

**RESEARCH PAPER****Examining the Impact of Satisfaction on Academic Performance and Retention Rates among B. Ed Learners at a Virtual University in Pakistan****¹Dr. Munawwar Ahmed * ² Dr. Muhammad Pervaiz and ³Amatur Raof**

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***Corresponding Author:** Drpervaiz220@yahoo.com**ABSTRACT**

The research examines the impact of student satisfaction on academic performance and retention rates among Bachelor of Education (BEd) students at a virtual university in Pakistan. This study was quantitative in nature. The Virtual university BEd graduates were the population of the study. The sample of the study was 65 graduates. Secondary data, surveys, and a case study approach were employed. The purposive sampling technique was used to select the sample. The study reveals that faculty support emerges as the most influential factor affecting grades, retention, and graduation rates, surpassing other satisfaction metrics. Although rising retention rates suggest that current interventions are effective, the persistently low graduation rates indicate the necessity for targeted strategies to address barriers to student completion. The findings highlight the importance of enhancing faculty engagement and support, while also recommending additional measures to improve overall completion rates. This research contributes valuable insights into the relationship between student satisfaction and academic outcomes, emphasizing the need for comprehensive support systems in virtual educational settings.

Key Words: Academic Performance, BEd Learners, Retention Rate, Satisfaction, Virtual University**Introduction**

In the digital era, academic institutes are progressively relying on big data analytics to augment learners' academic participation and achievement. This research enhances these aspects in virtual education, exclusively aiming Bachelor of Education (B.Ed) programs.

The incorporation of data analytics offers an influential instrument to comprehend and progress pupils' results by assessing the complex associations among student satisfaction and academic achievement, and by recognizing performance drifts and differences among various student cohorts and semesters. Learners' satisfaction is a critical element shaping academic triumph. Study has steadily exhibited that learner satisfaction with numerous traits of their learning proficiency associates intensely with educational achievement measures such as marks, recalling rates, and completion rates (Kuh et al., 2006).

Tinto (1993) highlights that satisfaction with academic aspects, incorporating curriculum significance, staff aid, and existing resources, substantially influences learners' conclusions to continue and accomplish in their academia. This research purposes to assess how several factors of learner satisfaction, as acquired via survey answers, relate with educational achievement measures. Comprehending these associations can support obtainable insights for progressing learning methods and improving learner overall achievements.

Big data analytics facilitates institutes to explore extreme into performance data, showing inclinations and abnormalities that may not be explicitly evident. By investigating batch-wise and semester-wise performing information, teachers and administrators can find trends associated to learner participation and academic achievement (Chen et al., 2012).

For example, investigating differences in retention and completion rates within numerous cohorts and semesters can emphasize reasons aiding to productive learner participation or indicate capacities needing interventions (Romero & Ventura, 2013). Siemens (2013) highlights that learning analytics can find significant perceptions into how learner engagement develops across period and in various academic institutes.

This research identifies and analyses these engagement patterns and abnormalities within BEd programs to comprehend the changing aspects of learner participation and achievement. By ensuring so, it aims to support empirical-based recommendations for advancing academic approaches and interventions.

Literature Review

Tinto's (1993) Theory of Student Departure serves as the foundational theoretical framework for this research. It posits that students' decisions to persist or withdraw from educational programs are influenced by their levels of academic and social integration within the institution. This theory highlights that learner retention and success are primarily driven by interactions with staff, curriculum relevance, and overall engagement in the academic environment. In this context, Tinto's framework supports the assertion that staff support and curriculum relevance correlate significantly with key educational performance metrics such as grades, retention rates, and graduation rates. By enhancing these elements, institutions can improve student integration, thereby increasing retention and graduation rates.

The alignment of Tinto's Theory with the focus on enhancing student engagement and performance in virtual learning through big data analytics underscores the importance of social and academic integration in boosting engagement. The key elements of staff support and curriculum relevance can be evaluated and improved through data insights, reinforcing the connection between student satisfaction and performance metrics like retention and graduation rates. Applying Tinto's theory provides a comprehensive framework for optimizing virtual learning experiences.

Impact of Student Satisfaction on Academic Performance

Student satisfaction is recognized as a critical factor in educational success. Research indicates a strong correlation between student satisfaction and academic performance metrics, including grades, retention rates, and graduation rates. Tinto (1993) emphasizes that satisfaction with institutional support, teaching quality, and peer relationships significantly affects students' persistence in learning. Recent studies (Kuh et al., 2006) highlight that satisfaction with educational counseling and institutional resources is intricately linked to academic achievement, suggesting that improving these factors can enhance retention and graduation rates. This aligns with Bean's (1980) findings that student satisfaction and institutional fit are crucial for reducing dropout rates and enhancing overall academic success. Pascarella and Terenzini (2005) further corroborate this by demonstrating that higher levels of satisfaction correlate with improved educational outcomes, emphasizing the need to prioritize student concerns for better results.

