assumed to be white noise, y is a stationary series if $-1 < p < 1$. If $p = 1$, y is a nonstationary series; if the process is started at some point, the variance of y increases steadily with time and goes to infinity. If the absolute value of p is greater than one, the series is explosive. Therefore, the hypothesis of a stationary series can be evaluated by testing whether the absolute value of p is strictly less than one. The simple unit root test described above is valid because the series is an AR(1) process. If the series is correlated at higher order lags, the assumption of white noise disturbances is violated. The DF tests take the unit root as the null hypothesis H_0: $p = 1$. Since explosive series do not make much economic sense, the null hypothesis is tested against the one-sided alternative H_1 : $p < 1$. The null hypothesis of a unit root is rejected against the one-sided alternative if the t-statistic is less than the critical value.

(2) Cointegration tests: To investigate the existence of a long run relationship between budget deficits and other variables, we explore the existence of a long run relationship among the variables in our model. If the variables that we are using in the study are found to be cointegrated, it will provide statistical evidence for the existence of a long run relationship. We employ the maximum-likelihood test procedure established by Johansen (1991) and Juselius (1990).

$$\mathbf{Y_t = A_1 y_{t-1} + \ldots + A_p y_{t-p} + ß\ x_t + \varepsilon_t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad \mathbf{(5)}$$

Where yt is a k-vector of non-stationary I(1) variables, xt is a d vector of deterministic variables, and εt is a vector of innovations. Granger's representation theorem asserts that if the coefficient matrix Π has reduced rank r

$$\mathbf{H^*1\ (\Gamma):\ \Pi y_{t-1} + ß\ x_t = \alpha(\beta_1\ y_{t-1} + P_0)} \quad \ldots\ldots\ldots\ldots\ldots \quad \mathbf{(6)}$$

(3) Granger causality test: Correlation does not necessarily imply causation in any meaningful sense of that word. The Granger (1969) approach to the question of whether x causes y is to see how much of the current y can be explained by past values of y and then to see whether adding lagged values of x can improve the explanation. Y is said to be Granger-caused by x if x helps in the prediction of y. It is important to note that the statement "x Granger causes y" does not imply that y is the effect or the result of x. Reviews runs bivariate regressions of the form:

$$\mathbf{y_t = \alpha_0 + \alpha_1\ y_{t-1} + \ldots + \alpha_c\ y_{t-c}\ \beta_1 x_{t-1} + \ldots + \beta_c\ x_{t-c}} \quad \ldots\ldots \quad \mathbf{(7)}$$

$$\mathbf{xt = \alpha_0 + \alpha_1\ x_{t-1} + \ldots + \alpha_c\ x_{t-c}\ \beta_1\ y_{t-1} + \ldots + \beta_c\ y_{t-c}} \quad \ldots\ldots \quad \mathbf{(8)}$$

for all possible pairs of (x,y) series in the group. The reported F-statistics are the Wald statistics for the joint hypothesis $\beta_1 = \ldots = \beta_c = 0$. For each equation, the null hypothesis is therefore that x does not Granger-cause y in the first regression and that y does not Granger-cause x in the second regression. If budget deficits share a long run relationship with other macroeconomic variables that we are studying, the next step is to examine causality, since if two or more variables are cointegrated; there is causality in at least one direction (Engel and Granger 1987). We then proceed to determine whether deficits Granger-cause GDP and other variables individually and vice versa.

4. Presentation, Analysis And Interpretation Of Results

4.1 Unit Root Tests

The results of the Augmented Dickey-Fuller (ADF) unit root tests of stationarity are presented below.

Table 4.1 Unit Root Tests Using Augmented Dickey-Fuller (ADF) methods

Variables	T-ADF at First Diff.	5% Critical Value	Order of Integration
BD	-4.4221	-3.5683	1 (1)
GDP	-6.2917	-3.5683	1 (1)
INF	-5.3166	-3.5742	1 (1)
INT	-6.0702	-3.5742	1 (1)
NER	-5.2135	-3.5683	1 (1)

NB: Maxlag=7.

The results in table 4.1 above shows that all the variables have been found to be stationary at first differencing at 5% level of significance, i.e. all the variables are integrated of order one. We therefore, proceed to Cointegration tests between the variables to detect any possible long-run equilibrium between the series.

4.2 COINTEGRATION TESTS

In table 4.2 below, the null hypothesis of no cointegrating vector can be rejected for all the variables used in the study (see table 4.2 below) and the empirical findings reinforce the conclusions about the presence of long-run relationship between budget deficits, GDP, interest rates, Exchange
rates and inflation rates.

Table 4.2 Johansen Cointegration Test

Date: 08/29/14 Time: 01:18
Sample (adjusted): 1983 2012
Included observations: 30 after adjustments
Trend assumption: Linear deterministic trend
Series: BD GDP INF INT NER
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.859316	117.6659	69.81889	0.0000

At most 1 *	0.691595	58.82879	47.85613	0.0034
At most 2	0.360123	23.53852	29.79707	0.2206
At most 3	0.286794	10.14412	15.49471	0.2698
At most 4	0.000153	0.004585	3.841466	0.9451

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

4.3 Granger Causality Results

Table 4.3. Pairwise Granger Causality Tests

Pairwise Granger Causality Tests
Date: 08/29/14 Time: 01:21
Sample: 1981 2012
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause BD	31	9.00456	0.0056
BD does not Granger Cause GDP		1.83139	0.1868
INF does not Granger Cause BD	31	0.66667	0.4211
BD does not Granger Cause INF		0.23330	0.6328
INT does not Granger Cause BD	31	1.62112	0.2134
BD does not Granger Cause INT		0.13137	0.7197
NER does not Granger Cause BD	31	1.43935	0.2403
BD does not Granger Cause NER		0.01435	0.9055
INF does not Granger Cause GDP	31	0.00643	0.9366
GDP does not Granger Cause INF		0.91324	0.3474
INT does not Granger Cause GDP	31	0.04126	0.8405
GDP does not Granger Cause INT		1.77201	0.1939
NER does not Granger Cause GDP	31	7.94082	0.0088
GDP does not Granger Cause NER		0.00705	0.9337
INT does not Granger Cause INF	31	0.58726	0.4499
INF does not Granger Cause INT		0.45538	0.5053
NER does not Granger Cause INF	31	1.00066	0.3257
INF does not Granger Cause NER		1.07326	0.3091

NER does not Granger Cause INT	31	1.44844	0.2389
INT does not Granger Cause NER		0.16468	0.6880

NOTE: F (V1, V2) = F (4, 31)
V1 = k-1 i.e. the number of parameters minus one
V2 = n-k i.e. the total number of observations minus the number of parameters
At 5% level of significance, with a 4 and 31 degrees of freedom for V1 and V2 respectively, reject the null hypotheses if the calculated F-values are greater than the tabulated F-values otherwise accept the null hypotheses.
In considering the relationship between BD and GDP, it was found that there is a unit-directional causality between Budget deficits and GDP, i.e. GDP Granger causes budget deficits and not vice versa. With the same level of significance, it was found that inflation does not Granger cause budget deficits and Budget deficits do not Granger cause inflation. Therefore, there is neither unit nor bi-directional causality between the two variables. The test for causality between interest rates and budget deficits showed that there exists no causality, neither unit nor bi-directional causality between the two variables. Therefore, interest rates and budget deficits do not granger cause each other. Also, there exists no causality between the nominal exchange rates and budget deficits. Therefore, nominal exchange rate does not Granger causes budget deficits and budget deficits do not Granger causes nominal exchange.

4.4 Evaluation Of The Apriori Test:

Table 4.4. Regression result for BD = f(GDP INF INT NER)

Dependent Variable: BD
Method: Least Squares
Date: 08/29/14 Time: 01:14
Sample: 1981 2012
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-0.025516	0.005644	-4.520876	0.0001
INF	-217.8147	2124.875	-0.102507	0.9191
INT	-4227.467	9249.738	-0.457036	0.6513
NER	307.5049	1079.503	0.284858	0.7779
C	61079.08	122113.0	0.500185	0.6210

R-squared	0.739175	Mean dependent var	-192576.6
Adjusted R-squared	0.700535	S.D. dependent var	329831.8
S.E. of regression	180495.2	Akaike info criterion	27.18740
Sum squared resid	8.80E+11	Schwarz criterion	27.41642
Log likelihood	-429.9984	Hannan-Quinn criter.	27.26331
F-statistic	19.12947	Durbin-Watson stat	1.985094
Prob(F-statistic)	0.000000		

From our regression result in table 4.4 above, we have our estimated regression equation as:

BD = 61079.08 – 0.025516GDP - 217.81INF – 4227.47INT + 307.50NER…...Eqn (x)
(-4.5209) (-0.1025) (-0.4570) (0.2849)

NB: the t-values are in parentheses

The result above implies that there is a positive relationship between budget deficits and Nominal Exchange Rate but a negative influence on GDP, interest rate and inflation rate. The implication is that a unit increase in Budget Deficit decreases the GDP by 0.025516 units. The result also implies that a unit increase in interest rate and inflation rate decreases deficits by 4227.47 and 217.81 units respectively while a unit decrease in nominal Exchange rate increases deficits by 307.50. The result, however, supports the Keynesian School in the relationship between budget deficits and inflation rate /interest rate, agrees with the monetarist approach in deficit versus exchange rate and supports neither the Keynesian school nor the monetarist in the negative relationship it shows between budget deficit and GDP.

The Coefficient of Determination (R^2) of 0.73 (see table 4.4) shows that the independent variables included in the model explains 73% of the variations in the dependent variable. Therefore the model is a good fit to the relationship. The result has an F-statistic value of 19.13 with associated probability of less than 1% indicating that the joint statistical significance hypothesis of the model cannot be rejected. The evaluation of the contribution to significance of the model by each of the explanatory variables revealed that in the case of deficits versus inflation, interest rate and exchange rate we conclude that the relationship is insignificant while that of budget deficits and GDP is very significant.

