RELATIONSHIP BETWEEN LEARNING STRATEGIES AND MOTIVATION OF DISTANCE LEARNERS

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Abstract

Purpose of the study: The study aimed to discover the learning strategies of distance learners and their relationship with their intrinsic and extrinsic motivation.

Methodology: The study followed a quantitative correlational research design. The study sample comprised 550 female and male students enrolled as distance learners at the university level. The tool of learning strategies MSLQ was adopted from Pintrich et al. (1991) and the scale of intrinsic and extrinsic motivation was adopted from Lepper et al. (2005). The data were analyzed through descriptive and inferential statistical techniques.

Main Findings: The findings of the inquiry concluded that the learning strategies of distance learners were directly associated with both intrinsic and extrinsic motivations.

Applications of this study: This study is applicable to assess the intrinsic and extrinsic motivation of distance learners enrolled at the university level. Moreover, this study is helpful to understand the relationship between the motivation of learners and their learning styles.

Novelty/Originality of this study: Much of the research work has been done in the mainstream education sector, but there is a shortage of empirical data on the relationship between the learning styles of distance learners and their motivation. Thus, this research could be a torchbearer in this area.

Keywords: Distance Education, Extrinsic Motivation, Intrinsic Motivation, Learning Styles.

INTRODUCTION

Distance learning (DL) aims to provide educational services irrespective of geographical location, time, and gender to those learners who, for whatever reason, cannot attend the campuses. Such reasons could be age, cost, employment, marriage, transportation, etc. The review of existing literature since the 1960s has shown significant growth in the process of distance education. The inventions in print media and telecommunication have evolved open learning. Distance education that starts with correspondence learning, today offers different modes (including online, e-learning, mobile, ubiquitous, blended, and web-based learning), and all these forms are interrelated (Karatas et al., 2017). Irrespective of its different names, distance education has turned out to be a significant constituent of higher education institutions (Toven-Lindsey et al., 2015). The distance learners need to be successful as for them continuing their education in the distance learning mode depends only on their academic success.

The learning styles, strategies, and tactics are most important for students to succeed in both on-site and distance education sectors. A distance learner is a dynamic person who manages learning requirements as well as performs routine-life duties. The self-regulated learning mode is also associated with the motivation strategies for a better outcome. Several studies have highlighted that metacognition self-regulation strategies have a significant direct association with distance education learning achievement (Dumford & Miller, 2018; Goradia & Bugarcic, 2017). Metacognition self-regulation is an instrument that makes learners participate in the learning process as well as allow them to learn on their own. The learners who have metacognition capabilities can manage their learning and handle their thoughts, evaluate their learning and calculate the time needed for the study through suitable strategies. Previous studies have reported that learners in higher education institutions can monitor and succeed in the utilization of learning strategies (Roth et al., 2016). However, recent studies have shown that metacognition understanding is still missing among learners. It means that the learners who have fewer metacognition strategies are unable to realize the larger image of the work through designing, controlling, and changing educational work when compared to the learner with metacognition strategies (Anthonysamy, 2021). Metacognition strategies are directly and significantly influence students' learning achievement in distance education (Puška et al., 2021)

In contrast to on-site education, distance education cannot monitor and control the learner's behaviour. Thus, the students in the distance education system are self-motivated and self-regulated. They are concerned with their learning progress and metacognition strategies have a positive relationship with students' learning performance and motivate students to better learning outcomes (Dumford & Miller, 2018; Goradia & Bugarcic, 2017). The learning strategies facilitate the learners to arrange, plan, and organize their studies to set goals for their academic achievement. There are several strategies, including cognitive, metacognitive, and motivative, that contribute to students' success. However, the contribution of such tactics needs to be unveiled for adults enrolled in distance education programs (Broadbent, 2017).

