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Teachers' and Student's Perception on Shadow Education in Mathematics Learning

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Abstract

The title of this study was Teachers and Students Perceptions of Shadow Education in Mathematics learning. This study aims to cover the perceptions of teachers and students regarding shadow education. A qualitative research design specifically using narrative interviews, was employed in this study. The main tools of this study were interview and focus group discussion. The primary data source of this study were two community schools and mathematics teachers. Two students and one Teacher from each of the two schools were selected based on purposive sampling . After collecting the data themes were generated through coding. Both positive and negative perception were observed among teachers and students. A positive expectation was that coaching class would enhance students achievements while negative expectation was that regular class attendance might decrease. An improvements in teachers' economics situations was a positive aspects. Shadow education was also seen to increase students self confidence and enhance use of materials when solving mathematical problem, which were considered beneficial aspects.

***Keyword**: Coaching, Extra Class, learning Mathematics. Tuition, Knowledge*

Introduction

The term "shadow education" refers to as private education by informal education institutions or tutoring informally by individual teachers or outsiders from schools. It is common phenomenon that private supplementary tutoring is considered as shadow education. Knowledge is contributed in many ways private tuition's, coaching, extra teaching (Bary,2014). External education systems through channels like tutoring and extra classes helps enhance students educational activates. They successfully activate and transform student learning processes. Tuition classes can be attended either institutionally or individually allowing students to study outside of regular classroom setting which can help address learning issues faced by students. However students often encounter economic challenges and may need to seek financial support from their guardians. Shadow education can be expanded and made effective through pedagogical practices in Nepalese context (Mujumdar,2014). Thus, shadow education is an alternative way of teaching learning practices.

Those learning that are done in other places rather than school (Baker et.al 2011). Learning done beyond school helps for increment of academic achievements of students (Baker,1992). In shadow education, time duration is indicated by students and their course. Demand and supply are related in the class period of students within the works (Bary,2014,p.282).

After attending private coaching for entrance exams students knowledge and skills improve (Punjabi,2020). In our context coaching class are also widely conducted in many places to prepare students for entrance exams.

Shadow education is not just a mode. It helps students quality, duration, and intensity (Byun,S.y,2015). Shadow education foster the development of education in society through new methods.

Shadow education, practices enhance students ability to remember mathematics (Bratti & Staffolani,2002). Based on culture , students also remain active in mathematics. Learning can be based on the activities of the mathematics education society. Students can gain mathematical knowledge through the interactions between activities occurring in there society. Knowledge and skills can be derived from students' cultural environment.

In language teaching problems encountered in one to one classes can be resolved through collaboration (Bary,2014). The use of curricula can provided continuity in the learning process of shadow educations.

In Nepal shadow education includes coaching and tuition, as well as home tuition, classes conducted in institutes. Due to the higher number of students in cities, many tuition and coaching classes are being conducted. Research on shadow education based on students in grade 10, showed that 68 % of students studied through private tuition and coaching (Thapa,2011).

Objective of the study To explore the of teachers' and students' perception towards shadow education in mathematics learning.

The following issues deals of this study, How do mathematics learning teachers students perceptions in shadow educations, Why do mathematics learning teachers and students engage in shadow education.

Literature Review

Many article have been search to support this study. It has been examined how much pedagogy helps in supporting shadow education.

Salini Punjabi (2020) conducted a study in Delhi schools, the impact of using pedagogy in shadow educations was examined. The study looked at how coaching in school education appears, particularly in entrance coaching classes. The use of pedagogy in these classes was found to positively impact the training of both teachers and students. It was observed that this approach helps teachers and students feel closer to each other ,strengthening the relationship between them.

In may 2015 a discussion on shadow education by Soo yong Byun was presented, Shadow education is a new methods of learning. It is also a new dimensional of learning. Globally there has been a search for new forms of shadow education. The focus of shadow educations is on the important of students, and it is crucial to

understand the future of education and its applications. Shadow educations operates according to the national policy in each country and organize knowledge through the process and outcomes of educations. Shadow educations can also be conducted through the nation's broadcasting system.

According to Bratti & Staffolani in 2002 , the data was collected the different time from shadow educations mathematics students at an Ancona university Italy, The study showed that the achievements of these students increased as the results. Therefore students needs to personally present and practices as much as possible in the subjects.

This study aims to highlight the use of shadow education in Nepal's school system. It seeks to measure the direct impact of shadow education on teachers and students and to study the observations derived from this.

Morin and Baker in 2010 described private coaching as shadow education. Its use is evident in schools and college. There analysis shows that students utilize shadow education based on family background and household income.