The computed DW is 1.9851 showing no autocorrelation.
The researchers wish to use the F-Statistics to test the working hypothesis. This is aimed at finding out if budget deficit exerts significant impact on the whole regression plane. Since F-calculated (19.12947) has a probability of less than 1%, we reject H_0 and conclude that budget deficits exert significant impact on macroeconomic aggregates in Nigeria.

5. Summary, Conclusion And Recommendations

5.1 Summary

This study examined the long-run relationship between budget deficits and other macroeconomic variables in Nigeria. The results agree with the Keynesian theory that budget deficits crowd-in investment but rejects the claim that budget deficits increase interest rate which is a popular opinion held by both the Keynesian and the Neoclassical schools. In the empirical exercise, we have used the Augmented Dickey-Fuller (ADF) methods for finding out the presence of unit root in all the variables (budget deficit, GDP, interest rate, inflation and nominal exchange rate) and have found that they are non-stationary at level but stationary at first differencing {i.e. they are 1 (1)}. We have employed Johansen's Cointegration test to check for the cointegration of these variables. We found that the variables in the study are all cointegrated of order one, i.e. there is the presence of long-run relationship between budget deficits, GDP, interest rates, nominal exchange rates, and inflation rates. The Granger Causality results reveal that there is a uni-directional Granger-causality between Budget deficits and GDP with GDP granger causing budget deficit. However, the test for causality showed that there exists no causality between deficits and interest rate, budget deficits and inflation and budget deficit and nominal exchange rate. We thereby concluded that budget deficits exert significant impact on the macro-economic performance of the Nigerian economy. The study recommend that since budget deficits could crowd-in investment through its reducing effects in interest rate, but emphasis should be placed on capital goods expenditure to make it have positive effect on GDP and thereby contribute to economic growth and development.

5.2 Conclusion

It is an established theory by the Keynesian school that deficits crowd-in investment through its influence on domestic production. By making reference to the expansionary effects of budget deficits, the Keynesian school of thought argue that usually budget deficits result in an increase in domestic production, which makes private investors more optimistic about the future course of the economy resulting in them investing more and therefore crowding-in investment. From our empirical analysis, budget deficit could crowd-in investment through its reducing effects in interest rate and thereby contribute to economic growth as long as emphasis is made on the provision of capital goods/capital expenditure. Also, our study reveals that there is a long run relationship between budget deficits and macroeconomic variables. We then conclude that budget deficits exert significant impact on macro economic performance in Nigeria.

5.3 Recommendations

Since one method of financing budget deficit is through borrowing from international financial institutions and the Central Bank, such borrowed money should be spent on capital expenditure such as building roads and dams, improving agricultural sector, etc. which will improve the standard of living of the people, and hence, their productivity. This will in turn, impact on the country's economic growth and development.

Also, since budget deficits have not helped to improve on the level of economic growth and development as should be the case, the government could try to employ balanced budgeting if possible

Finally, economists and policy makers should not focus on the level of budget deficit but on the source of financing it to ensure that economic growth and development in Nigeria is not retarded.

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Appendix 1

BUDGET DEFICITS AND SELECTED MACROECONOMIC AGGREGATES IN NIGERIA (1981 – 2012)

Years	Budget Deficit (Nm)	GDP (Nm)	Interest Rate (%)	Inflation Rate (%)	Exchange Rate N/US$1
1981	-3902.10	47619.66	6.00	20.90	0.61
1982	-6104.10	49069.28	8.00	7.70	0.67
1983	-3364.50	53107.38	8.00	23.20	0.72
1984	-2660.40	59622.53	10.00	39.60	0.76
1985	-3039.70	67908.55	10.00	5.50	0.89
1986	-8254.30	69146.99	10.00	5.40	2.02
1987	-5889.70	105222.84	12.75	10.20	4.02
1988	-12160.90	139085.30	12.75	38.30	4.54
1989	-15134.70	216797.54	18.50	40.90	7.39
1990	-22116.10	267549.99	18.50	7.50	8.04
1991	-35755.20	312139.74	14.50	13.00	9.91
1992	-39532.50	532613.83	17.50	44.50	17.30
1993	-65157.70	683869.79	26.00	57.20	22.05
1994	-70270.60	899863.22	13.50	57.00	21.89
1995	1000.00	1933211.55	13.50	72.80	21.89
1996	32049.40	2702719.13	13.50	29.30	21.89
1997	-5000.00	2801972.58	13.50	8.50	21.89
1998	-133389.30	2708430.86	14.31	10.00	21.89
1999	-285104.70	3194014.97	18.00	6.60	92.69
2000	-103777.30	4582127.29	13.50	6.90	102.11
2001	-221048.90	4725086.00	14.31	18.90	111.94
2002	-301401.60	6912381.25	19.00	12.90	120.97
2003	-202724.70	8487031.57	15.75	14.00	129.36
2004	-172601.30	11411066.91	15.00	15.00	133.5
2005	-161406.30	14572239.12	13.00	17.90	132.15
2006	-101397.50	18564594.73	12.25	8.20	128.65

2007	-117237.10	20657325.00	8.75	5.40	125.83
2008	-47378.50	24296329.25	9.81	11.60	118.57
2009	-810008.46	24794238.66	7.44	12.50	148.88
2010	-1105439.78	33984754.13	6.13	13.70	150.3
2011	-1158518.50	37409860.61	9.19	10.80	153.86
2012	-975724.00	40544099.94	12.00	12.20	157.50

SOURCE: CBN Statistical Bulletin

The Data utilized in this work is secondary Data. It is Time Series Data on Budget Deficits, GDP at Basic Prices, Interest Rate (Monetary Policy Rate), Nominal Exchange Rate and Inflation Rate. The data was collected over the period 1981-2012 from CBN Statistical Bulletin, Vol. 23, Dec.2012 with the Growth Rates of the different Data computed by the researcher

Effect Of Reward Systems On Employees' Achievement Of Targets In The Semi-Autonomous Government Agencies: A Case Study Of Migori Sub-County.

Peter Agoi Kibisu1, Dr. Willy Muturi1 And Dr. Charles Munene Elijah2

1. Jomo Kenyatta University Of Agriculture And Techology.
2. Lecturer Maasai Mara University, School Ofbussiness And Economics

Abstract

Employee reward systems refer to programs set up by an organization to reward performance and motivate employees on individual and/or group levels. This study was guided by basic salary, training opportunities, health benefits and house allowance as specific objectives in establishing the effects of employee reward system on the achievement of targets of semi-autonomous government agencies in Migori Sub-County. The study is expected to increase knowledge and understanding in this area by assisting the Kenya Government through Public Service Commission of Kenya in formulating and implementing policies that would lead to a fair reward system for public servants and therefore improving efficiency and effectiveness in staff performance. This research adopted survey design. The target population was 74 employees working in the three semi-autonomous agencies in Migori Sub-County. The sample size of 43 was drawn from the target population of employees in the authorities. This was 58% of the entire population of employees in the three authorities in Migori Sub-County. Data was collected by the use of document analysis and questionnaires. Data was analyzed by the use of computer aided data analysis software SPSS and Statpages. Presentation of data was done by the use of tables, bar graphs, line graphs and percentages. Descriptive statistics and correlation was used to compare the means of monthly earnings for different payrolls and also to establish the strength between dependent variables and independent variable. Findings in this study indicate that basic salary, house allowance and health benefits have very strong influence on employee performance as compared to the moderate influence that training had on their performance. The report recommends the harmonization of schemes of service within departments/ministries so that every individual is rewarded appropriately and fairly in order to improve employee performance.

Introduction

1.0 Introduction

This chapter introduces the subject and background of this study. The chapter contains the statement of the problem, purpose, specific objectives and the significance of this study in relation to the effects of reward systems on employees" achievement of targets in the semi-autonomous government agencies in Migori Sub-County.

1.1 Background of the study

Reward systems can have negative or un-desired effects on employees" performance if not designed and managed properly. In the Bible the book of Genesis chapter 37 versus 3 in the New International Version, Joseph the last born of Jacob was sold into slavery by his brothers because of the open bias exhibited towards him by his father when offering rewards, love and appreciation for any work done by his sons. For the same effort, Joseph would be rewarded differently and favourably as compared to his brothers eliciting a lot of jealousy and mistrust (Zonderva Group, 1985).

Employee reward programs are one method of motivating employees to change work habits and key behaviors to benefit a business. Well-designed pay and benefit packages can attract people to an organization, retain staff and motivate them. It does not matter how good the salaries and benefits are if companies then fail to manage employees in a fair manner. The design and management of reward systems present an organization with one of the most difficult Human Resource Management (HRM) tasks (Brian, 2006). Organizations must learn to manage the individual's satisfaction with rewards is, in part, related to what is expected and how much is received. Employee satisfaction is also affected by comparisons with other people in similar jobs and organizations. In effect, employees compare their own input/output ratio with that of others. People vary considerably in how they weigh various inputs in that comparison. They tend to weigh their strong points more heavily, such as certain skills or a recent incident of effective performance. Individuals also tend to over rate their own performance compared with the rating they receive from their supervisors in line with the targets set by the organization. From the organization's point of view, rewards are intended to motivate certain behaviors. Rewards must be seen as timely and tied to effective performance. Employees must believe that effective performance (or certain specified behavior) will lead to certain rewards. Firms must establish a philosophy about rewards and the role of pay in the mix of rewards (Searle, 1990).

Empirical evidences suggests that fair reward systems add up to business advantages and it also true that aligning reward and diversity strategies is not only common sense but good business sense. It is in the self interest of employers to explore the underlying issues, such as poor diversity training, weak performance management systems and biased appraisal processes in order to create a culture based on fairness as this contributes to better business performance. Diverse workforce can compliment these benefits through increased productivity and performance, but managed badly, efforts to improve diversity can create conflict and tension in the workplace. An organization that recognizes individual diversity should create a flexible reward package (Brian, 2006).

