



BREAKING BARRIERS OF THE LEARNING CURVE: TACKLING CONCEPTUAL CHALLENGES IN ADOLESCENT EDUCATION

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Abstract

Concept is one of the problems that the adolescent population faces. It has serious implications for their educational lives and development. This is an effort to discuss conceptual hurdles adolescents face during their academic learning regarding their nature, causes, and solutions. Adolescents continually experience conceptual and procedural difficulties, and this is particularly common among significant academic subject matters. These consist of cognitive developmental stages, socio-cultural aspects, prior knowledge gaps, and instructional methodologies. The target is to determine the vital areas of academic subjects where adolescents frequently face procedural and conceptual problems to probe the leading causes of difficulties among adolescents through identifying and analyzing the specific problem areas of academic subjects and assessing the underlying causes and contributing factors of conceptual difficulties among adolescents. The subject was identified and chosen among a group of 57 students with the help of a screening test. The subject is in class VII. The data was collected with the help of various worksheets, puzzles, mental maps and others. The findings show that conceptual challenges in academia have an impact on adolescent's academic performance, motivation and future educational and career paths, which can shake their confidence and belief in themselves in environments potentially leading to disinterest and dropping out. The adolescent should be actively engaged, Interactive teaching methods and visual aids should be used. The presence of challenges among adolescents not only brings about significant obstacles but also opens doors for creativity and enhancement in educational approaches. By identifying the root causes and applying solutions, individuals involved can support adolescents in overcoming these hurdles and achieving success, thereby nurturing their overall growth, future opportunities and educational outcomes. This collaborative effort should involve teachers, parents and counselors working together towards this goal.

Keywords: *Adolescents, Academic Learning, Conceptual Problems, Educational Outcomes, Instructional Strategies, Cognitive Development*

INTRODUCTION

“Education breeds certainty, certainty breeds trust and trust breeds peace” - CONFUCIOUS

“Education is the most powerful weapon which you can use to change the world” - NELSON MANDELA.

The concept of education is foundational to human society and civilization. It plays a pivotal part in forming people, communities, and countries. Instruction is not fair almost obtaining information but too almost



creating aptitudes, cultivating basic considering, and advancing individual development. Instruction can be broadly characterized as the handle of encouraging learning, obtaining information, aptitudes, values, and demeanors in a organized and precise way. It includes different formal and casual strategies, counting instructing, preparing, investigate, and encounter. One of the reasons of instruction is ability, information and concepts securing. If the establishment is not concrete, there will be an obstacle in encourage advancement of the adolescents.

Delor's Commission (1996) in its report called 'learning, the treasure within' notes the taking after : Instruction must be organized around four crucial sorts of learning, in a way be the four columns, of information; that is procuring the rebellious of understanding, learning to do: so as to be able to act imaginatively on one's environment, Learning to live together: so as to take an interest with other individuals in all human exercises, and learning to be: create one's identity and be able to act with more noteworthy independence, judgment and individual duty (Murthy, 2012). Education for maintainable advancement and for a superior quality of life has ended up an enormous obligation. The development of a worldwide viewpoint, a cherish nature and a concern for individual human creatures and situations ought to be portion of the conspire of the instruction. This kind of all-encompassing instruction encourages understudies to get character, meaning and reason of life through associations to community, in the characteristic world and otherworldly values such as sympathy and peace. This can be fulfilled not only through an scholastic educational modules but through coordinate engagement with the environment (Mill operator J.P 1999).

Holistic instruction as "what recognizes all-encompassing instruction from other shapes of instruction is its objectives, its consideration to exploratory learning and the importance it places on the connections and essential human values inside the learning environment". It emphasizes connectedness of all living creatures (Martin,2002). Adolescence is a basic organize between childhood and adulthood. Distinctive psycho-sociological hypotheses have given distinctive viewpoints on understanding the highlights and forms of juvenile advancement. Puberty is a powerless time for most children since they can create propensities they hold onto in their grown-up lives. The stages of puberty can be categorized into early puberty (ages 10 to 13 a long time), center youth (ages 14 to 17 a long time), and late youth (ages 18 - 22 a long time) (Allen & Waterman, 2019).

