| P-ISSN: 2709-6254 | Journal of Development and Social Sciences | Oct-Dec 2022, Vol. 3, No. 4 |
|---|---|---|
| O-ISSN:2709-6262 | http://dx.doi.org/10.47205/jdss.2022(3-IV)07 | [61-70] |

Journal of Development and Social Sciences
www.jdss.org.pk

RESEARCH PAPER

# Impact of Constructive Pedagogy on Students Academic Achievements at Secondary School Level in Kotli AJ&K

**[1]Nauman Saeed [2]Dr. Nazir Haider Shah* [3]Dr. Khatiba Akhter**

1. PhD Scholar, Department of Education, International Islamic University, Islamabad, Pakistan
2. Assistant Professor, Department of Education, University of Kotli, AJ&K, Pakistan
3. Lecturer, Department of Education, University of Kotli, AJ&K, Pakistan

***Corresponding Author:** nazirshah786@gmail.com

**ABSTRACT**

Constructivism represents one of the big ideas in education. Its implications for how teachers teach and learn to teach are enormous.The purpose of this research study was to explore teachers' perception regarding pedagogy based on constructive paradigm for students learning and to find out the impact of constructive pedagogy on students' academic achievements. The study was descriptive in nature and quantitative research design was used. Government secondary schools from Kotli were the population of this research. Simple random sampling technique was used and 20% sample was randomly selected from the aforementioned population. The study is delimited to public secondary schools of district Kotli. For pilot testing process forty teachers were randomly selected and these teachers were also included in final study. The data was collected through five point Likert scale questionnaires and analyzed by using SPSS software. Major conclusions of the study were; i) constructivist pedagogy are effective inenhancing the students learning, ii) students' decision making ability could be improved through constructivist pedagogy, ii) there was a positive relationship between constructive pedagogy and students learning and academic achievement while major recommendations were; teachers should adopt strategies that involve constructivist principles in order to improve students' learning and academic achievements and teachers should provide appropriate guidance to their students in this regards.

**KEYWORDS** Achievements, Constructivist Pedagogy, Performance, Students, Teaching, Learning

## Introduction

According to Pitsoe, (2018) theory of twenty century is based on the study of higher principles of reason. The purpose of education is to acquire knowledge and skills. The teacher is very active and active, but the students get practical details. In the late 20th century and early 21st century, scholars began to question the methods of teaching and learning based on the habit of individual study. Structural learning reveals that students develop knowledge independently or collaboratively while participating in social and business activities, they say. (Catlin 2019). The construction industry has also become a major role model in the field of education in recent years. Developed as an effective teaching method of language research and development of small technologically advanced world narrative. In this sense, constructions change from behavioural learning to cognitive-based learning, authors say. The emphasis on levels of acceptance and recognition of teacher training programs expands the range of language teaching, they say. In recent years, language teaching has included a rich palette of educational methods, they write (Elbaz, 2015).

Felder and Silverman (2018) said that current education system focuses on preparing students for exams and does not promote intensive learning. The traditional teaching method (student method) commonly used by teachers in Indian schools is relevant

and memorable for students. It does not involve the creative part of students' creative thinking and activities. Brooks and Brooks (2019) remarked that it was found that the producer instructed the students to score higher than the standard instruction.

According to Yager (2019) students are considered as a whole institution, while his feelings and emotions are important while shaping the attitude of the students. In the same way, his ingenuity allows him to create world views in his own way. Cognitive processes are reflected in the analysis and application of designers' perceptions. The design of this method is based on the study of language and contributes to the study on psychological psychology.

Marlowe and Page (2015) explained the basic construction method which is asunder:

- It is not possible to find out solutions of any problem without construction of information
- Focus should be given to thinking and analyzing, not to remembering
- Provide awareness to students to construct new knowledge and skills on the basis of previous learning.

Marlowe and Page (2005) further explain that constructive pedagogy improve education and students learning. Constructive pedagogy allows students to develop their knowledge and understand what is being thought. In this view, creativity refers to everything from ethics to cognitive-based learning.

