

The Influence of Peer Tutoring on Students' Performance in a South African University

Lulekwa S. Baleni¹, Khashane S. Malatji² and N. Wadesango³

¹*University of Fort Hare, South Africa*

^{2,3}*University of Limpopo, Centre for Academic Excellence, RSA*

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ABSTRACT This paper sought to explain the influence of peer tutoring on students' performance. The researchers used quantitative research design. Systematic random sampling was used to select students studying one module in one faculty in the university under study. In order to make sense of data, final results of students for academic year 2013 were used to determine if peer tutoring has assisted students to improve their results. Data collected were through document analysis presented statistically. The study revealed that 45 percent of students who attended more than 4 tutorial sessions are the ones who scored higher marks. However, results showed that 55 percent of the sampled students did not attend tutorial sessions and this affected their results. The study concluded that attendance of tutorial sessions seemed to have an effect on improving academic performance. Therefore, the study recommended that tutorial sessions be compulsory to all students.

INTRODUCTION

Peer tutoring is the face-to-face consultation of university students with the peer tutor. Tutoring programs provide students with extra help in academic subject areas. Sometimes tutoring programs produce great results. If an academic gap develops for some reason, tutoring can offer the extra assistance needed to get a student back on track. For instance, a tutoring program might be the answer for a student who falls behind. This programme is the outreach for students to discuss topics dealt in lectures which help students to learn from each other. It offers both educational and social support to the less knowledgeable students by the tutors who possess better proficiency than their tutees. The practice of peer tutoring is experienced differently nationally and internationally. Internationally, controlled tutorial support promotes personal control, self-confidence, improved communication and empowerment, thus students experience security and cope with academic demands more effectively (Gammon and Morgan-Samuel 2005: 161).

One of the challenges for first year students entering the university discourse community is to adapt to differing expectations of them with respect to thinking and learning. Some students make a smooth and rapid transition from the roles and patterns of high school and college to being independent learners and critical thinkers, whereas others struggle throughout their university careers. Some overseas students have particular difficulty in this regard because of differing cultural and educational traditions, which may or may not be compounded by on-

going problems with English language proficiency. Furthermore, particular units of study are often problematic for many first year students because they involve learning a whole new set of skills and different disciplinary discourse patterns and conventions. Peer tutoring is a cost-effective means of providing academic support to students, particularly during their first year, through the use of a valuable teaching and learning resource, namely other students. It involves training and resourcing successful, more experienced students to tutor novice students in a collaborative learning experience in which both parties richly benefit.

Participating in tutoring helps new students make an easier transition to the way courses are taught at the university, which is different from the demands of high school. Tutors are students who have excelled in the course(s) they are tutoring, so they provide mentoring and advice, in addition to helping gain a better understanding of the course content. Tutoring benefits students by providing academic assistance in small groups or even individually, but it also requires students to take a more proactive role in mastering the material, thus they can improve their own learning skills. However, it becomes a problem if students are not attending tutorial sessions since they miss useful information about the learning.

The national tutoring association identified the following benefits to educational institutions and tutoring programmes:

- Promotes deeper learning of material which in turn enables coordinators to set higher goals for student learning;
- Improves student retention of material;

- Reduces drop out and failure rates among students;
- Provides a cost effective means of providing individualized instruction to students who need it (National Tutoring Association 2008: 3).

In a South African context, it is a more effective approach to improve productivity in learning. Tutorial sessions are the suitable platform where students acquire skills in group process, communication, teamwork, decision making and demonstrate sensitivity to workplace culture. These are worthwhile possessions in the students. Furthermore, in South Africa; peer tutoring provides educational opportunity in an out of class interaction between student peers and a senior students in a non-threatening, non-judgmental environment (Smuts 2003: 167).

Rural universities adopted the above developmental approach to create an effective and supportive learning environment, which will meaningfully contribute to the overall quality of learning and successful throughput. However, it is important for the concerned university to monitor that students attend and benefit from tutorial programme. Hence the study was conducted to find out if mentoring programmes contribute to the performance of students; with the aim recommending best monitoring tool that will encourage student to participate in tutorial sessions. Therefore, the study recommended the suitable peer facilitation model that may maximise students' academic success in the rural universities.

