

Turning a smart peer-mentoring programme into an ongoing success story for freshmen in a private UAE university

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ABSTRACT: Abu Dhabi University (ADU) developed a peer mentoring programme to assist the freshmen's transition into university life. This programme has flourished into a learning support centre (LSC) for all students regardless of their major and academic level. Cognisance of the mentor's experiences contributes to the continued success of the programme and a recognition of the factors that can strengthen the mentors' self-determination. On another note, awareness of the achievements and challenges that the mentees experience in the LSC's mentoring programme contributes to smarter ongoing planning towards successful transition of freshmen. The purpose of this qualitative and quantitative study is to assess from both the mentor and mentee's perspectives the LSC mentoring programme in terms of the role it plays with regard to a successful first year experience at ADU. The findings of this research have implications for future mentoring programmes in the UAE context, especially regarding recruiting mentors, mentoring the mentor, freshmen concerns, and how to foster the culture of seeking support beyond the freshman year.

INTRODUCTION

This section consists of a review of the related literature to highlight essential scholarly points of view and perspectives covering the concept of the learning support centre.

In this age of technology and fast paced advances in teaching and learning, the learning support centre (LSC) in higher education comes into play to meet new demands and different challenges that impact the students' achievement.

Most of the reviews and the studies have indicated how important the role of faculty members, academic advisors, counsellors and senior management is when it comes to supporting the centre. The studies also indicated that resorting to several ways to create active and meaningful strategies can improve student success, and finally, identifying types of programmes, services or other involvements might be helpful and effective to support students' achievement.

LSC: THE CHOICE AND THE CHALLENGE

Faculty members encounter numerous challenges in and out of the classroom. Personal issues of students are tangled in teaching content, attitude and motivation. In the meantime, faculty can juggle between personal problems, students' issues and referrals to the learning support centre. It is a difficult road to follow; however, a LSC can ease some of the pressure and help at-risk students in need of academic support.

Whether you call it a learning support centre (LSC) or a learning assistance centre (LAC), there is an overwhelming agreement about the effectiveness and the importance of such centres in improving and enhancing the students' achievement. Meeting the needs of the students in bigger classes requires a special teaching strategy and adequate support for students' progress, in addition to creating a learning support centre or a learning assistance centre. For the main drive of this study, a definition of LAC was adapted from Arendale's [1] glossary of developmental education and learning assistance terms:

A designated physical location on campus that provides an organized, multifaceted approach to offering comprehensive academic enhancement activities, tutorial and study skills assistance, provides support to a wide array of academic disciplines, and a place that offers help to any student experiencing academic difficulties [1].

The biggest challenge facing educators with the LSC, and as per Higbee et al [2], is that not all students who need the support utilise the centres. For example, a centre at one university reported overall use at approximately 25% [3]. Even though few students utilise LACs, many entering community college students in the nation do want to receive

support in their courses. For instance, 44% of males and 52% of females would like to receive help in mathematics. In addition, 37% of males and 44% of females would like to receive instructional support [3].

Another challenge is the shift of the students coming from the high school environment and transitioning to a different environment. During that transition, students lack the basis of preparation to narrow the gap between prior knowledge and their new college environment. The National Assessment of Educational Progress in the United States indicated that 48% and 35% of high school seniors scored at the basic and below basic levels, respectively. Only five states - California, Indiana, Nebraska, New York and Wyoming - have fully aligned high school academic standards with the demands of colleges and employers [4]. More than 51% of high school graduates have the reading skills they need to succeed in college [5]. According to Adelman, 70% of students who took at least one remedial reading course in college do not obtain a degree or certificate within eight years of enrolment [6].

One other challenge is that most students' attitude towards college in their first year can make a huge difference in accepting or rejecting their academic existence. If the students do not have sufficient knowledge of mathematics and lack the required level of proficiencies in reading and writing, they are most likely to suffer in their first academic year. High school grades have consistently been a strong predictor of first-year college grades, accounting for 25% to 33 % of the variance [7]. About 87% students who complete four years of mathematics, science and English at high school stay on track to graduate from college compared with a 62% persistence rate among those who do not complete that coursework [8][9]. Completing high level mathematics classes in high school - algebra II, pre-calculus, trigonometry, calculus - is the single best high school predictor of performing well academically in college [8][10].

LSC: SUPPORTING LEARNING AND ACCOMPLISHMENT OF AT-RISK STUDENTS

Most educators believe that the Learning Support Centre is one of the most important factors that play a significant role in helping students achieve academic success. Higbee et al indicated that developmental students often enrol in transfer and occupational courses, while they are enrolled in developmental courses [2]. Equally important, there is considerable evidence suggesting that programmes that increase the level of engagement through programmes like LACs also increase student persistence [2].

Learning support centres often engage several learning strategies, including coaching and tutoring, seminars, workshops and one-on-one instruction. It may involve academic partnerships [3][11-13].