Here, I am managing with center youth group. The reasons, behind challenges confronted by youths are changed. Speculations on advancement like Piagets hypothesis highlight the importance of development in getting a handle on unique thoughts. Additionally social and social impacts such as status, parental back and school assets play a part in forming them towards scholastic advance and understanding of concepts. The effect of challenges on juvenile is noteworthy influencing their grades, inspiration and future prospects in instruction and career choices. Moreover uncertain issues with understanding concepts can shake their certainty and conviction in their capacities in school possibly driving to lack of engagement and dropping out. Managing with challenges among youngsters requires an approach including instructors, guardians, choice producers and individuals of the community. By utilizing demonstrated educating strategies, like framework, separated instruction, framework, and hands-on learning encounters with the offer assistance of inquiry-based learning can upgrade comprehension and dominance of concepts.

Research at the auxiliary and indeed post-secondary level on understanding of essential concepts that are included in tackling instructive issues shows that understudies do not get it the concepts. This is affirmed by numerous inquiries on issues tackling in which understudies fathom issues out loud. Inquire about appears that indeed in spite of the fact that understudies regularly fathom issues accurately, they are incapable to reply conceptual questions on which the issues are based. Issue- tackling inquiries has driven to the distinguishing proof of commonly held logical misinterpretations, and to the conclusion that tending to these misguided judgments in instruction may offer assistance to progress students' problem-solving capacity.



Conceptual issues in scholastics among young people can stem from different sources and can show in distinctive ways. These issues regularly rotate around troubles in understanding and applying theoretical or complex concepts. Lack of conceptual understanding can lead to different other issues like

1. Consideration insufficiency in lesson or Attention deficiency- Youths with attention-deficit/hyperactivity clutter (ADHD) involvement more deterrents in their way to victory than the normal understudy. The indications of ADHD, such as failure to pay consideration, trouble sitting still, and trouble controlling driving forces, can make it difficult for children with this determination to do well in school.

2. Scholarly lingering or Academic Procrastination- Scholarly lingering is a wonder where understudies superfluously put off scholarly assignments, like considering for a test or working on a school extend. This is a common issue, which can lead to issues like more awful scholarly results and expanded stress.

3. Scholastic stretch and self-efficacy- The upsetting response to school and homework might diminish self-efficacy in the same setting (i.e. scholastic self-efficacy), coming about in expanded mental trouble (Bandura, 1997)

4. Overlooking, destitute memory and need of intrigued- Sadness has been connected to memory issues, such as distraction or perplexity. It can too make it troublesome to center on work or other errands, make choices, or think clearly. Stretch and uneasiness can too lead to destitute memory. Sadness is related with short-term memory loss.

NEED OF THE STUDY

The purpose of this research is to bring about a significant change in the conceptual understanding of the school student by developing a competence in conceptual understanding and gradually working to increase attention, remove procrastination and to find interest in the academics.

- To detect the one with the most conceptualized problem through several methods.
- To provide interventions where several tasks will be given that would demand intense attention from the child.
- To complete a tasks within a stipulated period of time.
- To increase the attention span and duration of the tasks thereby removing academic procrastination.
- To improve insightful writing, faster reading ability and vocabulary developing an eye for precision.
- To increase memory especially short term that is required to complete the tasks.
- To increase the retention of information which shall help in academic performance.
- To be attentive in class.
- To be able to contribute in the classroom discourse.
- T promotes inclusivity and equity.
- To address academic gaps, creating a positive learning environment, and fulfilling legal and ethical responsibilities.
- To check the creativity level, self-expression, critical thinking, and logical reasoning of the subject.
- To increase self-esteem which shall arise from a sense of achievement in academic success.

METHODOLOGY



Methodology is a system of methods used in a particular area of study. It usually describes how the data was collected and how was it analyzed or intervened to arise at a desired outcome.

