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STUDY APPROACHES OF POSTGRADUATE STUDENTS IN ODL SYSTEM: A LONGITUDINAL SURVEY

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KEYWORDS

Study Approach, Deep Study Approach, Surface Study Approach, Strategic Study Approach, Postgraduate Students

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ABSTRACT

The study aimed to analyze the study approach of the postgraduate students across various semesters of studies. Longitudinal survey design was adopted to conduct this study. The participants of study were enrolled in Education degree program in university (Pakistan). There were two cohorts of students who participated in this study with 12 students in cohort-1 and 10 students in cohort-2. Approaches and Study Skills Inventory for Students (ASSIST-short version with 52 items) was used to collect data from students at three different times i.e., first time at the start of the second (coursework) semester, second time at end of second semester (development of research proposal stage) and third time during the dissertation stage. Similarly, the data were analyzed using descriptive and inferential statistical techniques. The study results reported that the students used deep and strategic approach to study more than surface approach to study however, the percentage of using the surface approach was also quite high. It was also found that there was no gender wise difference in the surface, deep and strategic approaches of both cohorts of the research study. It is recommended to provide the students with guidance and facilitation for shifting their study approach from surface to deep approach.

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INTRODUCTION

In classrooms, traditional teaching approach is adopted where teacher is providing the information and sharing theoretical knowledge and student is taking notes. In this approach, students' problem-solving and critical thinking skills are not polished because they are not engaged with the content at a deeper level. As a result, students may lack self-study skill and lose motivation. Therefore, the traditional teaching approach is not successful in promoting critical thinking skills among students (Bi, Zhao, Yang & Wang, 2019). The test score approach can lead to reduce student motivation and

promote superficial reading strategies. The deep learning is opposite to test score approach, which emphasizes high scores high (Kovac, Nome, Jensen & Skreland, 2023). However, deep learning can be efficiently used along with traditional approaches like memorization, surface approach, testing (Hattie & Donoghue, 2016: as cited in Kovac et al., 2023). Course concept involves agreed upon meaning for sharing without accenting its linkage it to one particular context. A student develops understating of these concepts in context of previously learnt concepts and specific contexts where these concepts were being established, personal experiences & feeling associated with it (Entwistle, in press: as cited Entwistle, 2007). After the concept is learnt, it is retrieved from memory to apply in the new context.

A point of concern related to understanding of the concepts is to look into the reasons for students failing to develop effective understanding of the concepts even when teaching was well-designed for this purpose. Most of the subjects contains some difficult concepts which students find it difficult to comprehend effectively (Entwistle, 2007). Study approach of a student may change if special environment and efforts are made by teachers over years. However, it is vital to understand existing skills and practices of students so that relevant experiences may be provided (Chonkar, Ha, Chu, Xinhui, Lim & Tan, 2018). The study was conducted in two postgraduate classes to examine change in their study skills as they progress from coursework to dissertation stage. As students move from coursework to dissertation stage, it requires them to adopt deeper understanding of content so that they can compare and contrast the theories in their disciplinary field and connect the dots. Students will struggle a lot if they adopt a surface approach to study particularly at the dissertation stage. Keeping in view this perspective, researcher conducted this longitudinal survey research in order to analyze study approaches of postgraduate students in ODL program during three phases of study. The results of study would be of interest for teachers, students and universities to understand study approach of students and cultivating learning environment for students so as to foster deep learning approach among students.

LITERATURE REVIEW

Open distance learning (ODL) is a system of learning that aims to bridge the gaps with respect to geographical location, time, social, educational, economic and communication gap amid students, teachers, institutions and the learning resources (UNISA, 2008: as cited in Omari & Kefiloe, 2022). Masters of Philosophy (M.Phil.) in Education is a postgraduate degree in Education with 02 years duration. It is offered for students who have completed Masters (16 years of Education) in Education subject. It involves two main components: coursework (02 semesters for theory and research related courses) and research work (02 semesters for thesis on a topic related to the field of Education). Deep learning is linked with meaning & understanding of knowledge, exploring underlying connection between seemingly unrelated pieces of knowledge, transferring subject understanding to another context, and deeply understanding a complex concept. The knowledge through deep learning can be acquired when a person is intrinsically motivated for it. It is easy and effectual to retain the knowledge for a longer period. A person adopting a deep learning approach moves from the simple and surface level of knowledge to higher and abstract level of the engagement with the concepts (Chonkar et al., 2018).

