Investigating The Relationship Between Student Engagement And Academic Achievement At Intermediate Level In District Peshawar, Pakistan

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ABSTRACT

The purpose of this study is to investigate the relationship between student engagement and academic achievement at intermediate level. Over last several years, educational researchers and leaders have tried to find a cause for a number of challenges in public education including increasing student dropout rates, low academic achievement, and the reduction of positive perception of schools and colleges in general. As a result, there has been increase in research on the level of engagement that students experience during their schooling. Many research studies have focused on how students are cognitively, socially, and emotionally engaged in school. This study was completed using adapted version of Australian Survey of Students Engagement. The study was conducted in urban and rural schools and colleges of district Peshawar. Stratified sampling technique was used for the selection of sample. Researchers personally visited sampled schools and colleges and administered questionnaire to students. The collected data were tabulated and coded by the researchers. Statistical Package for Social Sciences (SPSS) was used for analysis and interpretation. Pearson product moment r correlation was used. The results obtained via the analyses revealed that there were significant relationships between the student engagement and academic achievement and especially the dimensions of cognitive engagement, affective and behavioral engagement and sense of belonging, peer relationship, faculty relationship and skills and personal development.

Keywords: Students Engagement, Academic Achievement, Intermediate, Australian Survey of Students Engagement.

INTRODUCTION

Teaching and learning process involves learning through seeing, learning through doing and learning through hearing. But if teacher sticks to only one method, majority of the students are disengaged. Similarly, if a student confines him/herself to one learning activity and avoids others, he/she is disengaged from other learning processes. Thus, student engagement has a key role in the success of a student. Student engagement is the willingness, need, desire, motivation and success of a student. It is the amount of time students allocate to educational activities in order to get the intended results. The quality and quantity of students' psychological, cognitive, emotional, and behavioral reactions to the learning process, as well as indoor and outdoor academic and social activities, is defined as student engagement (Hallinger & Lu, 2013). Therefore, student engagement is essential for effective learning and academic achievement. Hence this study aimed to examine the correlation between academic achievement and student engagement on the basis of public and private sectors educational

institutes in urban and rural areas of district Peshawar.

Theoretical Framework

The theories developed by Fredricks, Blumenfield and Paris (2004), Finn and Voelkl (1993) and Finn (1989), are the core for research on student engagement. Finn proposed that whether student is engaged or disengaged, it affects the long-term performance and academic achievement in the coming educational years. Further, to attain academic achievement, there has to be a link between participation and learning. Students' active involvement and participation in the classroom is the minor necessary condition for the proper learning to occur.

He emphasized that school results are intermediary between Students' active involvement in classroom and having a strong affiliation with school. This feeling of strong affiliation comes only when the students realize that they play a noticeable role in the school. They also should realize that school has a significant effect on their personalities (Finn, 1993). One of the goals of school is to value academics and academic achievement. Therefore, teacher-initiated instruction together with student-initiated instruction, involvement in activities, participation in school management and contact with school faculty promote better engagement and eventually academic achievement (Fredricks, et.al, 2004).

Objective of the study
To investigate the effect of student engagement on academic achievement at intermediate level

Hypothesis of the study

Ho1: There exist no relationship between Student engagement and academic achievement

Student engagement is classified into seven dimensions, thus hypothesis 1 has 7 sub hypotheses. They are as follow.

Ho1.1 There exist no relationship between academic engagement and academic achievement.

Ho1.2 There exist no relationship between cognitive engagement and academic achievement.

Ho1.3 There exist no relationship between emotional engagement and academic achievement.

Ho1.4 There exist no relationship between sense of belonging and academic achievement.

Ho1.5 There exist no relationship between peer relationship and academic achievement.

Ho1.6 There exist no relationship between student teacher relations and academic achievement.

Ho1.7 There exist no relationship between skills and personal development and academic achievement.

LITERATURE REVIEW
The idea of student engagement as a determinant in academic achievement is based on research from the late twentieth century that shows that students that are actively engaged in the educational process perform better than their less engaged counterparts.

