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Effective methodology to improve teaching-learning process and teacher education in online classes

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Abstract---Online teaching and online classes are the essential trend to learn a new skill. In this paper we discuss improving the teaching-learning process for online classes based on the previous teaching experience. The class has many students with variety of unique knowledge. The teaching will be the same for every student. But the students learning will differ based on their perception. It is very difficult to monitor the student during the online class session. We proposed some techniques to improve effectiveness of online teaching classes and improving teacher education. The teaching should be creative as well as innovative; so that it will reach all the students. The student involvement is needed for achieving the optimal online classes. Student staff healthy relationship should be maintained as an outcome of these techniques.

Keywords---online classes, teaching learning process, teacher education, effective learning.

Introduction

Learning is a lifelong process. If a person starts learning at the age of four or five, then he continues learning till the end of his life. This statement is true for all the students those who are studying any course. Teaching is the process of transforming knowledge into other people. A teacher's role is to make a student understand the specific topic without any difficulties. A student can come across from various cities, villages, and more rural areas. The major problem faced by the students are the communication. Most of the students studied higher secondary in their own mother tongue so they do not have proficiency in English language. Also, they may not able to follow the faculty explanations in the class room. This is the case in the past. Now the students are getting advanced and having more informative about recent trends and technologies. In the current pandemic situation due to COVID'19, The classes are handled in online mode by faculty members. Some institutions allow the faculty members to take class from their home or at work place. The online classes are the new era of teaching. It improves the efficiency level of teaching learning process.

Online Class

In the recent years, online classes has been increased in many numbers. So many portal's available to offer online courses for students and staffs. Some of the online resources are Coursera, NPTEL, Swayam, Udemy etc. Online class can be conducted using the following methods.

- Faulty or teacher can create a link for their subject in any of the online class room (Google meet/Zoom, etc)
- The same link can be shared with student
- Student can login to the link as per the schedule
- Then teacher start sharing the power point presentation or share their entire screen based on the requirement and start teaching

This is the general process in online class/online teaching.

Problem Statement

In online class, teacher may not able to monitor whether the student is listening the lecture or not. This is because the video of all students has been muted during class to avoid internet connectivity issue. The problem here is the knowledge transferred to the students not acknowledged by them. The students may present in the online mode but may not be listening the class. This will not ensure efficient teaching learning process. In the proposed method, this problem has been solved by using some techniques.

Existing System

Existing system consists of class room teaching either in black board or LCD projectors. In this method, students physically present in the class room and listen to the classes. The teacher can address any topic or subject to students directly. More interactive session can be available in this method. In online

classes, the major problem is to make the learners enroll and engage. The most of the students just login to the online class and they went out to do some other work. Those students not listening the classes. They simply want attendance and the faculty may not know whether the student is listening or not. Teacher or faculty may not able to monitor this process.

Literature Survey

Two rising analysis focal areas were teacher professional experiences of teaching on-line and on-line teacher education in historically experiential specializations, like drama and out of doors education [1]. Common themes concerning the participants' peer-group mentoring experiences embody the role of the skilled standards, the sensible nature of the activities, hyperbolic confidence to show and feelings of happiness and being supported [2]. Lesson observations is accustomed examine the content information manifesting in teaching actions and stirred up recall interviews offers insights into teaching selections [3]. The research in future can address the following. (1) on-line instruction and learning; (2) ways that to boost on-line interaction to satisfy numerous students' learning styles; (3) ways to relate learners' outcomes to on-line delivery system variables, to learning theories and research, and to numerous models of the course design; (4) improvement of the look and management of on-line discussions; and (5) the value effectiveness of on-line courses [4]. In [5] known patterns of positive social-emotional reactions and team learning activities within the information. The findings of the analysis of the team discussions provided further info concerning the interpretation of the cooperation likewise because the emotions team members knowledgeable throughout their cooperation.