Study approach of a student, his/her conception of learning and preferences for courses/teaching may logically be related to each other (Carstensen, Ødegaard, Bonsaksen & May, 2018). Study behavior of students generally followed by them, are called their study approaches (Mork, Magne, Carstensen, Stigen, Asli, Gramstad, Johnson & Bonsaksen, 2020). There were three approaches identified for studying in the academic settings by learners: deep, surface ad strategic approaches (Entwistle, 2018). Deep approach to studying involves engaging with content to understand topic, connect and differentiate among various concepts covered in the content. It is processing content at abstract level. Surface approach to study involves minimal effort to go over content without deep sympathetic. Understanding study approaches employed by postgraduate students in the ODL system is vital to improving educational outcomes and designing effective learning environments. They set their own learning goals, monitor their progress, and adapt their strategies as per their needs. The aim of study is to avoid failing the exam. Strategic approach to study involves organizing effort to study content with the aim of achieving good grades and adjusting their effort around it (Mork et al., 2020).

It was reported that there was no statistically significant relationship between study approach and the academic achievement of students. Therefore, it is important to recheck assessment in order to foster the deep learning approach (Ishaq, Hock, Ghani, Yong, Tsin & Muniandy, 2022). However, rubric-based assessment was helpful to convey to the students about the expectations of instructors, which enabled them to set specific learning goals, complete their tasks purposefully, positively frame their learning strategies, and assess their learning progress (Teh, Wong, Khambari, Rahmat & Tang, 2024). There was no difference in the study approach of undergraduate students from the Australia, Norway, Singapore and Hong Kong. So, the culture and the educational context did not affect the study approach of students (Brown, Fong, Bonsaksen, Lan, Murdolo, Gonzalez & Beng, 2017). In the ODL system, postgraduate students adopt diverse study approaches based on their personal, academic & environmental situations. While self-regulated & deep learning approaches are more effective for the academic success, surface learning and time constraints pose challenges. Deep and strategic approach to study better serves purpose at higher education level as compared to the surface approach. Learning environment may influence the students' approach to studying (Mork et al., 2020).

RESEARCH METHODOLOGY

The study used the quantitative research design and the longitudinal survey research method for conducting this study. The purpose for the selection of this design was to analyze the change in the study approaches of students during various phases of this study. The participants of the study were enrolled in Master of Philosophy (M.Phil.) in Education degree program in a university (Pakistan). There were two cohorts or classes of a course of a postgraduate degree program in distance and online learning system. The number of participants in the first cohort was 12 whereas there were 10 participants in the second cohort. In this connection, the data were collected from the participants of both cohorts at three different time intervals likewise, at the start of second semester of their postgraduate degree program, at the end of second semester of their postgraduate degree program

and during their third semester of concerned study when they working on their research proposal for the dissertation.

The updated version (Entwistle, Noel & Hilary, 2013) of Approaches and Study Skills Inventory for Students (ASSIST– Tait, Entwistle & McCune, 1997: as cited in Brown, White, Wakeling & Naicker, 2015) was used to collect the data. There were 52 items in this tool (ASSIST- short version), as given in table 01. It was a five-point scale with 05 options against each item: agree (5), agree somewhat (4), unsure (3), disagree somewhat (2) and disagree (1). The Cronbach's alpha reliability of research instrument was .927. The research instrument consisted of two sections. First section consisted of 06 items related to the respondents' concept of learning; there were five options for each item in this section were very close (05 marks), quite close (04 marks), not so close (03 marks), rather different (02 marks), and very different (01 mark). The second section contained eight items related to the preferences for different types of courses and teaching; there were five options against each item i.e., definitely like (05 marks), like to some extent (04 marks), unsure (03 marks), dislike to some extent (02 marks) and definitely dislike (01 mark). The details of the factors of this scale are given in table-1 below.

