

**RESEARCH PAPER****A Multivariate Analysis of Postgraduate Students' Course Experiences: Gender, Discipline and Shift Wise Differences****¹Munaza Nausheen and ²Ijaz Ahmad**

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Corresponding Author: munaza.ier@pu.edu.pk**ABSTRACT**

Students' course experiences are important indicators of quality of higher education. This study aimed to explore the differences in the course experiences of postgraduate students enrolled in two different shifts (morning and afternoon) in five different départements at a public university in Lahore Pakistan. A quantitative survey research design was used and a questionnaire focusing on quality of teaching, course content, assessment, available facilities and resources, and relationship with teachers and class fellows, was administered to a sample of 368 postgraduate students. The data was analysed by applying t test and Multivariate Analysis of Covariance. The results revealed significant differences across gender, disciplines and shifts of study among all course experience scales. It is recommended that the development and implementation of the curriculum content and teaching activities should be based on the specific needs and preferences of the students in different disciplines and shifts of study for better learning outcomes.

KEYWORDS Course Experiences , Postgraduate Students, Gender, Discipline of Study**Introduction**

Providing high-quality learning experiences for students has always been a major concern for higher education institutions worldwide. An understanding of the students' perceptions of their courses and learning environments has gained an increasing importance. Students' course experiences are widely regarded as key indicators of the quality of higher education because they reflect how effectively teaching practices, course design, assessment methods, and institutional resources support learning. Positive course experiences contribute not only to academic achievement but also to students' overall engagement, satisfaction, and professional development.

In recent decades, considerable attention has been given to examining factors that influence students' experiences in higher education. Research has shown that factors such as the quality of teaching, course content, workload, assessment practices, and learning resources significantly influence students' perceptions of their academic programs. These aspects of the learning environment influence how students perform learning tasks and therefore affect their learning outcomes. Therefore, universities increasingly rely on student feedback and course experience measures to inform institutional improvements and enhance teaching and learning practices. This study investigates the variations in postgraduate students' course experiences across gender, disciplines and shifts of study.

Literature Review

Learning at postgraduate level is complex, multidimensional, and influenced by a range of perspectives and factors. It is not just about getting a degree; it is about experiencing a different phase of academic and personal development (Wingate, 2007). Students' experiences in higher education are formed by many factors, including their own backgrounds and expectations, as well as institutional factors such as teaching styles and learning environments (McInnis, 2001; White, 2009). Research shows that what students experience at university can have a lasting impact on their later academic and professional performance. Research has consistently highlighted gender disparities in learning attitudes, expectations, and experiences within higher education (Grebennikov & Skaines, 2009; Law & Meyer, 2011). Women, for instance, tend to exhibit greater academic commitment than men, as evidenced by higher scores across various dimensions of the student experience (Grebennikov & Skaines, 2009; Richardson et al., 2007).

Research on students' experiences reveal significant gender differences, with females giving greater importance to several aspects as compared to males (Anastasia et al., 1999). The different nature of academic disciplines being offered at higher education level has also recently gained a lot of interest by researchers (Entwistle, 2005; Fraenkel & Wallen, 2000; Johnson & Christensen, 2008). Different disciplines of study serve as the basic framework of higher education (Becher, 1994). Considerable evidence suggests a nexus between learning concepts, teaching perceptions, and educational outcomes, with students' learning experiences influenced by individual traits and the contextual milieu of their academic domains (Fraenkel & Wallen, 2000). Data from the Course Experience Questionnaire (CEQ) underscore marked disparities in students' responses across disciplines, reflecting distinct academic cultures and resources (Ramsden, 1991). The significance of disciplinary differences has been underscored by scholars, requiring tailored approaches to enhance student learning experiences (Becher, 1994; Knight & Trowler, 2000). Given these imperatives, this study aims to explore variations in postgraduate students' course experiences across gender, different departments and shifts of study.

Material and Methods

This study used a quantitative survey research design. All students enrolled in two years Master degree program at a public university in Lahore, Pakistan were the population of the study. A sample of 368 postgraduate students (mean age 22.45) studying in two different shifts (morning and afternoon) in five different departments (Gender Studies, Mathematics, Business Education, English Language Teaching and Linguistics and Institute of Business and Information Technology (IBIT) at a public university was selected by using a multistage random sampling procedure.