The current study highlights that the utilization of observations together with team discussions is suitable to realize comprehensive understanding of team learning in regard to emotions throughout cooperation. [6] Student teacher relationship qualities area unit believed to support the event of students' emotional well-being and positive sense of self, psychological feature orientations for social and tutorial outcomes, and actual social and tutorial skills. [7] They conjointly offer a context for communication positive and high expectations for performance and teaching students what they have to grasp to become knowledgeable and productive voters. [8]. The calculable impacts of parental job loss on children's happiness additionally seem to be unrelated to its effect on family financial gain, parent-child interaction, and children's faculty expertise. along these findings supply new psychological proof of state effects on children's living. Teachers might at first be irritated with the cluster of malcontent peers and feel challenged to take care of order. [9] A teacher's 1st impulse could also be to split up the cluster (e.g., create them sit apart, forbid them to figure together, [10] take away one from class). academics may additionally attempt to avoid conflict by ignoring the malcontent coevals, permitting them to get by while not mastering the fabric and spending them on to another teacher. In either case, the teacher's response reinforces the power of a malcontent coevals and encourages a pattern of continued disaffection [11].

Proposed Method

In the proposed method, the teaching learning process can be improved by using certain methods or techniques. The existing traditional method of teaching can be improvised by online teaching methodology. When a teacher takes class online, students are allowed to join the class by the given link. Some institutions provide their domain e mail id to students to staffs to access online classes. For example, in google meet, if the user joins with same domain, it need not ask to join. [12] It automatically allows the persons from same domain into the meeting room or class room. To improve teaching learning process for online classes following methods can be used:

- **Random Questionaries**
To improve the students learning in online class, the teachers can ask the questions to any of the student during the session and ask them to answer. This can make the students aware of the topic which is covered and also they can able to listen the class with full concentration.
- **Involve Parents in The Classroom**
Second method is to make the parents to be part of class. Let the parents also join the online class and monitor for their ward's activities. This can allow the parents to understand abilities of their ward also they can gain knowledge in the subject. Parents need not to be in the class for whole session, But they can allowed to enter the online class at any time and watch for the behavior.
- **Dealing Isolation**
Online learning is brimful with opportunities for the scholars to move with one another. From on-line discussion forums, emails, messages, SMS. etc students will keep connected in an exceedingly variety of how. to boot, with on-line learning, the room interaction isn't solely restricted to room hours, and students have the choice to succeed in intent on the academics and peers on the far side room hours.
- **Conduct a Test as Game**
This strategy allows the students to actively participate in the game like quiz. Many open access tools and websites such as Kahoot, Quizizz are available to conduct such tests. Teacher has to prepare the test in the specified platform. Preparation of test includes questions setting with multiple choices, indicating right answer in the portal for evaluation. Once the questions are ready the teacher can share the quiz link to students.

In addition to the above methods, peer group mentoring also can be added to expel the students in their own perspective. This peer group mentoring should be conducted every week with students from different level and get the feedback from the students about the last week classes, then record the feedback and include action taken report in the mentoring. Another method is Collaborative learning, [13] In this method students with different skills are sit together and share their knowledge in specific domain. The knowledge from one student is spread to other students in the community. It is used to make the students education to next level and also to increase the pass percentage for individual subjects.

Results and Summary

The results of proposed method shown in the figure 1. The number of students actively attending the online class has been improved by using the proposed methods. In existing system only around 30 students are actively listening the class but after using the proposed method this count has been increased to 55. These results are obtained for the class consist of 60 students in a class. The data has been collected from various institutions and the final report has been generated. The number of classes considered for evaluation is 124.