Table 1 Factors of ASSIST

S#	Factors	Number of items	Range of score
1.	Concept of 'Learning'	06	06-30
2.	Deep approach to learning	20	20-100
3.	Strategic approach to studying	16	16-80
4.	Surface approach	16	16-80
5.	Preferences for different types of courses & teaching	08	08-40

FINDINGS OF STUDY

The responses of students were analyzed for cohort of the study, phases of the study, gender and relationship among study approaches. The results of data analysis along with its interpretation are given below.

Table 2 Descriptive Analysis of Factors of ASSIST

S#	Factor	n	MS	MMF	% MS	SD
1	Concept of 'Learning'	22	26	30	86.67%	2.11
2	Deep approach to learning	22	86.55	100	86.55%	5.67
3	Strategic approach to studying	22	68.83	80	86.04%	4.89
4	Surface approach	22	54.65	80	68.31%	13.87
5	Preferences of courses/teaching with Supporting kind (Deep Approach)	22	17.65	20	88.25%	1.53
6	Preferences of courses/teaching with Transmitting data (Surface Approach)	22	15.33	20	76.65%	2.72

As shown in table 2, the mean score and percentage of mean scores showed that the students opted for deep and strategic study approach more than surface approach. Still, in case of preference for courses and teaching, surface approach (76.65%) got comparatively higher percentage than their

own practice for surface approach (68.31%). Their own practice of deep study approach was aligned with preference of courses/teaching involving deep study approach. It was evident that students were equally using deep & strategic approach for going over course materials during this research study period.

Table 3 Analysis of Responses of Students of Cohort 1 & 2 Over three Phases of Study

Cohort	Study Variable	N	Mean	Percentage of marks	SD4	Chi-Square	df	Sig. value
Cohort 1	SA1 Phase 1	12	60.92	60.92	10.73	0.43	2	.978
	SA1 Phase 2	12	61	61	13.31			
	SA1 Phase 3	12	58	58	13.44			
Cohort 1	DA3 Phase 1	12	90	90	5.69	1.136	2	.567
	DA3 Phase 2	12	89.17	89.17	8.05			
	DA3 Phase 3	12	87.75	87.75	7.22			
Cohort 1	StA2 Phase 1	12	69	69	7.19	.578	2	.749
	StA2 Phase 2	12	69.42	69.42	7.27			
	StA2 Phase 3	12	69.08	69.08	7.14			
Cohort 2	SA1 Phase 1	10	48.10	48.1	17.59	1.590	2	.452
	SA1 Phase 2	10	47.60	47.6	13.72			
	SA1 Phase 3	10	49.10	49.1	15.23			
Cohort 2	DA3 Phase 1	10	85.80	85.8	6.89	2.513	2	.285
	DA3 Phase 2	10	80.90	80.9	5.82			
	DA3 Phase 3	10	84.20	84.2	4.61			
Cohort 2	StA2 Phase 1	10	70	70	5.49	1.897	2	0.387
	StA2 Phase 2	10	66.50	66.5	4.17			
	StA2 Phase 3	10	68.80	68.8	5.77			

SA1=Surface Approach; StA2=Strategic Approach; DA3= Deep Approach; SD4= Standard Deviation

Table 3 showed the comparative analysis of surface, strategic and deep approach of each cohort in three phases of study. It is evident that there was no statistically significant difference in the surface approach of the students of cohort-1 over three phases of the study. There was also no statistically significant difference in the deep and strategic approach of students of cohort-1 over three phases of the study. Statistically non-significant results were observed for surface, strategic and deep approach adopted by students of cohort-2 over three phases of the study. It can be inferred that the students of cohort 1 and 2 were consistent in surface, strategic and deep study approach over three phases of study.