## Literature Review

### Constructivist Learning Theory

Elbaz, (2015) pointed out that creative thinking is based on many aspects of Piaget and Vygotsky's ideas. "Bottom-up" learning methods arise from the idea of the building process. This means that the teacher gives the main idea and the students get the details. In this idea, the teacher does not teach the descriptions, making it difficult for the students to understand. Gull. (2016) said that the design of constructivist classroom, the process of teaching and learning should be linked to the real world. Creativity sees the construction of knowledge as an active element that creates cognitive development in their interaction with nature. Glassman, (2015) pointed out that psychological discussion occurs unless the truth is built on the formation of the point of view created by the subject. The structure of consciousness must be constantly changing and adapted to the needs of nature and physical transformation.

Students need to develop their knowledge, not others. Awareness of their art and entertainment will help them to be independent in life. Experienced experience in the laboratory is based on the development of new ideas based on classmates, interviews with critics, and positive experimental learning. Teaching means organizing the environment so that students can find meaning and appreciate uncertainty. Study is seen as a combination of solid experiences, collaborative activities and knowledge of meditation and translation. For this reason, the reader will have a different understanding of the information based on their experience, as well as the approach used in translation.

### Principles of Constructivism

Caine and Caine (2011) suggest the following principles of constructivism:

- Students ’understanding is based on their own unique experiences.
- Effective learning combines a variety of ideas and information into international concepts and disciplines.
- Learning often involves the process of knowing and students need time to learn.

- The emphasis on memory does not promote learning space, affecting information reading and comprehension.
- The class season should be challenging, but not a risk for students.
- Teaching learning should have many facilities so that students can express their interests.
- The learning experience must be effective and enhanced by avoiding challenge and risk
- The students understand their own unique experiences.
- Students understand the meaning of their own experiences.

**Pedagogical Goals of Constructivist Learning**

In his study Yager (2019) revealed that constructivist learning is a term coined from the Constructivist movement of the 1970s. Pedagogical Goals of constructivist learning is to foster a creative learning among students' and provide information to teachers about students' knowledge creation ability. The term is also used to describe a social-emotional element of the learning experience. It can also refer to the practice of embedding in real life situations.

**Traditional Goals of Constructivist Learning**

According to Yaşar (2016) the constructivist approach suggests that all learning takes place in the minds of students as a result of construction. Some curriculum objectives work with principles of constructive learning that emphasize effective emotional and physical involvement. Sunal and Haas (2012) describes some traditional goals of constructive learning which are as follows: Understanding the goals of the goals (e.g. change and progress Understand common sense Provide diversity in communities and their organizations Develop critical thinking skills develop skills related to social science, solitude, reflection and decision making and problem solving related to various social events.

**Constructivist Classroom**

The development of a study to approach a new perspective requires abandoning the current understanding of the concept and that it can be achieved through peer communication. Learning, on the other hand, does not need to change thinking, but is defined as acquiring new skills by working with competent adult partners. The guidance provided in adulthood is called scaffolding, which helps to succeed in the field of student development (Chaiklin, 2013).

**Characteristics of Constructive Classroom**

Jonassen (2020) identified the following characteristics of the creative learning environment:

- The presentation must present the truth with the help of multiple presentations
- Foreign land stress should be foreign
- Structural priority should be given to geological construction
- Press the actual functions in a logical logical context
- Provide real life settings
- The experience encourages thinking about the experience
- Encourage collaboration and community discussion among students

**Difference between Traditional Classroom and Constructivist Classroom**

Bada, and Olusegun (2015) pointed out that the constructive pedagogy has focused on switching from teacher to student, in the classroom. The classroom is no longer the place where teachers inform inactive students and the teacher acts more effectively as a facilitator who helps students develop, moderate, motivate, and develop their understanding.