The action research began with observation to find out the subject with conceptual problems, interview of the teachers to cross verify the result of observation and a detailed case study about the subject. After this a screening test was conducted followed by eight interventions. The detailed methodology is as follows:-

OBSERVATION- Observation method is described as a method to observe and describe the behavior of a subject and it involves the basic technique of simply watching the phenomena until some hunch or insight is gained (Kumar,2022). It involves watching a participant and recording relevant data for later analysis. It has the advantage of providing direct evidence of the phenomenon that is being studied. Many naturalist observations were done during the first month of internship in several occasions which are as follows:-

1. Class observation- Few classes taken by the permanent teacher was observed as a part of the internship activity. During that time, sitting at the back of the class a global view was available. 2. Substitution- Some substitution classes were given where many activities like quiz, debate, memory game, vocabulary games were organized. At that time a rough idea of the attention level of many students were drawn by me.

3. Classes- This was the major time where there was an opportunity to observe them and find out the one with most difficulty. The student who was detected with the most conceptual problems was often found to lose link of the class discussion. When questions were asked to evaluate the subject in the middle of the lesson, the subject could hardly answer. The same reflected in her worksheets where she failed to follow instructions.

INTERVIEW- The interview is an important data gathering technique involving verbal communication between the researcher and the subject. Interviews are used in various survey designs, in exploratory and descriptive studies. Interview can be of 2 types like structured and unstructured. In structured interview the subject is allowed to talk freely and in the later the subjects responses are limited to direct answering. (Mathers,2000). An unstructured interview of the class teacher of class 7A was taken who had the same opinion about the subject of having the same problem of attention, academic procrastination, lack of retention power. Her performance is inconsistent. She seems to perform better in short units than in long terminals. An interview of the subject teacher that is geography was also taken regarding the particular subject. She had often noticed her of being absent minded, not being able to answer correctly while catching up when given a cue.

CASE STUDY- Case study research, most often associated with qualitative inquiry has gained significance as an effective approach to investigate complex issues in real-world settings. Conducting case research is considered to be appropriate when a contemporary phenomenon is to be studied (Pandey, 2019). A detailed study about the subject's academic performance in the present as well as the previous class was done. Her performance in co-curricular activities were taken into consideration. It was found that she had been consistently suffering from various academic issues.

ACTIVITY- The subject was identified on the basis of a screening test. Screening test was done to find out where exactly the student is in her level of deficit. The subject is of class VII. Two screening test was done. One consisting of a map of India where the subject failed to identify the states and capitals and thus the industries were marked in the wrong states.

Another screening test consisted of a worksheet to write down a difference between renewable and non-renewable energy but the subject swapped the two pointing out that there is a problem in the conceptual understanding of the students which become the main area of the research. Thus the subject was chosen highlighting the problem in the conceptual understanding of the subject.



INTERVENTIONS- Intervention research is all about learning what treatments or strategies work best to improve outcomes and making a difference in what matters most to you (Hulley, 2006). Interventions are actions performed to bring out change in people.

After having conducted the screening test, eight interventions were conducted. Each intervention was an activity to develop the child, improve attention level, release academic stress and to check the consistent performance of the subject. Each activity was conducted on a single day. The supervision of the subject was done during the intervention. Each activity in the intervention differed in the level of difficulty (easy, medium, difficult).