Motivation plays a vital role in learning as it is a readiness to do something. Motivation is usually defined as the force that accounts for the stimulation, collection, direction, and maintenance of behaviour. Motivation can influence what we learn, how we learn, and when we decide to learn. A person's behaviour is determined from his/her stimulation within himself/herself. Intrinsic motivation is stimulation that arises from the inner self of an individual that leads to his/her fulfilment. The students who have intrinsic motivation are highly engaged, retain knowledge, and have commonly more pleasure than other students (Tokan & Imakulata, 2019). Learner involvement and academic achievement can be anticipated through intrinsic motivation (Froiland & Worrell, 2016; Ryan & Deci, 2020). The motivation that comes from within is intrinsic, and when motivation arises from external factors is known as extrinsic motivation. In other words, intrinsic motivation is when a task is completed for natural pleasure, and extrinsic motivation is when a task is done to satisfy some independent outer reason (Ryan & Deci, 2020).

There is limited research about the opportunities, challenges, and relationships of distance learners' motivation. Many studies have been conducted to examine the learning strategies and educational achievement in the mainstream education sector, little evidence, however, exists about the effect of learning styles of remote learners on their motivation (Filcher & Miller, 2000). In this study, the researchers investigated the relationship between learning styles and the motivation level of distance learners.

THE CURRENT STUDY

The current study uncovered the relationship between the learning strategies of distance learners and their both intrinsic and extrinsic motivation levels. There is a lack of research exploring the association between learning strategies and students' motivational level specifically in the Pakistani context. A primary objective was to examine the learning strategies used by distance learners and the level of intrinsic and extrinsic motivation among them.

LITERATURE REVIEW

Distance education is an academic practice in which teachers and students are disconnected from space and time (Keegan, 2002). It indicates that distance education is occurred far from an educational institution and leads to a certificate or grade (McIsaac & Gunawardena, 2008). Distance learning started in the 1800s when a Swedish newspaper announced an opening to learn with the medium of the Post (Simonson et al., 2015).

Distance learning has two learning approaches including asynchronous and synchronous. Asynchronous learning permits learners to acquire knowledge by themselves and discusses it jointly in forums such as different discussion boards and emails. In synchronous learning, students learn mutually in a live formal environment such as teacher-student live interaction and lecturing that permit larger engagement and a sense of community (Watts, 2016). In a synchronous learning system, print-based courses as the oldest prevailing practice are still working in most parts of the world including South Asia and Africa. Print media remains the most usual form of distance education for promoting the knowledge and skills of untrained teachers. The reason for using print courses under distance learning is their least expensiveness, having only a possible and practical model of instruction in the nations where land and its environment are challenging. Other reasons are less budget, weak infrastructure, and larger isolated or difficult-to-reach communities (Burns, 2011).

Distance learning has acquired a new place in universities with the turn of the twenty-first century with more and more courses offered by using distance education models globally. It has now become common in numerous universities with their new media technologies specifically 'digital connective technologies' to offer different courses to distance learners and arouse interest towards distance learning opportunities (Allen & Seaman, 2017). Massive Online Open Courses (MOOCs) and Open Education Resources (OER) are now become common to offer learning access to broader and varied distance learners. Now a large number of students are gradually participating in online distance education. Online learning works as a substitute for traditional classroom learning. In online learning, the introduction and usage of online interactive tools are the most important tasks among the students. Moreover, through an online system, students are sent reminders about their assignments and are delivered rubrics for their assignments that produce significant advantages for teacher and student interaction (Martin & Bolliger, 2018). The majority of the students are satisfied with online instruction. Online learning can facilitate higher education in countries where higher education institutions are few in numbers. The elements that enhance students' satisfaction include the learning atmosphere, students' participation, type of teacher, tutorials, learning content, type of evaluation, and available resources (Zaheer et al., 2015). Similarly, a large number of students are highly satisfied with the online learning model. In the distance education system, online learning plays a central role in promoting higher education. However, there is a drawback in online education as unskillfulness in operating internet connections is one of the most proven technical hurdle (Seada & Mostafa, 2017). However, now many instructors are exploring different online teaching software to bring more and more promising comfort and ease to their learners (Nassoura, 2020).