| **Traditional Classroom** | **Constructivist Classroom** |
|---|---|
| The course starts with whole parts. Emphasizes basic skills. | The course emphasizes the main points, starting from the whole and spreading to its parts. |
| Consistently adhering to the curriculum is highly appreciated. | It is important to study students 'questions and interests. |
| Construction materials are mainly textbooks and workbooks. | Construction materials are the main source of materials and movement. |
| Learning is based on repetition. | Learning is interactive, based on what the student already knows. |
| Teachers disseminate information to students; Students are information recipients. | The teachers interacted with the students, helping the students to enhance their knowledge. |
| The role of the teacher is based on authority. | Interactive based on discussion of teacher role. |
| Exams are taken by appropriate tests. | The assessment includes student activities, observations and scores, as well as the assessment. Like production, process is also important. (Bada and Olusegun 2015) |

**Teacher's Role in Constructive Class**

In constructive class teachers play a key role in helping developing students and teacher could ask such questions that motivate the students to make their own decisions and guide the students. The modelling, coaching, and scaffolding are the three main roles of teaches as a facilitators in supporting students in a structured learning environment (Jonassen, 2020). The teachers provide help to students in following ways:

**Intersubjectivity**

The process describes an event in which a student began working with others. When they share, they move towards a shared understanding of the object object by gaining an understanding of the object.

**Scaffolding**

Scaffolding is an effective method that helps students to gradually understand an object or concept. When the teacher works diligently to understand the project, the teacher should be available and present so that the learner can get feedback and information to understand the ili project.

**Guided Participation**

Directing refers to collaborative collaboration between professionals and students, including scaffolding installations.

**Implications of Constructivism for Teaching and Learning**

The teacher needs to be designed to act as an assistant to their original work so that students can actively participate in their learning. Teachers must establish meaningful relationships between prior knowledge and new knowledge and the processes associated with learning. The primary responsibility of teachers is to create and maintain a collaborative problem-solving environment. Students are allowed to develop their knowledge and teachers act as facilitators and mentors. The teacher should encourage students to ask thoughtful, open-minded questions and consider practitioners' initial

reactions in practice. The construction teacher should use a wide variety of content, including raw data, main sources, and interactive content, and encourage professionals to use it (Brooks and Brooks 2019).

## Material and Methods

The study was descriptive in nature and quantitative method was used to collect the data regarding the impact of constructive pedagogy on students' academic achievements at secondary school level. Secondary school teachers from of Kotli were the population of this study. There were total 87 boys and 57 girls' secondary schools in district Kotli and 420 male and 320 female teachers in that schools. Simple random sampling technique was used and 20% sample was selected randomly from the population. The researcher constructed five-point Likert scale questionnaire to collect teacher's perceptions whereas, results of last five years were considered as academic achievements of the students. The reliability of the instrument was checked by using Cronbach alpha statistical technique. The reliability of the instrument was .78 which was acceptable for the further procedure. To confirm the content and face validity, questionnaires were distributed to four educational experts. Questionnaire was reviewed by experts and modified according to the guidelines and suggestions of educational experts. For this research the data was collected through five-point Likert scale questionnaires from secondary schools and analysed by using SPSS software, while appropriate statistical tests were used for the analysis of the collected data.

## Results and Discussion

**Table 1**
**Teachers' perception regarding Constructivist pedagogy and Students Learning**

| S# | Statement | N | Mean | SD |
|---|---|---|---|---|
| 1 | Constructivist pedagogy provide an opportunity to learners to discover the new data about the subject. | 150 | 4.27 | 1.220 |
| 2 | Constructivist pedagogy solve learning problems of students. | 150 | 4.10 | 1.109 |
| 3 | Constructivist pedagogy associate students learning with their real life experiences. | 150 | 3.98 | 1.020 |
| 4 | Constructivist pedagogy increase students interest regarding their learning. | 150 | 4.20 | 1.199 |
| 5 | Constructivist pedagogy includes problem based learningstrategies in order to improve students' learning. | 150 | 4.07 | 1.734 |
| | Valid N (listwise) | 150 | | |
| | **SL Total** | | **15.88** | **4.838** |

