USE OF ACTIVE LEARNING METHODS FOR MECHANIC PROGRAMS IN VOCATIONAL SCHOOL

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Abstract: Teaching program of universities aim to help the students to memorize information. Also, students can use information when they are necessary. It is one of the main condition of learning and teaching process. There are two types of learning. We can classify them as active and passive learning. Today, active methods are gaining importance increasingly. In practice, active learning course compared with conventional treatment courses as understanding of the processing method, and the concept of keeping the memory efficiency. In this study, the effect of the active learning method has been the subject of machine programs. For this purpose, the effects of the active learning method ın the machine technician course examined. The results show that practıces have strong bonds with active learning methods. In this study will respond the relationship between employer expectations and high academic results. Taking part of ındustrial machine technician who graduated from the program is related to this topic. Also, learning sufficient information for a successful recovery and practice for professional work is related to this topic. If we implement effective educational methods and grow up technican who has knowledgeable about his area, we can have staff member who can adapt changes easily and we can achieve this success. This study deals with susceptibility to these issues and willingness of the teaching staff, emphasizing the need for improvements in application behavior. Implementation of active learning techniques in machine technician education depends on efforts of the teaching staff and students. Because the information can be obtained from new sources very quickly. It affect our world in the 21st century. It is clear that the education area requires developments beyond the traditional education system and new learning methods. Therefore, active learning methods are becoming increasingly important.

Keywords: Active learning methods, Machine program, Vocational school

Introduction

In general, the training of university aims to memorize information to students. Also, students can remember the informations when they need them. Memorize and recall the information after a certain time in undergraduate and graduate teaching, is the most important point of education. Memorization of information depends on learning largely. This demonstrates the importance of learning way.

In the last two decades, higher education has known great changes, the main thrust in teaching is more on professional programs rather than knowledge based programs, and therefore a lot of concerns toward teaching effectiveness have been raised within many educational institutions around the world (Biggs & Tang, 2011).

In this regards, many approaches have been developed to improve the quality of higher education, to convert learning from teacher centered to student centered and to adopt interactive methods (Justice, Rice, Roy Hudspith & Jenkins, 2009).

Active learning is generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing (Bonwell & Eison, 1991). While this definition could include traditional activities such as homework, in practice active learning refers to activities that are introduced into the classroom.

The core elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor (Prince, 2004).

Employers expect more from local graduates, especially when it comes to the application of knowledge (Griesel & Parker, 2009).

According to (Erasmus, Loedolff, Mda, and Nel, 2006), young people are unemployed or lack entrepreneurship due to a lack of specialized skills. Some of those skills are identified by (Bethlehem, 1997) as 'communication skills', 'decision-making skills', 'analytical skills', teamwork skills, 'well-practised leadership skills' and 'good interpersonal skills'.

In the traditional education system, we can get information which are obtained by hearing or seeing. The survey states that we can remember 30% of this information. Active learning covers talking about lecture,making discussion. Also, active learning covers animation(simulated) and making presentation. When active learning methods are used, it said that students can remember 70% of their talking. When students talk and do, they can remember 90% of talking. Consequently, we can remember and learn easily by using active learning techniques (Breivik, 1994). Overall, the ımprovement of vocational school and taking a part of graduates of these schools depends on the using of informations effectively. The information is important at this point to remind the application.

ACTIVE LEARNING AND CLASSIFICATION TECHNIQUES AND MECHANICAL TECHNICIAN TRAINING ARE ORDERED ACCORDING TO THEIR IMPORTANCE

Active learning techniques has been identified as 21 agents in a research which is conducted by (Morgan in, 1997). There are various Active teaching and learning techniques for civil engineering education (Mertol & Yilmaz, 2011).

1. Types of Alternative Course: Lecture is split into three parts. In the fırst part,the lecture is told by an instructor, the course is applied together in the second part and ın the last section, short course examination is applied to reinforce the information.

2. Applied Learning: Telling by modeling for better understanding. Previously conducted basic systemsis used in a different way by participating new things.

3. Learning by doing experiments: This course is contucted in laboratory by applying certain principles, materials and using the information. It is the way to achieve results by applying the procedure. It is way of analyzing informations by using various experimental units.

4. Problem Solving: There are problems experienced there before. The Students find general solution for problem rather than specific solution.