The History of Engagement
Engagement is derived from the Norman root word gauge which implies "pledge" in the sense of swearing oneself to a course of conduct. An engagement was a moral, and often legal, responsibility for hundreds of years. However, as the word progressed, the commitment's force weakened. "Engage" has only recently evolved to signify "to captivate the attention of," with engagement referring to the state or act of being so engaged (Triolo,2016). The history of "student participation" as a notion ranges from ten to seventy years old, depending on how it is tracked.

In the 1930s, educational psychologist Ralph Tyler conducted studies on how much time students spent on their work, first at Ohio State followed by University of Chicago, with the goal of demonstrating its effects on learning. Later, in the 1960s, C. Robert Pace's research on effort quality led to the creation of the CSEQ, which was first administered in 1979. However, many education historians think that Alexander Astin's student involvement study in the 1984s deserves credit for laying the groundwork for what would later become current engagement research. According to Astin, a student's engagement is linked to the amount and quality of physical and psychological energy invested by students in their college experience (Konrad, 2002). The National Survey on Student Engagement The National Center for Higher Education Management Systems asked Peter Ewell to "develop an instrument to assess the extent to which students participate in empirically derived good educational practices and what the impact of that participation is on student learning" in the late 1980s, when the educational environment was strongly influenced by the dystopian rhetoric of A Nation at Risk and there was an emerging belief among educational theorists that student learning is fostered more by processes than by student demographics. Ewell formed a team to construct this instrument under the aegis of National Center for Educational Statistics and the Pew Charitable Trusts and the NSSE was born in 1999. In the first year, it was given to students at 140 universities; in 2008, more than five times that amount took part (Axelson & Flick, 2010).

Dimensions of Student Engagement

The dimensions depend on the various ways of understanding how students are engaged. These dimensions vary differently, such as Cognitive engagement, Social engagement, Intellectual engagement, Affective engagement and Academic engagement.

Cognitive engagement

It is the duration of student involvement in a task. It shows us how much the students are attentive and are using their mental efforts for fulfilling a task. The pioneers of defining the cognitive engagement were Corno and Mandinach (2004).

Social engagement

It comprises of how much students feel connected to their class fellows and teachers. Moreover, they should feel that the school belongs to them rather than having the feeling of alienation. They should be sensible enough to understand the concept of schooling (Chapman, 2003).

Intellectual engagement

It is related to the cognitive learning and emotional involvement in learning. Those students who consider themselves innately intelligent and believe that they have fulfilled the highest level of intelligence are not the most motivated. Rather those learners who believe that their learning process is continuous and increases with the passage of time are considered highly motivated (Dunleavy and Milton, 2009).

Affective engagement

It is the blend of students' level of motivation, confidence and feelings of belongingness. It also tells us about the students' emotional reaction towards the learning process. This includes the positive or in some cases the negative reaction towards class fellows, teachers and the school (Appleton, etal, 2006).

Academic engagement

It refers to the psychological factors and the students' efforts towards learning, mastering the skills and involvement in different tasks. Academic engagement is essential to find out and understand what encourages students to take part in the required tasks in order to achieve success (Morrison et al, 2003).

Measures of Engagement

In past, quite a few actions have been taken to find out ways of engaging students in learning. In these actions the main attention was given to attendance, test scores and absenteeism. These efforts measure the level of student's achievement but mostly ignore students' engagement in learning (Willms, 2003).

For the assessment of students' engagement, a self-report data could be collected about the course material, activities involved during course and informal questionnaires. Administrative data could also help in examining students' engagement. To assess students' level of engagement, there are some visual methods that give us a speedy result. Kuh (2003) puts forward the idea that four useful behavioral practices help to promote engagement which are (i) intermingling with the faculty (ii) taking part in learning communities,(iii) work together as a team with class fellows, and (iv) dedicating a lot of time to academic tasks.