Students lack some specific skills and have some behaviours which reluctant them to join distance education courses. Students require support and training to register in distance education courses (Mahlangu, 2018). Learners also communicate their need to improve time management for distance education. Both face-to-face and distance education have cut-off dates for different activities and evaluations but in interactive courses, learners visit their teachers face-to-face and get support and assistance from them to do their tasks. Lack of direct contact with teachers justifies to the

students to enhance these skills before registering in distance education courses (De Paepe et al., 2018). The hurdles the distance education students are facing include interacting with their teachers and peers. A large number of learners in UAE and Portugal desire to have face-to-face classes. However, the majority of the students consume their whole educational life in traditional classrooms where they find contacts and receive an instant response from instructors and other students. The students' concern with face-to-face classes might be that they would not miss an acquainted sort of interface and class students (Morris & Clark, 2018). Moreover, students are not stimulated to register in distance education courses due to not having this type of experience earlier. This causes a lack of confidence among the students to study and concentrate on the task (Fidalgo et al., 2020).

Motivation is indispensable for learning and attainment in life. Motivation is a hypothetical concept that describes the origination, direction, strength, perseverance, and worth of behaviour particularly goal-oriented behaviour (Wentzel, 2020). Wide-ranging literature and research have studied 'motivation' through broader perspectives of the academic field and varied groups of learners including distance education (Hartnett, 2016). The school students are motivated to learn and they use learning strategies to facilitate their self-paced learning. There is no significant variation in the level of motivation between elementary and secondary education students and also no significant relationship exists between learning strategies and motivation and the features of the students except 'the control of learning beliefs' and the year-level. The results also indicate that students might be stimulated in e-learning through appropriate assistance and motivation regardless of having different barriers in the way (Avila, 2020). When a behaviour is appeared through an outside incentive and not for an individual's self-satisfaction is known as extrinsic motivation. According to self-determination theory, extrinsic motivation comprises four major sub-types (including identification, external regulation, introjection, and integration) that are also important for students' learning and academic achievement (Ryan & Deci, 2020). However, students' learning behaviour is not influenced by extrinsic motivation and some remedial measures are required for extrinsic motivation to work. These remedial measures include different learning models, approaches, and effective learning strategies (Tokan & Imakulata, 2019).

Learning strategies are essential in today's distance education as today's world is undergoing a technological revolution where knowledge and skills are frequently changing. In the perspective of distance education, self-regulation refers to learners' capability to control and manage their learning events in a distance learning atmosphere without a face-to-face instructor's assistance (Lock et al., 2017). Learners need to establish their targets initially in distance learning practices and assess the progress made to achieve the targets after completing the practices (Chumbley et al., 2018). Learners who achieve progress in distance education atmosphere utilize self-regulation strategies (Marsteller & Bodzin, 2019). There is a relationship between learner's capability to utilize metacognition strategies to distance education and achievement in distance education courses (Yen, 2020). Instructors need to build a distance learning atmosphere that motivates learners to apply self-regulation strategies (Delen & Liew, 2016).

A study conducted by Chen et al. (2020) on virtual learning through synchronous and live lectures at Harvard School of Dental Medicine found that the majority of the students perceive their dental education is deteriorating due to the shift to virtual learning mode with augmented stress and fatigue and declined retention and involvement in course content. Students also perceive that their attendance remains the same but their engagement and retention in online learning is reduced. Students preferred to have more interactive online classes in which 'case-based small group discussions and 'question-answer sessions' might promote retention and reduce stress and tensions. Students also proposed that the instructors should arrange non-credit tests during their lectures to improve students' comprehension and involvement. Moreover, learning presentations such as innovative usage of the latest technology and flipped classrooms would be useful for their e-learning. A combination of both asynchronous and synchronous constituents of distance education would also help to promote students' learning in the future.

In a distance education setting, students lack motivation, contact, and independence which affect the instructor's experiences and proficiency. Active and lively interaction between student's motivation and constructive classroom practices in distance education is imperative (Sener et al., 2020). In this regard, instructors may improve students' motivation by linking their teaching to students' inclination (Sansone et al., 2011). Learners' use of learning strategies in a distance learning course may be explained through their motivational approaches and outlooks concerning the learning tasks. The study proposes that the instructors of distance education need to plan their teaching and learning needs in such a way that supports students to escalate the worth of learning material and skills as well as scaffolds their efforts to comprehend them (Artino & Stephens, 2006).