According to Bary (2014) shadow education operates with varying intensity, scales, actors and subjects across in different locations. The use of technology in changing socio economics condition and incomes groups has introduced some variables in shadow educations. In language teaching problems encountered in one to one classes can be resolved through collaboration. The use of curricula can provided continuity in the learning process of shadow educations.

Constructivist Learning Theory in Mathematics

Teaching math through constructivist methods allows students to deepen their knowledge beyond rote memorization, develop meaningful context to comprehend the content, and take command of the learning process as an active participant rather than a sit-and-get observer. It focuses on the constructive knowledge through school and off school situation. The constructivist theory says that the learners construct knowledge rather than just passively take in information. As people experience the world and reflect upon those experiences, they build their own representations and incorporate new information into their pre-existing knowledge.

According to the theory of constructivism certain components can be considered foundational for the process of learning. Students create knowledge themselves and find meaning among themselves. The interconnection of the whole parts and individual parts of the subject matter is very important for the learning process. Along with this the motivation parts and self directed learning process are crucial for learning through shadow education. According to Piaget 1997, Students create knowledge through accommodation and assimilation. All knowledge is constructed by the students themselves based on cognitive structures.

Research gap

The finding on teachers' and students perceptions of shadow educations were derived using a narrative interview approach in qualitative research. In the context of Nepal Rupandehi of the mathematics subjects, this approach has not been used in previous research, there by addressing a research gap.

Model Data and Methodology

This study is based on narrative design of quantitative research (Creswell,2012). This study identifies the perception of learning from teacher and students. The researcher uses purposive sampling (Creswell,2012). There were two secondary school have been used such that Janajyoti and Janajagriti secondary school. The schools that are close to their place of residence have been taken, because it is easy to come and go their. For each schools there were chosen two, two students on class nine and ten. Students were chosen based on their experience in private tutoring was done. The teachers were chosen based on their experience more ten years. According to research the real name were change or replace on pseudonyms. In this study two tools (FGD) focus group discussion and interview were used. When the research conduct FGD, 1 to 1.50 time was taken. Each student was interviewed for 35 minutes, different from office time. I observed the students very closely and interviewed them. I made notes in the diary I had recorded FGD and transcribed it. The data was analyzed for the method of categories and code ((Strauss & Corbin, 1998; Charmaz,2000)).

FGD focus group discussion

Based on the background activities, and experience of the students a specific topic was chosen for a focus group discussion. The participants in this group were guided by a group facilitator. This focus group discussion was an activity conducted between teachers and students in the school.

Interview

An interview is a two way interaction between the researcher and the respondent in a specific situation. Questions were asked considering the respondent fixed time. The researcher notes the respondent's answer in a note books and performs coding. The questions were designed to address the research problem.

Results and Discussion

The Benefits role of shadow educations of Students Perceptions

In this study aims to measure the perceptions of teachers and students through narrative interview. Students learn based on social interaction and cultural context (Vygotsky,1978). The results were categorized based on them.

What have you observed in the perception of shadow education when studying mathematics ?

S1 Mathematics is an intermediate subject for me. Therefore to enhance my knowledge of mathematics, I have taken tuition classes at an institute. The tuition classes I took have to improve my achievements in mathematics according to my efforts. Extra classes and tuition classes boost my confidence level. Achievements are attained according to the work done. Shadow education clarifies mathematical concepts and helps resolve any confusions. The given exercise can be solve in a step by step and complex manner.

S2 Studying mathematics in shadow classes has made me very happy. Informal education also contributes to achieving good results. Tuition classes bring students closer together, fostering relationships among students from different societies. I view shadow education as an opportunity to learn among these diverse groups.

S3 My parents advised me to take tuition classes. It is understood that after attending tuition class the results would be better. I am week in mathematics. Studying in a group makes it easier to solve problems. Shadow education is a platform for knowledge. Now knowledge can be constructed from the knowledge shared among many individuals.

S4 I did not need to take shadow education classes. In my opinion studying in regular classrooms is better. Shadow education makes students lazy and irregular in classes. It discourage the habits of studying. I took tuition classes solely based on my parent's belief that shadow education would improve my achievements.

The Benefit Role of Teachers Perceptions of Shadow Education

What is the perception of teachers regarding teachers educations ? How are mathematics classes conducted in shadow educations ? How long do shadow classes ?

T_1 If students are active in shadow class they can easily understand regular classes. Economically shadow education helps me increase my job salary. I have taken a 45 minute period for mathematics classes. I have allocated time for mathematical calculation. I manage the class room based on the number of students. I engage students actively according to the given subject matters.