REVIEW OF LITERATURE

- Randeep pannu (2010), "A ponder of scholastic accomplishment in connection to cognitive styles identity characteristics and alteration of adolescents". This paper bargains with the cognitive understanding in connection to the scholastic accomplishment and gathered that Cognitive styles (precise and instinctive), identity calculate, domestic alteration, wellbeing alteration, enthusiastic alteration, sex and area impacted the scholastic accomplishment of young people though social alteration and sort of school did not impact the scholarly accomplishment of adolescents.
- Srinivasa Murthy, A (2012), "Deprived understanding of youths in connection to their alteration and choice making in academics". This paper addresses the issue of conceptual understanding driving to moo scholastic accomplishment and induced that youths have developed up altogether to meet the challenges of alteration issues. There exists a noteworthy affiliation between the alteration and scholastic accomplishment of young people and bad habit versa. This might be since of the display instructive framework which gives small scope for improvement of alteration skills.
- Arti Pasricha (2015), "Study of scholastic stretch and self-adequacy in connection to ponder propensities identity and scholarly accomplishment of adolescents". This paper tended to the connection between scholarly push and self-viability of a pre-adult and concluded that there is a critical positive relationship between Scholarly Self-efficacy, Scholastic stretch and Identity of Youthful and in this manner there will be noteworthy effect on the scholarly achievement.
- Satish Kumar Gill (2016), "Study of scholastic accomplishment of senior auxiliary school understudies in connection to their learning styles and school environment". The paper uncovered that learning fashion plays an vital part in the scholarly and indeed non scholarly accomplishment of the understudies. An Person contrasts too play a crucial part in learning styles of children. The learning fashion of an person is related to components such as earlier learning encounters, openness to interpersonal and intrapersonal data, physical offices, learning environment and intrigued to learn modern things.
- Surekha Khokhar (2016), "Academic stretch and scholastic accomplishment of senior auxiliary school understudies in connection to time administration locus of control level of goal and learning styles". This paper pointed out that there is a positive connection between scholarly stretch and accomplishment of understudies and in this way the examiner centered that school specialists and instructors are proposed that the understudies are not over-burden with work as it may adversely influence their effectiveness. It is moreover proposed that endeavors ought to be made by the school specialists to energize instructors to keep up friendly relations with students.
- Suman (2017). "Study of scholastic accomplishment and ponder propensities among school understudies in connection to their meta cognitive aptitudes learning and considering style". The examination pointed to ponder scholarly accomplishment and think about propensities among school understudies in connection to



their meta-cognitive abilities and learning & considering fashion. All the three factors were detailed to have critical primary impact on scholarly accomplishment of school understudies.

•Sampa Barman (2018), “A Think about of Cognitive Fashion Passionate Insights and Locus of Control as Indicators of Scholarly Accomplishment of Auxiliary School Students”. The paper gathered that cognitive fashion is a pivotal factor that can affect scholarly accomplishment by impacting how understudies approach learning, problem-solving, memory, consideration, and inspiration. Instructors and teachers can upgrade scholarly victory by recognizing and pleasing assorted cognitive styles in their educating strategies, permitting for a more comprehensive and successful instructive experience.

•Bhimappa Rangannavar (2019), “A Ponder of Cognitive Styles Identity Needs and Metacognitive Mindfulness in Connection to Scholarly Accomplishment of Central School Understudies of Tall Achievers Moo Achievers and Beneath Achievers”. The paper tended to that the scholarly accomplishment is affected by Cognitive fashion Identity and Metacognitive mindfulness. The agent concluded by this ponder that Cognitive Styles, Identity Needs and Metacognitive Mindfulness exceedingly impact the scholarly accomplishments of understudies. Subsequently these factors are to be reflected as imperative components in central school direction and counseling.

•Jyotika Kharbanda (2022), “Cognitive Cacophony as A Determinant of Basic Considering Scholastic Accomplishment and Scholastic Separation of Higher Auxiliary Students”. The paper uncovered that Cognitive Disharmony was contrarily related to Basic Considering and Scholastic Accomplishment and tends to diminish them and is emphatically related to Scholastic Withdrawal and tends to increment it.

•Priyanka Rani (2022), “Effect of meta cognitive aptitudes Instructive flexibility and parental Support on scholastic accomplishment of auxiliary school students”. The paper concluded that the government and private school understudies with tall meta-cognitive aptitude were famous to have rise to scholarly accomplishment and the government and private school understudies with tall instructive versatility were famous to have break even with scholastic accomplishment The government and private school understudies with tall parental support were famous to have rise to scholarly achievement.

