

Journal of Educational Research & Social Sciences Review (JERSSR)

Interplay of Students' Learning Strategies and Academic Achievement at Higher Secondary School Level

- | | | |
|----|-----------------------------|--|
| 1. | Farid Ullah Shah | PhD Scholar (Education) UST, Bannu
Email: faridullahshah610@gmail.com |
| 2. | Dr. Gulap Shahzada | (Corresponding Author)
Associate Professor, IER, UST, Bannu
Email: gulap_786@yahoo.com |
| 3. | Dr. Habib Nawaz Khan | Associate Professor, Department of Statistics, UST, Bannu
Email: habibnawazbnu@gmail.com |



Abstract

This quantitative inferential survey research study was carried out on 312 higher secondary school students, investigating the interplay of Students' Learning strategies (Intrinsic goal orientation, Test anxiety, Self-regulation, Cognitive Strategies, Self efficacy, Self-determination and Academic Regulation), and Academic Achievement in district Bannu. Data was collected from the sample through a valid and reliable questionnaire. During the selection of the sample, a cluster random and proportional allocation technique were used; as descriptive statistics, the mean and standard deviation were used. As an inferential statistical test, linear regression and Pearson coefficient correlation were used. The findings of this study revealed that students experience various types of Learning strategies while studying and that this has a significant relationship with academic achievement. According to the researcher, schools should provide students with an environment where all Learning strategies can be mentioned on and promoted.

Keywords: Academic Achievement, Learning Strategies, Higher Secondary School Students

Introduction

Definitions of Learning

Learners in today's educational institutions are expected to exercise more autonomy and initiative in activities like evaluating learning tools and knowing content. Effective understanding acquisition both outside and inside the classroom requires students' aptitude to guide, start, and control the search for knowledge, as well as its resultant handling and storing. These practices are referred to as learning strategies in learning and teaching research. The 'Kolumbus Kids' project at Bielefeld University has been encouraging gifted children aged 9 to 12 since 2006, while the 'Kolumbus Kids' programme tutors students aged fifteen to nineteen.

Selected students from local schools are invited to attend fascinating sessions at the university that focus on biological challenges and occurrences. The project's workshops are mostly planned and led by university scholars who want to be teachers. They are also helped by academics from the Section of Biology Didactics. This means that students will have the opportunity to develop skills that will aid them in their future careers as teachers, such as developing and implementing teaching units and recognising and dealing with a variety of student personalities. This project, which aims to provide appropriate support for gifted students in natural sciences, has become a one-of-a-kind concept in Germany in terms of Biology Didactics. During the sessions, we discovered that the majority of the children lacked effective learning skills because they were not taught in school. As a result, the project uses a variety of teaching methods to assist and direct participants in learning those tactics, as well as to support people's existing learning processes and the formation of new knowledge. More information about the project can be found at www.KolumbusKids.de (cf. Bogman & Wegner 2011, 8081; Wegner & Minaert 2012, 20).

Learning strategies

The term "strategic" has long been associated with battles and wars, but it has only recently been adopted by social scientists. There is no doubt that using the appropriate method in the classroom, as

in any other endeavour, facilitates and accelerates the teaching process. Smart instructional practises help students achieve certain goals while avoiding others. A well-thought-out and well-executed plan of action is what smart instructional tactics are. It is critical to develop appropriate strategies for creating learning experiences and coordinating teacher-pupil engagements in order to effectively use curricular content and achieve curricular objectives.

When dealing with curriculum organisation, the curriculum designer should treat teaching-learning strategies as an essential component of the curricular cycle, and the curriculum practioner should be consistently aware of careful selection of appropriate strategies when transacting the curriculum. Regardless of the teacher's subject knowledge, he or she must be adequately informed about the benefits of various instructional methods as well as the principles that should guide their selection and implementation.

Individual participation in learning, as well as behavioural and neurological development, are all considered learning. Individual involvement is a learning method in which the teacher encourages students to work on their personal development or self-actualization in order to improve their learning. On the other hand, behavioural learning is concerned with the responses of observers to stimuli. As a result, students must respond in such circumstances. In a neural view of learning, the nervous system reacts to activities. As a result, every educational system prioritises the development of the whole person.

As a result, a learning strategy is a step-by-step approach to learning, with the various procedures within this sequence referred to as "learning tactics" (Snowman, 2014). A successful learning method requires self-control and academic engagement.

Self-Regulation

Reactivity is defined as a response to change in the external and internal environment, whereas effortful control and orientation are defined as effortful control and orientation. There are many definitions for self-regulation, also known as self-discipline and self-control. The deliberate effort to overcome overpowering responses in order to achieve a higher goal is known as self-regulation (Duckworth, A.L. & Seligman, 2005). It is thus the ability to complete a task, even if it is tedious and difficult, to pay attention to the teacher rather than daydreaming, to actively organise and prepare, and to prioritise homework over computer games and television (Duckworth, A.L. & Seligman, 2005). In terms of motivation, behaviour, and metacognition, this is also the extent to which learners self-regulate their learning process (Zimmerman, 1990).

