A Study on Outcome Based Teaching and Learning Method by Implementing Project Method

Mrs.Shobha Suresh Patil
Assistant Professor
DKTES & TEXTILE AND ENGINEERING INSTITUTE ,ICHALKARANJI

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Abstract - Active learning has attracted strong advocates among faculty looking for alternatives to traditional teaching methods. Project method has been recently introduced as an add-on teaching method. It has been selected to be part of the curriculum to inculcate interpersonal skills. In this study, the researchers aim to investigate students' pre and post behavioral changes while learning through project method . This paper discusses the feedback on students' perceptions regarding the implementation and effectiveness project method t. Findings show that most of the students show positive perception of using it as a teaching method and agree to learn using the same method in the future.

Keywords - Project method , Active learning, teaching learning method, assessments, learning outcome, demands.
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Introduction

Effective teaching is important because teaching is based on helping students'progress from one level to another in a more sociable interactive environment and to get the approach right to get students to be independent learners. Effectiveness does not mean being perfect or giving a wonderful performance, but bringing out the best in students. A **teaching method** comprises the principles and methods used by teachers to enable student learning

Lecturing and demonstrating are teacher centered teaching method. In this method, the primary role of teachers is to pass knowledge and information onto their students and students are viewed as "empty vessels" whose primary role is to passively receive information. Student learning is measured through objectively scored tests and assessments.

 In Student-Centered Approach to Learning, teachers and students play an equally active. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction.

Enquiry based learning is one of the student centered learning approach. It is based on student investigation and hands-on project. Enquiry-based learning is a teaching method that casts a teacher as a supportive figure who provides guidance and support for students throughout their learning process. In this method teacher plays the role of facilitator and delegator. Student learning is loosely guided by the teacher, and is focused on fostering independence, hands-on learning and exploration.

collaboration is also student centered learning approach which allows students to actively participate in the learning process by talking with each other and listening to others opinions. Collaboration establishes a personal connection between students and the topic of study and it helps students think in a less personally biased way. Group projects and discussions are examples of this teaching method. Teachers may employ collaboration to assess student's abilities to work as a team, leadership skills, or presentation abilities.

 Microproject is one of the method which links with collaboration approach and enquiry based learning.It is the best example of active learning. It is also known as self help method, something that an individual can do to improve their own skills.

A micro-project is "self-help". All micro-projects have four stages:

Preparation – analyzing families own personal situations and identifying needs in terms of activities required to improve their skills

Planning – selecting an activity that families can do to meet their needs

Implementation – doing the activity

Review – reporting on the success or problems in the activity in meeting their needs

Methodology

Data collection procedures

This paper reports on a survey on use of project method in learning chemistry with a group of first year Diploma students at the Department of textile technology. A total number of 56 students participated in the study. It was a heterogeneous group made up of students from different intellectual level. The projects were carried out by the students in chemistry laboratories. The department has four chemistry laboratories consisting of instruments, glass wares and machines required for the project work. The students have allotted sixteen hours to complete the project work.

Instruments

The questionnaire for the Student Perception of Using micro- project as a Teaching Method Consisted of 37 items in six sub-sections namely experience of students before learning, teaching and learning process, students and teacher interaction, assessment and other set work, demands made by the course unit, and learning outcomes.

All the sections are clustered by different questions in the questionnaire. In addition to the questionnaire prepared, the students were asked open-ended questions to express the ideas about learning through micro-project. Data collection and analysis to be able to evaluate the effectiveness of micro-project as a learning method, it was decided to conduct a questionnaire with the students in the class. When the questionnaire was taken, participants had completed their project in three months.

Results and discussions

The basis for the deductions in this study was the data from the questionnaire "The approach to learning and studying through micro-project". The findings presented below are about the analysis of the survey of six sub-sections from this questionnaire: Figures 1, 2, 3, 4 and 5 present the distribution of surveyed students' answers according to the first sub-section – experience of the students before learning.
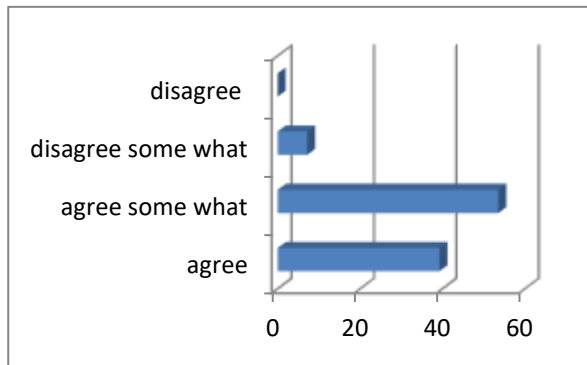
Fig.1. In making sense of new ideas, I have often related practical or real life.