Several studies have been carried out to assess student engagement using questionnaires. First one is Student Engagement Questionnaire (SEQ) which helps to collect the overall students' point of view about a certain program after a year or close to the end of an undergraduate program. It is designed to survey the mental engagement and involvement of students and teachers (McNaught, Leung & Kember, 2006). The second one is Student Course Engagement Questionnaire (SCEQ) is a method formulated by Handelsman, etal (2005). This method divides course engagement in four forms namely emotional engagement, skill engagement, interaction engagement and finally the performance engagement. The third one is College Student Experiences Questionnaire (CSEQ) that intends to determine the level of student experiences, discernment of the campus environment, and advancement toward significant learning objectives. The CSEQ parallels overall problems of engagement according to cooperation among students and student-faculty contact.

Strategies for Increasing Engagement

Today's students are highly influenced by internet. They need facilities to do self-learning. In addition, a collaborating environment, different ways of getting feedback are also necessary. They should be provided with assignment choices to improve and acquire meaningful learning. Parsons, & Taylor (2011) gave the following recommendations for creating effective "epistemic cultures".

1) Language i.e., students must speak about their learning. They need to talk about the learning process, our abilities as a learner and how to bring improvement in ourselves as learners.

2) The students should be given activity-based learning. Learning is a tough process therefore such topics should be included that expand the thinking of the learners.

3) The students should be prepared to keep both content and process in mind and teachers should ensure it.

4) Students should be given projects or problems that are relevant, rich and real. Such projects should be beneficial for all students.

5) Students should be made aware of the problem going on. Further, they should be given sufficient control or input to assess their own learning.

6) There should be transfer thinking among students that is how useful their project is? What else could they do with this? Where else would this be useful knowledge?

7) The students should move deeper and broader into learning.

8) Finally, the students must be able to do what they claim they can do.

Thus it is summarized that Student engagement in education relates to how attentive, curious, interested, upbeat, and passionate students are when learning or being taught, as well as how motivated they are to learn and advance in their

education. The idea of "student engagement" is generally based on the idea that learning is generally better when students are curious, interested, or inspired, and that learning generally suffers when students are bored, disinterested, disillusioned, or otherwise "disengaged." Teachers frequently state that their teaching goals are to increase or strengthen student involvement (Jesuit & Strachan, 2021).

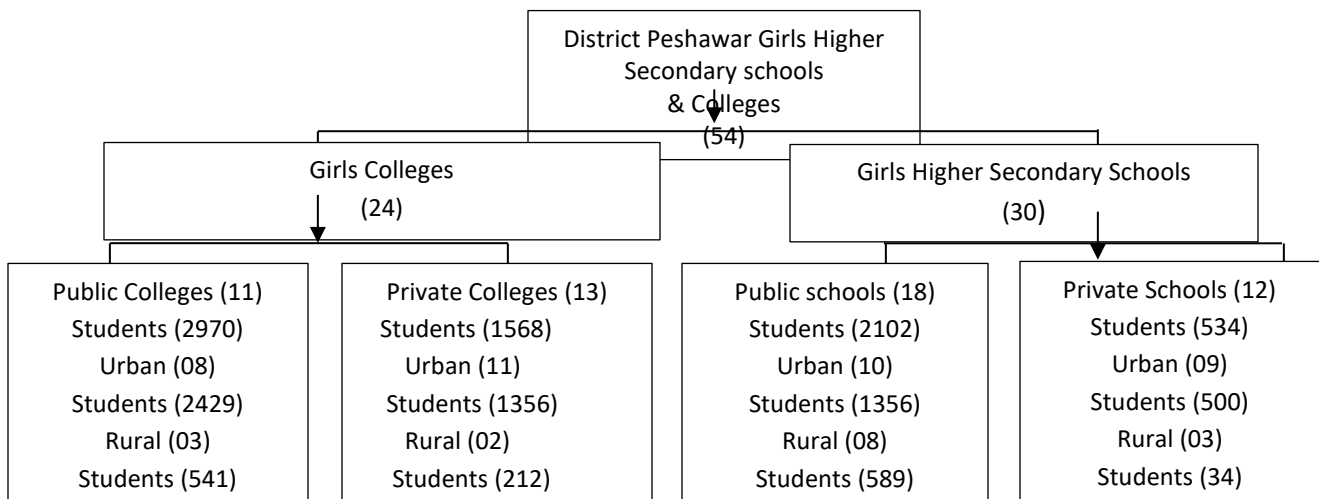## METHODS AND PROCEDURES

Research Design

This study used Survey Research Methodology. The purpose of a survey study is to collect precise descriptions of existent occurrences. Surveys help in the collection of the following information: (1) data on current status, (2) comparison of current status to established standards, and (3) methods for improving current status.