Academic Engagement

A state of flow in which a person is so engrossed in his activity that he loses track of time and his surroundings is the pinnacle of engagement. Engagement in school refers to students' participation in classroom learning and other relevant academic activities. The study of academic engagement has grown in popularity as a result of a rise in students losing interest in academic work and dropout rates (Villavicencio & Bernardo, 2013)(NRCIM, 2004).

Academic engagement has three components: emotional, cognitive, and behavioural (Christenson, Wylie, & Reschl, 2012). Academic involvement, on the other hand, according to Skinner and Belmont, is defined by both behaviour and emotion (1993). On the other hand, going to school every day and participating in all activities isn't enough; a student can go to school every day and participate in all activities and still receive a low grade (NRCIM, 2004). This can be accomplished simply by memorising or through the use of learning mechanisms such as self-regulation to truly comprehend an idea (Fredricks, Blumenfeld, & Paris, 2004).

Students' learning processes in general are the focus of current psychological and pedagogical research, as well as which learning strategies should be presented to in order for them to learn effectively and independently. The term "learning strategies" does not refer to a single concept that has been scientifically defined. It essentially summarises the ideas of several research groups. According to Lompscher, learning strategies are processes that are more or less complex, more or less advanced, unconsciously or intentionally used to achieve learning goals and cope with Learning requirements. Learning strategies, according to Mandl and Friedrich, are " sequence of action to achieve a learning goal," whereas Lompscher defines them as "sequences of action to achieve a learning goal "Learning strategies" are procedures that are more or less complex, more or less advanced, and are used purposefully or involuntarily to achieve learning areas and meet learning necessities (cf. Mandl & Friedrich 1992, 6; Lompscher 1996,).

Learning strategies are external and internal behaviours that influence a learner's attention, motivation, and information selection and processing, according to Weinstein and Mayer (cf. Weinstein & Mayer 1986, 1). As defined by Mandl and Friedrich, the learning techniques used in this article are directed processes that are first implemented purposefully and then steadily programmed. This will serve as the foundation for the presentation of learning techniques in the article, which will be divided into Mandl and Friedrich's six types (Mandl & Friedrich 2006):

The goal of this article is to provide a quick overview of the project as well as six different types of learning methodologies to the reader. It shows how our method aids students' learning and offers some suggestions for use in science classrooms. In general, the model of learning techniques is crucial. Further teachers should be conscious of this, and they should work to develop their students' learning strategies as well as assist them in learning them.

Cooperation related Strategies

In today's world, learning is a collaborative process that involves social interaction. In 1977, Tough conducted the first studies to show the benefits of cooperative learning on kids' learning achievement, demonstrating that offspring can learn and expand their knowledge without the assistance of teachers (Tough 1977). When students work together to complete a common goal, this is referred to as cooperative learning. This can happen in a group or in a duo. In such situations, certain criteria must be met as a minimum requirement for successful learning. One of them is the creation of a pleasurable learning environment. As a result, the teaching structure should ensure that spatial and sequential conditions support students' participation. The task should be set up to allow for group or pair work so that children can practise cooperative skills like dialogue, decision-making, communication, and conflict resolution. Instead of leaving the students alone, the teacher should create a tutorial learning environment as a learning aid. For cooperative learning, the mass of the working groups is also important, as they should not have more than 3 to 4 people in them. A diverse group configuration is beneficial because weak and strong students can collaborate to encourage each other. The amount of information recalled improves with active participation in group work. Group work, on the other hand, does not always imply that all members of the cluster must collaborate (Huber 2006). It's never too late to learn something new.

All types of students benefit from cooperative learning. Children with attention deficit or hyperactivity disorders, for example, and silent children, who often feel like outsiders in class, can be more easily combined into the learning group. They can use this technique to interact with their classmates in chats and discussions. By grouping popular or gifted students with less gifted classmates, the teacher can take advantage of them. Such learning environments benefit teachers because they enable them to delegate responsibility for learning to their students. Students' social skills and team spirit can also benefit from this method. Students in the 'Kolumbus Kids' programme have the opportunity to meet and share practices with classmates who have faced similar difficulties.

Cooperative learning can benefit a wide range of students. Children with ADHD, for example, can be more easily combined into the learning group than silent students who frequently take on the role of outsider in the classroom. They can use this method to participate in discussions and dialogues with their classmates. The instructor can maximise the abilities of popular or talented students by grouping them with less talented classmates. Teachers benefit from such learning environments because they allow them to delegate learning responsibility to their students. This method can also help students improve their community skills and team spirit. Students who participate in the 'Kolumbus Kids' plan have the chance to meet and share practices with peers who have faced similar challenges. Working together to achieve a goal is much easier and more enjoyable than working alone, which encourages the growth of the learner's public skills. Working together on assignments also increases the children's independence from the teacher. While the teacher only intervenes when necessary, the students are actively involved in the sessions and have control over their outcomes. Kolumbus Kids teachers discovered that when children work in groups, they grasp new information better and retain it longer than when they receive teacher-centered instruction. A cooperative learning teaching approach is exemplified by the jigsaw puzzle. Students must be taught how to collaborate in class in general, and failures are common at first. Furthermore, a learning group must possess specific social qualities in order to perform such learning forms; otherwise, the preceding exercises must be completed. In the long run, social cooperation will improve the classroom climate, and unreasonable demands will be avoided.