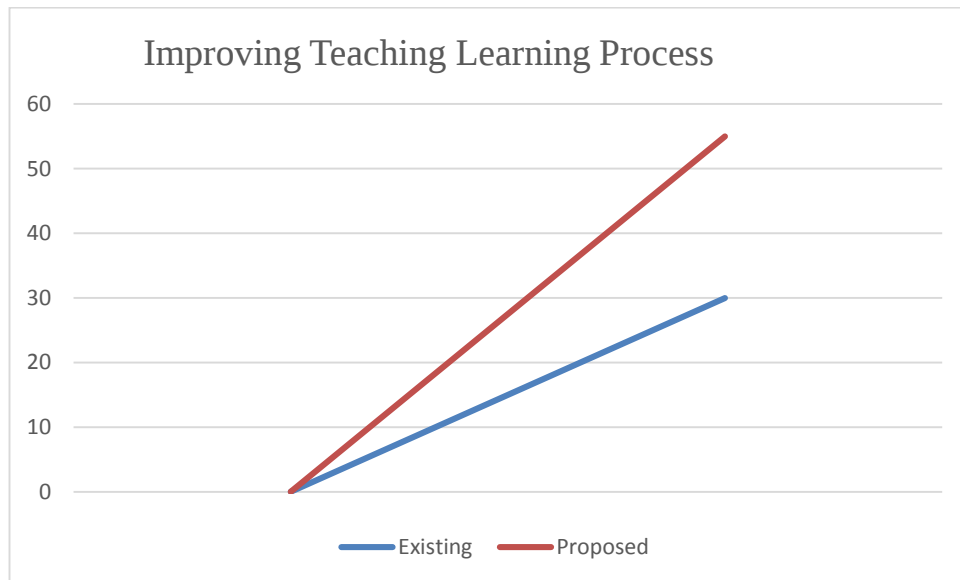


Figure 1. Results

Table 1
Comparison of methods

Criteria	Existing Method	Proposed Method
Students Interaction Level	52.5%	88.4%
Students test Performance	68.2%	86.6%
Students Listening class	32.4%	84.2%
Students Knowledge Level	54.6%	83.8%

The table 1 shows the data of student's performances, knowledge level and percentage of students listening the class effectively. Also, number of students made interaction with faculty during the class has been increased in proposed method. The proposed method provides the better results compared to the existing method of online classes.

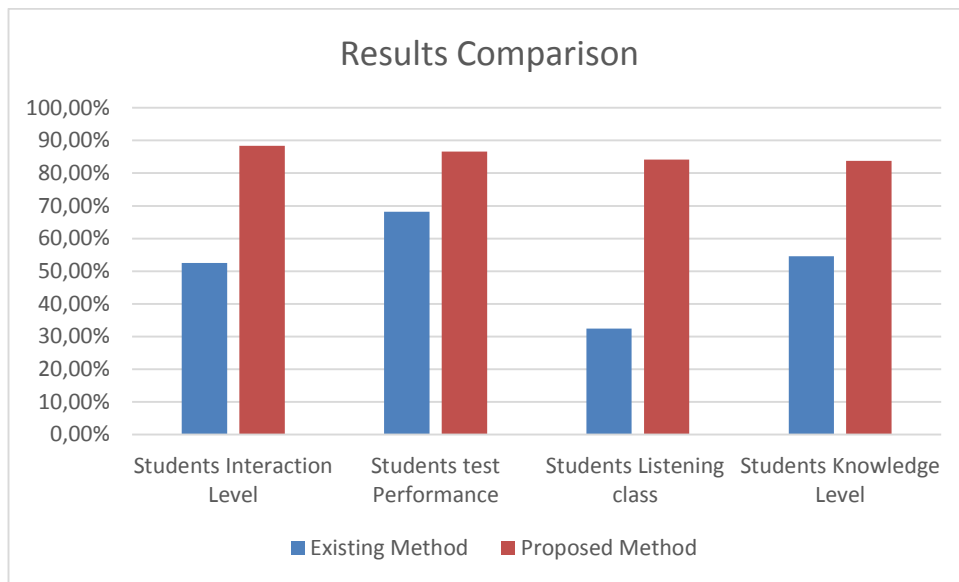


Figure 2. Results Comparisons

The reason for this improvement is the students can be aware of two factors. First, teacher can ask questions to any student at any time during the class session. Second, parents also be part of the class. Parents are given provision to enter into the online class and monitor their ward. These two factors make the students to attend the class with fullest involvement and they can gain more knowledge and new skills.

Conclusion

The online classes can be used effectively by the teacher and student by using the proposed methods. A teacher can ask a question to specific student randomly, so that all students can be aware of the class during online mode. It will improve the knowledge transfer strategy efficiency. The final outcome for online class should be the student's skill development as well as their mental strength improvement. Many online platforms available free of cost, so a student can learn any subject without the help of mentor or teacher. But if the specific topic is not clear then the student may approach the mentor for clarity. The new education policy in India allows the students to think naturally and come up with innovative ideas of problem solving. Teacher education also important for development of students' knowledge. The ultimate goal for teaching learning process is achieved by using this proposed method in online classes.

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