Students' course experiences were explored through their views about the quality of teaching, course content, assessment practices, facilities and resources, their relationship with teachers and class fellows. A questionnaire having 27 items belonging to six scales was used as an instrument for data collection. Four of these scales (the *good teaching* scale (GTS), *clear goals and standard* scale (CGSS), *appropriate workload* scale (AWLS), *appropriate assessment* scale (AAS)) belonged to the Course Experience Questionnaire CEQ 23 developed by Wilson, Lizzio, and Ramsden (1997), and two scales namely, *learning resources* scale (LRS) and *learning community* scale (LCS) were adopted from a revised version of the CEQ developed by McInnis, Griffin, James, and Coates

(2001). The 27 items of the course experience scales were presented in a random order with a five-point response scale: 5 (strongly agree), 4 (agree), 3 (neutral), 2 (disagree), 1 (strongly disagree).

Results and Discussion

Independent sample t tests (Table 1) were used to explore the differences in the experiences of males and females and students enrolled in the morning and afternoon shifts of study. Significant differences were revealed in the perceptions of teaching quality between males ($M = 3.51$, $SD = 0.73$) and females ($M = 3.75$, $SD = 0.79$), $t(351) = 2.82$, $p = .005$, with females indicating that they were more satisfied with the quality of teaching, although the magnitude of the difference was very small ($\eta^2 = .02$). No significant gender differences were observed in the experiences of workload and learning community and resources.

Table 1
Course Experiences of Males and Females

Course Experiences	Male		Female		t (df)	p	95% CI		η^2
	M	SD	M	SD			LL	UL	
Good Teaching	3.51	0.73	3.75	0.79	-2.82(351)	.005	-0.41	-0.07	.022
Appropriate Workload	3.21	0.68	3.34	0.70	-1.77(337)	.078	-0.29	0.02	.013
Learning Community and Resources	3.53	0.63	3.64	0.57	-1.54(326)	.125	-0.24	0.03	.007

Results also showed that there were significant differences between morning and afternoon shifts on all course experience scales (Table 2) although the magnitude of this difference was small ($\eta^2 = .02$), thereby suggesting that the students studying in two shifts had slightly different experiences.

Table 2
Course Experiences across Shift of Study

Course Experiences	Morning shift		Afternoon Shift		t (df)	p	95% CI		η^2
	M	SD	M	SD			LL	UL	
Good Teaching	3.56	0.79	3.76	0.75	-2.24(351)	.016	-0.36	-0.04	.016
Appropriate Workload	3.19	0.71	3.41	0.66	-2.91(337)	.004	-0.37	-0.07	.020
Learning Community and Resources	3.52	0.61	3.69	0.56	2.57(326)	.011	-0.29	-0.04	.025

The results of the t tests in the previous section revealed that there were significant gender differences and shift differences in the course experiences of the students. However, as the t test did not take account of the within and between department differences, a three way factorial Multivariate Analysis of Covariance (MANCOVA) was conducted, with gender, departments of study, and shift of study as the three independent variables and three course experiences (*teaching, workload and community and resources*) as dependent variables, the effect of *admission scores* was controlled as a covariate.

Multivariate Effects

Multivariate Analysis of Covariance reflected that there were no significant interactions among the three independent variables gender, shift and discipline. MANCOVA also showed that there was a significant multivariate effect of admission score on the course experiences of the students, $F(3, 279) = 2.68$, $p = .47$; Pillai's Trace =

0.28 partial $\eta^2 = .028$. MANCOVA also revealed significant effects/main effects of gender, department and shift on the course experiences as shown in Table 3

Table 3
MANCOVA

Effects	Pillai's Trace	F	df	Error df	Sig.	Effect size Partial η^2
Admission Score	.028	2.68	3	279	.047	.028
Gender	.048	4.71	3	279	.003	.048
Department	.101	2.43	12	843	.004	.034
Shift of Study	.035	3.42	3	279	.018	.035
Gender * Shift	.105	1.46	3	279	.226	.015
Gender * department	.062	1.57	12	843	.074	.023
Department * Shift	.065	1.56	12	843	.098	.022
Gender * Dpt * Shift	0.39	1.87	6	560	.084	.020

summary (at $p < .05$)

The above results reflected significant gender and shift wise differences in the course experiences of students. Results of the follow-up univariate tests conducted on three course experience scales (*teaching*, *workload* and *community and resources*) across gender, discipline and shift are presented in the following sections

Gender

Significant differences were observed between males and females on the course experiences of good teaching, $F(1,281) = 13.49, p < .001$ and partial $\eta^2 = .046$. A comparison of the estimated marginal means showed that the mean score for females on the *good teaching* scale was significantly higher than for males, $p = .001$ (MD = .39, SE = .12, 95% CI: 0.16 to 0.62.)