Fig. 2. On the whole, I've been quite systematic and to them organised in my studying.
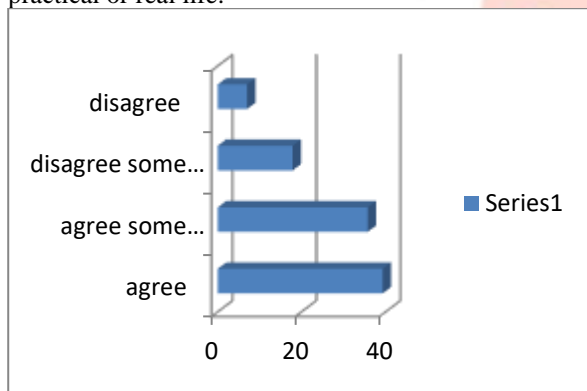
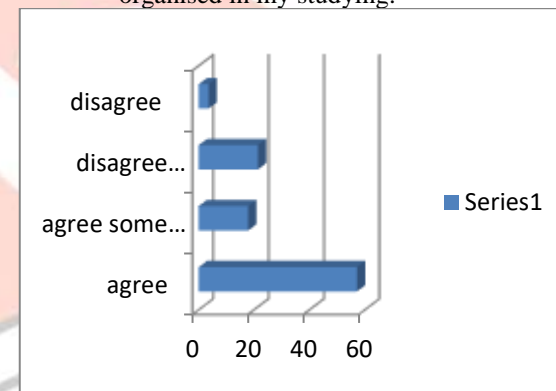**Fig.3 .**I've organised my study time carefully to make best use of it.

Fig. 4. I've tried to find better ways of tracking down the relevant information in this subject.
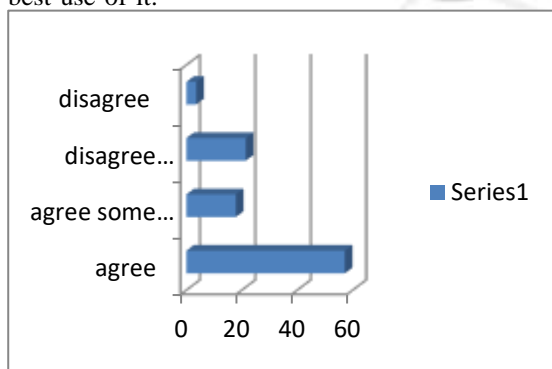

Fig.5. If I've not understood things well enough when studying, I've tried a different approach.

As seen in the figure 1, it is observed that, 53% student somewhat agree with the fact that, in making sense of new ideas, they have often related them to practical or real life contexts.

Figure 2 demonstrates that 50% students were somewhat agree that they were quite systematic and organised in their method of study. Figure 3 indicates that 39% students have organized their study time carefully to make the best use of it

According to figures 4, more than 57 % students agreed that they have tried to find better ways of tracking down relevant information in this subject. Fig. 5 indicates that 46% students have agreed that If they have not understood things well enough when studying they have tried a different approach

Teaching and Learning Process

Figures 1, 2, 3, 4 and 5 present the distribution of surveyed students' answers according to the second sub-section – experience of the students during teaching and learning process.
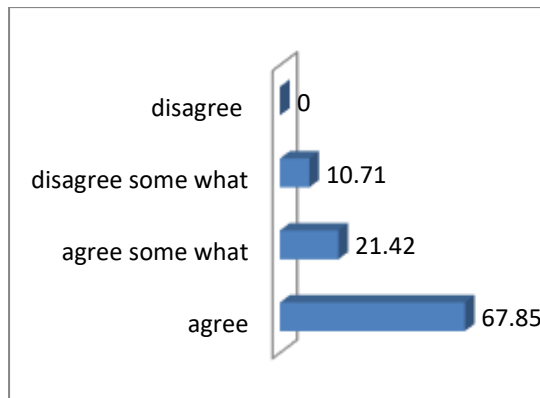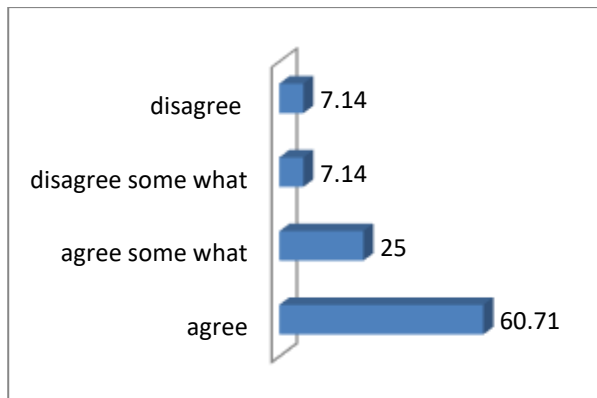