Elaboration related Strategies

In all learning and awareness acquisition procedures, adding new material into an existing rational structure is a challenge (Friedrich & Mandl 2006,). Because they establish connections between new information and the existing bank of information, extensive approaches aid in both understanding and retention of new information. When students create parallels and mnemonics for problematic details, link new ideas to prior knowledge, or convey new information in their own words, they frequently use them (Schräderr Naef 2002,). These methods help students learn by letting them to understand what they're learning. Reminder devices aid memory of unstructured information such as vocabulary or word lists, as well as complex correlations, which is particularly important for talented and underachiever. Students are encouraged to create and use individual mnemonic aids and recall sentences from their own viewpoints during the 'Kolumbus Kids' sessions. We discovered that learning through verses and imagery is both entertaining and beneficial to students' memory. We also expose our students to synthesis and recall exercises to help them practise these skills. Procedures that activate prior information include thinking, finding analogies, and using minutes and reminder devices. Following that, the courses move on to novel material, such as unknown aspects of processes that the students are already familiar with. Teachers also teach students how to organise their workout books in a systematic manner. Teachers can also use vivid visuals from the students' surroundings to help students understand complex concepts, activate prior knowledge, and make comparisons. Another option is to use mnemonic sentences to incorporate memory training strategies.

Emotional and Motivational Strategies

Learner inspiration is widely watched as a necessary condition for successful learning. Other issues, such as knowledge, prior IQ, and interest, all play a role. Rheinberg defines motivation as "an stimulating direction toward a positive target status." He claims that the power of this alignment influences the action's duration and intensity. This means that in a school setting, a student's motivation to learn controls whether or not he or she learns at all, and if so, for how extended (Rheinberg 2000,). There's also an internal vs. extrinsic drive distinction to be made. Learners find innately motivated actions particularly exciting, demanding, or thrilling, and they show positive experience qualities. Extrinsically motivated activities, on the other hand, play an significant role because they are used to achieve positive outcomes like parental approval or good marks (Rheinberg 2000,s).

Promoting learners' single and theme comforts has recently become a hot topic in research. Children who are gifted or under achievers, as well, students with borderline or autism problems, benefit from motivated and emotional learning techniques. Specific examples of application, unlike the other learning strategies discussed in this chapter, cannot be provided; instead, approaches that should be explored in specific situations are described Increasing students' interest in subject matter is one stated goal of school instruction. One method for increasing attention is to incorporate these topics into classes that are as attractive, varied, and engaging as possible, as well as to present unexpected questions and contents (Schiefele & Streiblow 2006,). The importance of competence, social integration and self-determination is frequently emphasised. Promoting intrinsic motivation and subject-related interest aims to make learning more enjoyable for students and to rise their personal importance of learning objectives (Schiefelee & Strebilow 2006,). Because children must be motivated in order to successfully complete difficult tasks and situations, the 'KolumbusKids' sessions are designed to both motivate and empower our participants. They can express their natural science interests and talents through activity and problem-based lessons. In addition, activities such as conducting biological experiments, watching short film clips, and working practically in the laboratory are used to boost the motivation of the children. The project's sea water facility benefits participants by allowing them to observe living items. It allows them to explore the marine habitat and its resident species. Throughout the experiment, the students form hypotheses about the animals' feeding habits, movement patterns, and behavioural characteristics. Too do so, our teachers administer knowledge exams at the start of each teaching unit to determine how much they need to explain and how much they can leave up to the students to figure out. It also allows them to determine which topics are too difficult for their students to handle, preventing them from becoming frustrated as a result of being overworked. Furthermore, the activity orientation mentioned above, as well as the fact that professors take a back seat during practical phases, gives students a sense of self-determination, reinforcing their motivation. It starts with the student designing and carrying out experiments on their

own, and ends with the student analysing and interpreting the data collected, as is possible in traditional sessions. The most important aspect is that teachers carefully plan their classes and have a backup plan in place in case something goes wrong.

Teachers may use extrinsic motivators such as praise or reprimand, active contribution and presentations that are relevant to daily life, a well-structured learning topic, and social support by assigning appropriate activities to boost a learner's confidence (cf. Schiefel & Streblov 2006, 240). When students are given autonomy, they develop self-determination on their own. Students may feel more socially integrated if they work together and have a positive teacher-student relationship. If at all possible, the curriculum's content should be emotionally important to the students, with practical applications. Students should have the ability to influence teachings in a variety of ways, which the project also uses.