Research Population

All the public and private higher secondary schools and colleges affiliated with BISEP in district Peshawar constituted the population of the study. The Intermediate Part-II students studying in these schools and colleges were the respondents of this study. Population was divided into subgroups to get smaller sampling units. The number of public and private schools and colleges and the strength of students are shown in the chart.

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                    ┌──────────────────────────────┐
                    │ District Peshawar Girls Higher│
                    │    Secondary schools          │
                    │      & Colleges               │
                    │        (54)                   │
                    └──────────────────────────────┘
          ┌─────────────────────────┐    ┌─────────────────────────────┐
          │    Girls Colleges        │    │ Girls Higher Secondary Schools│
          │        (24)              │    │           (30)                │
          └─────────────────────────┘    └─────────────────────────────┘
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Public Colleges (11)	Private Colleges (13)	Public schools (18)	Private Schools (12)
Students (2970)	Students (1568)	Students (2102)	Students (534)
Urban (08)	Urban (11)	Urban (10)	Urban (09)
Students (2429)	Students (1356)	Students (1356)	Students (500)
Rural (03)	Rural (02)	Rural (08)	Rural (03)
Students (541)	Students (212)	Students (589)	Students (34)

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Sampling Technique and Sample Size

Population was divided into subgroups to get smaller sampling units. To get sample size, stratified sampling technique was used as it is employed for a population that comprises of sub-groups and the sample size taken is proportional to the population size. Using the criteria proposed by Gay (2000), 30 % proportion of the population was taken as sample. Hence, 08 colleges (04 public and 04 private, 03 urban and 01 rural from each public and private sector) and 10 higher secondary schools 06 public (04 urban and 02 rural)) and 04 private (03 urban and 01 rural) were selected as sample of the study. Further, 20 Part-II students from each of the sampled schools and colleges were included in the sample through simple random sampling technique.

Research Instrument

Data for the study were collected through student engagement questionnaire. For this purpose, the adapted version of Australian Survey of Student Engagement (AUSSE) was used (Raine and Gretton, 2015). Permission was sought from the authors of the

questionnaire.

Description of the Questionnaire

Questionnaire is an appropriate rule for huge data collection. It is simple and easy to be filled, tabulated and analyzed (kumar, 2022). T0 investigate the relationship between Student Engagement and Academic Achievement, a questionnaire was developed for intermediate part II students. Keeping in view seven different dimensions of engagement, the questionnaire was divided into seven segments/ categories. Detail of variables and items is given below.

Table-1 : Number of Variables and Items in Questionnaire

S.No	Variables	Items
1	Academic Engagement	05
2	Cognitive Engagement	09
3	Affective and Behavioral Engagement	06
4	Sense of Belonging	04
5	Emotional Engagement (Peer Relationship)	05
6	Emotional Engagement (Faculty Relationship)	09
7	Skills and Personal development	09
		47
	Total	

Validity of Instrument

The original questionnaire consists of 120 items. The questionnaire was made simple and comprehendible in terms of format and language after a series of discussion with the advisor. Some items were excluded as they were for university students. Similarly, some more items were excluded as they were for bordered students. Some more items that were specific to culture and religion were also excluded. Eventually, a questionnaire containing 47 items was finalized.

Data analysis

The collected data were tabulated and coded by the researcher. Statistical Package for Social Sciences (SPSS) was used for analysis and interpretation. To examine hypotheses, Pearson product moment r correlation was applied on the variables assessing student engagement and academic achievement.