RESULTS AND DISCUSSIONS

The Action Research program began on September 6th, 2023 during the teacher trainee's school internship. After the selection of the student of class VII, with the help of concerned class teacher and other subject teachers, the action research began with the various interventions to improve the student's conceptual problem in academics.

INTERVENTION 1

The first intervention consist of giving a geography worksheet on concept mapping where she had to conceptualize in different format the major group of countries of Europe and their respective countries. Since the worksheet require creative and objective answers, it would check whether the subject is better understanding visually and being able to draw meaningful connections or not.

POST-INTERVENTION OBSERVATION

It was observed that the subject could not complete the task within the stipulated time which was 20 minutes. She took into consideration only 4 group of countries and failed to provide any justification for that choice. Some countries within the group of countries are written in capital and some in small pointing out confusion in the creative aspect. The subject is better understanding visually but requires more time to complete the task.

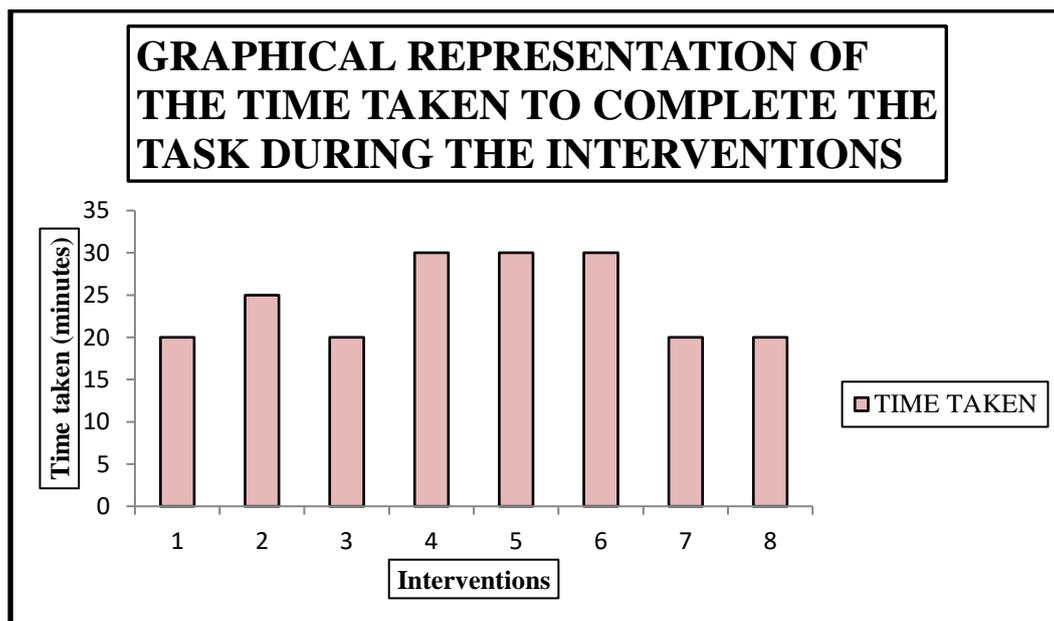
INTERVENTION 2

The second intervention was planned in such a manner so that the subject is able to memorize all the states and union territory with the help of a Mnemonic. The subject was asked to make a mnemonic consisting of all the first letters of the states and union territory with an interesting story. Since this activity requires the subject to memorize the name of the states and union territory, it would check the subject's capacity to retain information through a fun activity.

POST-INTERVENTION OBSERVATION

It was observed that the subject was unable to understand the meaning of mnemonic. She made up random letters to combine the words. She did not consider the two islands as a part of mainland. When asked, she said she did not know they are a part of India. This shows lack of knowledge and understanding but she was able to name all the states from east to west when asked in person and was able to complete the task within the stipulated time. The subject retained the information in her own way through the corrupted mnemonic made by her but she still requires assistance to understand the concepts.

