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RESEARCH PAPER

Effect of Autonomous Learning on University Students' Academic Motivation

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ABSTRACT

The main objective of this research is to investigate the effect of autonomous learning on university students' academic motivation at University of the Punjab. This quasi-experimental study was based on two groups of students; the experimental and the control group. In this study, the experimental group of the students were taught through autonomous learning approach. The control group of the study was taught through the traditional teacher directed learning method. Pretest and post-test from both the control and experimental group were conducted to check the level of students' academic motivation. Academic Motivation Scale (AMS) was used to collect data for the study. Two intact groups/classes (comprising 60 students in total) of undergraduate students, were purposively selected for this study. Descriptive and inferential statistics were used to analyze quantitative data. This research showed that there was no significant effect of autonomous learning on students' academic motivation in Pakistani context. The longitudinal research may need to be conducted from elementary grades so that students may develop habits of autonomous learning and may have better academic motivation in result of autonomous learning.

| **KEYWORDS** | Academic Motivation, Autonomous Learning, Pre-requisites for implementing AL, Teacher Directed Learning; Academic Achievement |

Introduction

After Autonomous learning (AL), and related terms e.g. independent learning (IL), self-regulated learning (SRL) and self-directed learning (SDL) has been promoted and supported as an important aim of educational system (Borg & Al-Busaidi, 2012). The purpose of higher education (HE) in general and university education in particular is not producing experts of different fields, but to produce autonomous and lifelong learners in academic and professional life. Autonomous learning may be a part of many educational courses and programs in various western educational contexts, to make learners independent and produce more responsible learners who may have more self-control over their educational goals, learning opportunities and educational trails, and may support them to understand about their autonomous role in their learning process (Barnard & Li, 2016). These factors may aspire learners, teachers and policy makers, to shift educational paradigm from teacher directed learning (TDL) to autonomous learning (AL). Although autonomous learning has gained a wide recognition in recent times, but still some scholars (see. Tomkin; et al., 2019) may have reservation about the effectiveness of autonomous learning in some contexts e.g. Asian context in general and Pakistani context in specific. The most frequent and prominent criticism is that the concept of autonomous learning is a western concept which may not be suitable in eastern contexts because of learners' habit of teacher dependence(Herman, 2012; Morris, 2019).

In recent years, some studies (e.g. Black, 2007; Bølling; et al., 2018; Deur, 2011) emphasized on changing the teaching techniques from conventional classroom settings to

autonomous learning**.** Although the main concern of teachers is that there is less support to make this paradigm change effective. Another concern of teachers is that, in conventional educational setting, educators are only concerned with teaching and learning, curriculum completion and paper pencil tests to evaluate learning outcomes. This conventional approach somehow neglects the major purpose of this paradigm of education which is to develop independent or autonomous learning (Green, 2008).

Literature Review

According to Guiffrida; et al., (2013), autonomous learning may produce self-directed motivation which is a solid indication of learners' lifelong learning both in their education and professional life. It may also be related to higher academic achievement, comparatively more understanding of theoretical and practical concepts, improvement or learner's satisfaction during learning and as well as may cause a decrease in dropout rate(Martin & Evans, 2018). In comparison, controlled form of motivation, which is usually produced by teacher centered learning, has been associated with distraction of students during learning and may cause high dropout rates, negative feelings during learning or class hours and low academic achievements. This is somehow necessary for school managers and teachers to establish a school setup or learning environment which may support autonomous learning (Siriwongs, 2015).

Lau (2017) stated that autonomous learning may be used to focus on learners' independence in the process of his learning or taking responsibility of one's own learning. Autonomous learning may support learners' freedom of work and reduce their dependence of teachers by replacing it with mutual help and inter-dependence. It may also increase the role of teacher as a facilitator. It is argued that the presence of teachers in the classroom may not be necessary within autonomous learning setup/situation as the learners would be motivated to become more self-reliant learners even in the absence of teacher (Morris, 2019). The role of teacher in autonomous learning context is quite different as compared to teacher directed learning. Teacher may play the role of learning manager, facilitator, resource provider and may be a co-learner. The role of teacher is more of a helper in acquiring knowledge for learners instead of a knowledge giver.

Approximately 30 synonyms have been used as alternatives to describe autonomous learning, including independent learning, non-traditional learning, participatory learning, student centered learning and self-directed learning (Benson, 2013). Independent Learning has similarities with Action Learning. As Lindström; et al. (2018), described that active involvement and learning by doing may be considered as important ingredients of independent learning. If there is a distinction, it would be related to the emphasis given to student involvement in course design decisions.