Fig.1) We were encouraged to look for links between **Fig.** 2)The handouts and other materials we were given   subject and this unit and others.   helped me to understand the unit
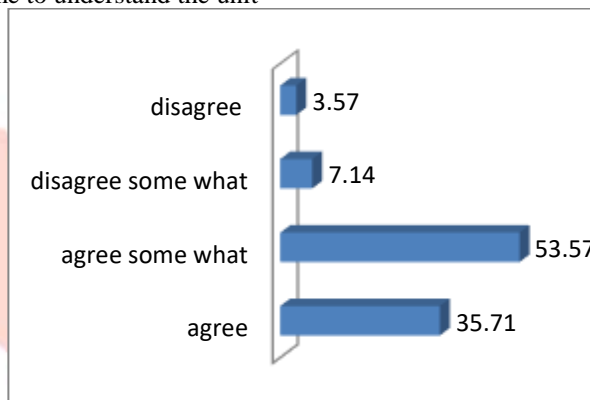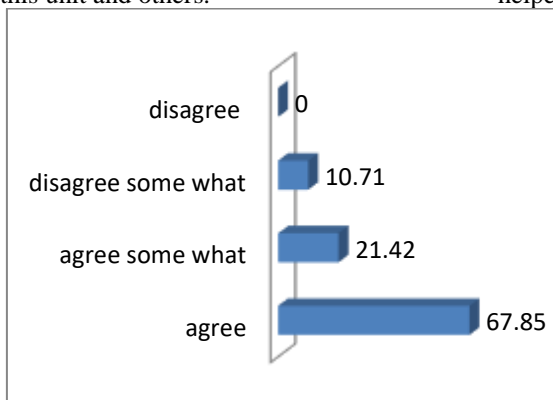
Fig.3)We weren't just given information; staff   **Fig.** 4) The teaching encouraged me to rethink my   explained
how knowledge is developed in this subject   understanding of some aspects of the   subject
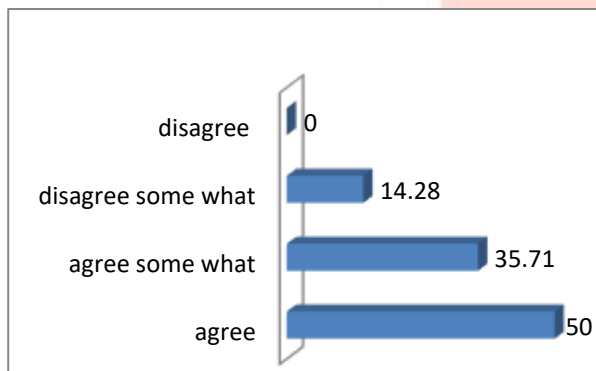
Fig.5) Plenty of examples and illustrations were given help us to grasp things better.

As seen in the figure 1, it is observed that, 60% student agree with the fact that, they were encouraged to look for links between this unit and others.

Figure 2 demonstrates that 67% students were agreed that, the handouts and other materials given helped them to understand the unit. Figure 3 indicates that 64% students have agreed that they weren't just given information; staff explained how knowledge is developed in this subject

  According to figures 4, more than 53 % students agreed somewhat that the teaching encouraged them to rethink their understanding of some aspects of the subject. Fig. 5 indicates that 50% students have agreed that plenty of examples and illustrations were given to help them to grasp things better.

Students and Teacher interaction

Figures 1, 2, 3, 4 and 5 represent the distribution of surveyed students' answers according to the third sub-section – co-ordination between students and teacher during project work.
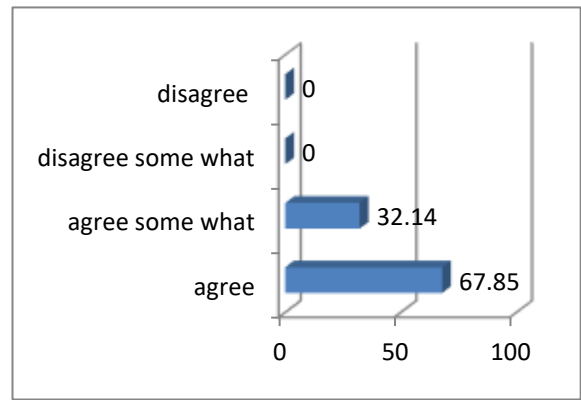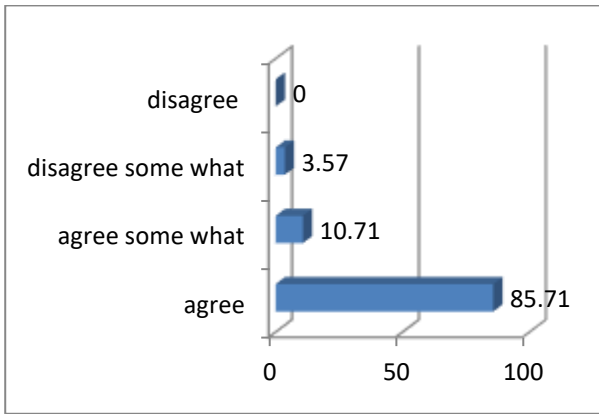
Fig.1)