Big data analytics has revolutionized the examination of academic information. The ability to collect and analyze vast amounts of data enables educators to identify previously hidden patterns and anomalies. Chen et al. (2012) explores how big data analytics can

provide insights into student performance and engagement, indicating that predictive analysis can identify trends related to student success and failure, allowing for timely interventions. Siemens (2013) introduces the concept of learning analytics, which collects and analyzes data from various academic technologies to enhance educational practices. This analysis can reveal effective insights into student behavior, engagement levels, and performance trends. Romero and Ventura (2013) expand on this by utilizing data mining techniques to uncover hidden trends in student performance, aiding in academic planning and policymaking. Arnold's (2010) work on predictive analysis highlights its role in identifying at-risk students early on, supporting targeted interventions that enhance student engagement and performance. This proactive approach aligns with Hattie and Timperley's (2007) assertion that timely, specific feedback is essential for student improvement.

Integrating big data analytics into educational research and practice presents significant opportunities for enhancing student engagement and success. By analyzing student surveys and performance data, institutions can gain insights into factors affecting academic achievement and identify areas needing intervention. The findings from Tinto (1993), Kuh et al. (2006), and Pascarella and Terenzini (2005) highlight the importance of addressing student satisfaction to improve educational outcomes. Additionally, studies by Chen et al. (2012), Siemens (2013), Romero and Ventura (2013), Arnold (2010), and Hattie and Timperley (2007) illustrate how big data analytics can reveal performance patterns and variances, informing effective academic strategies and interventions. Therefore, leveraging big data to improve student engagement and performance represents a significant advancement in educational research and practice, emphasizing the correlation between student satisfaction and academic outcomes. Siemens and Long (2011) affirm the positive correlation between learning analytics and student success, stressing the ongoing need to explore analytical questions in education. Hattie and Yates (2014) reflect on the potential for learning analytics to enhance teaching practices, suggesting that analytics can inform the design and delivery of student learning outcomes. Future research, as proposed by Van Lehn (2013), should focus on understanding how various teaching systems can be improved through big data analysis.

There is a lack of exploration into how big data analytics can be applied in virtual learning environments, with much research focused on traditional classrooms. Further investigation is needed to integrate real-time data with student satisfaction and performance metrics. Additionally, research should examine how aspects like interface design and interactivity correlate with measurable outcomes.

Material and Methods

Research Design

A quantitative case study design was employed to investigate the impact of student satisfaction on academic performance.

Population

All the BEd graduates of Virtual University of Pakistan were the population of the study.

Sampling Technique

Sample was selected through the purposive sampling technique.

Sample of the Study

The sample of the study was 67 Bed graduates.

Tool of the study

Secondary data were taken from the Quality Enhancement Cell, QEC collect the data through survey from Bed graduates.

Data Collection

Data were obtained from the Quality Enhancement Cell (QEC), including Correlation metrics linking student satisfaction aspects to academic performance (grades, retention rates, graduation rates). Survey responses measuring student satisfaction across various program dimensions. Batch-wise and semester-wise retention and graduation statistics.

Data Analysis

Pearson correlation coefficients were calculated to assess the strength and significance of relationships between satisfaction aspects (e.g., curriculum relevance, faculty support) and performance indicators. Mean satisfaction scores and standard deviations were computed to summarize student responses regarding program effectiveness and support. Retention and graduation rates were analyzed over multiple semesters and batches to identify performance trends. Statistical analysis was conducted using software such as SPSS or Excel, facilitating calculations for correlation and descriptive statistics.

Limitations

Potential limitations of the study were acknowledged, including sample size and response biases, which may affect the generalizability of the results.

Results and Discussion

Table 1
Correlation between Student Satisfaction and Academic Performance

Satisfaction Aspect	Correlation with Grades	Correlation with Retention Rates	Correlation with Graduation Rates
Curriculum Relevance	0.55	0.60	0.65
Course Accessibility	0.50	0.55	0.60
Faculty Support	0.65	0.70	0.75
Availability of E-Content	0.45	0.50	0.55
Feedback Quality	0.55	0.60	0.65

In table1, it is denoted as curriculum relevance's correlation with all the three performance indicators is positive and highly significant and includes: Connector grades, connector retention rates and connector graduation rates. The higher the relevance of the curriculum the better the results achieved at school. The same goes for course accessibility, as it is positively associated as well but it is lower in correlation to curriculum relevance. While increased availability serves a useful purpose to students, it will have minimal effect on graduation outcomes. The only metric with which faculty support has a high correlation is support for the faculty; therefore, it seems that support from the faculty is necessary for increasing letter grades, retention, and graduation. Availability of E-content and feedback quality have reasonable inverse relationship and so are not significantly influential as faculty support and relevance of curriculum.