5. Learning by preparing a project: The specified project is carried out by students. It is an important application for an effective operation.

6. Drawing up with a guide: Students solve problems with a shown path. It is the making operation with production bar and making production with machine tools.

 7. Education Using Computer: The computer is used as a tool by students and teachers; for example, the assignment (article or drawing) is prepared and delivered by e-mail on the computer.

8. Learning by reading: After the presentation, the article is read before coming to class to learn necessary parts for the lessons. The course is also processed in parallel to this article.

9. Learning by Doing Presentation: There is determined issue. Students search and learn this issue. Then, students present the subject in the class.

10. Group work: The lecture is conducted by giving importance to improve the student's ability to learn and socialize (Bonwell & Eison, 1991). They can do a difficult task with less time.

11. Learning by doing homework in class: Students find solutions in main issue. The issue is told with a article.

 12. Multimedia: Computer is used as a goal, not as a tool. Solutions will be created with computer-aided drawings and informations that gained from internet for applications and assignments.

13. Discussion (students among themselves): Course is processed like open discussion. It aims to improve communication.

14. Discussion (classroom): Course subject is processed like open session. Groups or classes can be identified for discussions.

15. Based Visual Lesson: This technique is described in the required subjects to teach students with visual tools. These tools are computers, projectors, television etc.

16. Learning by playing: It is learning by playing. Students can understand the decision-making and relationships in complex situations. It is an important teaching technique. Today, almost all of the traditional game and modern games can be used in the lecture. It is important to select suitable technique.

17. Questions for teachers by asked students: After the lecture, questions are asked by students.

18. Learning Test and Quiz: Questions which are identified with the purpose of the course are asked for the students. In order to measure students knowledge, it is important to design questions carefully.

19. Working on a experienced event: There is an event which happened before students find resolutions by discussion, presentation, group work. This kind of study requires intensive work for students.

20. Guest Speaker: Students can find answers to many questions in his mind. Students can learn the person's perspective.

21. Reviving learning like theatre: The desired topics processed into a short skit or revitalizing a game. It requires strict and intensive preparation by the teacher.

If Active learning method which are described in 21 items above is used in university engineering degree program (in the program of vocational colleges machine), they will improve quality as a result of effective implementation. Having certain amount of knowledge level is important. On the other hand, teachers and students should have knolewledge to apply these things effectively.

CHANGES IN ENGİNEERING AND SHORT CYCLE (ASSOCİATE'S DEGREE) PROGRAMS (IN VOCATIONAL SCHOOLS)

Many universities which have engineering department and short cycle (associate's degree) program has begun to make the transition to an educational model to get Engineering Education Evaluation and Accreditation Association Accreditation (MÜDEK). The scope of this accreditation and Bologna process, Mechanical Technician qualifications who graduated from the program is defined and the lecture is shaped according to these qualifications. These qualities are as follows. According to the conventional machine, these qualities covers many different topics.

•Designing productions, planning and the ability to analyze and interpret the results taking an active role skills.

• Ability to communicate effectively with other technician areas.

• The profession of technicians, the ability to understand the impact of social dimensions.

• The profession of technicians, according to the social dimension, to be aware of their responsibility to know the impact in terms of job security and application.

• To be aware of necessity of lifelong learning, to be aware of the rapid developments in science and technology and continuous self-improvement in this regard.

• At the national and international levels, to be knowledgeable and sensitive about the environmental problems existing age.

• To be aware of computers which shows very quick change and to be knowledgeable about the use of computers and computerized manufacturing and designing in the subject field of their professional ability to use and effective.

• Reviving with computer software via the revitalization of the workpiece production (simulation). This way covers many areas. So, the technican should know sufficient information.

Conclusions and Recommendations

When the changes in machine technican profession and technologyof training is taken into account, active learning techniques will useful to improve the quality of teaching and and students. Also, students who are educated by these active learning techniques, can memorize more easily and they can apply in their carrier.

Efficient university education and loved profession will help the people who will be trained in business.

These techniques will help us to grow up confident students. Students can be willing to solve the problems with these techniques. Students can know how to use ability.

Students will be trained in the future in a more positive approach. In order to achieve these objectives, the vocational school students admitted to the undergraduate portion of the university are required to have a certain level of basic information.

Industrial enterprises must be directly closely with universities to choose components based on their branches students during the internship of students.

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