Table 1 shows that the scores of the statement no. one, "Constructivist pedagogy provide an opportunity to learners to discover the new dataabout the subject" were N= 150, M=4.27, S.D= 1.220, scores of the statement two, "Constructivist pedagogy solve learning problems of students" were N= 150, M=4.10, S.D= 1.109, scores of the statement three, "Constructivist pedagogy associate students learning with their real life experiences" were N= 150, M=3.98, S.D= 1.020, scores of the statement four, "Constructivist pedagogy increase students interest regarding their learning" were N= 150, M=4.20, S.D= 1.199 and scores of the statement five, "Constructivist pedagogy includes problem based learningstrategies in order to improve students' learning" were N= 150, M=4.07, S.D= 1.734.

**Table 2**
**Teachers perception regarding Constructivist pedagogy and Students Decision Making**

| S# | Statement | N | Mean | SD |
|---|---|---|---|---|
| 1 | Constructivist pedagogy helps the learner to make decision about their learning on the basis of prior subject knowledge. | 150 | 4.33 | 1.198 |

| | | | | |
|---|---|---|---|---|
| 2 | Constructivist pedagogy enable students to see every aspect of problem while decision making. | 150 | 4.01 | 1.119 |
| 3 | Constructivist pedagogy provide support to students while stating their ideas about making any decision. | 150 | 3.87 | .985 |
| 4 | Constructivist pedagogy make it possible for students to make decision about how to define, discover and apply learning in a new situation. | 150 | 4.45 | 1.910 |
| 5 | Constructivist pedagogy provide support to students regarding the decision making about their current competency level. | 150 | 4.15 | 1.734 |
| | Valid N (listwise) | 150 | | |
| | **SDM Total** | | **14.79** | **4.765** |

Above table shows that the scores of the statement one, "Constructivist pedagogy helps the learner to make decision about their learning on the basis of prior subject knowledge" were N= 150, M=4.33, S.D= 1.198, scores of the statement two, "Constructivist pedagogy enable students to see every aspect of problem while decision making"were N= 150, M=4.01, S.D= 1.119, scores of the statement three, "Constructivist pedagogy provide support to students while stating their ideas about making any decision" were N= 150, M=3.87, S.D= .985, scores of the statement four, "Constructivist pedagogy make it possible for students to make decision about how to define, discover and apply learning in a new situation" were N= 150, M=4.45, S.D= 1.910, and scores of the statement five, "Constructivist pedagogy provide support to students regarding the decision making about their current competency level"were N= 150, M=4.15, S.D= 1.734.

**Table 3**
**Model Summary of Constructive Pedagogy and Students Learning**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .810 | .706 | .656 | 2.231 |

a) Predictors: (Constant)Students Learning

Above table no.04 shows the model summary of regression analysis of constructive pedagogy and academic achievements of students. According to model summary the correlation, R is.810 and R-Square is .706. So, analysis of the above table discovered positive relationship between constructive pedagogy and students learning.

**Table 5**
**ANNOVA Summary of Constructive Pedagogy and Students Learning**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2453.140 | 1 | 1951.150 | 342.516 | .000 |
| | Residual | 920.143 | 148 | 3.332 | | |
| | Total | 3188.293 | 149 | | | |

a).Predictors: (Constant),Constructive Pedagogy
b). Dependent Variable:Students Learning

Table no.05 shows the ANOVA Summary of Constructive Pedagogy and studentslearning and this table pointed out that the regression equation is significant F (1, 148) = 342.516, p=.000< .05. Hence, analysis of the above table shows positive impact of constructive pedagogy on students learning.

**Table 6**
**Coefficient Summary of Constructive Pedagogy and Students Learning**

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | Model | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 2.469 | .654 | .654 | 3.491 | .001 |
| | Constructive Pedagogy | .798 | .0987 | | 18.855 | .000 |

a). Dependent Variable: Students Learning

Analysis of above table no.06 shows the coefficient summary of constructive pedagogy and learning of students and the table showed the coefficients value of constructive pedagogy and students learning was .798 and its t-value is 3.491 which was significant at the .05 level as p=.000. According to the analysis constructive pedagogy impacts significantly on students learning.