Revision related Strategies

Students are exposed to a tremendous amount of information daily at school; however, only a small portion of this material is permanently stored in long-term memory by a single impulse. As the subject material becomes more comprehensive, the importance of reviewing what has been learned as a prerequisite for remembering grows (Konrad, 1999). For the first time in the 1960s, Atkinson and Shifrin looked into the significance of revision, and academics have been focused on it ever since (cf. Friedrich & Mandl 1992, 11; Atkinson & Shifrin 1968). Active repetition and recitation help to store specific information in long-term memory. Memorization strategies can be used to learn any other knowledge, such as rules and tables, in addition to the traditional repetitive learning of word or vocabulary lists. This method is especially beneficial for children who are weaker or have dyslexia or autism spectrum disorder, as new material often requires more time and repetition for them to grasp. Because our course participants are exceptional students, our initiative applications on other wisdom methodologies rather than this one. If individuals require it, however, we encourage active repetition and recitation. At the end of most lessons, a student gives a brief summary of what was done and discovered that day.

Organizational related Strategies

Learning strategies aim to attach disparate parts of data in order to organise new data (Friedrich & Mandl 2006,). In 1956, Miller was the first to determine and describe them. To select or visually depict important information, organising tactics are used, details are integrated and gathered, and a superior consideration of the new subject material is achieved. Because humans have limited working retention ability, converting complex information into a structured arrangement makes it easier to process (Schröder Naeef 2002). Students with a diversity of skills, personalities, and requirements can benefit from using organised tactics. To begin with, this method is critical for all students because it aids in the organisation of large amounts of information by breaking it down into suitable sequences.

Visual learners benefit from the visual sign of knowledge in a mind map or picture because it helps them store links between learning content in long-term memory. External visualisation can help put subject matter into context and make it more understandable. In learning situations, underachievers frequently struggle to organise and activate the knowledge they already have. Mind maps and posters are created on a regular basis during the project's classes to represent the findings of studies. They are then uploaded to the project's electronic platform, giving students a structured way to reproduce on their newly learned knowledge. In addition, the platform provides concise and well-structured summaries of the topics covered in class, as well as the most important information imparted. Downloadable worksheets with additional organising activities that best integrate the new knowledge with current knowledge and everyday events are also available.

Reading and highlighting strategies can help students who struggle with reading and spelling. Students will have an easier time understanding and retrieving material that has been systematised, for example, through highlighting. Organizational methods can be used to address all of these flaws. Students are given materials to help them deal with their learning issues on their own when these strategies are offered and taught to them. The project, which teaches kids how to categorise research processes in experimentations, observations, and other research schemes, backs up these tactics

Controlling related Strategies

Effective learning necessitates the development of techniques for managing one's own learning and thinking. Borkowski, Pressley, and O'Sullivan (Borkowski, Pressley, & O'Sullivan 1985) were the first

to introduce control tactics in the 1980s. Capable learners are able to monitor, plan, evaluate, and reflect on the outcomes of their learning and rational processes. These methods are known as meta cognitive strategies because they act above and regulate one's own information processing (Mandl 2006,). When creating a learning sequence, educational goals must be established, as well as the wording of control questions. Control tools aid in determining learning development, such as whether or not a text has been fully comprehended. For example, rereading a difficult section of material is a good example of adapting one's learning to the situation. These learning strategies are designed for students who are well-versed in the subject and have a strong ability to reproduce. Students learn from one another and adapt parts of other people's strategies that they find acceptable. Working in small, ever-changing groups makes the process even easier.

Control techniques can help a wide range of student personalities. For example, the class clown can concentrate on his or her job and thus reduce the risk of being distracted from learning material. Furthermore, after completing the Kolumbus Kids project, students are frequently tasked with monitoring the progress of their classmates. As a result, he not only supervises his own work, but also assists others, allowing him to observe how others employ control techniques. He will gain a lot from this because he will be able to incorporate characteristics that he found useful into his own learning processes in the future. Children with writing and reading difficulties, as well as talented students, can benefit from such strategies to help them work in a more structured and organised manner. While functioning on their individual minor research assignments and keeping a learning journal, the students use these strategies in the project to regulate and reflect on their unique learning outcomes. Another phase is to critically assess how an experiment was carried out and to identify the major flaws. Working on activities without the help of a teacher builds self-esteem and allows students to reflect on their own learning. This skill is highlighted because it is essential for the children's in future success and lifelong learning. Once they left school, students must be able to independently monitor their learning processes. They will only be able to learn and progress throughout their lives if they are capable of doing so, whether at university or at work. You should encourage and support students in rising their own personal control mechanisms, which will help them improve their learning outcome.

Experts have struggled to come up with a single definition for the concept of learning. As a result, a number of the authors' definitions have been called into question. Learning is a process in which activity emerges or changes in response to a situation, provided that the nature of the changes in activity cannot be explained by negative response tendencies, maturation, or the organism's transient state (Hilgard, Ernest R; Bower, 2014). This definition demonstrates that phylogenetic and maturational changes in behaviour are not linked. This also demonstrates the distinction between learned and unlearned behaviour.

Cognitive, motivational, and affective learning are the three types of learning. Despite the fact that learning and emotion are linked, academics have long focused on the reasoning and motivational aspects of learning, neglecting the affective aspects of learning (Hagenauer & Hascher, 2014).