Peer Tutoring and Student Performance

Peer tutoring has been extensively researched as an effective strategy to engage students and promote academic success. Furthermore, peer tutoring has been used across academic subjects, and has been found to result in improvement in academic achievement for diversity of students within a wide range of content areas. Common components of peer tutoring programmes facilitate both cognitive and social gains in both higher-performing mentors and low-performing mentees in an individualised and positive way.

Peer tutoring is an effective educational strategy for classrooms of diverse learners because it promotes academic gains as well as social enhancement. Programs can be successfully im-

plemented at the classroom-level or on a wider scale at the school — or district-level. With administrative support and professional development, peer tutoring can help teachers cope with challenges such as limited instructional time, multiple curricular requirements, and appropriate social engagement among students. Students engage in active learning while staying abreast of the progress they are making. They are held accountable for their achievement, and motivated by social or tangible rewards. A goal of peer tutoring is to create self-managed learners with high self-esteem (Access Centre 2004).

Peer tutoring is particularly advantageous in inclusive classrooms because it allows teachers to address a wide range of learning needs and engages all students simultaneously. Regardless of ability level, students can engage in and learn from the lesson. Furthermore, the collaborative learning aspect of the strategy encourages positive social interaction between students in a classroom. By including traditional instructional strategies along with peer tutoring, teachers can utilize the ability differences inherent in an inclusive classroom, and promote accessible and successful learning for all.

Peer tutoring is an instructional strategy that consists of student partnerships, linking high achieving students with lower achieving students or those with comparable achievement, for structured reading and math study sessions. According to Rohrbeck et al. (2003), peer tutoring is “systematic, peer-mediated teaching strategies”.

There has been extensive research on peer tutoring. Studies show:

- Use of cooperative learning structures and “group reward contingencies” can increase social motivation.
- Level of engagement influences student motivation to achieve classroom goals.
- Peer tutoring is an economically and educationally effective intervention for persons with disabilities that can benefit both the tutor and tutee, socially and educationally by motivating them to learn.
- Peer tutoring interventions were more effective or showed greater gains for:
 - (a) students in grades 1-3; (b) urban settings;
 - (c) low socio-economic areas; (d) minority students; (e) school-wide prevention programs; and
 - (f) when students controlled tutoring sessions.
- Peer tutoring gives teachers the capability to accommodate a classroom of diverse

learners to improve academic achievement across ability levels and content areas.

Theoretical Framework

Vygotsky (1997)'s theories highlight that learning occurs through social interaction with a skillful tutor. He based his theory on two principles: the more knowledgeable other (MKO) and the zone of proximal development (ZPD). Cooperative or collaborative dialogue occurs in both principles between the learner and the tutor who models or provides verbal instructions to the learner. The MKO is someone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept. He provides guidance and encouragement to the less skillful learner.

Vygotsky identifies the zone of proximal development as an area where the learner develops higher mental functions through tutor's instructions and guidance. The less competent student progresses with the help from more skillful peers. The ZPD permits the learner to discover and develop useful skills to solve the problem. This guided learning within the ZPD leads to better understanding and performance than working alone in discovery learning. Vygotsky views interaction with peers as an effective way of developing skills and strategies.

Vygotsky's theory in the context of this study is relevant because tutors are appointed as senior students who are regarded as more knowledgeable than other students. The zone of proximal development occurs in a tutorial session because the tutor gives guidance and support to the less knowledgeable students. Group debates and dialogues allow development to the less competent students. In this approach, better learning and application of knowledge is experienced amongst students. Students can develop a positive attitude towards the content which is seen as a catalyst for improved achievement of both the tutor and students. Tutored students are more supported and they gain confidence and security in their studies.

Statement of the Problem

Tutoring programme is designed to improve student academic success. However, it appears that tutoring programmes in the concerned rural university are not monitored and facilitated in a

way that encourages students to attend or participate. As a result most of the students do not attend tutorials and this affects their academic performance.