**Table 7**
**Model Summary of Constructive Pedagogy and Academic Achievements of students**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .840 | .706 | .704 | 2.516 |

a) Predictors: (Constant), Academic Achievements

Table no. 07 shows the model summary of regression analysis of constructive pedagogy and academic achievements of students. So according to this model summary the correlation R is.840 and R-Square is .706. On the basis of these results it could be said that the analysis of above table discovered that a positive relationship between constructive pedagogy and academic achievements of students.

**Table 8**
**ANNOVA Summary of Constructive Pedagogy and Academic Achievements of students**

| | Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2251.150 | 1 | 2251.150 | 355.517 | .000 |
| | Residual | 937.143 | 148 | 6.332 | | |
| | Total | 3188.293 | 149 | | | |

a. Predictors: (Constant),Students' academic achievements
b. Dependent Variable:Academic Achievements

Table 08 shows the ANOVA the summary of constructive pedagogy and academic achievements of students and this table revealed that the regression equation is significant F (1,148) =355.517, p=.000< .05. Hence, these results shows a positive impact of constructive pedagogy on students' academic achievement.

**Table 9**
**Coefficient summary of constructive pedagogy and academic achievements of students**

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | Model | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 2.469 | .707 | .840 | 3.491 | .001 |
| | SLTOTAL | .803 | .043 | | 18.855 | .000 |

a. Dependent Variable:Academic Achievements

Table 9 shows the coefficient summary of constructive pedagogy and academic achievements of students. This table showed the value of coefficients of constructive pedagogy and academic achievements of students was .840 its t value is 3.491 which was significant at the .05 level as p=.000.It means that constructive pedagogy effects significantly on students' academic achievements.

In Pakistan, constructive learning strategy in classroom is not very commonand main focus of teaching is rote memorization and teachers taught subjects mostly through lecture method. Teaching through constructive pedagogy would be a differentand new experience for students and teachers can use such pedagogical approaches to actively engage the students in any teaching learning process and in order to create their interest towards their learning. In this modern education system it is not possible to accomplished maximum learning goals and students learning by using traditional pedagogical approaches. It isnecessary for teachers to teach or instruct their studentsaccording to their changing needsand teachers should use modern pedagogical approaches such as constructive pedagogy in this regards.

The findings of the research study conducted by Ahme Qarareh (2016) revealed that use of constructivist strategies in teaching learning are impact positively on students and also enhance their learning. These findings are similar to thefindings of this study. Teachers who used constructivstrategies in their classroom usually empower thestudents to experience new opportunities and things which could be essential to enhance students understanding which based on their prior knowledge. As Gul, (2016) pointed out in his study that learning which use constructivist strategies developed decision making ability among students because students are provided new experience which based on their prior knowledge or skills. These findings are similar to present study because this study also explored that constructivist pedagogy improve decision making ability among students.

As studiesconducted by Marlowe, & Page (2015) discover thepositive relationship between constructive pedagogy and students learning and presents study also find the same results.

The study conducted by Elbaz, (2015) pointed out positive impact between constructivist approach and student'sacademic achievement. Another study which was conducted by Sunal, & Haas (2017) revealed that constructivist strategies of learning successfullyenhance and improve the academic achievement of students and these findings are in line withthe findings of present study.

Analysis of the study conducted by Glassman, (2015) revealed that learning which use constructivist approach is a new and modern trend inteaching and learning process and this approach is called student centeredbecause students play active and key role throughout the teaching learning process. Students are also considered as the active recipient of every information and teacher role is described as a facilitator in constructive pedagogy.

## Conclusions

1. It is concluded that teachers are agreed that constructivist pedagogy and strategies are effective inenhancing the students learning at secondary level.

2. It is concluded that teachers are agreed that students' decision making ability could be improved through constructivist pedagogy.