Per Noel-Levitz, students in the nation do want to receive support in their courses. For instance, 44% of males and 52% of females would like to receive help in mathematics [14]. In addition, 37% of males and 44% of females would like to receive instructional support in one or more of their courses.

To find the main objective of LSC and its impact on the student's success, research needs to move beyond self-reported data [15]. Moreover, many of the theories that developmental education is based on were developed from research at four-year institutions [2]. For instance, Astin's [16] developmental theory of involvement was largely based on research conducted at four-year institutions [2]. Similar research needs to be conducted at community colleges to identify the most effective learning strategies [2][17].

OBJECTIVES

- To measure the performance in students' academic achievement after the use of the LSC.
- To reflect on the role of the mentor in contributing to the success of the first year experience.

HYPOTHESES

- Students' performance is significantly better after the use of the LSC in general and specifically in mathematics courses for engineering students.
- The mentor plays a dynamic role in increasing the satisfaction rate of first year students with the LSC services.

METHOD

The researchers chose the survey method to examine the first hypothesis, which stresses on the relationship and the effect of the ADU LSC on students' performance. A survey was done with ADU students using SurveyMonkey.com at the end of the 2017 Spring semester, and 239 students participated (102 male students and 137 female students). In addition, a qualitative analysis was performed on the mentors' reflections regarding their role in increasing the satisfaction rate of first year students with the LSC services. Interviews with a focus group consisting of four mentors who are ADU students was conducted, to be analysed qualitatively.

The researchers also looked at data from summative assessments (the midterm and the final examinations) of students who used the Centre for the past three semesters (Spring 2016, Fall and Spring 2017). Students' performance in the midterm examination was compared to their final grades, which was used to determine the effect of LSC support on

student's academic performance. In this study, the midterm examination was considered to be the pre-test and the final examination was considered to be the post-test. The courses chosen as the focus of the study were Pre-Algebra (MTG 100) and Pre-Calculus (MTT 101), which are remedial courses for engineering students.

TOOLS

A three-point attitude scale having 12 items was constructed to collect data from the students to demonstrate their perception of LSC at ADU. The scale covers two areas, where students usually show their perceptions towards the ADU LSC and the tutors in the Centre. The students were asked to respond to all the statements in the questionnaire. The responses varied from *yes*, *no* and *maybe*. The score of the individual fall between 12 and 36. A score above 24 shows a favourable perception, while a score below 24 is unfavourable and exactly 24 is neutral. The item analysis was done using Mathew Item Analysis Table [18]. The table was given item criterion correlation (phi-coefficient) and the (*p* value). Each item on the scale was selected from the highest correlation value and medium *p* values. Thus, items having a correlation value of 0.30 and above, and *p* value of 0.22 to 0.54, both inclusive, were chosen as the final items.

The details of the students who participated in the survey is shown in Table 1 below.

Table 1: Percentage distribution of the sample according to gender and their study year.

		Count	Percent
Gender	Male	102	43
	Female	137	57
Study year	1st year	115	48.5
	2nd year	56	23.6
	3rd year	45	19
	4th year	21	8.9
	Others	2	
	Total	239	

According to 239 students who participated in this survey, the mean of 51.3864 of the entire sample is very close to the mean of each sub-category. 43% of participating students were male and 57% were female. It was observed that almost the majority (48%) of participating students were from the first year. The authors could, therefore, extrapolate that students from first year recognised the need to attend the LSC; consequently, they have learned to exploit the benefits of this facility, which has been gracefully endeared to them by the University.

ANALYSIS AND INTERPRETATION

Descriptive statistics were used for the analysis of data obtained. ANOVA was used to test for the significance level. After the implementation of the learning support centre, a convenience sample of 891 undergraduate engineering students (394 female and 497 male) was selected for this study. As shown in Figure 1, scatter graphs were plotted to examine visually the relationship between the students' performance before and after the use of the Learning Support Centre. A strong correlation was found in both male and female students.