Students supported each other and tried to   **Fig.** 2) Talking with other students helped me to develop give help when it was needed.   my understanding
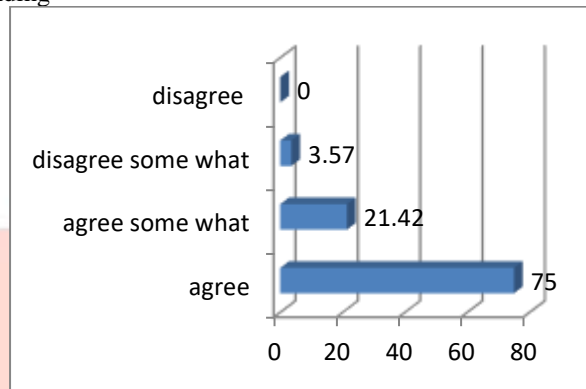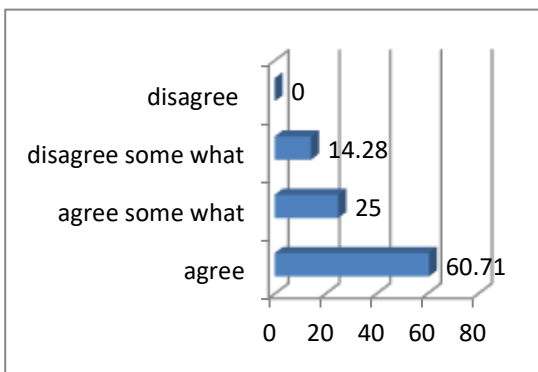

Fig.3) I enjoyed being involved in this course unit.   **Fig.** 4) Staff helped us to see how you are supposed to think and reach conclusions in this subject
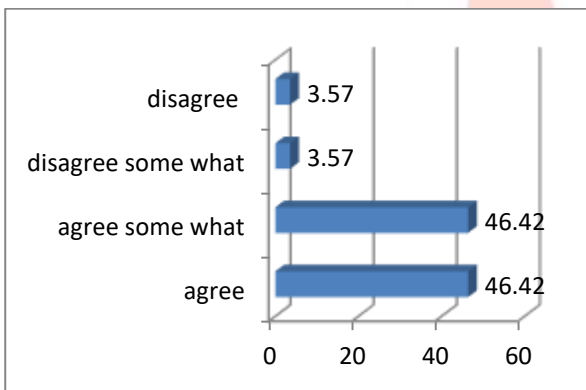

Fig.5.I found I could generally work comfortably with other students on this unit

As seen in the figure 1, it is observed that, 85% students agreed with the fact that, they supported each other and tried to give help when it was needed. Figure 2 demonstrates that 67% students were agreed that, talking with other students helped them to develop their understanding Figure 3 indicates that 75% students have agreed that they enjoyed being involved in this course unit

   According to figures 4, more than 60 % students agreed that Staff helped them to see how they were supposed to think and reach conclusions in this subject Fig. 5 indicates that 46% students have agreed and 46% agree somewhat that they found that they could generally work comfortably with other students on this unit.

Assessment and other set work

Figures 1, 2, 3, 4,5 and 6 present the distribution of surveyed students' answers according to the fourth sub-section – assessment and other set work during project work.
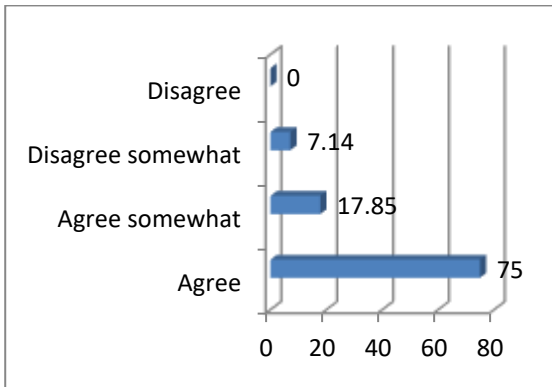
Fig.1) I was encouraged to think about how best to tackle the set work.
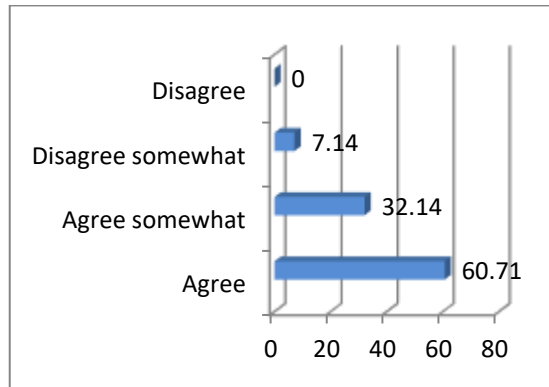

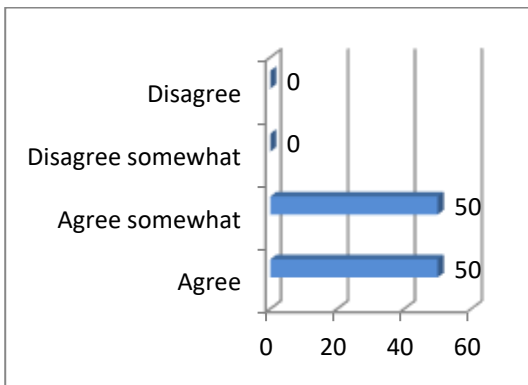**Fig.** 2) The feedback given on my work helped me to improve my ways of learning and studying

