ELECTROMORPH: A COLLABORATIVE, EXPERIENTIAL AND PROJECT BASED ELECTRONIC LEARNING SCHEME

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ABSTRACT
Collaborative learning is one of the finest teaching strategies that enhance student engagement and erudition ability. The process of learning through experience in form of hand on experience involves students in a very large outspread. When project-based learning is combined with collaborative learning system, better understandability becomes achievable. This paper proposes a collaborative, experiential and project based electronic learning system. The undertaken collaborative projects are listed along with end result.

Keyword: Electronic, Project, Collaborative, Learning, Experiential

I. INTRODUCTION
Experiential learning is diverse from memorization learning, in which the learner plays a comparatively passive role. It is related to, other forms of active learning such as action learning, adventure learning, free-choice learning, and situated learning.Compared to experiential education, experiential learning is concerned with more concrete issues related to the learner and the learning context.
Collaborative learning is a state of affairs in which two or more individuals attempt to acquire something together. Contrasting individual learning, folksinvolved in collaborative learning benefit from on one another's resources and skills.
Project Based Learning is a teaching method in which pupils' advance knowledge and skills by working to investigate and reply to a reliable and problem or challenge.Students work in teams to solve application problems that allow them to apply and expand on the knowledge they have just learned and tested.

II. ELECTROMORPH
'Electromorph' was a digital computer fundamental exhibition conducted by I BCA students, Department of Computer Science, Christ University. The activity involved all the three types of learning models such as collaborative, experiential and project-based learning system as shown to figure 1.

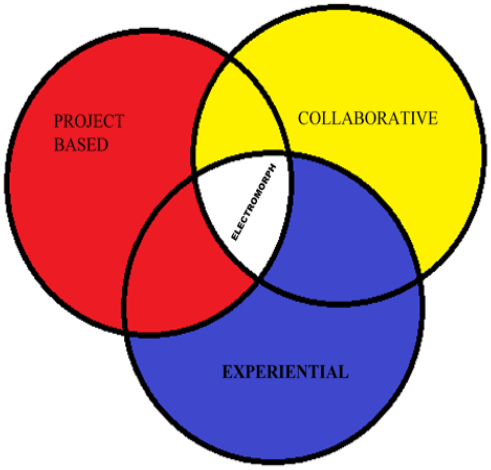

Figure 1: Formation and combination of Electromorph

A group of 66 students formed teams consisting of three to four members. Totally 17 teams were formed. Students were asked to select topic on their own r on the topics which they have come across in digital computer fundamental theory concept discussed in the theory class. The list of the project title suggested and implemented by the students is listed in figure 2.

CRYSTAL BALL
ELECTRONIC DICE
FASTEST FINGER FIRST
BURGLAR ALARM
STRESS ALARM
WATER LEVEL ALARM
CLAP DETECTOR
STATIC ELECTRICITY DETECTOR, ENCODER
LOOP GAME, TOUCH ALARM
BINARY ADDER GAME
FAST GAME
SIMPLE COMBINATION LOCK
ELECTRONIC PIANO
RHYTHM LED
LED KNIGHT RIDER CIRCUIT
STOP WATCH
IR REMOTE