According to Lee; et al, (2017), an autonomous learning technique may include learners' learning initiatives, and making effective decisions (e.g. decisions with which they may be supposed to live their whole life) related to their learning for example, specifying their learning needs, setting learning goals, planning learning strategies and activities, locating needful learning resources, colligative work with teachers and peers. This may also motivate learners to select their learning projects, establishes their abilities to tackle learning problems and choosing the time and location of their learning. Autonomous learning may also change the role of teacher as more of counsellors rather than instructors, even there is no concept of instruction in this context. Autonomous learning promotes non teachers-directed work, e.g. learning independently with own learning materials, define self-criteria for learning, dependence on self-assessment learning without formal class settings and decisions about the time of completing learning tasks.

Autonomous learning is a part of a deeper approach to learning. Deep or surface approaches to learning, are a useful dichotomy of students' intentions. These deep approaches of learning may be considered as kind of learning which employers and teachers

expect students to demonstrate (Hsu, 2017). This is exemplified in experiments with the Structures of Learning Outcomes (SOLO) taxonomy for judging, for instance, the structure of essays, accounts of reading, answers to technical questions, and medical diagnosis. Students only seem to reach the higher, more holistic, levels required of systems thinking when taking a deeper approach to study (Shogren, et al. 2017).

Douglass and Morris (2014), while describing the background to the Royal Society for the Arts Higher Education for Capability Project, made a useful comparison of dependent and autonomous modes of learning across knowledge and skills, esteem and values. They summarized that in the dependent mode of learning students learn basic skills and knowledge from others. Usually others e.g. teachers of more knowledgeable person determine what is important for learner or what is irrelevant. Others determine the relevance of the different components of a piece of knowledge which can appear to be fragmented to the student. Others also determine the contexts in which knowledge and skills may be applied. Whereas during independent mode of learning, knowledge and skills are learned and the pace of learning may be monitored and regulated by the learner him/herself, they may also evaluate the authenticity and relevance of deicide about the applicability of learned concepts.

Globally, there seems to be a paradigm shift from a teacher centered pedagogy to a student centered one. However, despite its wide recognition, some researchers have their reservations about the effectiveness of autonomous learning. Unfortunately, university education in Pakistan is not fulfilling the purpose to produce lifelong and self-directed learners (Yasmin, Naseem, & Masso, 2019). The focus of education is to produce professionals of different fields. There are administrative restrains in adopting new teaching methods and old teaching methods are still being used. This is the reason why autonomous learning method has not been a widely used method (Yasmin; et al., 2019). It is also believed that the concept of learner independence is very much a Western philosophical orientation that is unsuited to the educational context and pedagogical practices in the classrooms of the Eastern world including Pakistan (Yasmin, 2019).

Yasmin; et al. (2019) also argued that most of the teachers at university level are in favor of this paradigm shift from teacher directed learning approach to self-directed or autonomous learning approach but, because of discouraging environment to this approach, they are reluctant to implement it. The conventional teacher directed learning has failed to produce autonomous motivation in students to learn independently.

According to recent researches (Jones & Dexter, 2014; Stoten, 2014), autonomous motivation to learn independently can be produced in students by shifting the paradigm of teacher directed learning to self-directed or autonomous learning. University administration may provide favorable environment for teachers to implement this innovative learning approach so that the university education may fulfil its primary purpose to produce autonomously motivated learners. Therefore, this research will investigate the effect of autonomous learning setting on students' academic motivation in Pakistani context.

Educational administrators, teachers and researchers in the field of education are trying to find out the ways which can improve students' autonomous learning and produce lifelong learners who can be autonomously motivated. As this research aims to highlight the effect of autonomous learning on students' academic motivation, the policy makers and teachers may benefit from it by knowing the ways which may enhance Pakistani students' interest in independent learning. In addition, the study may also provide much needed theoretical basis for future research related to student motivation and autonomous learning in an under-researched context of Pakistan. This will also facilitate students and teachers to develop strategies aimed at reducing academic load of students which is considered to be a serious threat to student's cognitive abilities and self-directed motivation in recent times (Douglass & Morris, 2014).

The study may highlight that autonomous learning environment is probably an innovative learning approach which is useful to achieve educational goals in a student centered class setting. This study may also contribute to literature and research based knowledge on two recent emerging academic constructs: autonomous learning and self-directed or autonomous motivation. Further, the study will have implications for educational administrators and teachers in the paradigm shift from teacher directed learning to autonomous learning.

Professional organizations involved in innovative learning strategies will also benefit from this research because this area of research is comparatively less explored in Pakistan. Particular autonomous learning strategies for students will also be discussed in the study so that teachers may support innovation in learning approaches to enhance autonomous learning motivation within students.