Faculty support is the most influential factor on grades, retention, and graduation rates, surpassing all other satisfaction aspects.

Table 2
Batch-wise Retention and Graduation Rates

Batch	Semester	Enrolled	Active	Graduated	Retention Rate	Graduation Rate
Fall 2019	1	28	13	1	53.57%	6.67%
Spring 2020	1	19	7	0	52.63%	0.00%
Fall 2020	1	49	27	0	61.22%	0.00%
Spring 2021	1	27	16	0	62.96%	0.00%
Fall 2021	1	86	47	0	68.60%	0.00%
Spring 2022	1	64	32	0	93.75%	0.00%
Fall 2022	1	89	60	0	95.51%	0.00%
Spring 2023	1	85	84	0	98.82%	0.00%
Fall 2023	1	140	139	0	99.29%	0.00%

In table 2, it is shown that overall retention rates is higher now, though initially Retention Rates have been low and were 53.57% in Fall 2019 while they are 99.29% in Fall 2023. Course dropout mean is significantly low at all the batches, which suggests that many students are still in progress have not passed out.

The rising retention rates reflect effective interventions, but the low graduation rates indicate a need to address barriers to student completion.

Table 3
Semester-wise Performance Metrics

Semester	Enrolled	Active	Inactive	Withdrawn	Graduated	Retention Rate	Passout Rate
Fall 2019	28	13	15	14	1	53.57%	6.67%
Spring 2020	19	7	11	9	0	52.63%	0.00%
Fall 2020	49	27	33	31	0	61.22%	0.00%
Spring 2021	27	16	18	16	0	62.96%	0.00%
Fall 2021	86	47	58	52	0	68.60%	0.00%
Spring 2022	64	32	32	26	0	93.75%	0.00%
Fall 2022	89	60	58	45	0	95.51%	0.00%
Spring 2023	85	84	61	0	0	98.82%	0.00%
Fall 2023	140	139	0	0	0	99.29%	0.00%

In table 3, it is denoted that retention rates have risen over the years; suggesting a good record on the number of students retained. Pass out Rates stay constant at 0% for all semesters because students are still presently in Program.

The increasing retention rates suggest the program is effective, yet additional measures are needed to enhance student completion rates.

Discussion

Some important findings are obtained from the examination of student satisfaction and its association with the specific academic results. As evident from the Table 1, there are positive correlations between the faculty support, curriculum relevance and the grades, retention rates and graduation rates. Specifically, there is a convergence with the plausible faculty support factor demonstrating the highest correlation with the remaining individual metrics; prior research has it that the support that student received from instructors significantly strengthen the existing literature (Kuh et al., 2006). This implies that courteous and highly interactive faculty members greatly improve the quality of academic achievements as there is need to further enhance investment in faculty training and coaching.

Another positive correlation with CURREA metrics indicates that when students understand the curriculum to be relevant to their intended careers, their performance

improves and retention rates are increased (Bean, 1980). The above finding goes a long way into supporting the argument that the design of curriculum must always be subjected to evaluation and readjustment due to dynamics in the market as well as among learners.

In contrast, course accessibility, availability of E-content and feedback quality are moderately associated with performance indices. Nevertheless, the influence of these aspects is not so significant as that of two other factors: faculty support, and curriculum relevance. The moderate correlation between E-content and feedback quality indicates that though the optimisation of E-content and increase in the quality of feedback beneficially impacts the process of learning and teaching, its significance is less as compared to the significance of support of faculty and relevance of curriculum (Chen et al., 2012).

Conclusion

In conclusion, faculty support plays a crucial role in enhancing students' grades and retention rates. However, the persistently low graduation rates highlight the need for targeted interventions to address the barriers that many students face. While academic support can boost performance and encourage students to stay enrolled, it is not enough on its own to ensure that they complete their degrees.

Recommendations

- Enhance faculty training to improve mentorship and communication, boosting learner satisfaction and retention.
- Conduct assessments to pinpoint graduation obstacles and implement targeted support initiatives.
- Create early warning systems and tailored support for learners at risk of dropping out to improve graduation rates.

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