According to Alex (2007) the upward adjustment of parliamentarian's salaries in Singapore, was in bad taste at a time that many middle- and lower-class Singaporeans faced a declining standard of living. The reward system in the public service had to keep pace with the private sector as a government policy. However, one would have arguably been hard-pressed to find many Singaporean voters (especially junior civil servants) who would have agreed to the selective and exponential salary increase, judging at least by the steady stream of criticism over the proposal that had been published in Singapore's free-wheeling blogosphere.

The Chief Executive Officer's (CEO) pay once bore a reasonable relationship to the pay of the average or lowest-paid worker in United States of America (USA). Today the ratio of CEO pay to average-worker pay has skyrocketed from about 40 in 1980 to several hundred currently due to bad reward systems. A huge CEO-to-worker pay gap not only degrades a worker and therefore company performance but also violates common moral principles of the common good, love of neighbour, and the dignity and worth of every human being (Clieaf, 2004).

Kimani (2003) argues in an article titled; *Kenya*‟s*Filthy Rich Civil Servants* published in World Press Review (VOL 51 No. 1) equated the high salaries paid to top civil servants to legalized looting and corruption. He further argued that it looked like a conspiracy by the top echelons of the political leadership and the civil service. The salaries of top public servants was being pushed to obscene levels, even as lower cadres are perennially told that the exchequer does not have enough tax shillings to throw them a lifeline of single-digit percentage wage increase.

Civil Service Reform Program in Kenya begun in 1993 and its purpose was to create structures which would make civil service more vibrant, effective and efficient in service delivery. The reform represented significant policy shifts in the areas of staffing, civil service organization, pay and benefits, personnel management and training and financial and performance management. Public servants were thereafter put on performance contracts and various government departments were transformed into semi-autonomous agencies as part of government's strategy to achieve efficiency in service delivery to its citizenry (GoK, 2011).

Migori Sub-County is situated on the Western side of Kenya. It was crafted out of the former South Nyanza District in 1992. It has 25 departments of which 3 have become autonomous in the recent past. The Sub-County is headed by the Deputy County Commissioner and immediately under him are all the other 25 departmental heads. Departmental heads report directly to their Permanent Secretaries on technical matters specific to their ministries. Matters affecting departments are discussed at the Sub County Executive Committee and Sub county Development Committee meetings where the Deputy County Commissioner is the chairman. This study was conducted in the three semi-autonomous government agencies which had different payrolls for its employees with the same skills. The three authorities were Kenya Rural Roads Authority, Kenya Forest Service Authority and Migori, Kuria and Transmara Water Board (MIKUTRA) which a few years ago were government departments in the Sub County and eventually were transformed into authorities in order their performance (GoK, 2011).

Departments and semi-autonomous government authorities in Migori Sub-County has different schemes of service developed out of negotiations between the parent Ministries and Public Service Commission of Kenya. Ministries/ authorities with strong personalities at the helm have always had their way in these negotiations and get better terms of service. Those who do not secure any increment become negatively affected by the differential in terms of service resulting from the process. The body charged with recruitment, promotion and retirement of civil servants is Public Service Commission of Kenya. The vision of Public Service Commission of Kenya is to create a non – partisan public service that offers quality service and holds the nation together for social – economic growth. Its mission is to supply highly competent human resources for efficient and effective service delivery to the people of Kenya. Its core values are meritocracy, reliability, team spirit, integrity, confidentiality and fairness to all its employees (GoK, 2011).

According to Brian (2006), employee engagement and level of contribution depends on staff feeling that they are fairly rewarded for their skills, knowledge and contribution. There is no right or wrong pay and benefit package. But since reward strategies play a key role in reflecting organizational culture, organizations need to tailor their reward strategy to their own particular business objectives. In 2005 civil servants went on strike over poor terms of service but surprisingly not all employees in the district participated. This is an indication that the reward system in the public sector is not fair and not tied to effective performance. The reward system in the public sector has over the years, encouraged disparities in rewards to employees within the departments in Migori Sub-County and therefore leading to general dissatisfaction by employees.

1.2 Statement of the problem

Taylor (1911) identified reasons for workers' purposely operating well below their capacity at work place and he discovered that through scientific approach an organization can identify and train employees in order to eliminate systematic soldiering at work place. Taylor believed that there was one and only one method of work that maximized efficiency in achieving organization's objectives. The one best method and best implementation can only be discovered or developed through scientific study and analysis.

According to Roethlisberger and Dickens (1939), Hawthorn researchers discovered how informal norms could hold production to a level that is acceptable by the group considering the rewards given for their efforts. Searle

(1990) discovered that the individual's satisfaction with rewards is, in part, related to what is expected and how much is received. Feelings of satisfaction or dissatisfaction arise when individuals compare their input, job skills, education, effort, and performance to the mix of extrinsic and intrinsic rewards they receive which in turn is responsible for their withholding efforts.

Bacon et al (as cited by Uzair, 2011), emphasized that employees are key to maintaining competitive edge by a business. To be successful in global market, a firm needs highly motivated, skilled and satisfied workforce that can produce quality goods at low cost. According to Sarvadi (2010), firms that don't match or exceed the reward levels of their competitors will have difficulty attracting and retaining top workers. Properly measuring performance ensures that a reward program pays off in terms of business goals since rewards have a real cost in terms of time and money.

However, there is limited research on the effects of reward systems on achievement of targets in organizations. Public outcry on employees‟ shirking, social loafing, free riding and lack of commitment as they perform their duties within their organization, has been in the public domain for some time now.

In view of the existing scenario, it was therefore necessary to establish effects of reward system on the achievement of targets of semi-autonomous government authorities in Migori Sub-County

1.3 Objectives of the study

The overall objective of this study was to establish the effects of employee reward system on achievement of performance target of semi-autonomous government agencies in Migori Sub-County

Specific objectives were:

1. To determine effects of basic salary on achievement of targets within semi-autonomous government authorities in Migori Sub-County.
2. To establish the effects of employee training on achievement of targets within semi-autonomous government agencies in Migori Sub-County.
3. To find out the effects of house allowances on achievement of targets within semi-autonomous government agencies in Migori Sub-County.
4. To determine effects of health benefits to employees on achievement of targets within semi-autonomous government agencies in Migori Sub-County.

1.4 Research questions

This study sought to answer the following questions:

1. How does basic salary paid to employees affect achievement of targets within semi-autonomous government agencies in Migori Sub-County?
2. What is the effect of training on achievement of performance targets in the semi-autonomous government agencies in Migori Sub-County?
3. How does house allowance paid to employees affect achievement of targets within semi-autonomous government agencies in Migori Sub-County?
4. What is the effect of health benefits to employees on achievement of targets within semi-autonomous government agencies in Migori Sub-County?

1.5 Justification of the study

The study was expected to increase knowledge and understanding of the factors that are responsible for shirking, social loafing and free riding by employees that negatively affect achievement of their targets. It was also hoped that the Government of Kenya (GoK) through Public Service Commission of Kenya would use this study to formulate and implement policies that will lead to a fair reward system for public servants and which will improve efficiency and effectiveness in staff performance. Other employers are also expected to learn from this study so that they avoid development and selective implementation of haphazard reward systems through creation of highly qualified and sensitive human resource departments that will select, train and equip employees in order to reduce their withholding of effort at their workplace.

1.6 Scope of the study

This study was limited to the three semi-autonomous government authorities; Kenya Rural Roads Authority, Kenya Forest Service Authority and Migori, Kuria and Transmara (MIKUTRA) Water Board. These are the only semi-autonomous agencies operating at the moment in the district. This study was conducted between 9th – 20th December, 2013 in Migori Sub-Countywith a sample size of 43 employees from three authorities which was drawn from a target population of all the 74 employees working in the semi- autonomous government authorities in the district.
1.7 Limitation of the study
The study was funded solely by the researcher and therefore due to limitation of resources it was restricted to semi-autonomous agencies in Migori Sub-County. The research was conducted over a period of 6 months due to limited time allowed for the completion and submission of this work; even though the findings in this study represents the situation on how employee reward system affects the performance of semi-autonomous government agencies country wide.

Literature Review

2.0 Introduction

This chapter reviewed theoretical, empirical and critical review of literature relating to specific variables of reward systems that affect employees" performance. The chapter contains conceptual framework, theoretical framework, meaning and components of employee reward system. Other research findings from related studies including methodologies used and identified research gaps that exist are expounded in this chapter.

2.1 Theoretical/ Conceptual framework

Theoretical framework
This study was guided by Henri Fayol's (1916) theory of management which states that management must foster the morale of its employees. He further suggested that real talent is needed to coordinate effort, encourage keenness, use each person's abilities, and reward each ones merit without arousing possible jealously and disturbing harmonious relationship. This is the principle he called "*Espirit de corps*" amongst the fourteen principles he laid down. The theory has a major weakness because it assumes that workers can only be motivated by monetary rewards for their efforts without considering issues like job satisfaction and human resource training and development. Despite this weakness, this theory gives foundation to any successful organization in its human resource department to be sensitive to the needs of employees when developing or reviewing its employee reward system (Carl, 2001).