Hypothesis

Aligned with the research objective, researcher formulated the following hypothesis for this study:

Ho1:   There is no significant effect of autonomous learning on students' academic motivation.

Material and Methods

This research was quantitative in nature and under the umbrella of quantitative research experimental design was used to examine the effect of autonomous learning on students' academic motivation. In this regard researcher used quasi-experimental design. The purpose of using a quasi-experimental design was that it allows evaluating the impact of a quasi-independent variable under naturally occurring conditions. Quasi experimental design also supports non-random assignment of intact groups (Bruce & Kenneth, 2011). In this research, random assignment of groups was not possible because the purpose of study was to constitute two different groups one as control group and second as experimental which was not possible through randomization.

This experimental research made use of two groups of students the experimental and the control group studying second year of master program at Institute of Education & Research. The experiment was encompassing single intervention in the form of a teaching method known as autonomous learning. In this research, the students were taught through autonomous learning approach which also known as a student centered approach in which the role of teacher remained that of a facilitator. Teacher used student center learning strategy e.g. discussion method, inquiry method and reflection method to implement autonomous learning during intervention. The role of students in experimental group was participatory instead of passive listeners.

The researcher taught the subject of educational research to both control and experimental group for this activity. This activity was spanned over for a semester of 16 weeks. Therefore, the whole intervention process was taking place twice a week during the semester. The control group of the study was taught through the traditional teacher directed learning method in which students had less or no autonomy and they are supposed to sit in a traditional teacher centered classroom setting. During intervention teacher used lecture method to teach the class and the role of students was passive listeners. All the activities within the class was the responsibility of the researcher.

Before the said intervention, a pretest from both the control and experimental group was conducted. At the end of semester, post-test was administered to check the level of students' academic motivation. For this purpose, Academic Motivation Scale (AMS) was used to measure the level of extrinsic and intrinsic motivation of students. Researcher himself taught both classes of experimental group and control group.

Sample

Non-Probability sampling technique was used to select two intact groups from the selected population. Under the umbrella of Non-probability sampling, purposive sampling techniques was used to select the sample of the study. Two intact groups/classes of undergraduate students, who was studying the course of research methodology simultaneously, was selected randomly for this research. In this way, the participants of the proposed study consisted of a sample of 60 (31 experimental group and 29 participants of control group) undergraduate students from the University of the Punjab, studying the second year of master's degree program at IER. It was ensured that the both selected groups belong to the same session so that the uniformity of the sample is secured. It was also ensured that both groups of students were closely related in their merit scores.

Instrument

The effect of students' autonomous learning on their academic motivation was measured using the Academic Motivation Scale (AMS). The AMS is a, SDT-based domain-specific 7 section and 28-item self-report instrument, developed for measuring the degree of motivation for doing assignments and class work among students at undergraduate level. The AMS was originally develop in France (Vallerand; et al., 1989). Later on the AMS was translated into English (Vallerand & Blssonnette, 1992) and widely used in differed studies. The AMS uses scales to measure both controlled extrinsic types of motivation (external regulation, introjected regulation, and identified regulation) and autonomous motivation (intrinsic motivation) (Bolling; et al., 2018).

The AMS was also used to measure subject specific motivation in different subject e.g. accounting etc. (Silva, Rodrigues, & Leal, 2018). The researcher adapted the original English version of instrument and modified it in the subject of research. The reason behind is researcher was teaching the course of research methods and supposed to measure academic motivation in the subject of research.

The instrument was validated from 3 language experts and revised according to the suggestions given by them. Instrument was piloted before final data collection, in this regard total 60 students were selected from a population similar to the actual population. The data collected through this process was entered in SPSS for its reliability test. The Cronbach alpha value of the instrument was .83 which was higher than the cut of score of .70.

Data Collection Procedure

The research himself collected quantitative data from the participants of this research. Academic Motivation Scale was used to collect quantitative data. Prior to start of intervention pretest data was collected through academic motivation scale from both control and experiment group. The duration of intervention was approximately five months' semester and posttest data was collected from the participants of both groups after intervention.

Data Analysis Procedure

Researcher used descriptive and inferential statistics to analyze quantitative data collected during pretest and posttest of the study. Firstly, the data was entered in the software named statistical package for social science (SPSS). Independent sample t-test was applied during pretest and posttest to calculate the means difference between both groups, prior to intervention, and after intervention. Dependent sample t-test was applied to calculate the mean difference between the groups during their pretest and posttest scores.

