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Impact of participatory teaching on students' generic skills in tertiary education

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ABSTRACT

This paper presents findings from empirical study on assessing third year students' academic performance and development of generic skills through participatory teaching. Generic skills inventory and academic performance were utilized as measuring instruments where as activities of participatory learning used as an independent variable. The main purpose of the paper was to explore the extent to which participatory teaching contributes to students' acquisition of generic skills and obtaining outstanding academic standing. Outstanding academic achievement and development of generic skills much depend on the instructional strategies employed in teaching and learning. Participatory learning approaches are those, which put students at the center of the teaching and learning activities. Through participatory teaching strategies, the acquisition of generic skills becomes more enjoyable, meaningful and exciting. The study identified that participatory teaching is an effective way to foster generic skills of students as it has a significant influence on development of students' generic skills and to improving students' academic performance. The result of the correlation analysis shows the strong positive relationships between the variables of academic performance, generic skills as well as activities of participatory teaching. As result of this, this study proves that participatory teaching produces two core outcomes (better academic performance and possession of generic skills) expected students develop during academic course. A comprehensive model of generic skills development was proposed which consists of the three constructs investigated which are indicating the strength and the direction of their relationships.

Keywords: Correlation analysis, participatory teaching, generic skills, academic achievement.

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INTRODUCTION

Advocates of Participatory Teaching attribute a range of advantages to it. Among them are that PT promotes a deep approach to learning, encourages higher order thinking, foster self-directed learning and increases collaborative interaction between students and teachers (Murray-Harvey, 2004). Most research on PT however, has focused largely on improvement of student learning outcomes or achievements instead of other skills. Such studies have tended to define student achievement narrowly in terms of academic progress measured through test scores at the expense of other equally important learning outcomes (Ellis et al., 2005). Other qualities or learning outcomes such as problem solving, communication skills and teamwork are generally less examined in relation to PT in the research literature. However, learning outcomes are not only academics, but generic skills are equally important (Yassin et al, 2008).

Other qualities of graduates include generic skills acquired during the course of academic life are equally important for success of an individual in employment and work life. Working in teams, communicating clearly, personal and interpersonal skills, problem solving, IT literacy and using mathematical concepts efficiently are some of the other skills besides academic exploits required for the job market and generally constitute generic skills (George, 2011). To avoid confusions, generic skills, workplace skills, employability skills are only one thing and the same but overlaps with life skills which are little bit distinct. Life skills are other qualities that someone needs in his/her life, these skills are include; health lifestyle, financial literacy, environmental awareness, service learning, diversity as well as all

qualities of employability skills (International Youth Foundation, 2006).

There is a high demand for graduates with outstanding academic achievements and desired generic skills for workplaces of all kinds. Most universities focus on traditional core subjects to provide learners a broader knowledge of the subject matter while generic skills are less considered or not given to a particular attention. This approach created a gap, with which graduates might obtain higher academic achievements without acquiring crucial generic skills (Hadiyanto and Ibrahim, 2013). Graduates at all levels need to be competitive and marketable to be employed and academic achievement alone does not sufficiently reflect other skills required for job market. Generic skills add value to one's academic qualifications and helps graduates to job placement opportunities. Academic achievement clues up one has a rich knowledge in subject matter, eases one to pursue further education, but does not help much for employment (Pacific Policy Research Center, 2010).

This study investigated generic skills vis-à-vis PT among IT students at Amoud University. PT is the act of sharing teaching and learning activities among students, teachers and among students themselves to foster mutual learning (Harrington and Elander, 2003). According to Dewey, PT (or cooperative learning; Interactive learning) is the action of taking part in teaching and learning activities in the classroom as GS is defined as people's capability to get employment due to their skills, competencies and enthusiasm to work but not because of their certificate (Nopiah et al., 2009). Generally, PT is putting students at the centre of teaching and learning process; where students are given opportunity to apply and practice gained knowledge in social settings. It entails bringing in the classroom activities and providing students with relevant skills to demonstrate their knowledge. Students are engaged with teaching and learning activities both in classroom and outside of the classroom. Participatory learning was characterized by teamwork and group discussions among other features.

Academic achievement is the outcome in a course, or an average for a group of courses in a particular subject area, or an average outcome for all courses expressed on a 0 to 100 or other quantitative scale (Ogedebe, 2012). This paper used the Grade Point Average (GPA) as a scale to measure academic achievement. GPA is the grade point average of the course by the credit hours of the courses for a semester. Cumulative GPA is the cumulative aggregate of the average GPA of all semesters.