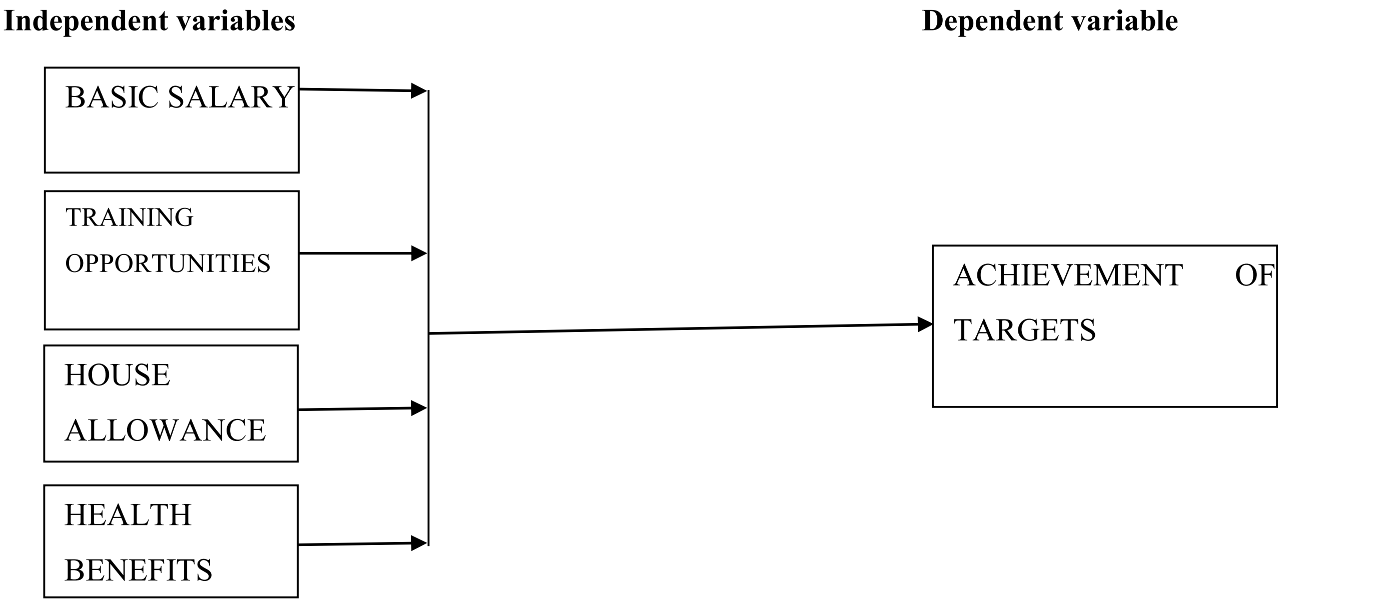


Figure 2.1 Conceptual framework

The conceptual framework figure 2.1 shows how the independent variables are related to the dependent variable. The basic salaries, house allowances, health benefits and training opportunities available to employees affect the achievement of targets within the semi- autonomous government authorities.

Definition of reward

There are a variety of ways to reward people for the quality of the work they do in the workplace. Rewards can be in the form of money, benefits, time off from work, acknowledgement for work well done, affiliation with other workers, a sense of accomplishment from finishing a major task or training opportunities to employees. Rewards should support behaviors directly aligned with accomplishing strategic goals. The term "performance" is being used to designate behaviors that really contribute to the "bottom line" (McNamara, 2011).

Effective reward program

Every company needs a strategic reward system for employees that address these four areas: compensation, benefits, recognition and appreciation. A winning system should recognize and reward two types of employee activity-performance and behavior. Performance is the easiest to address because of the direct link between the initial goals you set for your employees and the final outcomes that result (Sarvadi, 2010)
Reward system and performance
Organizations exist for the sole purpose of producing goods or services. Performance therefore, becomes pre-requisite for survival of organizations. For organization whose performance does not meet the expectations of their clients may be forced to wind up and leave. Performance becomes a key issue when rewards are given to employee‟s contribution towards the success of an organization. Rate busters are awarded more pay to compensate for the efforts they give in return while non-performance is reprimanded (Vincenzo, 1997).

2.1.1 Effects of basic salary on achievement of targets in organizations

Papa (2008) observed that intellectual creativity cannot be 'programmed' and directed the way we program and direct an assembly line or an accounting department. This kind of intellectual contribution to the enterprise cannot be obtained by giving orders, by traditional supervisory practices, or by close systems of control. Even conventional notions of productivity are meaningless with reference to the creative intellectual effort. Given the right conditions, most people will want to do well at work. They believe that the satisfaction of doing a good job is a strong motivation. Many people interpret this (Theory Y) as a positive set of beliefs about workers and fair treatment to all employees. According to Jerald (1997) employee satisfaction with pay level is important because it has been found to have effects on levels of absenteeism and turnover which in turn affects employees" performance.

According to Heneman& Judge (1999), basic salary can be a factor in decision to stay or leave, it is clear that dissatisfaction with pay can be a key factor in turnovers. It was also observed by Cooke (1987) that the linkage between pay and behaviors of employees results in better individual and organizational performance. The process by which the organization creates and administers incentive pay can help, it use incentives to achieve the goal of motivating employee (Kaufman, 1992). According to Shawn (1993) the test of a good pay-for-performance plan is simple: It must motivate managers to produce earnings growth that far exceeds the extra cost of the program. Though employees should be made to stretch, the goals must be within reach and reasonable in relation to what the employee earns in return.

Making fair pay add up to business advantages and it also true that aligning reward and diversity strategies is not only common sense but good business sense. Equal pay audits can help organizations achieve central business targets if employers are smarter at using the data to find the underlying causes for unexplained gaps exposed by an analysis of pay figures. Employers should begin from the principal that all individuals should receive equal pay for equal work. Equal pay reviews must therefore look beyond gender and explore other diversity dimensions. This will help employers to spot circumstances where individuals are paid unfairly, for no justifiable reason. Employers should also recognize that equal pay audits go beyond number crunching, massaging figures and complying with legislation. They are about using figures to expose flawed employment policies and practices so these can be reviewed to make sure the same problems don't occur again (Brian, 2006).

Effects of salaries on employee performance in United States of America

The un- fair reward system in the USA, has made the ratio of CEO basic salaries to average-worker pay has skyrocketing from about 40 in 1980 to several hundred currently. A huge CEO-to-worker pay gap not only degrades a worker and therefore company performance but also violates common moral principles of the common good, love of neighbour, and the dignity and worth of every human being. Paying chief executives an excessive amount relative to their number twos is a warning signal that the chief executive may have the compensation committee sewn up and that the board is not doing a good job of the succession plan. The large difference between those at the top of the corporate ladder and those just one rung below is a symptom of a deeper malice. Yawning gap between the pay of top executives points to weak corporate controls (Clieaf, 2004).

Effects of salaries on employee performance in Singapore

High pay for Singaporean government officials has historically helped curb corruption, which compared with other Asian countries ranks favorably on international graft rankings kept by such organizations as Transparency International. Prime Minister Lee's S$1.94 million was three times the US$400,000 US President George W Bush took home in salary per year. Lee's salary is currently about 1.6 times that of his cabinet ministers. Much of the public anger regarding the selective and discriminative increase of top government official's salaries stemmed from, the fact that in absolute terms, the new proposed government salaries equivalent to more than US$1 million per year dwarfed the pay of average Singaporean wage earners and therefore affecting their performance. This is especially true since the wage gap between upper- and middle-class earners in Singapore had widened dramatically in past years (Alex, 2007).

Wage incentives rather appear in the form of skill bonuses for enlistments. Scientific management is a variation on the theme of economic efficiency; it is a late 19th and early 20th century instance of the larger recurring theme in human life of increasing efficiency, decreasing waste, and using empirical methods to decide what matters, rather than uncritically accepting pre-existing ideas of what matters. Thus it is a chapter in a larger narrative that includes many ideas and fields, from the folk wisdom of thrift to a profusion of applied-science successors, including time and motion study. These methods were in-appropriately used to measure performance level of individuals as though they were machines rather than humans and therefore there was no credible results achieved on effects of wages/salaries on performance of humans as factors of production (Vincenzo, 1997).

2.1.2 Effects of training and development on achievement of targets in organizations

Employee development can manifest itself in many forms of training, evaluations, educational programs, and even feedback. If executed correctly, the effects of training on employee performance can often encourage growth within the worker and the organization itself. The hope is that employees who receive training in line with their individual or organizational goals will become more efficient in what they do. Organizations should look at the positive effects of training on employee performance, and consider employee development as a targeted investment into making the front line worker stronger. Employee development plans, when tailored correctly and executed in accordance with the individual and organizational needs, can significantly increase the efficiency of the worker, and dramatically decrease any associated costs that may be generated by the employee (Nickels, 2009).

Management ought to focus on rearranging work to promote motivation factors through the following three possibilities: Job extension that combines the work of several jobs; Job rotation that alternates workers between a limited number of jobs over time; Job enrichment that diversifies work and provides greater but more responsibility Employees must be trained to enable them cope with additional or new responsibilities given to the through job enrichment, enlargement and rotation. Herzberg's theory not only defined the elements of job satisfaction, but provided a valuable template to conduct job attitude studies. The two-factor, or motivation-hygiene theory, developed from data collected by Herzberg from interviews with a large number of engineers and accountants in the Pittsburgh area identified satisfiers and dis-satisfiers that affect employee performance (Hackman, 1976).

Effects of employee training on the performance- North America

Employees are more likely to enjoy their work and produce desired results when they know what is expected of them and have the tools and knowledge to perform the task. Job satisfaction is enhanced pride in results that meet and exceed expectations. Trainings improve skills and knowledge which enables employees to be efficient and effective in their job performance. Impact analyses of employee training on the performance was measured in terms of Tobin's Q and total returns to shareholders, of North-American firms, by using a survey of senior executives in human capital management carried out in 2000. The results indicate that higher training can have a positive effect on firm performance through factors such as employee satisfaction and customer loyalty. Overall, it is found that higher levels of training are associated with significant benefits which can increase firm value (Molina, 2011).