Results and Discussion

Table 1
Academic Motivation based Comparison between Pretest Scores of Control Group and Experimental Group by using Independent Sample t-test

Scores	M	SD	df	t-value	Sig. (2-tailed)
Control Group	3.46	0.45	58	1.08	.28
Experimental Group	3.59	0.46			

Here, *n* = 60

Table 1 presents the pretest scores of both control and experimental groups in the result of applying independent sample t-test. Independent t-test was applied for comparison between mean scores of control and experimental group during pretest. The mean score of students' academic motivation during pretest control group was (M = 3.46, SD = .45) and the pretest experimental group mean score was (M = 3.59, SD = .46). The score of control and experimental group based on pretest by using alpha level of significance .28. The scores of pretest control and experimental group were not significantly different.

The calculated *t-value* (1.08) at the level of *df* = 58 was lesser than the critical table value (1.68) at .05 level of significance. Likewise, $p > .001$ which showed that no significant difference in students' academic motivation based on autonomous learning and teacher directed learning during pretest was found. Therefore, it may be concluded that there is no significant difference in students' academic motivation among control and experimental group.

At the start of experiment Academic Motivation Scale (AMS) was administered to check the level of their academic motivation prior to experiment just to make sure that, either both groups may have same or different levels of academic motivation in the course of research methodology. The difference in their level of academic motivation may affect the results of the study if they may have different level of academic motivation. The statistical analysis proved that both control and experimental groups have same level of academic motivation before the start of experiment and no significant difference was found in their level of academic motivation.

Table 2
Academic Motivation Based Comparison between Posttest Scores of Control Group and Experimental Group by using Independent Sample t-test

Scores	M	SD	df	t-value	Sig. (2-tailed)
Control Group	3.51	0.47	58	0.75	.45
Experimental Group	3.6	0.44			

Here, *n* = 60

Table 2 presents the posttest scores of both control and experimental groups in the result of applying independent sample t-test. Independent t-test was applied for comparison between mean scores of control and experimental group as the result of posttest. The mean score of students' academic motivation as the result of posttest control group was (M = 3.51, SD = .47) and the pretest experimental group mean score was (M = 3.6, SD = .44). The score of control and experimental group based on posttest by using alpha level of significance .45. The scores of pretest control and experimental group were not significantly different.

The calculated *t-value* (0.75) at the level of *df* = 58 was higher than the critical table value at .05 level of significance. Likewise, $p > .05$ which showed that no significant difference in students' academic motivation based on autonomous learning and teacher directed learning as the result of posttest was found. Therefore, it shows that students who were taught through teacher directed learning and autonomous learning as the result of posttest students have same level of academic motivation.

Academic motivation scale was again administered on the participants of control and experimental during posttest. The independent t-test was applied to compare the mean difference between the results of both groups to calculate their level academic motivation. The results showed that, after treatment both groups have same level of academic motivation, and no significant difference has been found in their means score. This may be safely concluded that, autonomous learning and teacher directed learning, may not have any significant effect on university students' academic motivation and both groups may have almost same level of motivation.

Table 3
Academic Motivation Based Comparison between Pretest and Posttest scores of Experimental Groups by using Dependent/Paired Sample t-test

Scores	M	SD	df	t-value	Sig. (2-tailed)
Pretest	3.5	0.46	28	0.12	.90
Posttest	3.6	0.44			

Here, *n*=29

Table 3 presents the pretest and posttest scores of both experimental group in the result of applying dependent sample t-test. Dependent sample t-test was applied for comparison between mean scores of pretest and posttest group taught by using autonomous learning. The mean score of students' academic motivation in the result of autonomous learning during pretest was (M = 3.5, SD = .46) and the posttest experimental group mean score was (M = 3.6, SD = .44). The score of pretest and posttest of experimental group by using alpha level of significance .90. The scores of pretest and posttest of experimental group were not significantly different.

The calculated *t-value* (0.12) at the level of *df* = 28 was lesser than the critical table value at .05 level of significance. Likewise, *p*>.05 which showed that the stated null hypothesis "There is no significant effect of autonomous learning on students' academic motivation" stands accepted. Therefore, it was proved that students who taught through autonomous learning techniques during treatment have same level of academic motivation during pretest and posttest.

The experimental group of the student were taught through autonomous learning techniques. The role of the teachers was facilitator instead of lecturing, and the students were given full autonomy to learn autonomously. The study was initially planned in traditional face to face classrooms settings, but because of worldwide pandemic COVID-19, the experiment was conducted in online settings. Academic motivation questionnaire was administered to experimental group during pretest and posttest to measure their level of academic motivation in result of autonomous learning techniques and prior to implementing these techniques. Paired/Dependent sample t-test was applied to check the mean difference of experimental group during pretest and posttest. The statistical analysis showed that, there is no significant difference was found between the scores of pretest and posttest in respect to their academic motivation. This may indicate that autonomous learning may not have any significant effect of university students' academic motivation in Pakistani context.