METHODOLOGY

This study was descriptive. Two scales were adopted in this study; The Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich et al. (1991), and the scale of intrinsic and extrinsic motivation developed by Lepper et al. (2005). Both scales have a total of 11 categories and 55 items. The MSLQ comprised five indicators, 23 statements, and the intrinsic and extrinsic motivation scale comprised six indicators and 32 statements. The five-point Likert scale ranging from 1 for "Strongly Disagree" to 5 for "Strongly Agree" was used to measure the study variables. The face validity of these scales to use with this study sample was ensured by consulting five experts of the field. The experts were provided with the research problem, study objectives, potential demographics of the study sample, and the instruments mentioned above. The experts endorsed the adoption of both tools for the current inquiry. The tools were

also pilot tested by administering to 50 distance learners (not included in the sample). The learners were comfortable with the language, terminologies, and structure of both instruments. The MSLQ exhibited the Cronbach's alpha coefficient reliability value of .726, and the scale of intrinsic and extrinsic motivation showed the Cronbach's alpha coefficient value of .783.

The population of the study consisted of all distance learners enrolled in a public sector university in Pakistan. The sample consisted of 550 distance learners. Both male and female distance learners participated in the study. A two-phase sampling technique was used to select the sample. The 275 female and 275 male students enrolled in various distance learning programs in different departments filled the questionnaires.

Later, the questionnaires were recorded in SPSS (20th version) files for data analysis. The assembled data were tested by coding students' responses 1 for strongly disagree, 2 for disagree, 3 for undecided, 4 for agree, and 5 for strongly agree. The data were analyzed through descriptive and inferential statistical techniques including Mean and Pearson correlation coefficient. After statistical analysis of collected data, obtained results were presented in tabular format.

FINDINGS

This inquiry examined the relationship between the learning strategies and both intrinsic and extrinsic motivations of distance learners. The findings drawn from the data analysis are presented below in the tabulated form.

Table 1: Students' responses on the both MSLQ and intrinsic and extrinsic motivation scale

Variables	Indicators	Mean score
Learning strategies	Rehearsal	3.88
	Elaboration	3.71
	Organization	3.86
	Critical thinking	3.88
	Metacognition self-regulations	3.46
Intrinsic and extrinsic motivation	Challenge	3.72
	Curiosity	3.81
	Independent mastery	3.76
	Intrinsic motivation	3.76
	Easy work	3.34
	Pleasing teacher	3.40
	Dependence on teacher	3.74
	Extrinsic motivation	3.50

Table 1 shows that the tendency to accept rehearsal and critical thinking as learning strategies was comparatively higher (M=3.88) than other strategies. The tendency to use metacognitive self-regulation as a learning strategy was comparatively lower (M=3.46) among the students in the sample. The mean scores of 3.76 and 3.50 represent the presence of intrinsic and extrinsic motivation, respectively. It shows that the presence of intrinsic motivation was comparatively higher among the students.

Table 2: Pearson correlation coefficient revealing relationships among different indicators of learning strategies and extrinsic and intrinsic motivations

Motivation	Rehearsal	Elaboration	Organization	Critical thinking	Metacognition Self-regulations
Challenge	.418**	.428**	.406**	.420**	.432**
Curiosity	.449**	.455**	.421**	.444**	.407**
Independent mastery	.369**	.341**	.338**	.293**	.341**
Intrinsic motivation	.480**	.478**	.454**	.454**	.461**
Easy work	.144**	.180**	.131**	.118**	-.023
Pleasing teacher	.232**	.307**	.182**	.194**	.080
Dependence on teacher	.465**	.528**	.423**	.483**	.460**
Extrinsic motivation	.381**	.456**	.336**	.364**	.247**

The results in table 2 revealed that the student's preferred learning strategies are significantly and directly associated with the indicators of intrinsic and extrinsic motivations except for the relationship of 'metacognition self-regulation' with 'easy work' and 'pleasing teachers'. The rehearsal learning strategy was significantly directly correlated with the indicators of intrinsic and extrinsic motivation. The values of the Pearson correlation coefficient to explain relationships of rehearsal with the motivation due to challenge, curiosity, independent mastery, easy work, pleasing teacher, and dependence of teachers were .418, .449, .369, .144, .232, and .465, respectively. The values of the Pearson correlation coefficient to explain significant relationships of elaboration learning strategy with the motivation due to challenge, curiosity, independent mastery, easy work, pleasing teacher, and dependence of teachers were .428, .455, .341, .180,