Training touches the lives of employees from the first day of a new job through retirement. The type of training must be matched to the participant and task in order to achieve maximum results. Herzberg's theory showed that a participative management style is most effective with staff of professional services firms. The original research employed the 'critical incident technique' that involved interviewees discussing occasions of great satisfaction and dissatisfaction with their jobs. Later studies suggested that the independent effect of motivators and hygiene factors is flawed. One study demonstrated that both can be related to job satisfaction and job dissatisfaction. Job satisfaction does not necessarily imply a high level of motivation or productivity yet employee dissatisfaction will definitely lead to poor performance (Hackman, 1976).

2.1.3 Effects of house allowances on achievement of targets

House (rent) allowance is an allowance given by an employer to an employee. The sole purpose of this is to meet the cost of renting a home. Milkovich and Newman (2002) identified that compensation benefits energize and guide behaviors toward reaching a particular goal. Kovach (1987) indicated that people are motivated by money for many different reasons. The need to provide the basic necessities of life motivates most people. Benefits, both financial and otherwise, send a powerful message to employees of an organization as to what kind of organization management seeks to create and maintain, and what kind of standards in terms of performance, behavior and attitudes management seeks from its employees (Beer, 1990).
Rapidly rising home prices in some regional housing markets are making it more difficult to attract and retain labor. Reasons behind this trend include workers declining to relocate into expensive markets or seeking to move out of costly markets, workers changing jobs more frequently in order to reduce commuting on congested highways, and workers moving to obtain marginally higher wages in order to cope with housing costs. Employers are at times required by law to provide reasonable accommodation for its employees either at or near the place of employment or they pay to the employee such sufficient sum as rent. Recognizing that high housing costs have "bottom-line" consequences, more employers are addressing this problem by offering employer-assisted housing benefit programs. Employer-assisted housing programs also can be used to improve community and/or employee relations and to increase corporate security and property values, all of which can have positive bottom-line effects (Hoffman, 2006).

Effects of house allowance on civil servants performance in Kenya
Nairobi-based civil servants in job group „K" have, for instance, been receiving a house allowance of Ksh.10,000 per month rendering the mostly senior managers in the rank incapable of accessing housing in middle income estates where rents range between Ksh.25,000 and Sh50,000 a month affecting their job performance. Nairobi-based public servants in job group „L" have, for instance, been earning house allowances of Ksh.20,000 per month compared to Ksh.12,000 and Ksh.8,000 that their peers in large and small municipalities earn respectively. The least paid workers in job group „A" earn an average of Sh3, 000 per month, which can only pay rent in informal settlements and Nairobi's low end estates like Kayole and Dandora. House allowance reviews should be among efforts to reform the civil service and make it effective and efficient in service delivery (Juma, 2011).
In motivation, rewards and incentives directly effect on the behaviors of employees. Human Resource Professionals are continuously searching for fresh and innovative ideas to drive positive results through employee's incentive, recognition and reward programs. High-performance companies understand the importance of offering awards and incentives that recognize, validate, and value outstanding work and also care about the general wellbeing of employees. They keep employees motivated and are effective methods of reinforcing company expectations and goals, especially in times when promotion is rare, house allowances are on the rise, overall job satisfaction is low and targets are achieved (Evans, 1986).

2.1.4 Effects of health benefits on achievement of targets

Health insurance is a great benefit to the employees. It saves employees money as well as gives them a peace of mind that they have somebody to take care of them in bad times. It also shows the employee that the organization cares about the employee and its family. Wellness programs for healthy working environment may help organization to cut employees" health costs and to lower absenteeism and turnover of employees. Family

Health benefits often have spillover effects in the form of loyalty because employees see the benefits as evidence that the organization care about its employees (Grover & Crooker, 1995).

Increasing evidence supports the need for workplace wellness programs and more companies than ever are implementing health and wellness strategies to reduce injuries, health care costs and long-term disability. With additional benefits such as reduced absenteeism, higher productivity, reduced use of health care benefits and increased morale and loyalty, it"s not surprising more and more employers are choosing to implement workplace wellness programs within their companies. Preventable illness makes up approximately 80% of the burden of illnesses and 90% of all health care costs. Employers are beginning to realize they can take advantage of this statistic and work to provide services to decrease the occurrence of those preventable diseases. There are many real benefits to workplace wellness programs. There is increasing evidence to support implementation of programs in all types of companies and businesses, big or small (Michelle, 2011).

Effects of health benefits on employee performance – United States of America

Despite the United States spending more on health care than any other industrialized nation in the world, it remains the unhealthiest. Employees surveyed in mid-sized to large companies across the United States rank health insurance benefits as more important than compensation, according to a recent study. In a study of 528 employees, the importance of health benefits outweighs salary by a 2-to-1 ratio. Fifty-five percent of employees enrolled in an employer-sponsored health plan rank its importance No. 1, and 82 percent rank it No. 1 or 2 on a list of priorities. Additionally, two-thirds of those surveyed say health benefits are either a primary reason for taking a job or a primary reason for remaining with a job. Other reasons listed include pay, retirement benefits, time off, and a flexible work schedule (Michelle, 2011).

Attitudes and their connection with industrial mental health are related to Maslow's theory of motivation. His findings have had a considerable theoretical, as well as a practical, influence on attitudes toward administration. According to Herzberg, individuals are not content with the satisfaction of lower-order needs at work, for example, those associated with minimum salary levels or safe and pleasant working conditions. It is surprising that health care is becoming more important to employees as both the economy and labor market is declining. Competitive organizations, whether they are big or small, with health benefits programs will be able to attract employees especially if they provide the most fundamental programs such as health care and disability insurance yet it is a lower-order need (Papa, 2008).

2.2 Critical review

However, many managers, including human resources directors, mistakenly believe that employee motivation can be won through monetary rewards or other perks (allowances). They learn soon enough that such perks are taken for granted and that money is not the key to employee motivation (Belilos, 1999).

Fear is a powerful motivator/de-motivator, but only for a short time and then it dissipates. Management believes that workers need to be closely supervised and comprehensive systems of controls developed. A hierarchical structure is needed with narrow span of control at each and every level. Employees are believed to show little ambition without an enticing incentive program and will avoid responsibility whenever they can. If the organizational goals are to be met, theory X managers rely heavily on threat and coercion to gain their employee's compliance (Papa, 2008).

The two-factor model of motivation, based on the notion that the presence of one set of job characteristics or incentives lead to worker satisfaction at work, while another and separate set of job characteristics lead to dissatisfaction at work. Thus, satisfaction and dissatisfaction are not on a continuum with one increasing as the other diminishes, but are independent phenomena. This theory suggests that to improve job attitudes and

productivity, administrators must recognize and attend to both sets of characteristics and not assume that an increase in satisfaction leads to decrease in un-pleasurable dissatisfaction (Herzberg, 1968).
“Job enrichment" in a misguided manner would mean adding unrewarded responsibilities on the shoulders of their supervisors and employees. This results in a feeling of exploitation and has the reverse of the intended effect. A professional and unified management, in a good work environment, is the basis on which to build employee motivation. While high employee turnover reflects on low morale and lack of motivation, when seen from another angle, the absence of turnover quickly results in de-motivation since the possibility of motion and forward-motion is taken away from employees. It is against human nature to remain static, performing the same duties day in, day out, without expectations of change in routine or opportunities for advancement (Belilos, 1999).
The problem of unrealistic self-rating exists partly because supervisors in most organizations do not communicate a candid evaluation of their subordinates‟ performance to them. Such candid communication to subordinates, unless done skillfully, seriously risks damaging their self-esteem. The bigger dilemma, however, is that failure by managers to communicate a candid appraisal of performance makes it difficult for employees to develop a realistic view of their own performance, thus increasing the possibility of dissatisfaction with the pay they are receiving. Employees often misperceive the rewards of others; their misperception can cause the employees to become dissatisfied. Evidence shows that individuals tend to overestimate the pay of fellow workers doing similar jobs and to underestimate their performance. Misperceptions of the performance and rewards of others also occur because organizations do not generally make available accurate information about the salary or performance of others (Searle, 1990).

Employees enjoy the rewards of added know-how, skills, career opportunities and future security due to business success. It is in the self-interest of employers to explore the underlying issues, such as poor diversity training, weak performance management systems and biased appraisal processes in order to create a culture based on fairness as this contributes to better business performance. Diverse workforce can complement these benefits through increased productivity and performance, but managed badly, efforts to improve diversity can create conflict and tension in the workplace (Brian, 2006).

2.3 Summary

It is very clear from the literature review that overall satisfaction results from a mix of rewards rather than from any single reward. The evidence suggests that intrinsic rewards and extrinsic rewards are both important and that they cannot be directly substituted for each other. Employees who are paid well for repetitious, boring work will be dissatisfied with the lack of intrinsic rewards, just as employees paid poorly for interesting, challenging work may be dissatisfied with extrinsic rewards and therefore affecting their performance.

2.4 Research gaps

The review of theoretical, empirical and critical literature has clearly identified several knowledge gaps that exist in this area of study. Measuring employee performance is not an easy task given the tendencies of employees overrating their efforts. Developing a reward system based on performance that motivates employees as well as helps organizations achieve their objectives is elusive.
There is evidence that rewards, in its various forms, affects employee performance. However, most existing research on the effects of rewards on employee behaviours and attitudes has focused on how it is administered. In the central government of Kenya individual incentives, merit pay and bonuses do not exist and therefore the

focus is in how much is paid rather the form of payment. Finally, Civil Service Reform Program in Kenya's main purpose was to create structures that would make civil service more effective and efficient in service delivery; this has not been achieved so far. This study is expected to bridge these exiting literature gaps.

Methodology

3.0 Introduction

This chapter includes research design that guided this study in evaluating the effects of reward system on achievement of targets by employees in semi- autonomous agencies in Migori Sub-county. The chapter also identifies target population, sampling frame, sampling techniques, data collection instruments and data analysis techniques together with the research procedures that enabled collection of data in an efficient and effective manner.

