

How Active Teaching and Learning Improve Students' Teamwork Skills?

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Abstract- This study examined the used of the Active Teaching and Learning Activity Module (MaPdPA) in improving teamwork skills in the form six curriculum. This study used a combination of design and development studies. A quasi -experimental design was also used to observe or evaluate the effect of the Active Teaching and Learning Activity module (MaPdPA) in improving teamwork skills. The total number of study samples for treatment groups and control groups students was 120 students consisting of 38 male students and 82 female students. The instrument of this study consisted a set of pre and post test questions using a 5 -point Likert scale to assess the level of mastery of soft skills of students assessed by teachers. Quantitative data for this study were analyzed using descriptive and inferential using MANCOVA test. The results of the MANCOVA test analysis found that there was a significant main effect of the type of treatment using MaPdPA on the level of mastery of teamwork skills of students. Through the post-test analysis for the level of mastery of the elements of teamwork skills showed that there was a significant difference in the test mean for both groups of PA and PSA students. The PA student group turned out to have a better level of mastery in teamwork skills with a better post -test mean value than the PSA student group. The used of MaPdPA is not only an innovation of BBM for the use of teachers but also able to narrow the gap in learning effects to increase the level of mastery of soft skills of students. As a result, active learning provides benefits in improving the skills of teachers and students as well as boosting self -achievement and institutional performance.

Index Terms- *Active Teaching and Learning Activity module, teamwork skills, self -achievement*

I. INTRODUCTION

There are various issues and challenges nowadays that need to be addressed by various parties, especially among school leavers or pre -graduates such as marketability in meeting the needs of the current industry as well as the need to equip themselves with soft skills. Instructors and employers stated that students are weak in the elements of soft skills, namely leadership skills, critical thinking and oral communication skills, especially in English. Accordingly, educators are advised to give more attention and emphasis to the types of learning activities that can improve students' soft skills (Che Norlia, 2015).

A key issue that is often discussed from the perspective of employers in industry and career contexts is that most local graduates have deficiencies in mastering soft skills (Jumali et al., 2013; Sharifah Nadiyah, Hanipah & Faaizah, 2014). Employers also demand that graduates should have good soft skills overcoming academic achievement as an important criterion in the selection of new employees (Sharifah Nadiyah, Hanipah & Faaizah, 2014) while the findings of overseas studies by Wahl et al., (2012) also clearly stated about soft skills gaps in education. There is a gap that exists between academic education and requirements by most current industries. In fact, the issue of soft skills among Form Six Pre-U graduates was also studied by local researchers. Soft skills are the most important and very significant factor in measuring the marketability and employability of graduates. Thus, graduates need to strengthen soft skills to address the issue of marketability and employability of graduates (Rozita & Langkan, 2018).

The average document analysis of the examination syllabus for the new Higher Examination Certificate Assessment System (2012/2013) provided by the Malaysian Examinations Council (MPM) applies aspects of soft skills in the curriculum of this system. The objective of preparing coursework or project work is to assess the candidate's ability in three main skills namely cognitive skills, manipulative skills and soft skills (SP 900 General Studies). Higher Examination Certificate School-Based Assessment (SBA) candidates are also assessed based on their ability to apply cognitive skills and also mastering soft skills (SP 922 Communicative Malay Literature). Therefore, there is a need for the assessment of learning outcomes or the determination of the achievement of objectives to assess the ability, application and level of mastery of ICT soft skills of students.

The objective of the Higher Examination Certificate history project is to develop soft skills while the objectives of the Geography syllabus are divided into four domains, namely the cognitive, psycho-motor, affective and social domains (SP 942 Geography). The social domain includes elements of soft skills such as students being able to improve their oral and written communication skills effectively, teamwork skills, leadership and group skills as well as improving cross-cultural skills. The final title of the learning outcomes in section C: Geographical External Studies for the presentation of the report which allocates eight hours of teaching time refers to the mastery of ICT soft skills. Even candidates are allowed to perform it in groups.

Document analysis as well as the findings of literature review in and outside the country explain about some specific problems for ICT students' soft skills to be studied in more depth. The learning outcomes of the application or integration of ICT soft skills in the form six curriculum for each Higher Examination Certificate subject have been outlined by the Malaysian Examinations Council (MPM) from the 2012/2013 intake session. However, specific studies on the application of learning to the development of students' level of mastery of soft skills in the curriculum of this system implemented at the local level are very limited.