Concept of academic achievement:

In the twenty-first century, the educational system has changed dramatically. However, we now measure a student's success or failure based on their academic performance. The academic accomplishment of students is the most important concern in education. The word 'academic' is derived from the word academy, which refers to a school where specific types of instruction are provided. Academic achievement refers to the grades received on school and college tests in general. It refers to a student's level of academic achievement. It has a multifaceted nature and is concerned with human development, including cognitive, emotional, social, and physical development

Teachers have a significant emotional impact on their students during the learning process. In other words, the mood of the students can reflect the feelings of the teachers. As a result, teachers must be emotionally intelligent so that their negative personal emotions do not interfere with their work (Rudd: 2012). When a student wants to study some essential literature in order to prepare for an exam or test, but finds it uninteresting, this can be significant. In that case, even if he or she has no desire to learn, he or she should find ways to do so. A "reappraisal" method, which entails attempting to improve one's disposition and evoke positive feelings by doing somewhat enjoyable, could be one way to achieve this. This ability can also be referred to as a significant adaptive function for learning to understand others and being socially engaged. That is a psychological factor at work. Rudd has also

looked into physical influence (2012). She emphasises that a good physical state is the foundation for learning, and that this can be achieved through physical exercises that elicit positive emotions. On the other hand, recalling a pleasant memory can elicit positive emotions that have a positive impact on one's health (Rudd: 2012). When necessary, such regulation could be a very useful and effective tool for improving learning abilities. Relationships between teachers and students that are built on trust and support. In other words, it is teachers who are "wholeheartedly" committed to their work and wholly devote themselves to teaching. Students' emotions are manipulated in order to engage them with the content, according to Dirkx and Espinoza (2017). Such relationships frequently foster a supportive environment in which learners can be open and authentic. The primary teacher's role is to be open and allow students to feel the same way, as well as to provide assistance and encourage students to find a common language with their peers.

A lot of researches have investigated the effects of learning strategies on academic performance, and motivation of students separately; However, studies on learning strategies students' Academic Achievement were rarely available especially in Pakistan. The learning strategies of the students in term of academic attainment has been continuously ignored by our researchers.

To fill this deficiency in research, the researcher is interested to investigate the students' learning strategies and their relationship with students' academic achievement at Public Higher Secondary School level in district Bannu". This study was led by the following research questions: What are the Students' learning strategies (Intrinsic goal orientation, Self-regulation, Self efficacy, Cognitive Strategies, Test anxiety, Self-determination and Academic Regulation) at public higher secondary school level in district Bannu?

The Study's Delimitation: The study was delimited to the subject of English which is one of the core subjects.

Methodology

Research Design

There are two variables, learning strategies as a predictor and academic achievement as a criterion, the survey research design was the most appropriate. Because this study was primarily descriptive in nature, therefore a survey research design was applied.

Research Design and Philosophical Approach

Every study is predicated on a set of philosophical assumptions. Scholars can use research philosophy to help them develop a strategy and methodology for examining a specific phenomenon (Best and Kahn, 2012). Positivism, Interpretivism, and Pragmatism are three philosophical paradigms in social research (Wohlrapp, 2014). According to the nature of the research problem, the researcher used a Positivism Philosophical approach in this study. The Positivism school of thought, according to Wilson (2010), believes that observation and knowledge derived from statistical results are the only ways to obtain factual or raw knowledge. Positivism favours a quantitative research approach in which data is analysed using statistical tools to test hypothetical statements. Furthermore, the current study employed a quantitative approach as well as a survey research design. Survey research design, according to (Check & Schut (2011), is a process in which a scholar distributes an tool to a small group of people in order to determine the fashion in attitudes, beliefs, and behaviours.

Population

After limiting the study to public secondary school students of grade 12 in Bannu, the population of the study was constituted. The total number of students in the study was 1647.

Sample and Sampling procedure

Two-stage cluster sampling was used in the study. At the earlier stage schools and at the 2nd stage public higher secondary school students of grade 12 were serve as the cluster for selecting the sample for this study.

According to BISE Bannu 2021 Data the sampling frame consists of 34 public Higher Secondary schools in district Bannu which include 18 boys higher secondary schools and 16 are Girls higher secondary schools, Nearly 1647 students out of which are 1098 male students and 549 female Students enrolled in grade 12. Five (5) level of significance of the total population i.e. 312 (Creative Research System---online sample Calculator) were selected in which 208 male and 104 female students was taken, as a sample of the study by Using Proportion allocation formula.

Formula=
$$inj = \frac{nj}{N} \times Nj$$

Sample size for male students = $nm = \frac{n}{N} \times Nm = \frac{1098}{1647} \times 312 = 208$

Sample size for female students = $nf = \frac{n}{N} \times Nf = \frac{549}{1647} \times 312 = 104$

n= sample size

nm= Sample size of the male students

N= Population size of the study

Nj= Sample Size

Rationale for Selection of the study Sample

For this study, a survey research design was considered. Higher secondary school students were chosen for the study because of their ability to respond to the research instrument. They are more mature and in a better position to assess and share their perspectives on learning strategies. As a result, gathering data from public higher secondary schools was deemed the best source for this study, as it provided more relevant and appropriate information.