3.1 Research design

Research design is the plan, structure of investigation conceived so as to obtain answers to research questions and to control variance (Kerlinger, 1973). This study adopted survey research design. Survey design involves investigating population by selecting samples to analyze and discover occurrences while providing quantitative and numeric description. The importance of survey design is that it was used to gather cross-sectional information on a population at a single point in time. The survey research design was chosen for this study because of the low cost and ease in accessing information. Data was collected from the three semi-autonomous government authorities and survey design offered more extensive research in a much focused, rapid and economical manner. With this field design, both qualitative and quantitative primary data regarding rewards training and level of employee performance for the three semi-autonomous government agencies was collected speedily and with ease (Mugenda, 2004).

3.2 Study area

The study was conducted in Migori Sub County Headquarters. Government offices are spread evenly along Migori – Kadika road. Migori Sub County was chosen for this study because it offers a wide area of coverage. The three agencies cover more than seven districts and two counties with their main offices in Migori (GoK, 2011).

3.3 Target population

The target population was composed of all public servants working in the three authorities in Migori Sub County. Employees were distributed un-evenly as follows; Kenya Rural Roads Authority 24, Kenya Forest Service Authority 32 and Migori, Kuria and Transmara Water Board (MIKUTRA) 18 giving a total 74 employees in various cadres. Majority of employees in these authorities (nearly 70%) were in middle and lower job groups working as supervisors, technical and non-technical staff (messengers, drivers and clerical officers) who were still being paid through the government payroll (GoK, 2011).

3.4 Sampling frame

The source, from which the sample size of 43 employees of the three semi-autonomous agencies was drawn, was the monthly district staff return file kept by the Sub County Human Resource Registry at the district. The file carries the details of civil servants working in the district indicating when they report and when they are transferred from the Sub County, their job titles, cadres and the departments/ authorities they work in. The three semi-autonomous agencies were ideal for this study because each agency has two different reward schemes for its employees.

3.5 Sample size and sampling techniques

The sample size of 43 employees from three authorities was drawn from a target population of all 74 employees working in the authorities using Nasiurma‟s Model (2000). According to the model sample size n, is calculated as : n= (Ncv2)/ (cv2 + (N-1) e2) where; N is the population, cv is coefficient of variation taken to be (0.5) and e is tolerance level at 95% confidence level (0.05). This was found to be 58% of the entire population of employees in authorities in Migori Sub County (GoK, 2011).

Table 3.1 Sample Size

Sample size using Nasiurma's Model	Kenya Roads Board	Kenya Forest Authority	MIKUTRA Water Board	Total
	24	32	18	**74**
Sample size	14	19	10	**43**
Sample size as % of target population	**19%**	**26%**	**13%**	**58%**

Table 3.1 above shows how the sample size of 43 employees was distributed proportionately in the three authorities as follows; Kenya Rural Roads Authority 14, Kenya Forest Service Authority 19 and Migori, Kuria and Transmara Water Board (MIKUTRA) 10 giving a total of 43 samples under consideration stratified further into two sub groups, Government of Kenya payroll with 33 employees and special payroll had 10 employees (GoK, 2011).

Stratified sampling technique was appropriate for this research because it ensured that sub groups were proportionately represented and the differences in sub group characteristics were also considered. The two sub groups; government and special payroll (authority) was investigated departmentally but along the stratus so that the representation was fair. The stratus enabled the research to identify the wage gaps within sub group in the respective authorities within the district (Mugenda, 2004).

3.6 Data collection instruments and procedures

Secondary data was collected through reviews of duly filled staff performance appraisal forms (Forms 247A & 247 B) and the two schemes of service (special and GoK) that are in use by the semi- autonomous agencies.

Primary data was collected through the use of questionnaires by hand delivery. Qualitative data was collected and weighted on a Likert rating scale and summarized for further analysis.

3.7 Data Collection techniques

All the staff members in the target population are literate and therefore questionnaires were designed and used to collect data from each sub group within each authority. Questionnaires were distributed to the three authorities for collection of both qualitative and quantitative data on the perceptions, feelings and attitudes of employees towards the low versus high salaries paid for the same efforts given. Document analysis is a critical examination of public or private recorded information related to the issue under investigation. Both document analysis and questionnaire were the most suitable ways for the collection of data for the purpose of this research because a lot of data was collected and documented at very low cost and with little time (Mugenda, 2004).

3.8 Validity and reliability

For validity and reliability, twenty questionnaires were distributed in Kisumu as part of Pilot testing. The same questionnaires were redistributed to the same respondents after two Weeks and the results obtained were verified for accuracy and correctness. To be sure that Questionnaires issued out were filled by the right people, the distribution and collection of the questionnaires was carefully controlled and monitored since they were hand delivered.

3.9 Data analysis techniques

Data was analyzed by the use of computer aided data analysis software SPSS and Stat pages. In this research, tables were very useful tool for presentation of cross – sectional data between authorities. Bar graphs and line graphs enabled comparison of effects of training and other rewards paid to employees on targets achieved in their job performance in relation to different schemes of service in use by the semi-autonomous government authorities in Migori Sub County (Mugenda, 2004). Descriptive statistics and correlation coefficients were used to compare the means of annual earnings and also to establish the strength between dependent variables and independent variables due to reward systems applied by the three authorities within the two sub groups. These were very effective statistical inference tools especially when dealing with the authorities in the district which had very many different schemes of service (Mugenda, 2004).

Results And Discussion

4.0 Introduction

This chapter contains analyzed data arranged according to specific objectives through the use of computer aided data analysis software SPSS and Stat pages. It also includes the Presentation of data collected by the use of document analysis and questionnaires as well as statistical inferences including correlations between dependent variables and Independent variable.

4.1 Effects of basic salary on achievement of targets within semi-autonomous government authorities in Migori Sub-County**.** This research sought to determine effects of basic salary on achievement of targets within the authorities in Migori Sub-County. From document analysis data was analyzed and presented in table 4.1 and figure 4.1 below;

Table 4.1 Basic salary and targets achieved within semi-autonomous government authorities in Migori Sub-County

		Number of employees and targets achieved			
		Excellence (Above 90%)	**Moderate (75%-89%)**	**Poor (Below 75%)**	**Total**
Salaries to employees	GoK payroll-low salaries	2	12	19	**33**
	Special payroll-High salaries	8	2	0	**10**
Totals		**10**	**14**	**19**	**43**

Analysis of data summarized in table 4.1 above gives Pearson Correlation Coefficient of 0.7 on effects of basic salary on employee performance. The average basic salary and target achievement ratio for employees on GoK payroll was Ksh 19,093 and 75.3% respectively. Those on special payroll had an average basic salary of Ksh. 110,376 and target achievement ratio of 94.6%.

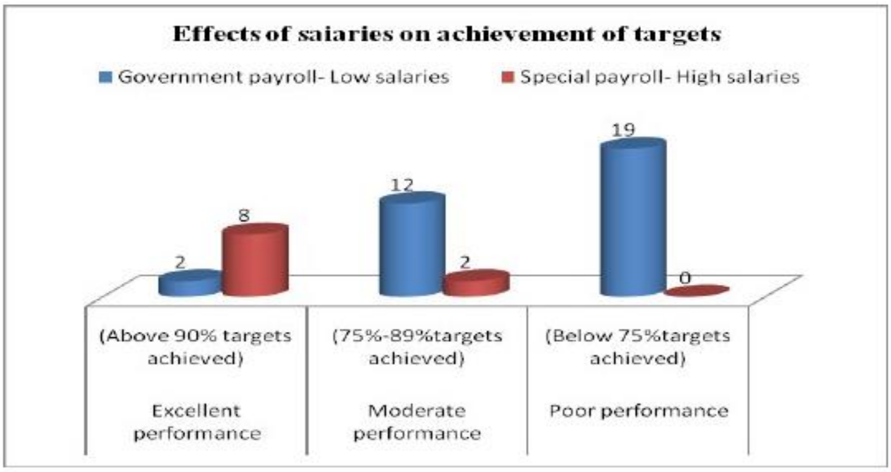


Figure 4.1 Basic salary and targets achieved within semi-autonomous government authorities in Migori Sub-county

Figure 4.1 above shows that 80% of employees on special payroll (high) achieved above 90% of their targets and 20% met between 75% and 89% of their targets. 0.06% of employees on GoK payroll (low) achieved 90% of their targets, 36% achieved between 75% and 89% while 58% achieved less than 75% of their targets.

4.2 Effects of training on achievement of targets by employees of semi-autonomous government agencies in Migori Sub-county The study also investigated the effects of relevant training to employees on their job performance. The question posed was, "How would you rate the effects of trainings on achievement of your targets?" Data was collected through questionnaires and the results summarized in table 4.2 and presented on figure 4.2 below;

Table 4.2 Employees ratings of effects of relevant training on their performance

Employees' rating of effects of relevant training on performance	Number of employees and targets achieved			
	Excellent (Above 90%)	Moderate (75%-89%)	Poor Below 75%)	Total
Training had effect on performance(score; 3)	3	0	0	3
Training had little effect (score; 2)	4	7	5	16
Training had „No" effect (score; 1)	3	7	14	24
Total	10	14	19	43

Achievement of targets. Data was collected and weighted on a Likert rating scale ranging from the lowest score of 1 and the highest score of 3. A score of 1 indicated that training had „No" effect on performance, a score of 2 signified very little effect, and the highest score of 3 signified that training had effect on performance. Job satisfaction is enhanced pride in results that meet and exceed expectations and higher levels of training are associated with significant benefits to increase in firms value (Molina, 2011)

Pearson Correlation Coefficient on the effects of training on employee performance was found to be 0.493. Employees on special payroll rated the effects of training on their performance at mean score of 2.1 out of 3 equivalent to70% while, those on GoK payroll rated effects of training on their performance at a mean score of 1.33 out of 3 or 44%.Studies have suggested that a participative management and training is the most effective with staff in professional service firms and training improve skills and knowledge and enables employees to be efficient and affective (Hackman, 1976)

Figure 4.2 Employees ratings of effects of relevant training on their performance

Figure 4.2 indicates that 10 employees who were excellent in performance; 3 said that training had „No" effect on their performance, 4 said that there was little effect and the remaining 3 said training had effect on their performance. 7 employees of the 14 moderate performers said the training had „No" effect on their performance and 7 indicated that there was little effect on their performance. 14 employees of the 19 low performers said that training had „No" effect and 5 said that training had little effect on their achievement of targets.