INFERENTIAL STATISTICS

Data collected from the respondent (N=360) were utilized to establish correlation between Student Engagement and Academic Achievement. The magnitude of relationships was determined using 'Pearson product-moment' correlation for statistical computation. The minimum level of statistical significance was $\rho < 0.05$ which is considered as acceptable measure for educational research (Gall, Gall & Borg, 2003). Values distinguished as significant by an asterisk showed 0.05 significance level, whereas values distinguished as significant by double asterisk showed 0.01significance level. Strength of relationship between the variables was determined under the guideline suggested by Cohen (2018); values of r = 0.10 to 0.29, r =0.30 to 0.49 and r = 0.50 to 1.00 indicates small, medium and large correlations respectively.

Table 1.1 presents the results of correlational analysis by displaying the correlational coefficient of relationship between student academic engagement and academic

achievement.

Table 1.1 Relationship between Students' Academic engagement and Academic Achievement (N=360)

		Academic Achievement
Academic Engagement	Pearson Correlation	.199(**)
	Sig. (2-tailed)	0.001
	N	360

** Correlation is significant at the 0.01 level (2-tailed).

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

Table 1.1 presents the relationship between students' academic engagement and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between students' academic engagement and academic achievement at 0.01 significance level, r=0.199, N=360 , ρ=0.000(ρ<0.01) showed small positive correlation. Thus the first part of hypothesis that there exist no relationship between academic engagement and academic achievement is, therefore, rejected.

Table 1.2 presents the results of correlational analysis by displaying the correlational coefficient of relationship between student cognitive engagement and academic achievement.

Table 1.2 Student cognitive engagement and academic achievement (N=360)

		Academic Achievement
Cognitive Engagement	Pearson Correlation	.78(**)
	Sig. (2-tailed)	0.001
	N	360

** Correlation is significant at the 0.01 level (2-tailed).

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

Table 1.2 presents the relationship between students cognitive engagement and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is relationship between students cognitive engagement and academic achievement, r=0.078, N=360 , ρ=0.001 (ρ<0.01). Thus part two of the hypothesis 1 that there exist no relationship between cognitive engagement and academic achievement is, therefore, rejected.

Table 1.3 presents the results of correlational analysis by displaying the correlational coefficient of relationship between students' emotional engagement and academic achievement.

Table 1.3 Student Emotional engagement and academic achievement (N=360)

		Academic Achievement
Emotional Engagement	Pearson Correlation	.041(**)
	Sig. (2-tailed)	0.001
	N	360

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 1.3 presents the relationship between students emotional engagement and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between students emotional engagement and academic achievement at 0.01 significance level, r=0.041, N=360 , ρ=0.001 (ρ<0.01) showed small positive correlation. Thus part three of the hypothesis 1 that there exist no relationship between emotional engagement and academic achievement is, therefore, rejected.

Table 1.4 presents the results of correlational analysis by displaying the correlational coefficient of relationship between sense of belongingness and academic achievement.

Table 1.4 Student Sense of Belonging and academic achievement (N=360)

		Academic Achievement
Sense of Belonging	Pearson Correlation	.040(**)
	Sig. (2-tailed)	0.001
	N	360

**Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 1.4 presents the relationship between sense of belonging and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between sense of belonging and academic achievement at 0.01 significance level, r=0.04, N=360 , ρ=0.000 (ρ<0.01) showed small positive correlation. Thus part four of the hypothesis 1 that there exist no relationships between sense of belonging and academic achievement is, therefore, rejected.

Table 1.5 presents the results of correlational analysis by displaying the correlational coefficient of relationship between student academic engagement and academic achievement.

Table 1.5 Peer Relationships and academic achievement (N=360)

		Academic Achievement
Peer Relationship	Pearson Correlation	.040(**)
	Sig. (2-tailed)	0.000

N	360

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Table 1.5 presents the relationship between peer relationship and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between peer relationship and academic achievement at 0.01

significance level, r=0.04, N=360 , ρ=0.000 (ρ<0.01) showed small positive correlation. Thus part five of the hypothesis 1 that there exist no relationship between peer relationship and academic achievement is, therefore, rejected.