.307, and .528, respectively. The values of the Pearson correlation coefficient to explain the relationships of organizational learning strategy with the motivation due to challenge, curiosity, independent mastery, easy work, pleasing teacher, and dependence of teachers were .406, .421, .338, .131, .182, and .423, respectively. The values of the Pearson correlation coefficient to explain the relationships of critical thinking as a learning strategy with the motivation due to challenge, curiosity, independent mastery, easy work, pleasing teacher, and dependence of teachers were .420, .444, .293, .118, .194, and .483, respectively. The values of the Pearson correlation coefficient to explain the relationships of meta-cognition self-regulation as learning strategy with the motivation due to challenge, curiosity, independent mastery, and dependence of teachers were .432, .407, .341, and .460, respectively. The values of the Pearson correlation coefficient revealed that the relationship between the extrinsic motivation's indicator "dependence on teacher" and elaboration learning strategy was comparatively higher ($r = .528$). The relationship between the indicator of extrinsic motivation "easy work" and critical thinking learning strategy was comparatively lowest in the data ($r = .114$).

DISCUSSION

The purpose of the current study was to find out the relationship between the learning strategies of distance learners and their intrinsic and extrinsic motivation. The findings of the study show that the distance learners included in the sample use different learning strategies. The primary learning strategies popular among distance learners are rehearsal, elaboration, organization, critical thinking, and metacognition self-regulations. The results of the current study also supported the results of Rashid and Rana (2019) in their research they found that learning strategies including rehearsal, elaboration, organization strategies, critical thinking, metacognitive self-regulation, time, study environment, and peer learning are significant indicators for students' achievements in the distance learning systems. Gbollie and Keamu (2017) also found similar results that students prioritize organization and rehearsal strategies as they climb to advancement with the educational ladder of school. However, help-seeking strategies for support from teachers and other students were found the least significant strategy. Another study conducted by Ulstad et al. (2016), explained that self-directed motivation and perceived competence are significantly indirectly associated with students' participation and performance in physical education through the utilization of learning strategies including help-seeking, engagement, peer learning, and exertion regulation. The Pearson's correlation coefficients were calculated to explain relationships among both the learning strategies and the indicators of students' intrinsic and extrinsic motivation. The motivation due to challenge, curiosity, independent mastery, easy work, pleasing teachers, and dependence of teachers was directly associated with the learning strategies of learners in distance education. The results of the current study also supported the results of Dumford and Miller (2018); Goradia and Bugarcic (2017) that the students are concerned with their learning progress and metacognition strategies have a positive relationship with students' learning performance and motivate students to better learning outcomes (Dumford & Miller, 2018; Goradia & Bugarcic, 2017). Hariri et al. (2021) also supported the description by claiming that the learners' motivational dimensions including affective, value, and expectancy are significantly and positively correlated with students' learning strategies. Three variables of learners' motivation significantly predict learning strategies. The value dimension of learners' motivation greatly predicts learning strategies. In contrast, recent studies have shown that metacognition understanding is still missing among learners. It means that the learners who have fewer metacognition strategies are unable to realize the larger image of the work through designing, controlling, and changing educational work when compared to the learner with metacognition strategies (Anthonysamy, 2021). The results of the present study confirm the results of Nabizadeh et al. (2019) explained that a significant positive connection exists between learning strategies, motivational strategies, and learning outcomes while outcome expectations have no association with students' cumulative grade point average (CGPA). Path analysis demonstrated that motivational strategies and self-regulating learning styles predict the educational accomplishments of these learners. Broadbent and Poon (2015) conducted a systematic review on self-regulated learning strategies and educational achievement in distance education learning environments and found that metacognition, time management, critical thinking, and effort regulation strategies are directly linked with students' educational outcomes. However, organization, rehearsal, and elaboration have the smallest empirical assistance. The findings of this research also confirm the results of previous research conducted by Radovan (2011). Radovan revealed that the motivational and learning strategies have a significant impact on the performance of distance learners. Their results also revealed that the learning strategies such as metacognitive self-regulation and organization were significantly correlated to motivation. The current findings also confirm the results of Ahmed et al. (2016) who claimed that motivation and learning strategies are positively connected with students' educational accomplishments. Self-efficacy as a motivational indicator and Self-efficacy for learning, organization, metacognition self-regulation, study environment, effort regulation, elaboration, time, and rehearsal as indicators of learning strategies collectively explain 71% of the variance in students' learning accomplishments. Self-efficacy remains the highest and rehearsal proves the lowest predictors whereas elaboration and rehearsal appear as negative predictors in the study. McCann and Lawrence (2015) found similar results that a significant relationship exists between students' motivation, their culture, sex, and age and learning strategies in math classes. Another study by Adnan et al. (2013) showed significant correlations between motivation and learning strategies. The present study suggests that a significant relationship exists between the learning strategies and motivation for distance learners. Another study conducted by Jovanovic and Matejevic (2014) found a statistically significant relationship between students' learning and their intrinsic motivation. The researchers recommended that external motivation is required to motivate learners for their improved learning. The students who get rewards from the teachers