Research Objectives

The objective of the study was to identify whether there are any significant differences in the performance scores between students who attend tutorial sessions and students who did not attend. The study provided evidence of correlation on the relationship between attendances to tutorial session and academic performance.

Research Questions

Is there any significant difference on students' performance in an undergraduate chosen module between students who attend tutorials regularly and students who attend tutorials irregularly?

Is there a substantial effect on the performance of tutored and non-tutored students on the university records in an undergraduate module under study?

Hypothesis

This research sought to test the following null hypothesis:

There is no significant difference in the average performance scores of an undergraduate module between students' regular attendance and irregular attendance of tutorials.

RESEARCH METHODOLOGY

Research Paradigm

This study used positivist paradigm. Positivists strive to obtain objective knowledge that can ultimately be used to establish cause-and-effect relationship (Guba and Lincoln 1994: 112). The study explored the possible association between the student tutorial attendance and their performance rate. This research is a correlation study using the ex post facto design. The ex post facto design was most relevant for this study because the researchers initiated the search after the fact (Leedy and Ormrod 2013: 242). This design assists in observing the outcomes after the tutorial sessions had been con-

ducted and searches back through the data for plausible causal factors. That means, the collected data assisted to investigate the possible relationship between the student's tutorial attendance and subsequent student performance scores. The researchers did not have any control over the variables. This was causal-comparative research. The researchers could not know with certainty that the groups were exactly equal before the differences occurred. The researchers were unable to manipulate a variable because the effect of the variable had already occurred (Lodico et al. 2006).

Research Design

The researchers used the ex post facto design in the paper. The ex post facto research seeks to discover the causes of particular outcomes by comparing those students in whom the outcome is high with students whose outcome is low (Cohen et al. 2007: 265). The researchers had no control over the variables. The researchers are looking into the outcomes after the fact, that is, the tutorial had been conducted. The ex post facto research is particularly appropriate when simple cause-and-effect relationships are being explored (Cohen et al. 2007: 268). The hypothesis can be subsequently tested by the experimental method.

A record analysis is a tool used in quantitative approach to obtain evidence to support and validate facts stated in the research, social science research method (De Vos 2013: 377). In the context of this study, the researchers used university records of the selected module with the final results and the evidence of tutorial attendance from the department, as source documents.

Population and Sampling

The population consisted of one undergraduate module. The sampled group was 75 students who attended tutorial sessions that were initially introduced in 2013. Systematic random sampling was used in this study because the researchers used the record of mark sheets of the students' final results for 2013.

Data Collection Instruments

The researchers used records of mark sheets to compare the two groups (students who at-

tend regularly and those who did not attend frequently) by looking at performance as an independent variable that might be influenced by attendance, the dependent variable.

Validity/Reliability

In order to ensure validity and reliability, researchers have used quantitative approach in order to present the results of this study. Therefore, the results of this study will be reliable since they were analysed statistically.

Data Analysis

A relationship test, Anova test was used in the study. Anova test determined whether there was a difference in students' performance between the tutored and non-tutored group of students. The software package SPSS was used for statistical procedure.

Ethical Issues

The study was sensitive to and respects the right to privacy, anonymity and confidentiality of participants. There was a non-disclosure of names of participants in the study. The raw marks for the participants were not disclosed because this can be a sensitive issue. The researchers avoided subjecting the research participants to any dangerous reactions. This non-exposure minimises any uncomfortable reactions in the study conducted.

RESULTS

Table 1 shows the output of the Anova analysis and whether we have a statistically significant mean difference between group of means. One could see that the significance level is 0.239 ($p = .0239$) which is above 0.05. Therefore, there were no statistically significant differences in the mean performance scores of an undergraduate module between the students' regular attendance and irregular attendance of tutorials. These findings suggest that the difference in the mean scores occurred by chance.