Fig.3) Doing the set work helped me to think about evidence is used in this subject.
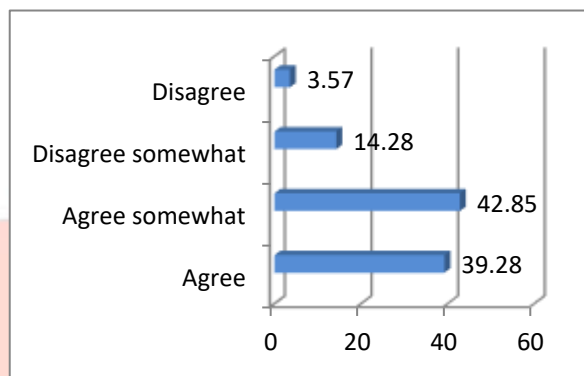

Fig.4) To do well in this course unit, you had to think how critically about the topics
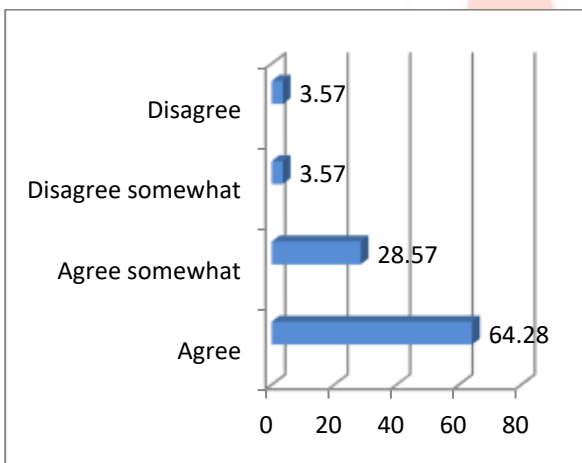

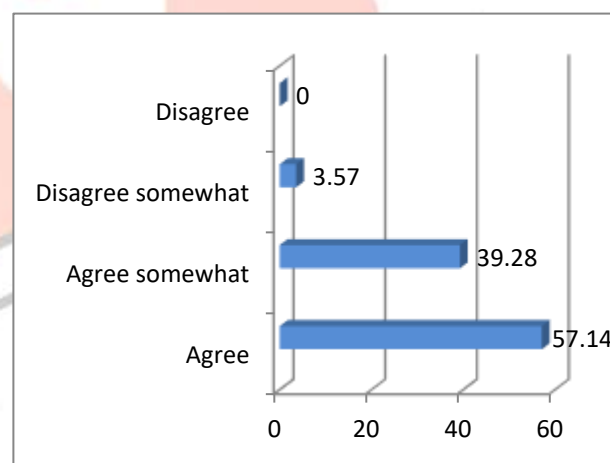Fig.5. The set work helped me to make connections to my existing knowledge or experience.

Fig. 6 The feedback given on my set work helped to clarify things I hadn't fully understood.

As seen in the figure 1, it is observed that 75% students agreed with the fact that, they were encouraged to think about how best to tackle the set work. Figure 2 demonstrates that 60% students were agreed that, the feedback given on their work helped them to improve their ways of learning and studying Figure 3 indicates that 50% students have agreed and 50% somewhat agreed that , doing the set work helped them to think about how evidence is used in this subject.

   According to figures 4, more than 42 % students somewhat agreed that to do well in this course unit, they had to think critically about the topics Fig. 5 indicates that 64% students have agreed the set work helped them to make connections to their existing knowledge or experience. Figure 6. Indicates that 57% students agreed that, the feedback given on their work helped to clarify things they hadn't fully understood.

Demands made by the course unit
Figures 1, 2, 3, 4,5,6,7 and 8 present the distribution of surveyed students' answers according to the fifth sub-section which focus on difficulty level of the demands made by the course unit during project work.
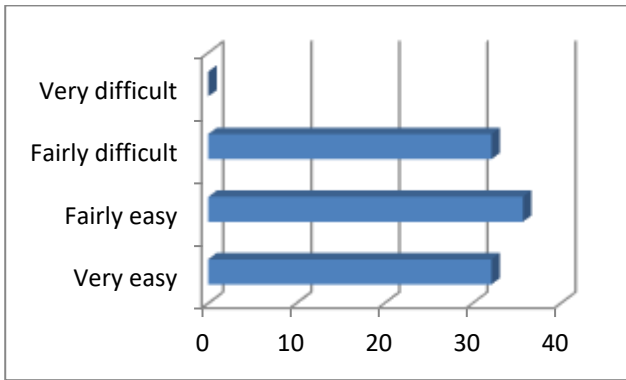
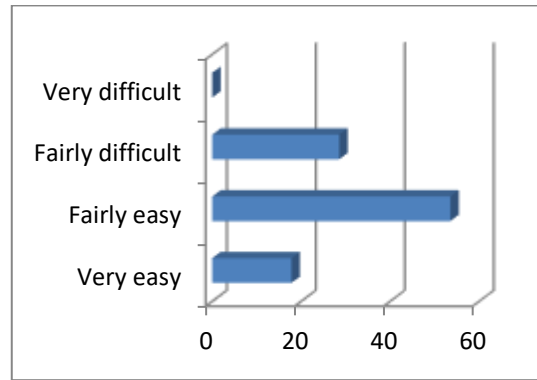**Fig.**1)The rate at which new material was introduced