Background of the study

Principally, higher education institutions want to produce graduates with expected employability or generic skills that the job market needs and it has been a wider concern. There are several terms that have been used to describe generic skills, such as; soft skills, professional skills, core skills, work ready skills and employability. This has resulted, discrepancy of in conceptualizing generic skills (Hager et al., 2012). This study defines generic skills as people's capability to get employment due their skills, competencies, possession of problem solving, time management interpersonal communication decision making critical thinking, leadership, team working and enthusiasm for work but not their academic performance. With respect to the given definition, generic skills are set of skills that have potential broad application at range of disciplines or circumstances (Jelas and Azman, 2005).

Acquisition of generic skills much depends on teaching strategies adopted by institutions of higher learning. There are many approaches of teaching, among them; participatory teaching is believed to be a method that enhances the development of generic skills. According to Dewey, PT (or cooperative learning; Interactive learning) is the action of taking part in teaching and learning activities in the classroom. This method of teaching encourages learning to participate in classroom teaching/learning activities where teacher here acts as a facilitator. In participatory teaching, students are active, and demonstrate different activities including; group discussions, self-directed learning, peer-teaching, presentation and role plays. All attributes of participatory teaching promotes development of generic skills of students. Best practices of participatory teaching reflect students' employability skills and allow possessing these skills; teamwork, problem-solving, initiative and enterprise, planning and organizing, self-management, learning, and technology.

Based on empirical research assessment on developing generic skills for university students suggest that pedagogical dimensions is a factor that promotes or produces development of these skills. As mentioned in the introductory part, collaborative learning/teaching has attributes that enrich student competency particularly towards fostering both academic knowledge and the workplace skills here referred as generic skills (Jelas et al., 2006).

University students do not only need subject matter or knowledge but also set of skills that are expected to help graduates in finding a job and meeting all requirements that employers demand (Metzler and Woessmann, 2010). Most studies put forward that development of generic skills are results of instructional strategies employed to deliver content to learners. The better teaching method is not teacher led instruction where teacher simply stands in front of students and move slide to next slide. The preferred method is the student centered, where students are actively participating in teaching and learning activities, this allows students to build up required core skills for the workplace. There has been ongoing debate about what make up generic skills. The role of universities in fostering these generic skills has not been discussed in depth and there is no a consistent strategies

that universities utilize to equip students with these skills (Robinson and Garton, 2009).

Prior studies suggest that employers are not satisfied with the employability (or 'generic') skills possessed by undergraduate students, reporting that students are not adequately provided with generic skills during their academic life at universities (Crebert et al., 2004). The issue of lack of workplace skills amongst graduate students in Somali universities is now a major concern. Generic skills are best developed within academic disciplines and it is recommended that these skills must be implemented within academic programs offered. In view of the fact, that studies on the acquisition and improvement of generic skill indicate that they are suitably fostered by exposing learner to active learning approaches (Luca and Oliver, 2002).

Problem statement

The general view over time has been that students of Somali universities are not competitive in the job market because they lack generic skills needed for the job market. Public view has been that graduates of universities do not have appropriate generic skills. Attempts have been made and advised that generic skills required to boost academic achievement can be developed through PT. Lack of participatory teaching methods have been blamed to have caused the teach of generic skills among university graduates. However, there has not been an empirical study to determine the link between GS and PT. Hence any relationship that PT and GS exist is merely hypothetical and perceptionary rather than methodological. However, the actual effect of PT in developing GS has not been thoroughly investigated. As such the actual import of PT in the development of GS is unknown.

Purpose of the study

The purpose of this study was to determine the effect of PT on the development of students' GS and AP using a random sample of 75 students with the view of identifying the best combination of PT and AP for development of GS. Moreover, the result from this study is crucial for academic institutions who want to produce competent graduates in job market with strong GS and good academic standings (Perin, 2011). Therefore, to foster students' GS universities need to find out new ways of instructional strategies to be employed in teaching and learning that are expected to promote these skills required by university graduates.

Research objectives

This study was guided by the following set of objectives:

1. To explore the relationship between Participatory Teaching, students' acquisition generic skills and their academic performance.
2. To propose a strategic model to foster students' GS, AP through PT.

