

Innovative Techniques For Teaching Technology In Classrooms- A Case Study

Manikant Roy¹, Sukanta Ghosh ¹, Rishi Chopra²

¹School of Computer Science & Engineering , Lovely Professional University, Punjab, India

²Research Scholar, IKG Punjab technical University, Kapurthala, Jalandhar

Abstract

It's very challenging to teach the theoretical and conceptual yet very important subject in technology courses such as Bachelor of Technology, Master of Computer Application, and Master of Science. Often it is because the courses are theory intensive and most of the times require rigors mathematics and such type of the courses are introduced in the first semester itself as these courses are foundation stone of the entire degree and also for the forth coming career opportunities. Most of the time students find it difficult to grasp and develop interest in the subject because of several reason. One of the main reason is often teachers do not introduce the subject with proper motivation. Hence the student's interest starts decreasing, especially technological subjects such as computer science which are dynamic in nature. Hence a proper motivation must be included before starting the lecture. For example if you are teaching Integrated Circuit in class, you must narrate the story of inventor Jack S Kill by who later won the noble prize etc. Such kind of motivation helps student to be more curious. This paper presents some of the best practices adopted in technology teaching in classrooms which helped in better understanding of subject to the students.

Keywords: Higher Education, Teaching Techniques, Innovative Pedagogical Models.

1. Introduction

Teaching is very holistic process, it must not be considered as duplex process only. When it comes to technology teaching it becomes very important to introduce the subject in a proper way so that student can get panoramic view of subject they are going to learn, This practice not only helps in creating interest but also taking the curiosity to next -level . There are many subjects which are theory and mathematics intensive, which is considers as dry subject by the students specifically applied courses such as engineering, computer application but at the same they are very important building blocks of degree program. [1]

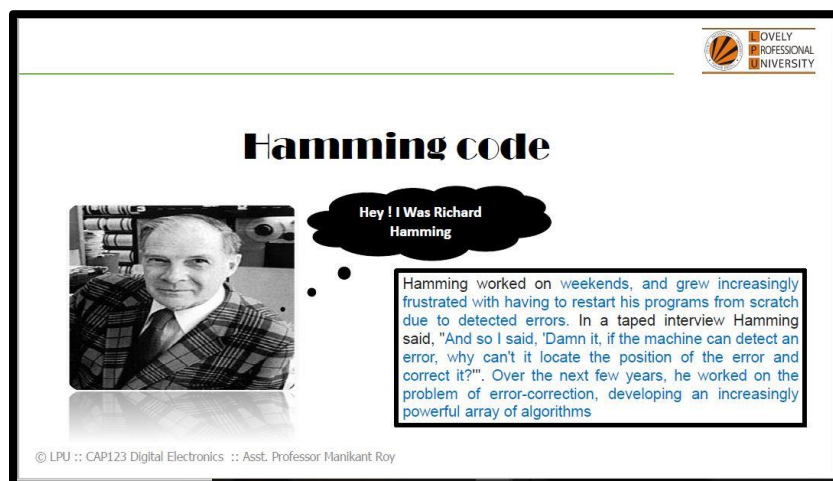


Figure: 1. Motivation for hamming code topic

2. Methodology

One of the very important aspect of technology teaching is being contemporary. Teachers should be aware about the latest happening in the field via various medium such research paper , journal , conferences and more importantly the media coverage citing the example from media coverage say newspaper clipping encourages student to read more about the subject and go beyond the syllabus .

2.1 Use of Newspaper Clippings

Connecting classrooms teaching to the real life case study is very important .Newspaper clipping about the recent trends in technology helps immensely to deliver the subject, if shared in classrooms in regular lecture content which can be relevant to the subject. For examples following media clippings were used in MCA, MSc, BCA, and BSc Classes at Lovely Professional University Punjab, India and it is found that student got motivated and took more interest in the course digital electronics.



Figure 2.
Clipping
CAP123

Course



News
used in
Digital
Electronics

Figure3. News Clipping used in CAP123 Digital Electronics Course

2. 1.2 Use of Role Play

Role play can be one of the effective technique for technology teaching in classroom. Role play is very easy to conduct into lectures as it does not require any special arrangement or props. For examples Roleplay was used in CAP 208 Computer Organization and design used in MCA, MSc. BCA. and BSc Classes at Lovely Professional. Full video can be accessed here <https://youtu.be/UfvJa-B2mJ4>.

There are following advantage of conducting

- Demonstration of concept in easy and lucid manner so that all learners can grasp it.
- Breaking complex and abstract concept in simplest form.
- Better understanding of subject.
- Active Participation of students
- Long term retention of concepts learned



Figure 4. Roleplay Activity conducted in CAP 208 Computer Organization and Design

2. 1.3 Developing New tools

To impart quality teaching, teacher can develop simulation tools which can be used by the students to relate the theory with practice. One of the tool was developed and used in CAP 123 to teach the basic logic gates function. [2]