T2 I have scheduled shadow education at a different time then regular school hours with each class lasting 45 minutes . Students obtained find mathematics challenging and are surprised by it. Classes are conducted according to the mathematics content using materials to motivate the students. Those who achieves less in mathematics are taught using a collaborative learning approach.

It is the remarked here about the perception of benefits for teachers and students from shadow education.

S1 I have fully benefited because I needed to do better in some subjects.

S2 After taking extra classes I had passed difficult subjects in exams.

S3 I had to pass the exams, increase my knowledge of the subjects.

S4 I have benefited more than from regular classes because the teacher pays special attention to me.

Teachers have benefited economically. It is not only about the students achievements but also about the teachers' extra incomes. Teachers have more opportunities to use content to enhance the course and explain it to subjects through shadow educations. They can provide individual care to students. As students interest in studying increases the achievements of weaker students improve. Students who miss regular classes have to attend coaching classes to pass many subjects in the exam. Some students who regularly attend coaching classes do not show interest in formal classes. Therefore both teachers and students benefits from coaching classes. Hence the habit of hard work among students gradually increases.

The real name of teachers and students were not mentioned with their consent. In coding terms the mathematics teachers were transformed to as T1 and T2. The students were referred to as S1,S2,S3 and S4. Teachers T1 and T2 had over 10 years of experiences.

The teachers share there perceptions of shadow educations based on their experiences while teaching. The aim was to measure there perceptions using their classroom experience, tutoring experience, coaching experiences.

The teachers conducted the shadow classes for mathematics at the school during time different from regular office hours, both in the morning and evening. Some time they would also go to their tuition centers to conduct shadow classes. Based on the teachers experiences, these mathematics shadow classes were sometimes completed in a package format as well.

According to teachers shadow classes for mathematics were extremely important to advanced the students learning process, The school schedule made it difficult to cover the entire curriculum, necessitating the use of shadow education. Mathematics required more time compared to other subjects. Therefore shadow education and the mathematics subject were considered as alternative ways to complement each other.

The researcher asked the teachers a question about whether they could allocate 45 minutes daily for shadow education in mathematics. The teachers' response was as follow:" The routine in the classroom has limited and fixed time."

Coaching class are conducted as per the needs of students. Shadow education develop habits of study, provides additional learning materials and offers guidance (Park,2011). In comparison to other subjects there were students scoring lower marks in mathematics. A grade 10 student from a community school has been coded as S1. He was achieved excellent marks in mathematics subject. His guardians were from the middle class. He attended tuition class in morning and paid a thousand rupees per subjects.

S2 student had better knowledge in mathematics. He use to Talk tuition class and extra classes. He came from a high profile family. He mentioned that he completed the course through shadow education as the regular classroom session were not sufficient.

S3 student regularly took shadow classes and achieved better results in mathematics.

S4 student took extra classes at an institute. He was a weak student in mathematics, and his parents encouraged him to take extra classes. The parents believed that taking extra classes would improve his score in mathematics.

Teacher claimed that students experienced an increase in cognitive and practice when attending coaching classes, which led to higher scores during exams. In supplementary tutoring, both teachers and students were actively engaged. Practices brought changes in students' behavior. Students knowledge is constructed based on activities in society making shadow education a platform for social constructivist knowledge. Shadow education facilitates collaboration among students, allowing them to exchange knowledge and skills.

Conclusion and Implication

This study aimed to understand the perceptions of students and teachers regarding shadow education in the subject of mathematics. The perception of mathematics learning in shadow education was measured through narrative interviews. Both positive and negative perception were observed among teachers and students in shadow education. Teachers and students believe that shadow education provides supplementary input in mathematics. It helps enhance students achievements by improving mathematical proficiency and competency. Teachers can immediately apply exam oriented teaching in mathematics and improvements in pedagogy and student centered teaching were observed in the classroom. For teachers with low salaries in schools shadow education provides additional income through tuition classes. However it was observed that after attending tuition classes students' attendance in regular classes decreased.

It is necessary for policy makers to establish regulation to operate shadow education. Mathematics is particularly essential for the SEE examination. This makes it easier to solve problems in mathematics. Therefore the government needs to improve the quality of community schools and correct any errors. To make teaching and learning in mathematics more effective the government should enhance both the physical and educational aspects of community schools.When students takes private tuition, it place a greater financial burden, on parents. Despite this financial burden, parents are increasingly opting for coaching and tuition because they believe it will lead to better results in the SEE examinations.

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