II. LITERATURE REVIEW

A study carried out by Maznah Abdullah, Azlin Norhaini and Norlena Salamuddin (2022) has categorized soft skills into two main parts namely basic skills and interpersonal communication skills. Basic skills are reading, writing, counting, problem solving, information technology skills and thinking systems skills. Through extensive past literature review as well as studies on the development and construction of validation of soft skills measurement such as performance measurement by Kantowitz (2005) found that there are 107 elements in soft skills while western researchers agree to conduct analysis on the qualitative group by reducing it to 10 groups with a multi-dimensional scale to the following: (1) Self-management skills; (2) Communication or persuasion skills; (3) Performance management skills; (4) Interpersonal skills; (5) Leadership or organizational skills; as well as (6) Political or cultural skills. The classification of these 10 groups is more systematic when compared to the list of 107 elements of soft skills.

Alshare, Lane and Miller (2011) had studied the perceptions of students and faculty who offers soft skills in curriculum information systems in the United States. Through the researcher's report, it was found that in general, students are more satisfied with the faculty that has covered on soft skills. In addition, most of the researchers' findings have also emphasized on the need for soft skills to be applied in the curriculum further facilitating its acquisition for the use of students. Meanwhile, the results of a study by Aworanti (2012) showed that graduate competence in the workplace requires the acquisition of soft skills that they integrate into current academic and technical courses is an effective method to develop soft skills among community members.

Willcoxson, Wynder and Laing (2010) had examined the overall approach to the development of soft and professional skills in accounting programs at the university level. This study focused on the responsibilities of staff in the formation of long-term strategies on the development of soft and professional skills of students to always be relevant and coherent with the programs offered. The teaching staff will develop a teaching course framework to ensure coherence between soft skills and teaching objectives as well as activity evaluation. The researcher used the information available in the course framework to be analyzed in order to provide data on the tendency of soft skills applied by the teaching staff to the students. The findings of the study indicated that the objective, teaching activities and methods required change because they could not achieve the goal by applying the soft skills themselves. Therefore, this study had increased the awareness of teaching staff to conduct a more effective course design to improve soft skills among students. Thus, the researcher used the Active Learning module to test its effect on the level of mastery of the elements of soft skills of students

III. RESEARCH METHODOLOGY

This study used a combination of design and development research. Development research in Teaching and Learning is a process that covers all activities involving needs analysis, determination of content to be mastered, educational goals created, Teaching and Learning materials designed to achieve objectives, implementation and evaluation of the effectiveness of Teaching and Learning programs or materials (Richie & Klien, 2007). However, this article focused on the suitability and usability evaluation phase using a quasi-experimental design. Quasi-experimental design was also used to see or evaluate the 'effect' of a program, activity, method etc. In the case of a study sample can't be randomly selected to see a comparison of two or more data sets (Chua Yan Piaw, 2006).

The total sample of study subjects for the Treatment Group (KR) was 60 students consisted of 18 males and 42 females for KR while the total sample for the Control Group (KK) was also 60 students consisting of 26 males and 44 females for KK. The total number of study samples for KR and KK for both groups of students was a total of 120 students consisting of 38 male students and 82 female students.

The instrument of this study consisted of a set of pre and post test questions using a 5-point Likert scale to assess the level of soft skills mastery of the students which aided by the teachers. Achievement tests or mastery level detection were used to measure an individual's skills in a particular field or subject (Noraini, 2010).

Quantitative data for this study were analyzed using descriptive and inferential statistics aimed at analyzing statistical data using MANCOVA test through IBM Statistical Package for Social Sciences (SPSS) version 20. Before statistical analysis was conducted, the data had to be cleaned first through data loss analysis as suggested by Tabachnik and Fidell (2007).

IV. FINDINGS

The effect of the development of students' soft skills between the group using MaPdPA and the group following PSA can be seen through data analysis and study findings calculated by summing the cumulative mean of the post -test that measures the level of communication. Table 1 shows the mean for both groups of PA (KR) students with PSA (KK) pre and post tests for the level of mastery of communication skills. The PA group of students appeared to have a better level of mastery of teamwork skills post -test mean value compared to the PSA group of students (PreMPA = 3.35, PreMPSA = 3.36) compared to (PostMPA = 4.04, PostMPSA = 3.67).