Figure 1 indicates that tutorial attendance had an influence on the performance scores for the undergraduate module. There was evidence of the mean differences between the performance scores of students who attended regularly and

Table 1: Anova analysis

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Between groups	447.176	3	149.059	1.442	.239
Within groups	6200.574	60	103.343		
Total	6647.750	63			

irregular to the tutorials. But, in all the different intervals of attendance there were no statistically significant differences in the results.

Table 2 shows multiple comparisons, which groups differed from each other. The Tukey test is the preferred test in the one- way Anova for this study, but there are many others. The table shows that there were no significant differences in the means for performance scores between the group that attended tutorial three time and four times ($p = 1.000$), three times and five times ($p = 0.814$), as well as between four and five times ($p = 0.459$). Therefore, there were no statistically significant differences between the groups that attended less than five times and the group that attended all the sessions. The mean difference

is significant at 0.05 levels. The statistical analysis in this study shows there were no significant mean differences in the performance scores because the level is above 0.05 ($p > 0.05$).

DISCUSSION

Results indicated that peer tutoring strategy seems to have significant role in increasing the academic success level of students in the selected module. Tutoring originated as a compulsory tuition strategy in formal education settings, with a view of providing equal and structured support to all students entering higher education (Topping 1996). Researchers such as Forster (1992) stress the importance of tutorials

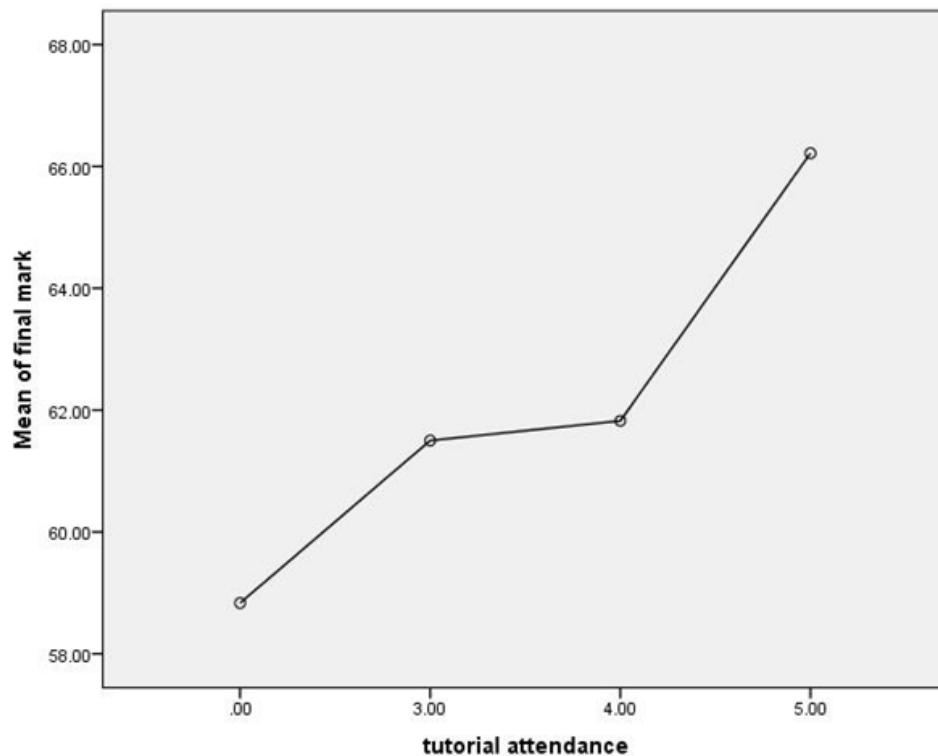
**Fig. 1. Influence of tutorial attendance on the performance scores**