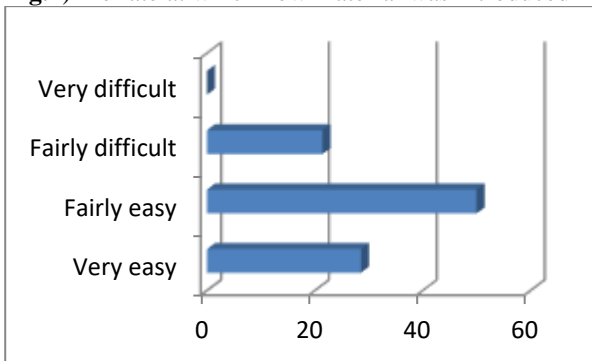**Fig.** 2) The ideas and problems I had to deal with.

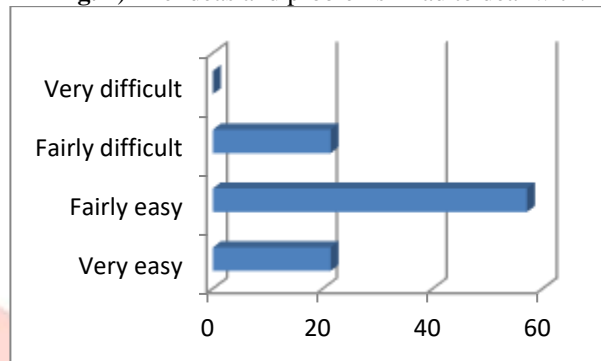**Fig.**3) The skills or technical procedures needed in this subject.
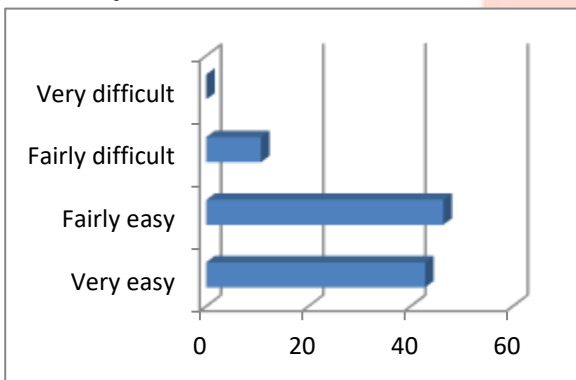

Fig. 4) The amount of work I was expected to do.

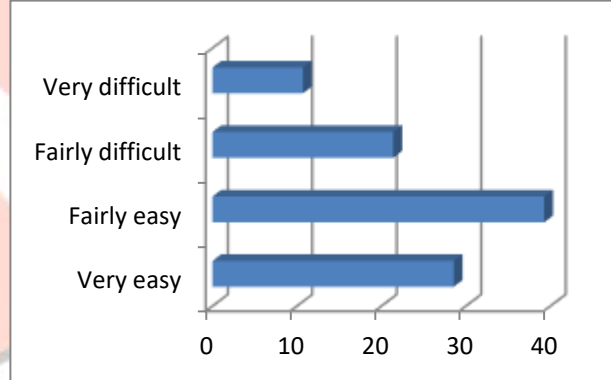**Fig.**5) Working with other students

Fig.6) Organizing and being responsible for my own Learning.
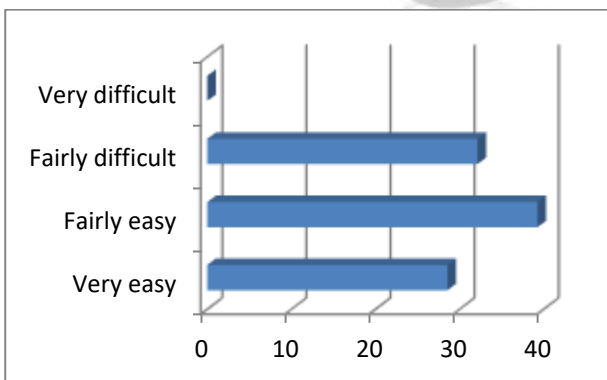

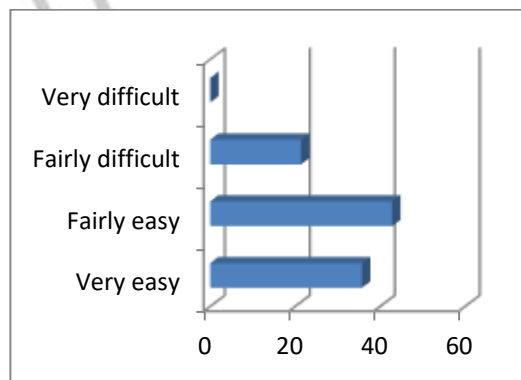**Fig.**7) Communicating knowledge and ideas effectively.