METHODOLOGY

This study employed cross-sectional survey design of a random sample of 75 students of the ICT and Computing Faculty at Amoud University. Data was collected using questionnaire method from the sample to elicit students' self-report regarding the development of generic skills. Students were asked to respond to each statement about their possession of generis skills and academic performance using a 5-point Likert scale. Data was collected using questionnaire by the use of the questionnaire on PT, AP and GS. The research study was conducted based on descriptive survey and correlational designs. A survey questionnaire design was chosen to ensure collection of information which precisely describes the nature of developing generic skills and improvement of students' academic standings at a specific point in time. Primary data was gathered through use of instruments consisting of two section; namely the generic skills inventory list, participatory learning activities and academic performance of all completed respective semester course. The students expressed their levels of agreement based on questionnaire anchored on a five point Likert scale from strongly disagree and strongly agree. The results of the survey were analyzed using descriptive statistics and correlational techniques. The data gathered was processed and analyzed using SPSS version 21 statistical package for windows. Before conducting the correlation analysis, exploratory factor analysis, the Cronbach's alpha tests was computed to determine scale reliability and adequacy of the sampling size, respectively. The main areas of focus of the study were to investigate and compare the level of generis skills developed by the students. PT was conceptualized as: group discussions, team working, leadership skills, and time management skills and communication skills.

All features of PT were computed as a single variable. Generic skills were conceptualized as: communication skills, problem solving and we computed it as being the dependent variable. Data was analyzed using simple descriptive and correlation analysis. These enabled the determinant of both individual and multiple effects of PT on generic skills. Moreover, bivariate analysis was employed to identify the correlations between participatory learning, academic achievement and generic skills. To show up strength and direction of the relationship between variables, coefficient of correlation was explained where P value is indicating the significance of the relationship at the level of 0.05. The r value less than 5 is considered to be a week relationship as P value greater than 0.05 is showing that any relationship established is not significant. Each section in the questionnaire has several variables and was transformed into a single variable (computation of variables). The internal reliability of the instruments was realized through Cronbach's Alpha statistics. The questionnaire, used in the study consists of three sections. The first section is about demographical data including academic achievement; the second section is about participatory teaching while the third section focuses on generic skills. The following table summarizes generic skills inventory adopted from (May et al., 1995), participatory learning activities and some attributes of academic performance (Sahandri and Abdullah, 2009).

FINDINGS

This paper was intended to determine the relationship or

Table 1. Inventory for measuring instruments.

Participatory learning	Generic skills	Academic performance
Group discussion	Communication skills	Excellent
Presentation	Problem solving	Very good
Peer-teaching	Time management skills	Good
Applications	Leadership skills	Poor
Role plays	Decision making	Very poor
Student-directed learning	Team working	

the impact of PT on students' academic achievement and generic skills, Amoud University case study. The questionnaire employed consisted of three parts; academic achievement (GPA), participatory Teaching (PT) and generic skills (GS). Instruments designed to measure participatory teaching were computed as single item or variable, likewise other measuring instruments for GPA and GS were also transformed into a single variables. In order to check reliability of the items in Table 1, a reliability analysis was conducted to ensure internal correlations of the instruments used. Hair et al. (1998) recommended that Cronbach Alpha values from 0.6 to 0.7 were deemed the lower limit of acceptability. An alpha more than 0.7 would indicate that the items are homogenous and measuring the same constants.

Table 2 presents the reliability of the measurement instruments. Cronbach's alpha reliability scores were all over 0.7. The alpha value of the GPA is 0.789 and the values for PL and GS are 0.792 and 0.853, respectively. As a result of that, the questionnaire is reliable and can be used in other research.

As mentioned in the methodology, descriptive statistical analysis was employed to present the percentage distribution of respondents by gender and GPA. Figure 1 exhibits respondents by gender.

As presented in Figure 1, 70% of the respondents were male students and 30% were female students. The chart shows the nature of the respondents in the class and as usual, majority of the students were male students. The result presented above used only to let the readers comprehend the nature and the sources of the data and it's not linked to the problem of the question.

Similarly, another separate descriptive analysis was performed to present respondents' grade distribution represented by letter grades (A, B, C). Figure 2 shows respondents' percentage distribution by course grade.

The results displayed in Figure 2 shows percentage distribution of students' course grades. As indicated in the result, 40% of the students scored grade A, similarly 45% of the students had B grades while 15% of them scored C and there had not been failed and/or students obtained D grades. This indicates that the majority of the students performed well in that course since 85% of the students' grades were A and B. Therefore, this result concludes that PT improved students' AP as a result of the grades obtained.

Table 2. Cronbach's alpha (reliability).