Table 2: Multiple comparisons

Dependent Variable: final mark

	(I) tutorial attendance	(J) tutorial attendance	Mean difference (I-J)	Std. error	Sig.	95% confidence interval	
						Lower bound	Upper bound
Tukey HSD	.00	3.00	-2.66667	6.56198	.977	-20.0068	14.6735
		4.00	-2.99020	4.82730	.925	-15.7464	9.7660
		5.00	-7.38288	4.47402	.359	-19.2056	4.4398
	3.00	.00	2.66667	6.56198	.977	-14.6735	20.0068
		4.00	-.32353	5.64931	1.000	-15.2520	14.6049
		5.00	-4.71622	5.35059	.814	-18.8553	9.4228
	4.00	.00	2.99020	4.82730	.925	-9.7660	15.7464
		3.00	-.32353	5.64931	1.000	-14.6049	15.2520
		5.00	-4.39269	2.97860	.459	-12.2637	3.4783
	5.00	.00	7.38288	4.47402	.359	-4.4398	19.2056
		3.00	4.71622	5.35059	.814	-9.4228	18.8553
		4.00	4.39269	2.97860	.459	-3.4783	12.2637
	.00	3.00	-2.66667	6.56198	.686	-15.7926	10.4592
		4.00	-2.99020	4.82730	.538	-12.6462	6.6658
		5.00	-7.38288	4.47402	.104	-16.3323	1.5665
	3.00	.00	2.66667	6.56198	.686	-10.4592	15.7926
		4.00	-.32353	5.64931	.955	-11.6238	10.9768
		5.00	-4.71622	5.35059	.382	-15.4190	5.9866

and they also argue that traditional classroom teaching had limited opportunities for individualised attention and student interaction. Furthermore, the results of this study have revealed that 45 percent of students who attended more than four tutorial sessions are the ones who scored higher marks. The results of this study show the relationship between tutorial sessions and student's performance. Based on the performance of students who attended tutorial sessions, it came as a evidence that tutorial sessions improve students' performance. Researchers such as Vogelwiesche and Topping (1996) argue that tutorials have been found to positively influence self-esteem and higher grades for students who frequently participate as opposed to students only taught in traditional classes. However, the results further revealed that 55 percent of the sampled students did not attend tutorial sessions and this had little influence in their results.

The findings of this study have revealed the importance of tutorial sessions by drawing the comparison between the students who attended tutorials and those who did not attend tutorials. It came out clearly on the results of this study that those students whom attended more than four tutorial sessions performed better than those who did not attend. Furthermore, the findings of this study imply that attendance of tutorial sessions seems to improve the students'

academic success in the South African universities. Carella (2010) acknowledge that tutorials embrace all the benefits of collaborative learning and it entails one person with more knowledge or experience, the tutor, imparting knowledge to the others, the tutees (Vogelwiesche et al. 2006). However, one can conclude that there were no statistically significant differences in the mean performance scores of the undergraduate module between students who attended tutorials regular and those who attended irregular. For this reason, one can conclude that regular and irregular attendance had little influence on the performance scores for this undergraduate module. Difference in performance scores occurred by chance, although raw scores suggest correlation between the performance scores and rankings in the student attendance. Looking at the statistics, it is clear that 45 percent of the students scored higher marks are assisted by tutorial sessions. It is important for University to make attendance of tutorials compulsory to all students. Looking at the statistics majority of the students (55%) does not attend tutorials and this affects their performance.

CONCLUSION

Reflecting on the findings of this study, one will realise that attendance of tutorial sessions seems to have the significant effect on students'

academic success. Peer tutoring is a type of co-operative learning in which students coach one another as they develop specific skills. In essence, people are able to accomplish more difficult tasks when they have assistance from other individuals. Therefore, students need to be encouraged to take tutoring sessions serious and also to participate in such sessions.

RECOMMENDATIONS

Tutorial programme assist in student retention by increasing academic success in the first year students. Therefore, the study recommended that tutorial sessions be compulsory to all students; and the allocation of marks for attendance of sessions be used to motivate students to attend and that will results in to improved performance. Furthermore, the study has recommended Tinto's model of student retention to be used in this South African university. According to this model institutions and programs should continually assess their actions with an eye toward improvement. It is necessary to expand research on the possible influencing factors for non-attendance of tutorials by some students. It is on the notion that online-tutoring is recommended. Students can share knowledge, hold discussions using technology in their quiet and comfortable environment instead of face-to-face tutorial sessions.

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