Figure No.1



Source: Primary Data

INTERVENTION-3

The third intervention was planned in such a manner so that the subject is able to reinforce connections between the concepts and the application. It mainly focuses on understanding of the concepts and the lateral application. The subject is given a geography worksheet on solving 10 puzzles within 20 minutes. This would check the ability of the subject to develop connections between theoretical and practical applications of the concepts.



POST-INTERVENTION OBSERVATION

It was observed that the subject failed miserably in solving the puzzles. Out of 10 puzzles, she could only solve 2 and rest was either wrong or did not attempt to answer. The subject was in a hurry to complete the task and did not concentrate enough to solve the puzzles. She has the capability but lack of concentration was the issue here which is also a symptom of conceptual problem. The subject failed to develop connections between theoretical and practical applications of the concepts.

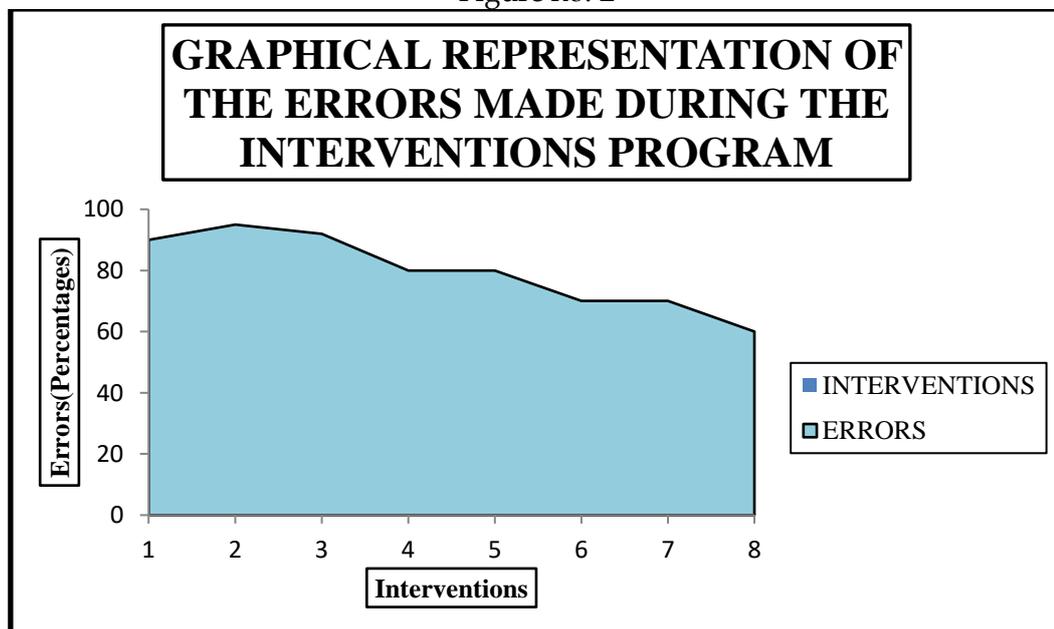
INTERVENTION-4

The fourth intervention was planned in such a manner that the subject is able to improve the reasoning skills of the concepts that have already been established in her mind. The subject is given a geography worksheet of reading comprehension with 8 questions within 30 minutes. This would check the subject's insightful writing, faster reading ability and vocabulary.

POST-INTERVENTION OBSERVATION

It was observed that the subject has shown a lot of improvements. She was able to solve 95% of the questions much before time and also correctly. It can be concluded that the subject has developed her insightful writing; she has a faster reading ability and vocabulary. The subject has a scope of improvement in developing her reading, understanding and integrating skills.

Figure no: 2



Source: Primary Data

INTERVENTION-5

The fifth intervention was planned to understand the perspective of the subject. First the subject is asked about her favorite subject and then an essay is given on that topic within 30 minutes. This would check the creativity, self-expression, critical thinking, and logical reasoning of the subject.