Table 4 Cohort wise Difference on Surface, Strategic and Surface Approach to Study

Factor	Cohort	N	Mean	Marks %	SD4	Mean Rank	Sum of Ranks	MWU	Z	Asymp. sig.
SA1	Cohort I	12	60.92	76.15	10.7	13.83	166.00	32.000	-1.848	.065
phase 1	Cohort II	10	48.10	60.12	17.6	8.70	87.00			
SA1	Cohort I	12	61.0	76.25	13.3	14.25	171.00	27.000	-2.179	.029*
phase 2	Cohort II	10	47.6	59.5	13.7	8.20	82.00			
SA1	Cohort I	12	58.0	72.5	13.4	13.33	160.00	38.000	-1.451	.147
phase 3	Cohort II	10	49.1	61.38	15.2	9.30	93.00			
StA2	Cohort I	12	69.0	86.25	7.19	11.67	140.00	58.000	-.132	.895

phase 1	Cohort II	10	70.0	87.5	5.49	11.30	113.00			
StA2	Cohort I	12	69.4	86.75	7.26	13.13	157.50	40.500	-1.295	.195
phase 2										
	Cohort II	10	66.5	83.12	4.17	9.55	95.50			
StA2	Cohort I	12	69.08	86.35	7.14	11.92	143.00	55.000	-.331	.741
phase 3	Cohort II	10	68.8	86	5.77	11.00	110.00			
DA3	Cohort I	12	90.0	90	5.69	13.50	162.00	36.000	-1.586	.113
phase 1	Cohort II	10	85.8	85.8	6.89	9.10	91.00			
DA3	Cohort I	12	89.2	89.2	8.05	14.54	174.50	23.500	-2.410	.016*
phase 2	Cohort II	10	80.9	80.9	5.82	7.85	78.50			
DA3	Cohort I	12	87.8	87.8	7.22	13.63	163.50	34.500	-1.687	.092
phase 3	Cohort II	10	84.2	84.2	4.61	8.95	89.50			

SA[1]=Surface Approach; StA[2]=Strategic Approach; DA[3]= Deep Approach; SD[4]= Standard Deviation

Table 4 showed comparative analysis of two cohorts of students about their practices with respect to surface, strategic and deep approach in their studies during three phases of this research study. Due to the difference in the total marks for each of the three study approaches, percentage of mean score is included in table. There was significant difference in deep and surface approach of cohort 1 and 2 with higher percentage of mean score for cohort 1. It indicated that students of cohort 1 were more inclined towards deep and surface study as compared to those from cohort 2 in second phase of research study.

Table 5 Cohort wise Difference on Surface, Strategic and Surface Approach to Study

Factor	Gender	N	Mean	Marks %	SD4	Mean rank	Sum of ranks	MWU	Z	Asymp. sig.
SA1	Cohort I	12	59.97	74.96	11.2	13.96	167.50	30.500	-1.947	.052
	Cohort II	10	48.3	60.38	14.5	8.55	85.50			
StA2	Cohort I	12	69.2	86.5	6.06	12.29	147.50	50.500	-.627	.531
	Cohort II	10	68.4	85.5	3.26	10.55	105.50			
DA3	Cohort I	12	88.9	88.9	5.51	14.71	176.50	21.500	-2.543	.009*
	Cohort II	10	83.6	83.6	4.53	7.65	76.50			

SA1=Surface Approach; StA2=Strategic Approach; DA3= Deep Approach; SD4= Standard Deviation

Table 5 showed the comparison of mean score of cohort 1 and 2 (i.e., cumulative mean score of three phases of the study) on surface, strategic and deep approach. There was a statistically significant difference amid cohort 1 and 2 on deep approach to study with higher mean score of cohorts 1. It can be inferred that cohort 1 studied deeply more than cohort 2 during the period of this research work. There was no statistically significant difference in mean score of cohort 1 and 2 on strategic & surface approach to study.

Table 6 Gender wise responses of graduate students Research Issues

Factor	Gender	N	Mean	Marks %	SD4	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Rig.
SA1	Male	09	56.9	71.12	13.6	12.28	110.50	51.500	-.468	.640
	Female	13	53.05	66.31	14.4	10.96	142.50			
StA2	Male	09	68.03	85.04	5.33	10.39	93.50	48.500	-.668	.504

	Female	13	69.4	86.75	4.69	12.27	159.50			
DA3	Male	09	85.07	85.07	7.31	10.44	94.00	49.000	-.635	.525
	Female	13	87.56	87.56	4.21	12.23	159.00			

SA1=Surface Approach; StA2=Strategic Approach; DA3= Deep Approach; SD4= Standard Deviation

Table 5 showed comparison of mean score of students on surface, strategic & deep study approaches. There was no significant difference in mean score of both groups on deep, strategic and surface study approach.