Fig.8) Tracking down information for myself.

As seen in the figure 1.it is observed that, 35% students agreed that the rate at which new material was introduced was fair.
Figure 2. demonstrates that 53% students were agreed that, the ideas and problems they had to deal with were fairly easy
.Figure 3 indicates that 50% students have agreed that the skills or technical procedures needed in this subject were easy.
According to figures 4, it is observed that 57 % students agreed that the amount of work they have expected to do was fairly
easy. Fig. 5 indicates that 46% students have agreed that working with other students was fairly easy. Figure 6. Indicates
that39% students agreed that organizing and being responsible for their own learning was fairly easy.

Figure 7. Indicates that39% students agreed that communicating knowledge and ideas effectively was fairly easy. Figure 8. Indicates that 42 % students agreed that tracking down information ie. Technology/ computing skills were easy for themselves.

Learning outcomes from the course unit
Figures 1, 2, 3, 4,5,6,7 and 8 present the distribution of surveyed students' answers according to the sixth sub-section which focus on what you learning outcomes during project.
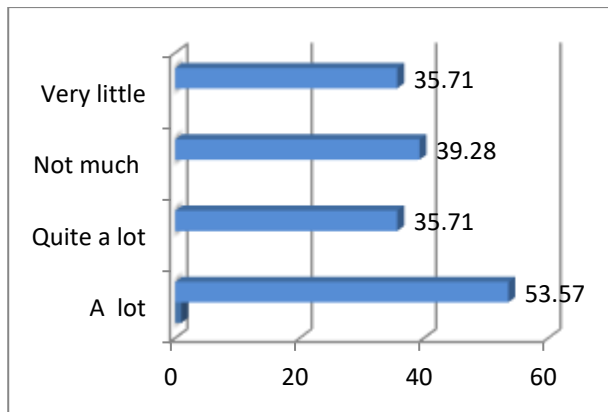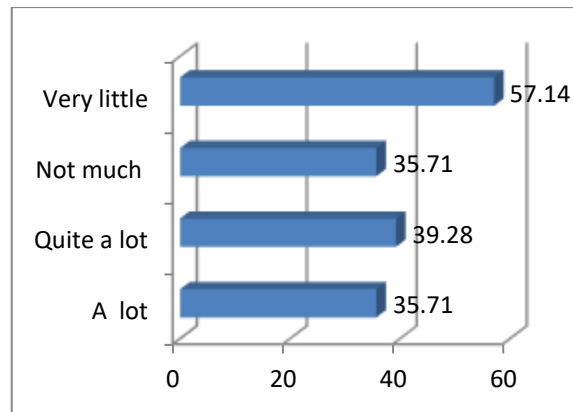

Fig.1) Knowledge and understanding about the topics

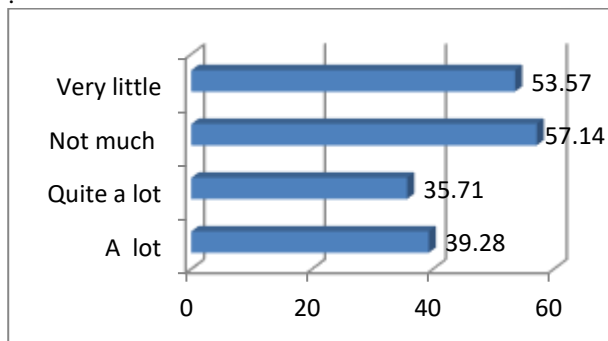**Fig.** 2) Ability to think about ideas or to solve problems

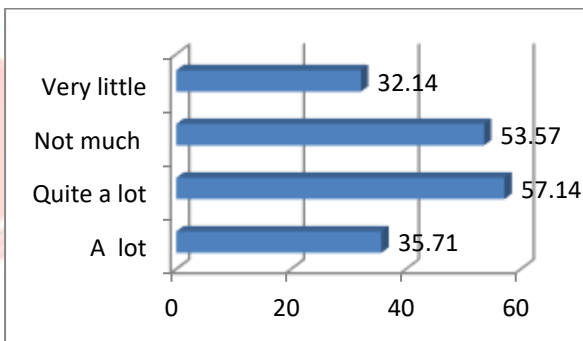**Fig. 3**. Skills or technical procedures specific to the subject.
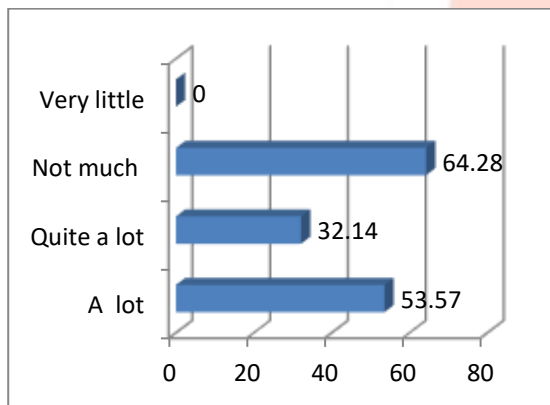