Table 1.6 presents the results of correlational analysis by displaying the correlational coefficient of relationship between student teacher relations and academic achievement.

Table 1.6 Student teacher relations and academic achievement (N=360)

		Academic Achievement
Student Teacher Relations	Pearson Correlation	.079(**)
	Sig. (2-tailed)	0.001
	N	360

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Table 1.6 presents the relationship between student teacher relationship and academic achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between peer relationship and academic achievement at 0.01 significance level, r=0.079,

N=360 , ρ=0.000 (ρ<0.01) showed small positive correlation. Thus part six of the hypothesis 1 that there exist no relationship between student teacher relations and academic achievement is, therefore, rejected.

Table 1.7 presents the results of correlational analysis by displaying the correlational coefficient of relationship between skills and personal development and academic achievement.

Table 1.7 Skills and personal development (N=360)

		Academic Achievement
Skills and personal development	Pearson Correlation	.292(**)
	Sig. (2-tailed)	0.001
	N	360

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-

tailed).
Table 1.7 presents the relationship between skills and personal development and academic

achievement using 'Pearson product-moment' correlation coefficient to test the Hypothesis 1 and depicts that there is positive relationship between skills and personal development and academic achievement at 0.01 significance level, r=0.292, N=360 , ρ=0.000 (ρ<0.01) showed small positive correlation. Thus part seven of the hypothesis 1 that there exist no relationship between skills and personal development and academic achievement is, therefore, rejected.

Findings

Data analysis revealed the following findings.

Pearson product-moment' correlation coefficient showed small positive correlation (r=.199) between academic engagement and academic achievement. (Table 1.1)

Pearson product-moment' correlation coefficient showed positive correlation (r=.078) between cognitive engagement and academic achievement. (Table 1.2)

Pearson product-moment' correlation coefficient showed positive correlation (r=0.041) between cognitive engagement and academic achievement. (Table 1.3)

Pearson product-moment' correlation coefficient showed small positive correlation (r=0.04) between sense of belonging and academic achievement. (Table 1.4)

Pearson product-moment' correlation coefficient showed small positive correlation (r=0.04) between peer relationships and academic achievement. (Table 1.5)

Pearson product-moment' correlation coefficient showed small positive correlation (r=0.079) between student teacher relations and academic achievement. (Table 1.6)

Pearson product-moment' correlation coefficient showed small positive correlation (r=0.0292) between skills and personal development and academic achievement. (Table 1.7)

Conclusion

Conclusions are drawn on the basis of findings of data analysis as presented in preceding section. Conclusions are presented in the same order as it prevails in findings section. The conclusions of the study are given below:

1. Overall there was positive correlation between student academic engagement and academic achievement.

2. Overall there was positive correlation between student cognitive engagement and academic achievement.

3. Overall there was positive correlation between student emotional engagement and academic achievement.

4. Overall there was positive correlation between student sense of belonging and academic achievement.

5. Overall there was positive correlation between peer relationships and academic achievement.

6. Overall there was positive correlation between student teacher relations and academic achievement.

7. Overall there was positive correlation between skills and personal development and academic achievement.

Recommendations

Student engagement is a complicated concept that continues to play a crucial role in encouraging great student outcomes. The conception and measurement of this entity remain difficult. One lingering topic is whether engagement should be assessed by its visible components or by all of them. Researchers should focus on studying and quantifying engagement in order to improve measurements and develop interventions related to student's needs. Some recommendations are given below.

➢ Information should be spread on concept of school engagement, its importance and how teachers may encourage students' school engagement.

➢ In order to develop and improve the first step to raise school engagement's effectiveness, it is important to assess teachers' knowledge

and understanding of how to establish engagement in the classroom.

➢ Teachers must be aware of the literature as well as ongoing research activities in the field of student engagement.

➢ Consultation and friendly collaboration should be provided to students who are at risk.

➢ Student engagement strategies can help to promote school completion and better academic outcomes.. it is possible through collaboration among practitioners and academics,

➢ With the passage of time new models of measuring student engagement are being developed, therefore, teachers must keep them informed off the new developments to make students good learners.

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