Reliability statistics	
Variables	**Cronbach's alpha value**
GPA	0.789
PT	0.792
GS	0.853

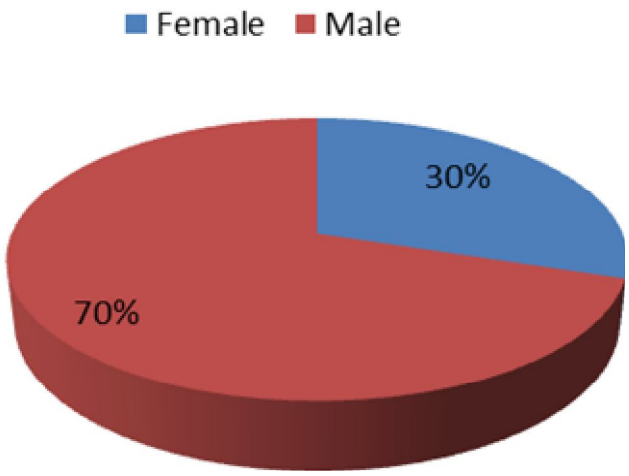

Figure 1. Respondents by gender.

A separate correlation analysis was performed to present the relationship or the impact of participatory teaching on students' academic achievement and generic skills. The bivariate correlation analysis conducted was to ensure the relationship between three variables of academic achievement, generic skills and participatory teaching. Therefore, the first correlation analysis was to discover the relationship or the impact of participatory teaching on student academic achievement while the second bivariate analysis was performed to show the correlation between participatory teaching and student generic skills and the third bivariate analysis was to identify the impact of students' achievement and generic skills.

The following correlation matrix presents the relationship between two sets of variables namely participatory learning, academic achievement. Here,

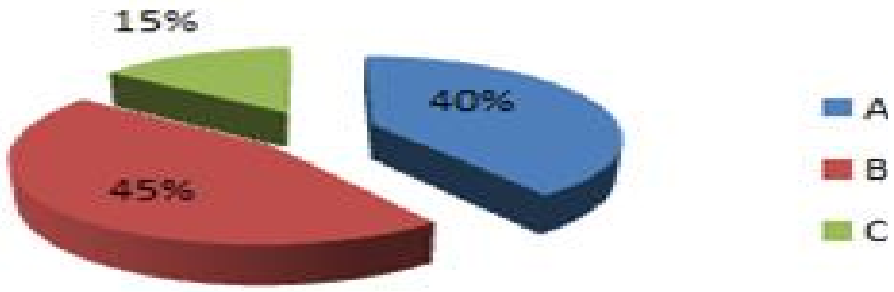

Figure 2. Respondents by course grade.

Table 3. Correlation analysis of GPA and PT.

Variables		PT	GPA
PT	Pearson correlation	1	0.786(**)
	Sig. (2-tailed)		0.025
	N	75	75
GPA	Pearson correlation	0.786(**)	1
	Sig. (2-tailed)	0.025	
	N	75	75

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

Table 4. Correlation analysis of GS and PT.

Variables		PT	GS
PT	Pearson correlation	1	0.679**
	Sig. (2-tailed)		
	N	75	75
GS	Pearson correlation	0.679**	1
	Sig. (2-tailed)	0.043	
		75	75

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

participatory teaching was considered as an independent variable while students' GPA is described to be the dependent variable. This correlation matrix shows the direction of the correlation which is the coefficient of the correlation and the P value indicating the significance of the relationships between the stated variables. Table 3 demonstrates the results of bivariate analysis.

The bivariate matrix in Table 3 shows that there is a strong positive relationship between participatory teaching and students' academic achievement. The coefficient of the correlation between the two variables is 0.786, which indicates that participatory teaching increases 78.6 percent of students' academic achievement and this value is significant at 0.025 error value level. As a result, students' academic achievement is much depends on type of instructional strategy used in teaching and learning. For example, in this case, participatory teaching was found to have been improved students' academic achievements.

Another correlation analysis was performed to investigate relationship between participatory learning and generic skills. Bivariate analysis was used to present the correlation between the variables mentioned were PT in this case acts as the independent variable while the GS was considered to be as the dependent variable. Table 4 shows the bivariate matrix with r and p values.

Table 4 demonstrates a matrix of bivariate analysis to show up the relationship between PT and students' GS (employability skills). As indicated in the matrix, r-value is 0.679, which is showing that there is positive correlation between participatory learning and generic skills. P value is 0.043 and proves the significance of the relationship

Table 5. Correlation analysis of GS and GPA.