Fig.4 Ability to work with other students.
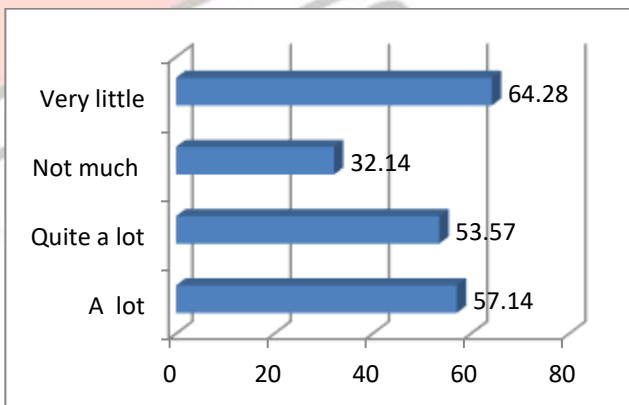

Fig. 5 Organising and being responsible for my own learning.

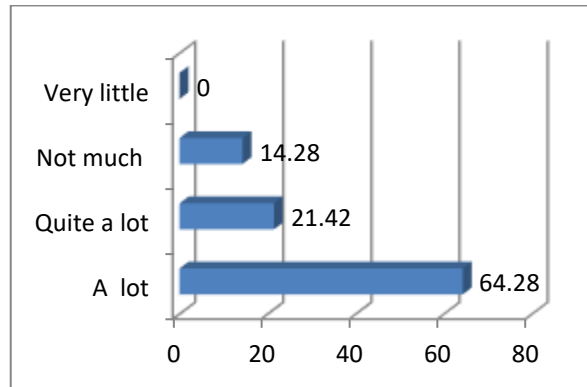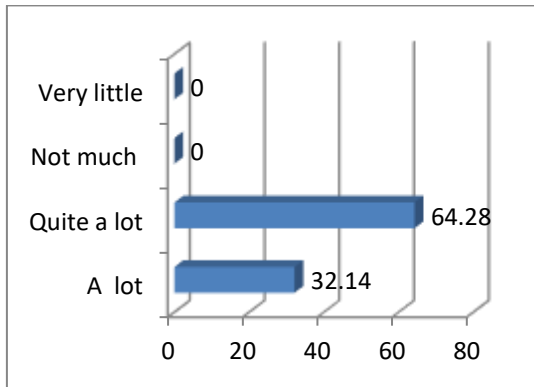**Fig.**6 Ability to communicate knowledge and ideas effectively.

Fig.7 Ability to track down information in this subject area.

Fig. 8 Information technology/computing skills (e.g   WWW, email, word proce ssing).

As seen in the figure 1.it is observed that, 53% students agreed that knowledge and understanding about the topics covered was a lot .Figure 2 demonstrates that 57% students found it difficult, to think about ideas or to solve problems .Figure 3 indicates that 57% students have believed that few   skills or technical procedures specific to the subject they had learnt. According to figures 4, it is observed that 57% students emphasized that skill of working with other students was developed quite lot.

Fig. 5 reflects that 64% students have agreed that skill of organizing and being responsible for their own learning was not much achieved. Figure 6. Indicates that 64% students agreed that there was lack of ability to communicate knowledge and ideas effectively. Figure 7. Indicates that 64% students agreed that ability to track down information in the specified area was developed quite a lot. Figure 8. Indicates that

64 % students agreed that skill of data collection and processing was enhanced during project work.

Discussion and Suggestions

Few students were systematically studying before handling the projects method.

They tried to find better ways of tracking down   information for better understanding of the subject.

While learning through micro-project students were encouraged to link the unit under study with other   units of the subject.

Learning through micro-project encouraged the students to rethink their understanding of some aspects of the subject.

Students achieved Knowledge and understood different concepts in the topic through this method

Interpersonal skills like team building, leadership, communication, group harmony and critical thinking were developed.

Students were encouraged to tackle the set work and improve their ways of learning and studying.

Problems they have to deal with were little bit difficult while performing the project.

Organization skill, problem solving and self-learning approach and time management were fairly achieved

References

[1]   phttp://ccnmtl.columbia.edu/projects/pl3p/Self-Directed%20Llearning%20Tools.pdf

[2]   https://en.m.wikipedia.org/wiki/Teaching_method

[3]   https://teach.com/what/teachers-know/teaching-methods/

[4]   https://iase-web.org/documents/book1/chapter11.pdf

[5]   https://www.ukessays.com/essays/education/traditional-versus-modern-methods-of-effective-teaching-education-essay.php