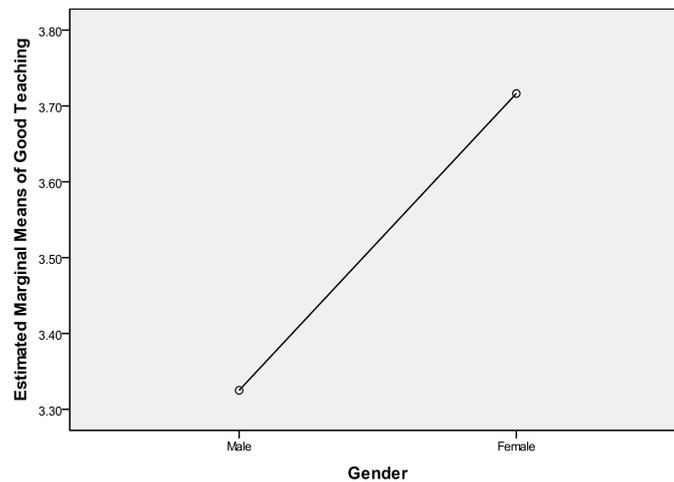


Figure 1 Estimated marginal means of males and females on good teaching scale

Department

Significant differences were observed among departments on all course experiences, *good teaching*, $F(4,281) = 3.28, p = 0.012$, partial $\eta^2 = .045$, *appropriate workload*, $F(4,281) = 2.82, p = 0.026$, partial $\eta^2 = .039$ and *learning community and resources* $F(4,309) = 3.39, p = .01$, partial $\eta^2 = .42$.

A comparative analysis of estimated marginal means showed that the mean score for *good teaching* was significantly higher in the mathematics than the English Language Teaching and Linguistics $p = .04$ (MD = .53, SE = .18, 95% CI: 0.018 to 1.047) (Figure 2).

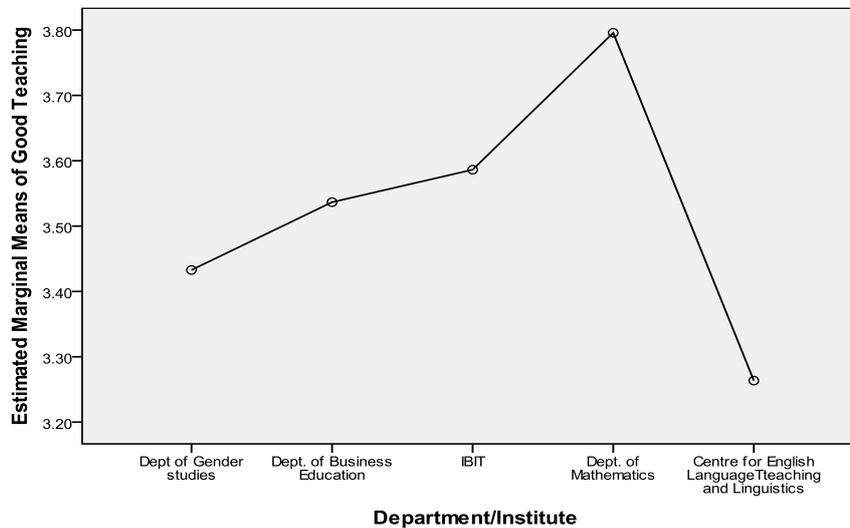


Figure 2. Estimated marginal means of good teaching scale across departments

Similarly the mean score for *learning community and resources* was significantly higher in the Mathematics (DM) than in the IBIT $p = .008$ (MD = .36, SE = .11, 95% CI: .06 to .66), thereby indicating that students in DM were more satisfied with their experience of *learning community and the resources* available to them as compared to the students in IBIT (Figure 3).

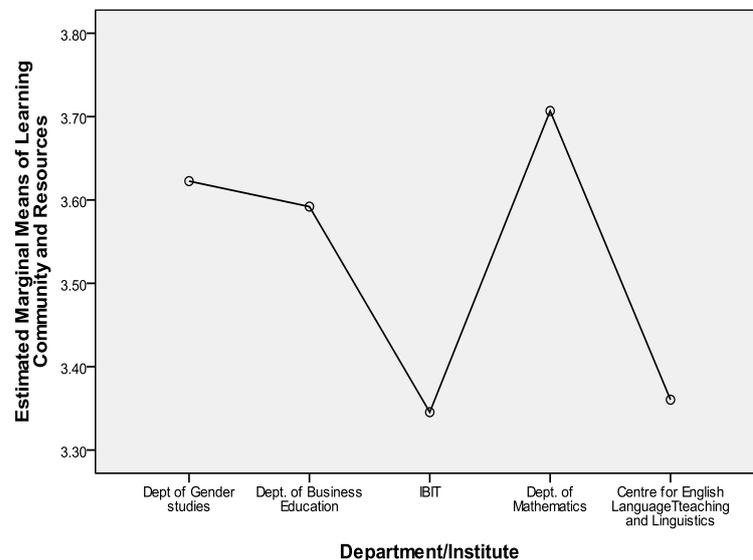


Figure 3. Estimated marginal means of learning community and resources scale across departments