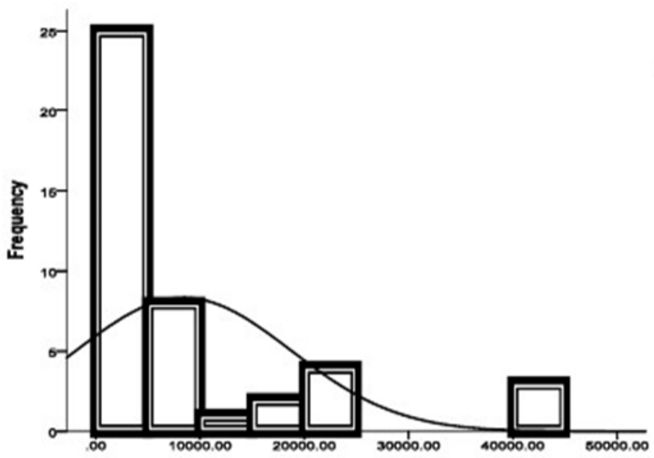
4.3 Effects of house allowance on achievement of targets within semi-autonomous Government agencies in Migori Sub-county. Data was collected through document analysis and questionnaires in order to find out the effects of house allowance on employees" performance. This was in line with the third objective of this study. Table 4.3 and figure 4.3 below give summarized data from respondents;

Table 4.3 Monthly house allowances paid to employees and targets they achieved

		Special payroll		GoK payroll	
		House allowance Ksh	**Targets achieved %**	**House allowance Ksh**	**Targets achieved %**
Mean		24200	94.6	3666.667	75.2424
Median		20000	98	2500	73
Mode		20000	98.00	2500	73
Std. Deviation		11242.78	7.58947	1466.643	8.07399
Skewness		0.798	-1.532	0.773	1.145
Minimum		12000	78	2500	63
Maximum		40000	101	6000	98
Percentiles	**25**	15000	89.5	2500	70
	50	20000	98	2500	73
	75	40000	99.25	5000	79
N	**Valid**	**10**	**10**	**33**	**33**
	Missing	**0**	**0**	**0**	**0**

Analysis of data in table 4.3 gives a Pearson Correlation Coefficient of 0.745, and the monthly average house allowance for all employees was Ksh 8,442 and a mean performance of 79.7%. On specific payrolls, the average monthly house allowance was Ksh.24, 200 and Ksh.3,667 for employees on special and GoK payrolls respectively

Figure 4.3 Monthly house allowances paid to employees on both GoK and Special Payrolls



Monthly house allowance

Figure 4.3 above shows that 77% (33 out of 43) of employees earned an average monthly house allowance less than Ksh. 10,000. 15% earned a monthly house of allowance of betweenKsh. 10,000 and Ksh. 25,000. The remaining 8% earned an average monthly house allowance between Ksh. 35,000 and Ksh. 40,000. Recognizing that high housing costs have “bottom line” consequences, more employer-assisted housing benefit programs. Employer-assisted housing programs also can be used to improve community and/or employer relations and to increase corporate security and property values, all of which can have positive bottom-line effects (Hoffman, 2006)

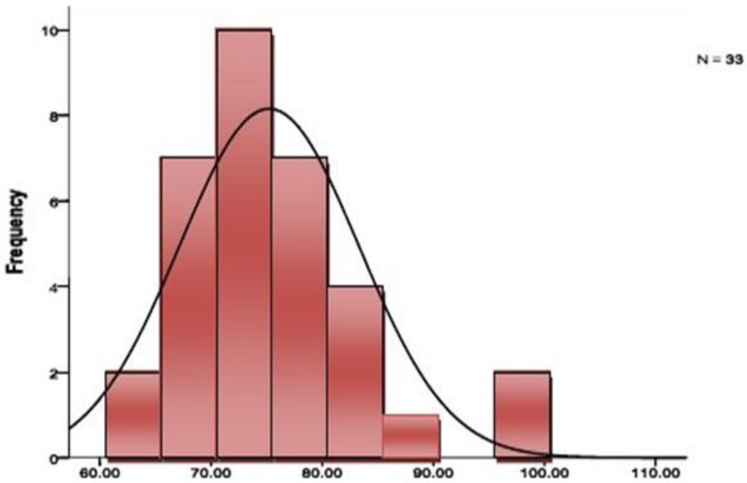
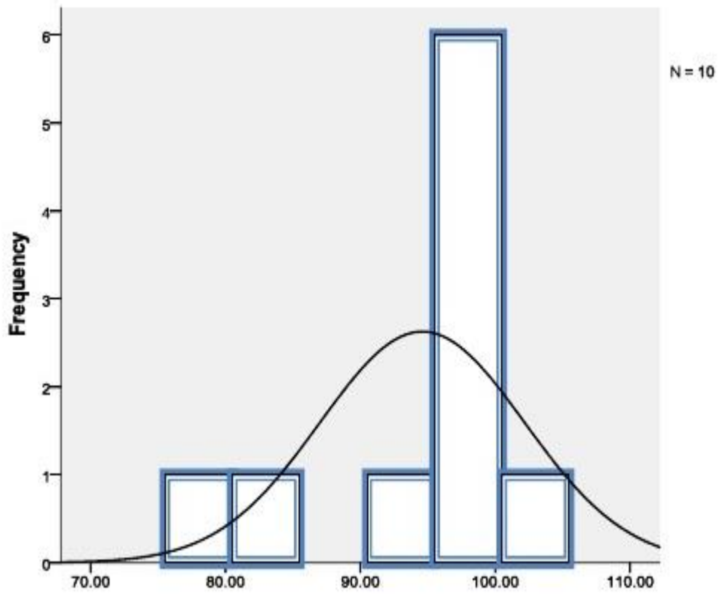


Figure 4.4 Targets achieved by employees on GoK payroll

Figure 4.4 shows that employees on GoK payroll had an average target achievement rate of 75.2% with a standard deviation of 8.074%. The performance of employees ranged between 83.3% and 67 % (75.2 + 8.074).



Targets Achieved

Figure 4.5 Targets achieved by employees on special payroll Presentation of data in figure 4.5 indicates that 80% of the employees on special payroll achieved over 90% of their targets while the remaining 20% achieved an average of 80% of their targets. Employee performance in the special payroll category had a mean target achievement rate of 94.6% with a standard deviation of 7.589 (94.6 + 7.589).

4.4 Effects of health benefits to employees on achievement of targets within semi-autonomous government agencies in Migori Sub-county

The study also sought to establish the effects of employee health benefits on their performance. Through questionnaires and document analysis, data was collected and summarized in table 4.4 and figure 4.6 below;

Table 4.4 Monthly health benefits and targets achieved by employees on both special andGoK payroll

		Special payroll		GoK payroll	
		Targets %Ksh	Health Benefits	Targets %Ksh	Health Benefits
Mean		94.6 98	25400 23500	75.2424 73	996.3636 990
Median		98.00a	21000	73	750
Mode		7.58947	5232.378	8.07399	354.3508
Std. Deviation		-1.532	0.758	1.145	0.227
Skewness		78	21000	63	495
Minimum		101	35000	98	1500
Maximum		89.5	21000	70	750
Percentiles		98	23500	73	990
	25	99.25	29000	79	1372.5
	50				
	75				
N	**Valid**	**10**	**10**	**33**	**33**
	Missing	**0**	**0**	**0**	**0**

Analysis of data in Table 4.4 gives Pearson Correlation Coefficient of 0.73, average Monthly health benefits of Ksh 6,672 and average performance of 79.7%. Family Health benefits often have spillover effects in the form of loyalty because employees see the benefits as evidence that the organization care about its employees (Grover & Crooker, 2011)

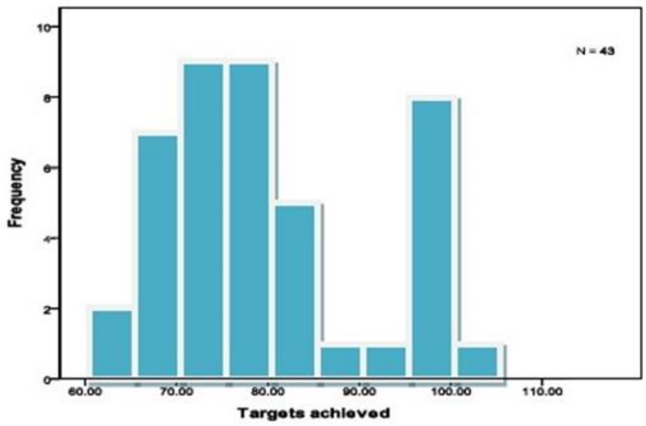


Figure 4.6 Monthly health benefits to employees on both special and GoK payroll

Figure 4.6 shows that 75% of the employees achieved 85% of their targets while the Remaining employees achieved between 85% and 101% of their targets.