promote their extrinsic motivation that consequently improves their learning. The increase in the motivation of the students leads to improvement in their performance. Metacognition strategies are directly and significantly influence students' learning achievement in distance education (Puška et al., 2021). The findings of the present inquiry conclude that learning strategies have a significant and positive correlation with the extrinsic and intrinsic motivations of the students, especially in the settings of distance education. Adesola and Li (2018) also reported that a motivational belief self-efficacy is highly correlated with cognitive strategy usage. Similarly, the students who have a high level of self-regulation apply self-efficacy and cognitive strategy to attain their targets. In contrast, Çetin (2017) found that self-regulated learning has a significant negative association with learners' academic achievement. It shows that when an individual's self-regulated learning abilities improve and are utilized more and more, students' academic achievement is reduced.

CONCLUSION

The study concludes that the study participants, who were distance learners, adopted different learning strategies. The use of rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation as learning styles were examined in the inquiry. The results show that students prefer to use rehearsal as a learning strategy than the other strategies in their studies. The use of elaboration learning strategy is highly moderate among the students of distance learning programs. The distance learners also show positive responses towards learning organization and critical thinking as learning strategies. However, the use of metacognition and self-regulations remained moderate among the learners.

The second research objective was to understand the extrinsic and intrinsic motivation of learners enrolled in distance learning programs. Three indicators examined the students' intrinsic motivation. The first indicator was a challenge and the results show that the distance learners accept their academic tasks as a challenge which supports their intrinsic motivation. The response of the students indicates that the curiosity for learning new things exists among the students. The overall mean score of the intrinsic motivation was highly moderate which means that intrinsic motivation exists among the distance learners at a moderate level. When it comes to extrinsic motivation, the first indicator was easy to work and students' responses to the statements show that most students want such type of work that they can do easily and comfortably. The second indicator was work for pleasing teachers and the findings show that the distance learners want to please their teachers through working on academic tasks. The third indicator of extrinsic motivation was dependence on the teachers. The results demonstrate that when the students do not understand something regarding studies, they depend on their teachers for the solution. The overall mean score of the extrinsic motivation was moderate which means that extrinsic motivation exists among the distance learners at a moderate level. The prevalence of intrinsic and extrinsic motivation is moderate among the participants.

The third research objective focuses on examining relationships between the use of learning strategies and both extrinsic and intrinsic motivation of distance learners. The Pearson correlation coefficient was calculated to determine the relationship between the use of different learning styles and the prevalence of the indicators of both extrinsic and intrinsic motivations. All the indicators of both extrinsic and intrinsic motivations were positively correlated with the learning strategies. Thus, the study concluded that distance learners' learning strategies have a significant relationship with both extrinsic and intrinsic motivations.

LIMITATION AND STUDY FORWARD

This study was limited to the participants included in this study and on just one public sector university. Future studies may be carried out in different settings with a larger sample size. Also, future studies may include distance learners from private universities as well.

AUTHORS' CONTRIBUTION

Hamid Ikram: Drafted the research design and analyzed the data.

Shahnaz Perveen: Contributed to data collection and editing of the manuscript.

Hafsa Javed: Devised the main idea of the inquiry.

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