Figure 2: List of collaboratives, experiential projects incorporated

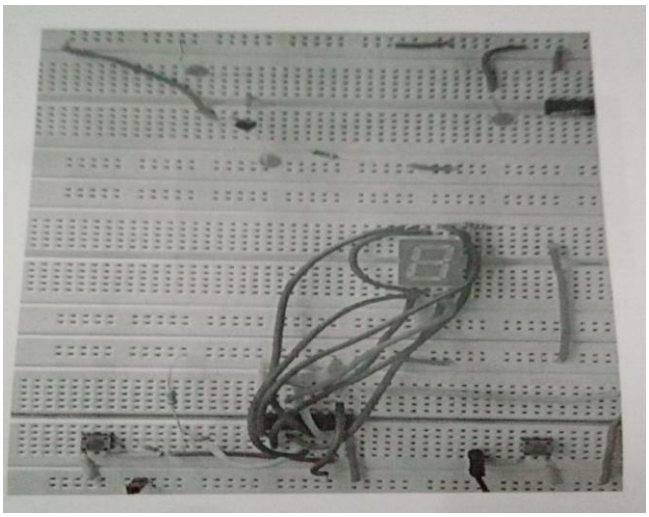

Figure 3: Snap shot of Electronic Dice experiential project

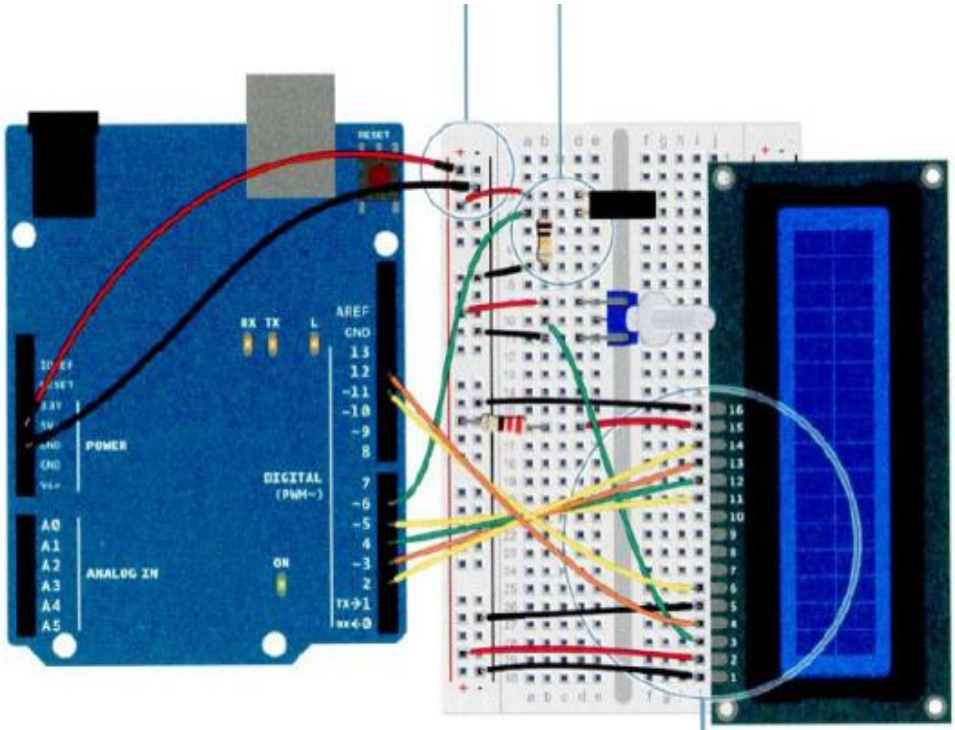

Figure 4: Snapshot of Crystal Ball collaborative project

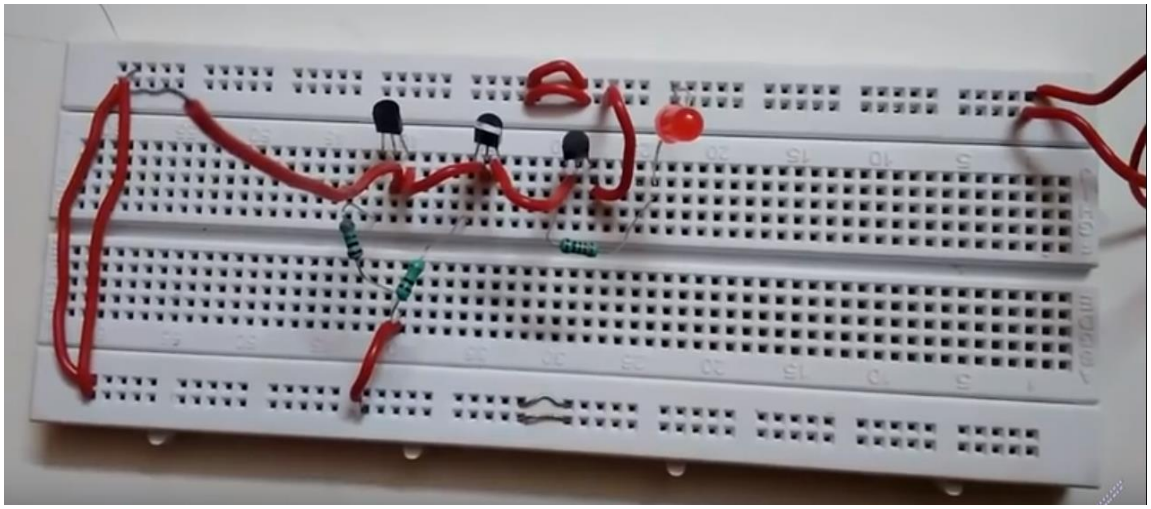

Figure 5: Snapshot of Static Electricity Detector project

The involvement of the students was enormous. Figure 3,4 and 5 shows some snapshots of electronic projects done by the students such as Electronic Dice experiential project,
Crystal Ball collaborative project and Static Electricity Detector project

III. CONCLUSION

Experiential education is different from traditional learning, in which the learner plays a moderately passive role.Collaborative learning is one of the finest teaching strategies that enhance student engagement and erudition ability. 'Electromorph' engaged the students in a high level. Learnability based on collaborative and experiential project work enhanced to 93.3% as per the feedback collected. The results prove that the suggested learning system can be fused for other subjects.

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