Table 7 Gender wise Analysis of Responses of Graduate Students about Research Issues

Factor	Gender	N	Mean	Marks %	SD4	Mean Rank	Sum of Ranks	MWU	Z	Asymp. Sig.
SA1	Male	09	56.78	70.98	15.8	11.94	107.50	54.500	-.267	.789
phase 1	Female	13	53.9	67.38	15.6	11.19	145.50			
SA1	Male	09	57.67	72.09	15.5	12.50	112.50	49.500	-.602	.547
phase 2	Female	13	53	66.25	14.6	10.81	140.50			
SA1	Male	09	56.4	70.5	13.6	12.33	111.00	51.000	-.501	.616
phase 3	Female	13	52.2	65.25	15.6	10.92	142.00			
StA2	Male	09	67.78	84.72	6.53	9.61	86.50	41.500	-1.138	.255
phase 1	Female	13	70.61	88.26	6.21	12.81	166.50			
StA2 phase 2	Male	09	68.33	85.41	5.04	11.39	102.50	57.500	-.067	.946
	Female	13	67.9	84.88	6.94	11.58	150.50			
StA2	Male	09	68	85	7.36	11.00	99.00	54.000	-.302	.763
phase 3	Female	13	69.62	87.02	5.87	11.85	154.00			
DA3	Male	09	85.56	85.56	7.45	9.11	82.00	37.000	-1.439	.150
phase 1	Female	13	89.84	89.84	5.30	13.15	171.00			
DA3	Male	09	84.3	84.3	8.99	10.83	97.50	52.500	-.401	.688
phase 2	Female	13	86.15	86.15	7.79	11.96	155.50			
DA3	Male	09	85.3	85.3	7.95	11.22	101.00	56.000	-.167	.867
phase 3	Female	13	86.7	86.7	5.15	11.69	152.00			

SA[1]=Surface Approach; StA[2]=Strategic Approach; DA[3]= Deep Approach; SD[4]= Standard Deviation

Table 7 showed the gender wise comparison of mean scores on surface, strategic and deep study approach in each of three phases of the study. There was no statistically significant difference in the mean score of male and female students on surface, strategic and deep approach in each of the three phases of the study.

Table 8 Relationship among Factors of ASSIST

Factors	M7	SD8	N	CL1	PCT2-SU	PCT3-TI	SA4	StA5	DA6
CL1	26	2.12	22	-	.2519 (.261)	.319 (.147)	.470 (.027)	.608 (.003)	.1519 (.504)
PCT2-SU	17.65	1.53	22	.2519 (.261)	-	.0059 (.983)	.337 (.125)	.644 (.001)	.514 (.014)
PCT3-TI	15.33	2.72	22	.319 (.147)	.0059 (.983)	-	.508 (.016)	.2469 (.269)	-.0459 (.844)
SA4	54.65	13.9	22	.470 (.027)	.337 (.125)	.508 (.016)	-	.504 (.017)	.371 (.089)

StA5	68.83	4.89	22	.608 (.003)	.644 (.001)	.2469 (.269)	.504 (.017)		.514 (.014)
DA6	86.54	5.67	22	.1519 (.504)	.514 (.014)	-.0459 (.844)	.371 (.089)	.514 (.014)	-

CL1= Concept of Learning; PCT2-SU= Preference for Course and Teaching for Supporting Understanding (Deep Approach); PCT2-TI= Preference for Course and Teaching for Transmitting Information (Surface Approach); SA4= Surface Approach; StA5= Strategic Approach; DA6= Deep Approach; M7= Mean score; SD8= Standard Deviation; x9= weak relationship

Table 8 displayed relationship between responses of students on their concept of learning process, preferences for courses and teaching for supporting understanding (deep approach), preferences for courses and teaching for transmitting information (surface approach), surface, strategic and deep approach to study for the sample of the study. There was a weak and statistically non-significant relationship of 'concept of learning' with 'supporting understanding (deep study approach)' and deep study approach. There was weak and statistically non-significant relationship of 'transmitting information (surface approach to study)' with 'supporting understanding (deep study approach)', strategic approach and deep approach. In this connection, there was a moderate and statistically significant relationship between surface and strategic approach to study. There was a moderate and statistically non-significant relationship between surface and deep study approach. Therefore, there was a moderate as well as statistically significant relationship between strategic and deep study approach.