Reliability and Validity of instruments

To validate the instruments, it was evaluated by 7 psychology and research experts. Name of the expert were Dr. Manzor Hussain Arif, Dr. Umar ali Khan, Dr. Ikram ullah, Dr. Uzma Syeda Gillani, Dr. javed Mustafa, Dr. Sher Daraz Khan Dr. Allah Noor The suggestions of the expert were incorporated. Similarly the Questionnaire was already in its standardized form.

Reliability of instruments

According to Anderson and Arsenault (2005), measurement reliability refers to the consistency of results obtained under a variety of conditions. Simply put, reliability refers to the measurement's consistency. Fisher (2007) suggested that a range of .70 to .99 is acceptable for a reliable item. Cronbach's Alpha was used to determine the questionnaire's reliability in this study. Following the validation of the tool, a pilot study was conducted with 50 students to determine the tool's reliability. The information was entered into SPSS 24 to calculate the Cronbach Alpha value. Cronbach Alpha for Learning strategies questionnaire was .879 which is quite reliable.

Instrumentation and Collection of data

Data collection is the systematic collection of information about a variable of interest that allows one to answer the listed questions. The primary goal of data collection is to obtain high-quality evidence and precise information about a particular phenomenon (Olsen, 2011). In this study, the researcher went to a few different schools and talked to teachers about the current research topic.

Data for this research was collected by using the Motivated Strategies for Learning Questionnaire (MSLQ), using a scale of 1 for strongly disagree to 5 for strongly agree. The question items for the questionnaire was extracted from Pintrich, et al; (1991).

Development of Academic Achievement test

For Academic Achievement, students' objective type test was developed from first five lessons in the subject of English. Consisting 50 MCQs. Item difficulty of the test was 52.88, means that the test was neither too difficult nor very easy.

Data Analysis

Data was analyzed after scoring the responses of the sample on the questionnaire and marks obtained by Test in Subject of English with the help of SPSS-24 software package. In Descriptive Statistics Mean and Standard Deviation and in inferential statistics, Pearson Co-efficient Correlation, and linear regression was used on the basis of nature of the data collected.

Ethical considerations

During this course of study, all the ethical principles were followed by the researcher. Data from female students was collected through female Subject Specialist. Similarly consent from all the participants was ensured by the researcher.

Findings

The study's main goal was to discover the relationship between students' Learning strategies and academic achievement. Different tables were created, and different interpretations were made as a result.

Students' Learning strategies were measured using a Likert scale. For each statement, there were five possible responses. The ranges below were used.

Weight	Scale	Numbering	Range of Mean
1	Very Low /Never/SDA	1	1.00-1.8000
2	Low/Seldom/DA	2	1.81-2.6000

3	Average/Sometime/N	3	2.61-3.4000
4	High/Often/A	4	3.41-4.2000
5	Very High/Always/SA	5	4.21-5.0000

Table 1: Descriptive Analysis of learning strategies

S No.	Learning Strategies	Mean	Standard Deviation
1	Intrinsic Goal Orientation	3.66	.65
2	Self-Efficacy	3.68	.61
3	Test Anxiety	3.19	.61
4	Cognitive Strategies	3.39	.62
5	Self-Regulation	3.68	.61
6	Self Determination	3.08	.67
7	Academic Regulation	3.08	.67

Table 1

Descriptive analysis was performed on the item of Questionnaire Learning Strategies. The mean of self-efficacy, intrinsic goal orientation, and self-regulation falls in the range of higher and mean of test anxiety, cognitive strategies, self-determination and academic regulation fall in range of average.

Table No. 2 Correlation between learning strategies and academic achievement

S.No.	Variable	Pearson correlation	Sig (p)
1	Intrinsic Goal Orientation	.893	.000
2	Self-Efficacy	.914	.000
3	Test Anxiety	.286	.000
4	Cognitive Strategies	.733	.000
5	Self-Regulation	.914	.000
6	Self Determination	.215	.000
7	Academic Regulation	.215	.000

*Correlation is significant at 0.05 level of significance.

The coefficient of the relationship between Intrinsic goal orientation and achievement among students is $r=.893$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant strong positive relationship between students' intrinsic goal orientation and their achievement because $P<.05$.

The coefficient of the relationship between self-efficacy and academic achievement among students is $r=.914$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant strong positive relationship between students' Self Efficacy and their academic achievement because $P<.05$.

The coefficient of the relationship between test anxiety and achievement among students is $r=.286$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant weak positive relationship between students' Test Anxiety and their academic achievement because $P<.05$.

The coefficient of the relationship between cognitive strategies and academic achievement among students is $r=.733$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant strong positive relationship between students' Test Cognitive Strategies and their academic achievement because $P<.05$.

The coefficient of the relationship between self-regulation and achievement among students is $r=.914$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant strong positive relationship between students' self-regulation and their achievement because $P<.05$.

The coefficient of the relationship between self-determination and achievement among students is $r=.215$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant weak positive relationship between students' self-determination and their achievement because $P<.05$.