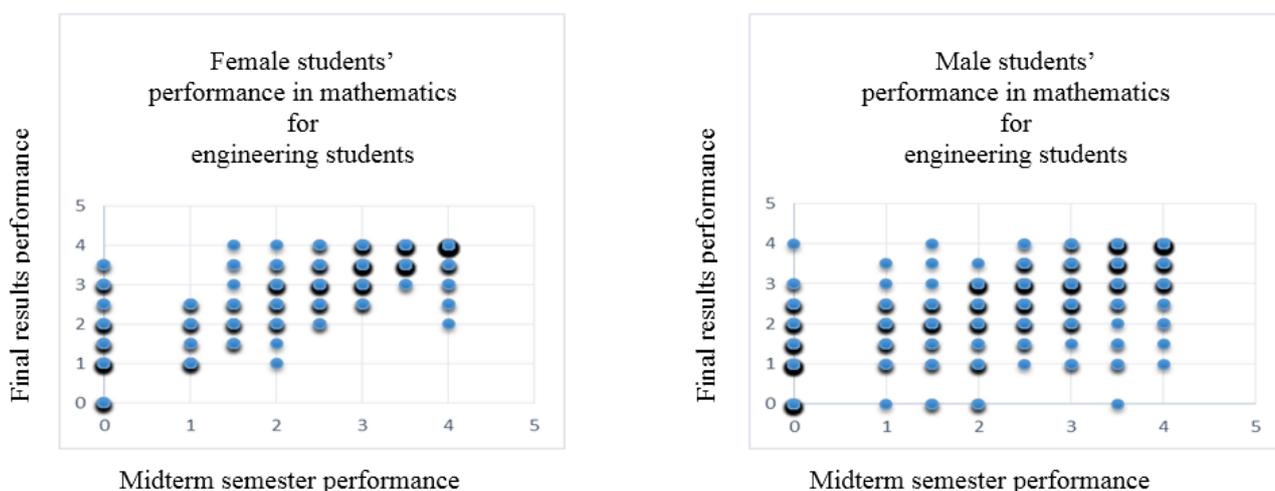


Figure 1: Scatter graphs of the relation between the midterm semester grades and the final semester grades.

A comparison of the effectiveness of LSC support on academic achievement for engineering students is also presented in Table 2. Each level grade from A to D increased from the midterm performance to the final. However, the F grade decreased, which shows the great impact of the Learning Support Centre on students' academic performance.

In detail, there was an increase of 4% and 11% in the A levels achieved in male and female students, respectively, 16% and 25% increase in the B level, 14% and 4% increase in the C grade level, and finally 44% and 2% increase in the D grade level. In addition, there was a tremendous decrease in the F grades, of 67% and 72% of male and female students, based on the final examination, after attending the LSC support programme.

The Wilcoxon statistics test ($p < 0.01$) shows that the students who received LSC support differed statistically in their midterm and final examination scores, and therefore, the hypothesis is valid.

Tables 2 and 3 stress the difference in students' performance by means of a comparison between the midterm and final grades. As shown in Table 3, the standard deviation in the final is less than that of the midterm for both genders, which means that the students' academic performance is improving due to the LSC. In addition, the correlation factor is more than 0.5, which is very strong. In fact, it is stronger among female students than male students.

Table 2: Comparison of the students' performance between the midterm and the final.

Course/grade	Male students		% Increase/decrease	Female students		% Increase/decrease
	Midterm	Final		Midterm	Final	
A	70	73	4%	93	103	11%
B	126	146	16%	119	149	25%
C	125	142	14%	76	79	4%
D	70	101	44%	45	46	2%
F	106	35	-67%	61	17	-72%
Total	497	497		394	394	

Table 3: Statistics analysis of the sample according to students' performance.

Statistics		Female		Male		Correlations	Female		Male		
		Final	Mid	Final	Mid		Mid	Final	Mid	Final	
N	Valid	393	393	497	497	Mid	Pearson correlation	1	0.727**	1	0.650**
	Missing	0	0	0	0		Sig. (2-tailed)		0		0
SD		1.1733	1.4041	1.2341	1.4635		N	393	393	497	497
Variance		1.377	1.971	1.523	2.142	Final	Pearson correlation	0.727**	1	0.650**	1
Range		4	4	4	4		Sig. (2-tailed)	0		0	
Minimum		0	0	0	0		N	393	393	497	497
Maximum		4	4	4	4	** Correlation is significant at the 0.01 level (2-tailed)					

FOCUS GROUP INPUT SUMMARY

The four staff members hired by ADU to serve as peer mentors in the LSC were mentoring first year students in various subjects. They were interviewed about their perception of how effective was their role in increasing the satisfaction rate of first year students with the services offered by the LSC. The interview asked the mentors how they contributed to helping first year students achieve a successful experience during their transition phase from high school to college. All four mentors highlighted that through the LSC, first year students are able to become more familiar with the campus activities and facilities dedicated to students. How to handle assignments and tips on revising for examinations are the two major areas that first year students' gain from LSC support.

Study material, worksheets for further practice and level-appropriate sources of information are provided for individualised learning plans, which benefit both regular and at-risk students. The mentors are also trained to give emotional support and guidance that boosts first year students' morale and confidence. In effect, first year students' campus experience is more pleasant and productive.

CONCLUSIONS AND IMPLICATIONS

This research study aims to explain the students' perception of the ADU LSC and whether LSC peer tutoring through the help of student mentors has any significant impact on students' academic achievement. The results indicate that

students have a positive perception of the ADU LSC and attending its peer tutor-led programmes had indeed produced a positive effect on academic achievement for engineering students in mathematics. It is evident by the results that peer tutoring has become an effective method to increase the students' performance. This could be attributed to the fact that the student mentors and the mentees are more comfortable together, where the learning became more effective. Both the mentors and the mentees have benefitted from the programme. Peer mentoring has improved the mentees' social skills, self-esteem and communication abilities. This fact has been supported by many previous studies. Previous research has found a positive correlation between learning support centres and students' academic achievement level.

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