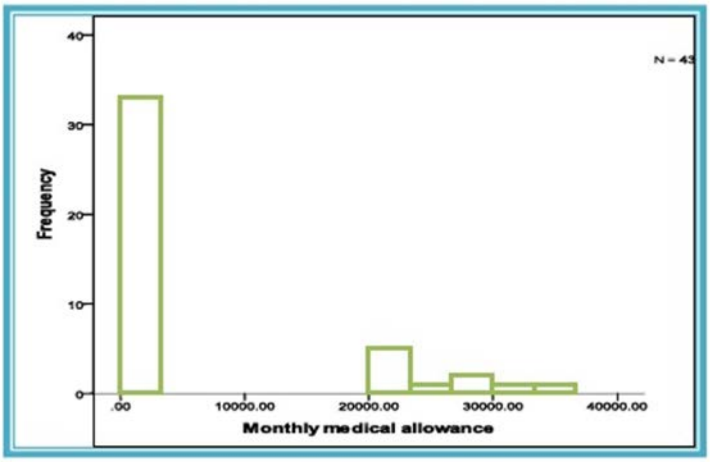


Figure 4.7 Monthly health benefits to employees on both special and GoK payroll

Presentation of data in figure 4.7 above indicates that all the 33 employees on GoK payroll were entitled to health benefits below Ksh 1,500, while the remaining 10 employees who are on special payroll earned health benefits of least Ksh. 20,000. The average health benefits accruing to employees on special payroll was found to be Ksh. 25400.00 while those on GoK was Ksh. 996 giving a difference of Ksh. 24,404. Increasing evidence supports the need for workplace wellness programs and more companies than ever are implementing health and wellness strategies to reduce injuries, health care costs and long-term disability. With additional benefits and increased morale and loyalty, it's not surprising more and more employers are choosing to implement workplace wellness programs within their companies. Preventable illness makes up approximately 80% of the burden of illness and 90% of all health care costs. Employers are beginning to realize they can take advantage of this statistic and work to provide initiative for it.

Summary, Conclusion And Recommendations

5.0 Introduction

clear from the evidence collected that majority of the employees either indicated that training did not or had little effect on their achievement of targets in their organization and this is due to dissatisfaction levels with the reward system in their agencies. It is evident The chapter contains suggestions for further research as well as summary of findings, conclusion and recommendations on the effects of reward system on employees‟ achievement of targets in the semi-autonomous agencies in Migori-Sub-county.

5.1 Summary of findings

The overall objective of this study was to establish the effects of employee reward system on achievement of performance target of semi-autonomous government agencies in Migori Sub-county. Findings are summarized and presented along specific objectives; basic salary, training, housing benefits and health benefits that affect employee job performance.

5.1.1 Effects of basic salary on achievement of targets within semi-autonomous

Government authorities in Migori Sub-county This research was conducted to investigate the effects of basic salary on achievement of targets within semi-autonomous government authorities in Migori Sub-county. The results of this study revealed a very large wage gap between the average earnings of employees in semi-autonomous government agencies. Those who are still on the GoK payroll earn 8times less than what those on special payroll are earning despite their level of academic and professional qualification. Analysis of data summarized in table 4.1 gives a Correlation Coefficient (Pearson) of 0.7 on effects of basic salaries on employee performance within the agencies in Migori. The average basic salary for employees on GoK payroll and special payroll were Ksh. 19,093 and Ksh. 110,376 respectively giving a difference of Ksh 91,283.

Average target achievement rate of employees on GoK payroll was 75.5% compared to an average of 94.6% by those on special payroll. Figure 4.1 also shows that 80% of employees on special payroll (high) achieved above 90% of their targets and 20% met between 75% and 89% of their targets. 0.06% of employees on GoK payroll (low) achieved 90% of their targets, 36% achieved between 75% and 89% while 58% achieved less than 75% of their targets. The evidence collected indicates that employees within the agencies who are on special payroll (high salary) performed better than those on GoK payroll whose salaries are comparatively low; and it therefore follows that performance of employees depends on their basic salaries.

5.1.2 Effects of training on achievement of targets by employees of semi-autonomous government agencies in Migori Sub-county The study also investigated the effects of employee training on job performance. The respondents were asked to rate relevant trainings that they undertook in terms of achievement of targets in the agencies. Qualitative data relating to how employees viewed effects of training on achievement of targets was collected and weighted on a likert rating scale and summarized in table 4.2.Pearson Correlation Coefficient on the effects of training on employee performance gives a value of 0.493 indicating that there is evidence that training can moderately improve performance of employees. Employees on special payroll rated the effects of training on their performance at a mean score of 2.1 which is equivalent to 70% while, those on GoK payroll rated effects of training on their performance at a mean score of 1.33 or 44%. Employee training can significantly increase the efficiency of the worker, and dramatically decrease any associated costs that may be generated by the employee (Nickel, 2009) Table 4.2 further indicates that 56% of employees interviewed said that training had „No‟ effect on their performance, 37% said that training had very little effect on their performance while only 7% confirmed that training had effect on their performance. It is that the data collected and analyzed indicated that training did not have or had little effect on achievement of targets in the authorities in Migori Sub County.

5.1.3 Effects of house allowances on achievement of targets within semi-autonomous government agencies in Migori Sub-county. Data was collected through document analysis and questionnaires in order to find out the effects of house allowance on employees‟ performance. This was in line with the third objective of this study. Data collected from respondents was summarized in Table 4.3 and presented in figures 4.3, 4.4 and 4.5. Analysis of data in table 4.3 gives a Pearson Correlation Coefficient of 0.745, signifying very strong evidence that employee performance epends on the average monthly house allowance they earn. The average monthly house allowance was found to be Kshs.24,200 and Kshs.3,667 for employees on special and GoK payrolls respectively. Figure 4.5 shows those employees on GoK payroll had an average performance of 75.2% with a standard deviation of 8.074%. The performance of employees ranged between 83.3% and 67% (75.2 + 8.074). Employee performance in the special payroll category had a mean achievement rate of 94.6% with a standard deviation of 7.589 (94.6 + 7.589). Section 9 of Employment Act in Kenya emphasizes the importance of house allowance to Employees. It stipulates that every employer shall at all times, at his own expense, provide reasonable accommodation for each of its employees either at or near the place of employment or shall pay to the employee such sufficient sum as rent in addition to salary as will enable such employee to obtain reasonable accommodation. Employees on GoK payroll earn an average monthly house allowance of Kshs. 3,667 which in Migori urban center today may not be enough to rent a single room for a home and therefore, most employees are forced to look for accommodation away from their work place. A lot of time and effort is used by employees to get to their place of work every day impacting negatively on their performance. It is clear from the findings that employee's performance depends on the amount of house allowance paid to them.

5.1.4 Effects of health benefits to employees on achievement of targets within semiautonomous government Agencies in Migori Sub-countyAnalysis of data in table 4.4 gives a Pearson Correlation Coefficient of 0.73 indicating a very strong correlation between health benefits and employee performance. The average monthly health benefits and performance was found to be Kshs 6,672 and 79.7% respectively. Figure 4.6 indicates that 75% of the employees achieved 85% of their targets while the remaining 25% of employees achieved between 85% and 101% of their targets. Presentation on figure 4.7 indicates that all the 33 employees on GoK payroll were entitled to health benefits below Kshs 1,500 while those on special payrolls' benefits earned at least Kshs.20, 000. The average health benefit accruing to employees on special payroll was found to be Kshs. 25,400.00 while those employees on GoK payroll received an average benefit of Kshs. 996. People are motivated by money for many different reasons. The need to provide the veryhouse allowance, health benefits and basic basic necessities of life motivates most people. Healthy employees help organization to meet its targets/objectives and also to reduce employer's operational costs by lowering rate of absenteeism. Health benefits often have spillover effects in the form of loyalty because employees see the benefits as evidence that the organization cares about its employees and therefore motivates them. The findings suggest that employees‟ performance depends on the health benefits they receive.

5.2 Conclusion

In view of these findings, it is clear from the evidence collected that development and management of effective reward systems is the biggest social challenge in the 21stcentury to the corporate world and governments worldwide In this report, the study has shown that salary have strong influence on employee performance with correlation coefficients of 0.745, 0.73, 0.7 respectively as compared to a 0.493 moderate correlation that training had on their performance. Monetary rewards have more powerful motivational effects on employees than non-monetary rewards. The study also indicates that the un-fair reward system in the semi-autonomous government agencies in Migori Sub-county is responsible for the poor performance of employees on GoK payroll. It is not easy to explain how one can earn 8 times more than his/her workmate on the same job with equal experience and qualifications.

5.3 Recommendations

In this report, the study has shown that employee engagement and level of contribution depends on staff feeling that they are fairly rewarded for their skills, knowledge and contribution. The design and management of reward systems present an organization with one of the most difficult Human Resource

Management (HRM) tasks. The HRM policy contains the greatest contradictions between the promise of theory and the reality of implementation.

It is against these findings that the report recommends the harmonization of schemes of service within departments/ministries so that every individual is awarded a fair salary. Civil servants, who were left on GoK payroll, need to be absorbed into the special payroll in order to create harmony within the agencies, motivate and improve employee performance.

House allowances paid to employees need to be made uniform across the various cadres despite the region where a civil servant is posted. Currently civil servants become demotivated when they are transferred from regions that attract higher house allowance to those that are considered to be „low cost" and hence attract lower house allowance.This report also recommends that assessment of employees training needs must be made more relevant by involving employees fully in the process in order to take into account their views and preferences. This report also recommends, that any reward package proposed for employees in future, must give due consideration to health benefits as means of improving employee performance. Contributory employee insurance schemes must be introduced in order to reduce health care costs of employees and also to reduce absenteeism due to sicknesses from preventable diseases. The report recommends further that equal pay audits should be periodically undertaken by organizations to expose flawed employment policies and practices so that these can be reviewed to make sure the same problems don't occur again. Public Service Commission of Kenya needs to be restructured so that meritocracy, reliability, team spirit, confidentiality and fairness when dealing with human resource are achieved. Checks and balances should be included in the negotiations of any reviews of terms of service in the public sector to avoid unnecessary and unreasonable salary increases by creating an independent body to control these processes.

5.4 Suggestions for further research

Further research should be undertaken in future to determine the effects of government pay policies on employee turnover in the civil service in Kenya.

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