POST-INTERVENTION OBSERVATION



It was observed that the subject was quite innovative and very interestingly she wrote the essay. Her favorite subject is geography and she was given an essay on the physical features of India. She was able to express her point of view; she explained the physical features of India in an innovative manner with drawings and sketches. The subject is quite creative and she was happy to express herself freely. Her essay was quite critical which highlights that she was thinking and was trying to connect her previous and present knowledge. Her time management has also improved.

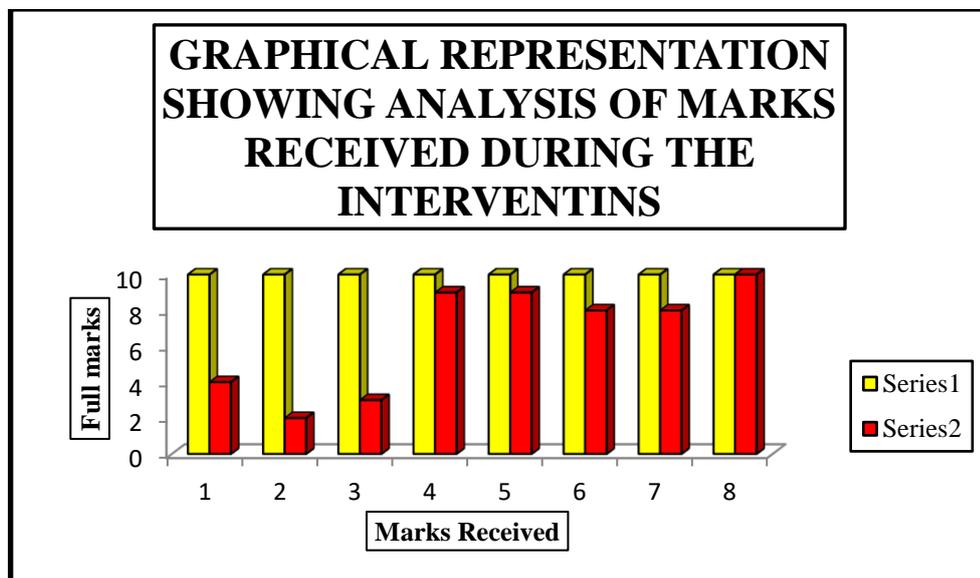
INTERVENTION 6

The sixth intervention was planned to check the self-efficacy of the subject. The subject is asked to solve two geography worksheets of two different chapters within 30 minutes. The subject was allowed to take help from the book. This would check the stressful reaction to the assignments judging the level of self-efficacy in the same context (i.e. academic self-efficacy), resulting in increased psychological distress or not.

POST INTERVENTION OBSERVATION

It was observed that the subject was able to solve both the worksheets within the stipulated time. In worksheet 1, the subject failed to understand one question but rest were all correct. The subject was not in a hurry to solve the worksheets. The subject was not stressful at all which is a positive sign towards progress. It can be concluded that her academic self-efficacy is normal.

Figure no:3



Source: Primary Data

INTERVENTION-7

The seventh intervention was planned to judge the academic procrastination of the subject which is a common symptom of lack of conceptual understanding. The subject is asked to study a chapter and come to school to give an exam of 10 marks within 20 minutes. This would check whether the subject postpones academic assignments or not which can lead to issues like worse academic outcomes and increased stress.



POST-INTERVENTION OBSERVATION

It was observed that the subject was well prepared with her lesson and was able to solve all the questions. The subject was better with objective type questions (fill in the blanks and name the following) than the subjective ones (essay type). The subject did not postpone the academic assignment and it can be concluded that the subject does not fear examination thus showing improvement with zeal, energy and there is no academic procrastination.