It is noted that the value of estimated marginal mean of *learning community and resources* in CELTL ($n = 48$) nearly the same as in IBIT ($n = 79$), but these were not significantly different from DM ($n = 116$). One possible reason can be smaller sample size in CELTL ($n = 48$) (Figure 3).

No significant differences were revealed across departments in students' experiences of *workload*.

Shift of study

Significant differences were observed between morning and afternoon shifts of study on the course experience factor of *learning community and resources*, $F(1, 309) = 5.24$, $p = .023$, Partial $\eta^2 = .017$. A comparative analysis estimated marginal means showed that the mean score for the afternoon shift was significantly higher than the mean score for the morning shift, $p = .003$ (MD = .30, SE = .10, 95% CI: .10 to .51).

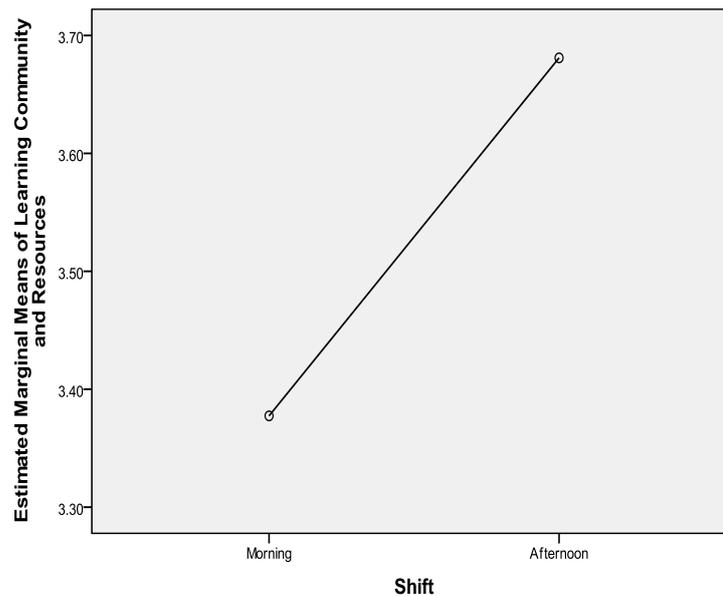


Figure 4. Estimated marginal means of learning community and resources scale in morning and afternoon shifts

Conclusion

The results indicated that the postgraduate students had positive course experiences. They were satisfied with the quality of teaching and available resources. They considered their course workload to be appropriate and were happy to be a part of a learning community to share their ideas and knowledge.

Results of the Multivariate Analysis of Covariance (MANCOVA) for between-group comparisons lead to the conclusion that females were more satisfied with the quality of teaching than males, whereas no gender differences existed in the experiences of *workload*, and *learning community and resources*. Multivariate analysis also revealed that course experiences varied significantly across different departments of study, thereby indicating that students in different disciplines had different levels of satisfaction with regard to the quality of *good teaching*, *workload* and *learning community and resources* available to them. Students in the Department of Mathematics were more satisfied with the quality of teaching than the students in the Centre for English Language Teaching and Linguistics. Similarly, students in the Department of Mathematics were more satisfied with their learning environment and resources than the students in the IBIT.

To sum up it can be concluded that the learning can be seen as a multifaceted phenomenon that is dynamic and influenced by the context. This means that the

students' gender as well as department and shift of study play a part in their course experiences, thereby influencing the academic outcomes.

Recommendations

Following recommendations are made based on the results of the study

- Students' experiences varied significantly across departments, indicating that the course experiences are influenced by the discipline of study. These differences should be used to identify the specific needs of the different departments in the development and implantation of the improved curriculum content and teaching activities in these departments.
- Students of afternoon shift had more positive perceptions of being a part of a learning community than the students enrolled in the morning shift. Students of morning shifts should be provided with more opportunities to share and interact with staff as well as with fellow students to make them feel part of a learning community.

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