The coefficient of the relationship between academic regulation and academic achievement among students is $r=.215$, with a p value of 0.00 at the 0.05 level of significance, as shown in Table 2. There is a significant weak positive relationship between students' academic regulation and their achievement because $P<.05$.

Table 3 a: Linear regression

Model Summary						
IV	R	R ²	S.E	F	Sig.	f ²
LS	.352	.124	10.983	8.649	.000	.15

Table 4.3 b: Coefficient regression

Model	Standardized Coefficients			T	Sig
	β				
Intrinsic Goal orientation	.712			1.733	.084
Test Anxiety	.115			2.099	.037
Cognitive Strategies	.311			4.309	.000
Self-Regulation	-.841			-1.964	.050

Table 3a demonstrates the model summary of linear regression regarding interplay of Students Learning Strategies and academic achievement. Infer from above proof that value of R-square (.12) which indicates that 12% change occur in dependent variable (Students' academic achievement) due to predictor variable (Learning Strategies). The above result reveals that the value of F=8.649 at P=.000 which shows that model is fit.

The Cohen f2 value of model is .15, which shows a medium effect size, but significant at .05 and even at .01, .001 level of significance.

Table 3 b shows that in model a unit change in Learning strategies Intrinsic Goal orientation, Test Anxiety, Cognitive Strategies and Self-Regulation predicts 0.712, 0.115, 0.311, -0.841 unit change respectively in overall students' academic achievement.

Self-efficacy and self-determination have been left out from the model because their results are non-significant. The $p > .05$.

Discussion

The primary place of learning is frequently denoted to as school. School must, by essential, be a place where students study how to learn and thus acquire operative learning strategies. Nonetheless, acquiring these has been a by-product of school teaching up until now, and it still desires to be optimised and developed. When it comes to the best between imparting knowledge and developing students' learning abilities, school education favours the previous. If key qualifications such as learning strategies and methods are important, they should be developed systematically so that students have a repertoire of strategies by the time they leave school (cf. Friedrich & Mandl, 2006,). To attain this goal, schools must organise teaching learning strategies in a systematic manner, with teachers and their preferred teaching methods providing support. The 'Kolumbus Kids' project at Bielefeld University uses the teaching techniques and methods mentioned above to assist course participants in developing learning strategies. They can also help as a source of stimulus for regular school teachers, as they are essential for effective learning. Schools are an excellent place to learn learning strategies because they take place over a long period of time and cover a wide range of subjects.

As a result, teachers must conduct research into this subject and begin teaching their students about it as soon as possible. Students can only become good strategy users if they practise these techniques on a regular basis. They must be able to choose the strategy they want to use based on their goals and current circumstances.

Learning strategies were discovered to have a positive and significant relationship with overall academic performance. Student performance improves as the number of learning strategies used increases. Students, on the other hand, did not prefer or use all strategies equally. This is consistent with Cho and Ahn's (2003) findings, which originate that students who use more strategies are more probable to succeed. This finding is thought to be in line with Mc Whaw and Abrami's (2001) findings that students with higher levels of interest use more strategies.

High-achieving students used more learning strategies, both in terms of frequency and variety, than low-achieving students. This is in line with the current research (Paris & Myers, 1981; Tait & Entwistle, 1996). The students, on the other hand, preferred metacognitive strategies the most and organisation strategies the least; the frequency of other strategies varied little between these two groups. University students appear to be able to assess the suitability and functionality of the learning strategies they use. They do not, however, alter the structure of the resources. It's possible that reorganising learning content won't produce the desired results due to a variety of complete issues (Garnerr, 1990). Teaching strategies of faculty members, organisation of course contents, perceived

roles of instructors and learners, textbook designs, simplicity of learning tasks, variety of activities, types of exams, and interdisciplinary links between various subject areas are all possible examples.

Conclusions

This paper has presented the interplay of students' learning strategies, it was observed that students experience different types of learning strategies during study and this was found to have a significant effect on their academic Achievement. Furthermore, this paper has collaborated other studies that suggested that factors such as individual learning strategies, motivation and cognitive strategy used contribute to learners' academic achievement. However, the paper has pointed out that there is a gap in the knowledge in relation to individual differences, the types of learning strategies experienced, and the reasons for experiencing such type of learning strategies.

Recommendation

On the basis of this study the following recommendation is given.

1. The study identifies the types and the reason for the learning strategies students experienced in classroom setting. This is significant in education as it will enable teachers to fashion their mode of teaching and instructions better by taking into preference the learning strategies of their students, students experience and the types and reason for learning strategies to get better Academic Achievement.