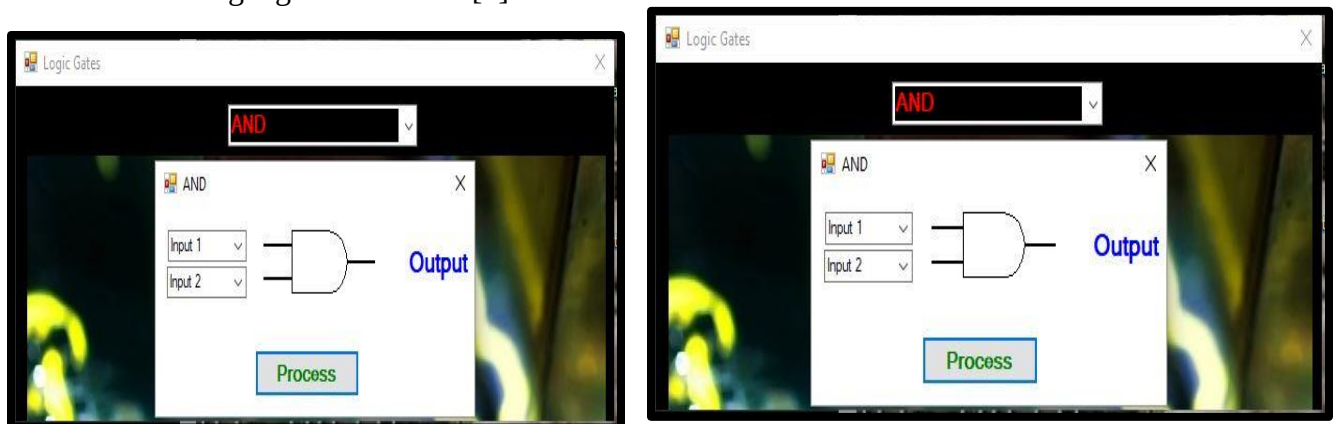


Figure 5. Simulation Tool used in CAP 123 Digital Electronics

3. Result

The methodology section discuss the some of the innovative technique used in classroom. After the course completion a post course completion survey was done among student to know the effect of techniques. In the survey 78 student participated from across the stream. Questionnaire survey

can be accessed from here <https://goo.gl/qWK3CH> . It was found in survey that innovative technique helped student in better understanding of the subject.

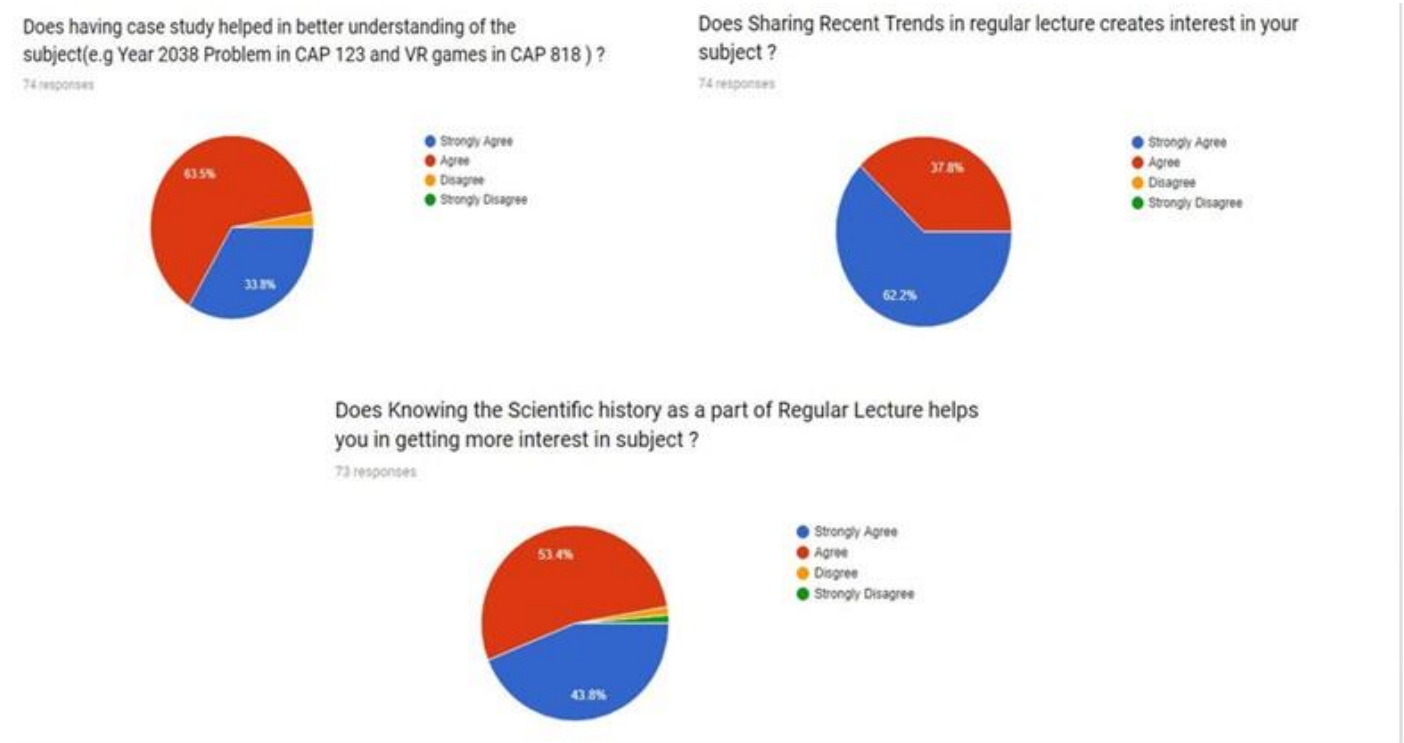


Figure 6. Post Course Completion Survey Result

4. Conclusion

Teaching technological subject in classrooms can be very engaging and interesting if the best practices are being used . Innovative techiques helps in imparting quality education and at the same time ensures that learner are able to grasp the concept . Hence a teachers should always aspire to find new ways to teach and make classroom teahcing contemporary .

Refrenceces

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