Variables		GPA	GS
GPA	Pearson correlation	1	0.479
	Sig. (2-tailed)		0.062
	N	75	75
GS	Pearson correlation	0.479	1
	Sig. (2-tailed)	0.062	
	N	75	75

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

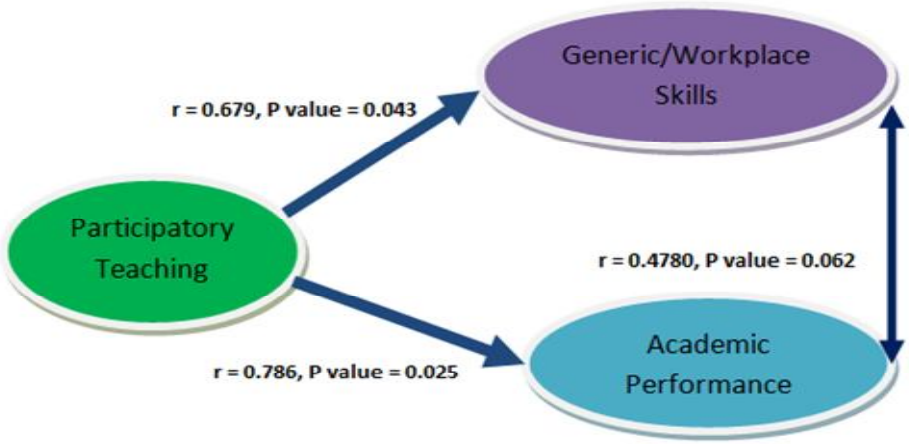

Figure 3. Generic skills model.

between the mentioned nominal variables. Therefore, the above result concludes that PT has significant impact on students' acquisition of GS.

Similarly, a separate bivariate analysis was performed to explore correlation between students' academic achievement (GPA) and generic skills (GS). Table 5, which is correlation matrix, consists of two variables; GS being dependent variable while GPA here acts as an independent variable.

The results shown in Table 5 indicates that there is very weak relationship between GS and GPA since the coefficient of the correlation is less than 0.5 with p value of 0.06 which is indicating that the relationship is not significant at 0.05. As a result, this result suggesting that GPA of the students do not determine their GS and this result strongly supports the theory of fostering students' generic skills through participatory learning.

The proposed model

The proposed model consists of three constructs; Participatory Teaching, Generic Skills and Academic Performance and have been derived from the results of bivariate analysis. All findings presented are supporting the notion that GS and outstanding AP are achieved through the applications of PT. This model provides strategies for developing graduate generic skills and improving their academic performance. Even though universities have their own integrated pedagogical model that focuses on curriculum delivery and assessment but again this model would be useful if adopted properly. This proposed model clearly indicates contribution of a particular teaching strategy to development of generic skills and improvement of students' academic performance. The model suggests universities first define instructional method by stating all its attributes clearly and identifying its possible outcome. In the case of participatory teaching, all activities engaged with students are supposed to match skills they supposed to promote. Similarly, universities should also predetermine skills as an expected outcome together with good academic standing following succession of the model (Figure 3).

A developing pedagogy for integrating generic skills in course delivery needs a collaborative approach of the three constructs and how they are related to each other to produce the expected outcome. This model focuses on generic skills development and improvement of academic

performance rather than acquisition of only subject matter that are graduates supposed to gain during their academic time of study. The reason behind this is simply adding some generic skills to existing curriculum is an approach of integrating generic skills development and improving students' academic performance. It is based on integrated generic skills curriculum, which offers the advantages of being relevant to the discipline and of being seen as highly relevant by the students. It requires the development of learning outcomes which not only reflect discipline knowledge, but also include the development of specific generic skills. Jolly (2001) provides some guidance for implementing integrated skills development by linking learning objectives, learning activities, assessment tasks, and graduate generic skills development.

For this model to be used consistently, it is very important to identify which type of participatory teaching suits or would produce the possession of generic skills along with good academic standing. If this model is adopted by institutions of higher learning will assist to abolish the need for providing extra training on workplace skills to graduates but instead produce graduates with good academic performance and workplace skills needed for the job market.

CONCLUSIONS

Nevertheless, there is no denying that people see higher education as a stepping stone to a good job. But it is not enough. Some graduates and their employers say more could be done to develop students' wider skill and attributes including team-working, communication, leadership, critical thinking and problem solving (Prue and Hirst, 2004).

Overall, the findings of this study suggest that students' academic achievement and generic skills much depend on type of instructional strategy used. Specifically, the study investigated impact of participatory learning on students' academic achievement and their generic skills. This study is encouraging that students' academic achievement as well as their generic skills could be fostered through participatory teaching, which puts students at the center of teaching and learning process. Based on the findings presented, there is a positive impact of participatory teaching on students' academic achievement and generic skills. In short, the results of this study recommend suitability of participatory learning towards improving students' academic standings and their generic skills. This improvement is statistically significant in evaluating instructional strategy by students' GPA and generic skills.

It would be a thing of a great impact in terms of generic skills if universities design and deliver courses that focus on process and student-centered activities rather than lecturing or teacher centered. Bates et al. (2008) supports the result of this study and suggested that professional practice is one approach which may provide deeper learning that facilitates the acquisition of generic skills.

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