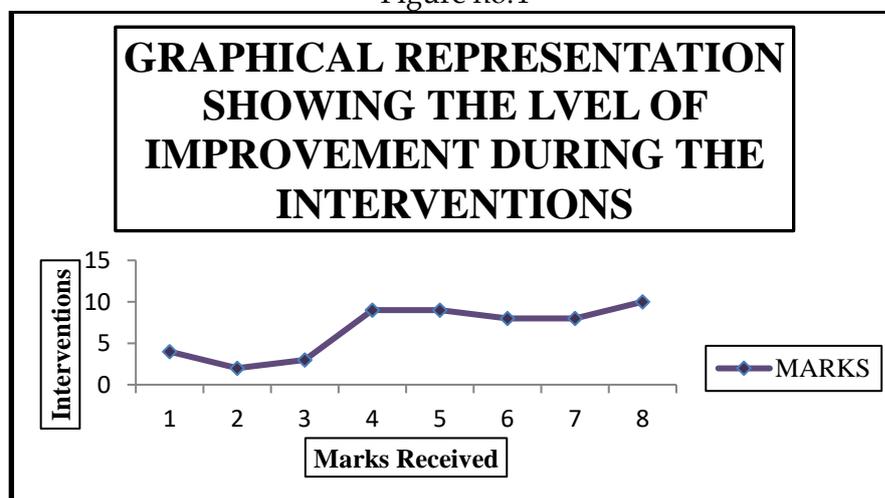
INTERVENTION 8

The final intervention was planned in such a manner so as to check the consistent performance of the subject. The subject was asked to write two conceptual based questions on a favorite chapter of geography of her choice. Since the chapter was an open-ended one, it would enable the subject to choose her likings, plan her thoughts, follow the instructions, study conceptually and express her thoughts freely. The subject was required to follow all the previous intervention, focus on understanding the concepts rather than memorizing and practice rigorously to be able to solve the answers within the stipulated time.

POST INTERVENTION OBSERVATION

It was observed that the subject has followed all the prior information that was given to her. She showed immense improvement. She was able to understand the concept and the type of answers that was expected of the questions. She planned her routine systematically, followed all the instructions, studied conceptually rather than memorizing, revised regularly and expressed her thoughts freely. The consistent performance of the subject is taking her towards a better goal. It will enhance her critical thinking and academic performance.

Figure no:4



Source: Primary Data

The interventions that were given to the students are as follows:-

- Concept mapping.
- Mnemonic.
- Puzzle.
- Worksheet on reasoning skills
- Essay.
- Worksheet judging the level of self-efficacy.



- Examination to judge the academic procrastination.
- Concept based questions to check the consistent performance of the subject.

CONCLUSION

The one month action research program had the intent of attention management with the chosen subject. After having conducted the management program, the interventions have been able to bring about many quantitative and qualitative changes in the subject. There is a gradual fall in time taken and the number of errors made reflecting the quantitative changes, and the positive behavioral changes reflect the qualitative aspect. Even though the qualitative changes cannot be measured, it can remarkably notice in the subject's behaviors and attitude. The subject is not only able to respond in the class but voluntarily participates in the classroom discourses. This was the subject can enhance her critical thinking skills and overall academic performance. Ultimately, the pursuit of excellence in conceptual comprehension is a shared responsibility that propels academic success and lifelong learning.

RECOMMENDATIONS

Visual Aids: Visual aids enhance comprehension and retention. Thus using visual aids like charts, diagrams, and multimedia presentations would help to illustrate complex concepts.

Active Engagement: The students should actively participate in class discussion by asking questions and seeking clarifications. It promotes deeper understanding of the concepts.

Interactive Teaching Methods: Implementing interactive teaching methods, such as group discussions, case studies, project method and hands-on activities would make learning more engaging and help solidify abstract concepts.

Real-World Applications: Demonstrating academic concepts using practical scenarios makes the material more relatable and easier to understand relating theoretical concept to real world.

Feedback Mechanism: Establishing a feedback system where students receive feedback on their understanding of concepts would help them to identify areas for improvement and adjust their learning strategies accordingly.

Personalized Learning Plans: Tailoring teaching approaches to cater to diverse learning styles, providing opportunities for personalized learning plans helps to recognize that each student learns differently.

Use of Technology: To make the concepts crystal clear, teachers must integrate educational technology, such as online simulations, virtual labs, or educational apps, to create interactive and dynamic and realistic learning experiences.



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