DISCUSSION

The results of research study found that students used deep and strategic approach to study more than surface approach to study still, use of surface approach was quite high. Shahsavar, Kourepaz and Bulut (2020) reported that most of the students, even the high-performers, faced difficulty to critique, synthesize and describe literature while writing their thesis document. Almatarneh et al. (2018) reported that one of the problems faced by Jordanian students in academic writing was their inability to build critical discussion on the topic. With changing demands and hopes of professions, critical thinking & deeper analysis of research studies or unforeseen situations is required (Chonkar et al., 2018). The study results reported that there was no gender wise difference in surface, deep and strategic approaches of both cohorts at three stages of the research study, as found by Chonkar et al. (2018), and Asad and Ashar (2019). Lack of technology infrastructure and disruptions in power supply may affect information-seeking behavior of students (Desta, Preez & Ngulube, 2017). There was a moderate correlation amid surface approach, strategic approach and deep approach, as per results of this study.

The moderate positive association between preferences for courses-supporting understanding and deep study approach, and preferences for courses-transmitting information & surface study method was noticed in the results of this study, as reported by Carstensen et al. (2018). The students who participated in study were mature, and the majority of students were working in their professional fields for more than 5 years. This may be likely reason for their consistency in their study approach. Inadvertent education demands by curriculum and instructors (Kalungia et al., 2019) may affect the study approach of the students. The results of study may be helpful to provide relevant learning

experiences to students in coursework where they can shift gradually toward deep study approach. A study by Asad and Asar (2019) noticed deep study approach adopted by postgraduate medical students as compared to surface approach by undergraduate approach. Reason for deep approach by postgraduate students may be due to teaching methodology, assessment, clinical environment and supervisor role.

The student-centered teaching approach may lead students to deep study approach (Rosário et al., 2013). However, the students can adopt a learning strategy due to teaching methodology but also due to personal variables (Pereles et al., 2020). In this study, students used deep and strategic study approaches throughout the study period along with a high level of surface study approach. It was reported by Aboderin and Govender (2023) that student academic performance was strongly predicted by the frequency of engagement of students with the information and communication technology, and their level of literacy. The deep study approach as recommended by Brown et al. (2015), may be promoted amid students by linking course concepts with their practical applications and relevant tutorial support with examples from the field for students. The deep study approach involves higher levels of the cognitive domain of Bloom's taxonomy. In this connection, the deep study approach is desirable to engage with the content and makes links between various concepts in a discipline. Consequently, the teachers may adopt a focus upon promoting the class culture for students to search for the deep meaning in the text instead of task-specific short-term results for the reading assignments.

CONCLUSION

It was concluded that there was no significant change in the study approach of participants of the study across various phases of study. They adopted deep and strategic approach more than surface approach however, the percentage of use of surface approach was quite high. There was no gender wise difference noticed for each phase and overall period of research work. The result of the study may indicate that the teaching-learning experiences for the graduate coursework did not affect the study approach of students from the surface and strategic to deep study approach. As reported in the review literature, the assessment system may affect the student adoption of study approaches to cover the course content. There is a need to reinforce the deep study approach for postgraduate students over class work and assessment activities as the deep study approach is helpful for thesis /dissertation stage. Further research work adopting mixed-methods research design may provide some insightful results on this subject. In this linking, the research study involving larger group of students from diverse subject areas may be conducted to confirm the results of this study. A study on the academic writing skills and study approaches of postgraduate students may provide some interesting and valuable findings on their strengths, improvement areas & strategies to accomplish their work.

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