References

- Anderson, G., & Arsenault, N. (2005). *Fundamentals of educational research*. Routledge.
- Atkinson, R.C. & Shiffrin, R.M. (1968): "Chapter: Human Memory: A Proposed System and its Control Processes". In: Spence, K.W. & Spence, J.T. (eds.): *The Psychology of Learning and Motivation* (Vol. 2). New York: Academic Press. 89-195.
- Best, J. W., & Kahn, V. J. (2012). *Research methodology in education*.
- Borgmann, A., & Wegner, C. (2011). Wissenschaft 2.0 mit Kolumbus-Kids. *merz-medien und erziehung Zeitschrift für Medienpädagogik*, 55(3).
- Check, J., & Schutt, R. K. (2011). *Research methods in education*. Sage Publications.
- Cho, S. & Ahn, D. (2003). Strategy acquisition and maintenance of gifted and non-gifted young children. *Council for Exceptional Children*, 69(4), 497-505.
- Christenson, S. L., Wylie, C., & Reschly, A. L. (2012). Handbook of Research on Student Engagement. *In Handbook of Research on Student Engagement*. <https://doi.org/10.1007/978-1-4614-2018-7>
- Duckworth, A.L. & Seligman, M. E. p. (2005). Self-Discipline Outdoes IQ in Predicting Academic Performance of Adolescents. *Psychological Science*, 16(12), 939–944. <https://doi.org/10.1111%2Fj.1467-9280.2005.01641>.
- Fisher, W.P. Jr (2007). Rasch Measurement Transaction. *Transaction of the Rasch Measurement SIG American Educational Research Association*. Vol. 21 No.1, p. 1095
- Friedrich, H.F. and Mandl, H. (eds..) (2006): Handbuch Lernstrategien. *Handbook of Learning Strategies*. Göttingen: Hogrefe.
- Friedrich, H.F. and Mandl, H. (eds..)(1992): Lern- und Denkstrategien. *Strategies of Learning and Thinking*. Göttingen: Hogrefe.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Review of Educational Research*, 74(1), 59–109. <https://doi.org/10.3102/00346543074001059>
- Garner, R. (1990). When children and adults do not use learning strategies: Toward a theory and settings. *Review of Educational Research*, 60(4), 517-529.
- Hagenauer, G., & Hascher, T. (2014). Early Adolescents' Enjoyment Experienced in Learning Situations at School and Its Relation to Student Achievement. *Journal of Education and Training Studies*, 2(2), 20–30. <https://doi.org/10.11114/jets.v2i2.254>
- Hilgard, Ernest R; Bower, G. H. (2014). Theories of learning (3rd ed). *Century Psychology series*.
- Huber, G.L. (2006): Lernen in Gruppen/ Kooperatives Lernen. Learning in Groups/Cooperative Learning. In: Mandl, H.; Friedrich, H.F. (eds.): Handbuch Lernstrategien. *Handbook of Learning Strategies*. Göttingen: Hogrefe.
- Konrad, K. (1999): Lernstrategien für Kinder. *Learning Strategies for Children*. Baltmannsweiler: Schneider.

- McWhaw, K. & Abrami, P. C. (2001). Student goal orientation and interest: Effects on students' use of self-regulated learning strategies. *Contemporary Educational Psychology*, 26, 311-329.
- Paris, S. B. & Myers, M. (1981). Comprehension monitoring, memory, and study strategies of good and poor readers. *Journal of Reading Behavior*, 13(1), 5-22.
- Pintrich, P. R. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)*.
- Rheinberg, F. (2000): Motivation. Stuttgart, Berlin, Köln: Kohlhammer.
- Rudd, B (2012). "Emotional intelligence. In P. Jarvis (Ed.) (2012) *The Routledge international handbook of learning.*" Oxon: Routledge Publication.
- Schiefele, U. and Streblow, L. (2006): Motivation aktivieren. Activating Motivation. In: Mandl, H.; Friedrich, H.F. (eds.): Handbuch Lernstrategien. *Handbook of Learning Strategies*. Göttingen: Hogrefe.
- Schröder-Naef, R. (2002): Lerntraining in der Schule. Voraussetzungen – Erfahrungen – Beispiele. *Learner Training in school. Condition – Experience – Examples*. Weinheim: Beltz.
- Tait, H. & Entwistle, N. J. (1996). Identifying students at risk through ineffective study strategies. *Higher Education*, 31, 97-116
- Tough, Joan (1977): Development of Meaning: Study of Children's Use of Language. Education Books Series. UK: HarperCollins Publishers.
- Villavicencio, F. T., & Bernardo, A. B. I. (2013). Positive academic emotions moderate the relationship between self-regulation and academic achievement. *British Journal of Educational Psychology*, 83(2), 329–340.
- Wegner, C. and Minnaert, L. (2012): Promoting Future Scientists: The Project Kolumbus-Kids. *Education in Science*, 249, 20.
- Weinstein, C.E. and Mayer, R.W. (1986): "The Teaching of Learning Strategies". In: M. Wittrock (eds.): *Handbook of Research on Teaching*. New York: Macmillan. 315-327.
- Wilson, J., Cheshier, C., Hjorth, L., & Richardson, I. (2011). Distractedly engaged: Mobile gaming and convergent mobile media.
- Wohlraup, H. R. (2014). *The concept of argument: A philosophical foundation* (Vol. 4). Springer.
- Zimmerman B.J. (1990). Models of Self-Regulated Learning and Academic Achievement. In S. D. H. (eds) Zimmerman B.J. (Ed.), *Self-Regulated Learning and Academic Achievement*. (pp.1–25).