3. It is also concluded that there was a positive relationship between constructive pedagogy and students learning.

4. It was also concluded that there was a positive relationship between constructive pedagogy and students' academic achievement and pedagogy based on constructive learning theory enhance students' academic achievement.

**Recommendations**

The following are the recommendations of this researchstudy.

1. Constructive Pedagogy is found effective in improving students learning and enhancingachievement of secondary school students because such pedagogical approaches areproved effective in enhancingachievement of students which demonstrates their learning as well, so it is suggested for teachers to use constructive pedagogies in their classes in order to improve students' learning and academic achievements**.**

2. Teachers are also suggested to adopt constructive pedagogical approaches because these are the student centered approaches and teachers should plan their lesson in such a way which create team work and collaborative learning environment so that students play their active role throughout leaching learning process and learn new skill which are based on their prior knowledge or skills.

3. It is recommended to teachersto facilitate and motivate their students in construction of new knowledge and skills by placingthe new learning.

4. The teacher should try to make thelearner a visionary individual and also explain and interpret the new knowledge to students so that students may able to apply such knowledge and skills in a new situations to becomes more logical.

5. The teachers should established student centered learning environment in the class and providemaximum opportunity to students to interact among themselves and withthe teacher.

6. Teacher should create self confidence among students so that students may able to openly express their ideas and this has to be don by posing an open ended question or placed a problem for tentative solution and students are encouraged to respond openly try to solve the problem. The teacher must play his/her role as a facilitator throughout the process.

7. Theteacher should provide appropriate coaching to the students simply by motivating them, analyzingtheir performance and providing necessary feedback to them regarding their learning.

**References**

Ahme Qarareh, (2016). Review of constructivism and social constructivism. *Journal of Social Sciences, Literature and Languages*, *1*(1), 9-16.

Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, *5*(6), 66-70.

Brooks JG, Brooks MG (2019) In Search of Understanding: The Case forConstructivist Classroom. Association for Supervision and CurriculumDevelopment. Virginia, USA.

Caine, R. N., & Caine, G. (2011). Making connections: Teaching and the human brain.

Catlin, D. (2019). Beyond coding: back to the future with education robots. In *Smart Learning with Educational Robotics*, Springer, Cham.

Chaiklin, S. (2013). *Analysis of Learning and Instruction*. *Vygotsky's educational theory in cultural context*. London: Pearson Publishers.

Elbaz, F. (2015). The teacher's "practical knowledge": Report of a case study. *Curriculum inquiry*, *11*(1), 43-71.

Felder, R. M., & Silverman, L. K. (2018). Learning and teaching styles in engineering education. *Engineering education*, *78*(7), 674-681.

Glassman, M. (2015). Dewey and Vygotsky: Society, experience, and inquiry in educational practice. *Educational researcher*, *30*(4), 3-14.

Gul, A. (2016). *Constructivism as a New Notion in English Language Education in Turkey* (Doctoral dissertation, Kent State University).

Johnson, PA (2014). *Constructivism-A Short Story.* Washington: Sage Publishers.

Jonassen, D. H. (2020). Toward a design theory of problem solving. *Educational technology research and development*, *48*(4), 63-85.

Kaufman, D. (2004). Constructivist issues in language learning and teaching. *Annual Review of Applied Linguistics, 24*, 303B319.

Marlowe, B. A., & Page, M. L. (2015). *Creating and sustaining the constructivist classroom*. Corwin Press.

Pitsoe, V. J. (2018). *A conceptual analysis of constructivist classroom management* (Doctoral dissertation, University of Pretoria).

Sunal, C. S., & Haas, M. E. (2017). *Social Studies for the Elementary and Middle Grades: A Constructivist Approach*. Allyn and Bacon, 75 Arlington Street, Boston, MA 02116.

Yager, R. E. (2019). The constructivist learning model. *The science teacher*, *58*(6), 52.

Yaşar, O. (2016). Cognitive Aspects of Computational Modeling and Simulation in Teaching and Learning. *J. Computational Science Education*, *7*(1), 2-14.