This may also indicate that autonomous learning in the contexts where students' may not have any exposure or practice of autonomous learning may have less academic motivation in result of autonomous learning. Previous researches (Mahlaba, 2020; Morris, 2019) also have similar findings that autonomous learning is a contextual phenomenon and may results lack of motivation and low interest in learning, if may be implemented in Asian contexts. These researches may showed that autonomous learning may be less effective if implemented directly from higher education, or on the students who already have developed their learning habits.

Results of the research showed that, students of experimental group had same level of academic motivation during pretest and posttest. This means that autonomous learning techniques used in this study had no effect on students' academic motivation in Pakistani context. The results and findings of the study supports the assumptions of (Morris, 2019) that the nature of autonomous learning is contextual and the effectiveness of autonomous learning varies from institute to institute and culture to culture. The effectiveness may depend on the support provided by the system for the implementation of autonomous learning techniques. The current systems of education setting specifically in Asian contexts are based on behavioristic approach which may proceed hand to hand with teachers' directed learning and make students dependent on teachers. The students who may depend on their teachers become habitual of thinking, judging, feeling and acting like their teachers. The students who are habitual of teachers directed customs may not be suddenly able to make themselves autonomous. Their attitudes and style of learning may become inflexible and they remain dependent in their all learning matters on their teachers and more knowledgeable others. This may result their Amotivation (lack of motivation) to autonomous learning.

The study further extends support to the claim of Schweder (2020) that usefulness of autonomous learning may be context specific. This may be concluded that autonomous learning may have positive affect on students' academic motivation and academic performance as compared to teacher directed learning in western context. This may be based on specific setting and specific context form example students previous experience of learning in autonomous learning settings, their interest, the level of assistance from teachers, learning objectives and educational policies. He further claims that autonomous learning may be more affective in mix groups and these groups may be based on some learners from teachers directed settings and some from autonomous learning settings. The purpose of making groups may be that peers may support to those who are not aware of autonomous learning.

The study was conducted in online setting instead of formal classroom settings because of COVID 19 most of the Pakistani universities were shifted to online education. The results of the study further support the claim of(Morris, 2019; Ward; et al., 2018), that for implementing autonomous learning in formal education settings may produce better result in regard to learner autonomy as compared to online settings. They suggested that when given sudden autonomy, learners may need more support from their teachers. Students access to teachers who may act as important learning resource for students and helps them to scaffold their learning difficulties. The role of teacher in autonomous learning is known as facilitator and without proper facilitation this may result in higher dropout rates and lack of motivation. Online system in any cultural context may have a disadvantage that students have less face to face interaction with their teachers, in many cases students do not have even a single interaction with their teachers as I experience while conducted this study.

Kicken; et al., (2009), argues that a large number of students are unable to make sufficient progress in the autonomous learning environment. Many learners may benefit from their teachers, parents and more knowledgeable others while solving their learning problems. They may not be able to foster skills of autonomous learning without the support of their teachers. (Zimmerman; et al., 2017) argues that during their whole academic career learners remain dependent on their teachers in most of the education setting and whenever they taught by autonomous learning method their motivation, academic performance may be decreased. The study also supports the findings of (Jossberger; et al., 2018) that initially, the learners who may not have any exposure of autonomous learning may be less motivated and their academic achievement may affect in result of autonomous learning techniques.

Conclusion

The primary aim of the study was to investigate the effect of autonomous learning on university students' academic motivation in Pakistani context. Quasi experimental design was used to conduct the experiment in this regard two groups was created one is experimental and second is control group. Experimental group was taught through autonomous learning techniques and control group was taught with the traditional teachers centered approach. Academic motivation scale was used to measure students' motivation in result of autonomous learning and teachers' directed learning. The experiment was conducted through online teaching because of COVID-19 restrictions. There is no significant effect was found in the result of autonomous learning on students' academic motivation. The reason behind is cultural constraints and less awareness of teachers and students about autonomous learning.

Recommendations

This may be recommended in the light of the results of this study that, similar researches may need to be conducted from elementary level. The nature of the research may be longitudinal in nature so that, the students may develop habits of autonomous learning if this may be implemented for a longer period of time. This may also be easy for teachers to develop habit of autonomous learning among students of early grades (e.g. primary of elementary grades) because these students may have less exposure of teachers directed learning as compared to university students who may have developed strong dependence on their teachers.

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