Table 1: Mean Level of Mastery of Teamwork Skills of PA Students with PSA

Active Pem (PA)		Existing Pem	
Min Pra KR	Min Pasca KR	Min Pra KK	Min Pasca KK
3.35	4.04	3.36	3.67

The results of the MANCOVA test analysis found that there was a significant main effect of the type of treatment using MaPdPA on the level of mastery of teamwork skills of students. Through the post-test analysis for the level of mastery of the elements of teamwork skills showed that there was a significant difference in the test mean for both groups of PA and PSA students. MANCOVA test results refer to Table 2.

Table 2: MANCOVA Test Analysis of Mastery Level of Student Teamwork Skills Elements between KR and KK

Wilks' Lambda	F	dk	Error dk	Sig.	Partial and square
0.569	1,041	8	110	0.000	0.431

Next, univariate analysis was done to identify which soft skills between the treatment group using MaPdPA and the group following PSA. For communication skills ($F(1,117) = 6.654, p = 0.011$) was significant at the significance level of $p < .05$. The findings of the univariate analysis are as shown in Table 3 below:

Table 3: Univariate Analysis Identifying Significant Levels of Mastery of Students' Teamwork Skills between KR and KK

Mean Squared	dk	Sum of Squares	F	Sig.	Partial and square
0.222	1	0.222	2,021	0.158	0.017

Discussion of Study Findings

The level of mastery of the teamwork element was studied by the National Association of Colleges and Employers (2011) which showed that employers place teamwork skills among the important skills i.e. 3rd position. In fact Lee (2003) and Virgona and Waterhouse (2004) found that the elements of communication skills and teamwork are the most important essences given attention in soft skills by employers. However, the findings of this study were found to be contradict with the study by Liza Lytha and Abdullah

(2013) which showed that there is a significant relationship between dominant soft skills with the level of mastery of soft skills among high technical stream students.

This study found that there was no significant relationship between the development of teamwork elements while the findings of previous studies by Chang Peng, Fauziah Ahmad and Faridah Ibrahim (2011) found that communal relationships have a positive relationship with ICT soft skills namely communication, critical skills and problem solving, skills teamwork, continuous learning and information management, and entrepreneurial skills.

The use of MaPdPA in active learning has an impact on the level of mastery of the elements of teamwork skills, especially for KR students. The level of mastery of soft skills for KR students who follows PA was found to increase in the post -test compared to KK students who follow PSA. Limiting the duration of PA treatment to seven weeks may not be sufficient to significantly increase the level of mastery of soft skills on the elements of teamwork.

There are several considerations that can be discussed further as a result of the implementation of the study such as the level of mastery of soft skills of students, the level of mastery of each of the elements of teamwork. In addition, the implications of the study using active learning is relevant to be implemented today in addition to the improvement of the assessment system and continuous evaluation should also be highlighted as one of the alternatives of Teaching and Learning sessions in line with the implementation of PAK21. For example, studies on the effectiveness of the new Higher Examination Certificate assessment system are only discussed for accounting subjects only (Noor Lela, Rohaila & Rosmini, 2017). Therefore, the study of form six curriculum needs to be intensified in terms of quantity and quality.

V. CONCLUSION

The implementation of active learning in the Teaching and Learning sessions of the form six curriculum has a different impact on the level of mastery of teamwork skills among students compared to the existing Teaching and Learning sessions in schools. The implementation of active learning is able to increase the level of mastery of teamwork skills in the treatment group when compared in contrast to the control group who only mastered it at a lower level. Therefore, KK students who follow PSA are recommended to be given the opportunity to follow PA so that the assessment and evaluation of the level of mastery of their soft skills ICT can be improved. As such, it can be concluded that the use of MaPdPA is not only an innovation of BBM for the use of teachers but also able to narrow the gap in learning effects to increase the level of mastery of soft skills of students. As a result, active learning provides benefits in improving the skills of teachers and students as well as boosting self -achievement and institutional performance.

Overall, the findings of the study can drive the improvement of wave 2 system (2017) in improving the quality of education such as the integration of HOTS in PAK21, strengthening bilingual competence among students, elevating Bahasa Malaysia and Strengthening English (MBMMBI) and strengthening teacher quality. In addition, the development of ICT can further strengthen unity through education, especially for soft development through co-curriculum (Annual Report 2017 Malaysia Education Development Plan 2013-2025 by the Education Implementation and Performance Unit (PADU), KPM).

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