

Case Report

How to Solve Problem Related to Class Room Participation of Surveying Engineering Students at Wallaga University Under College of Engineering and Technology

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Abstract: Different instructors in various area of the country have conducted studies on improving student motivation in the classroom. The active participation of learners is crucial for effective teaching and learning methods. However, the contribution of both inside and outside of the classroom is lacking in this regard. It is important to understand the factors that contribute to successful learner participation when implementing active learning method in the class room. At Wallaga University specially, among second-year surveying engineering students in the college of engineering and technology, learner contribution is low. This is primarily because active learning methods are not being effectively utilized. Based on these findings factors that affect learner participation in the class room include the lack of active learning methods, improper seating arrangements, lack of encouragement, fear and hesitation, lack of confidence, socio-cultural background, language barriers, and relationship between learners and instructors. Therefore, the researchers have taken action to identify which active learning methods are more effective in bringing about changes in learners, properly arrange classroom sizes, provide opportunity for learners to practice educational language, establish good relationship with learners, create a safe environment for them to express their thoughts without fear, and allocate sufficient time for them to share their ideas.

Keywords: Participation, Literature, Review, Observation

1. Introduction

Education is of great importance for the progress of the world. Every country has its own role to play in the development of their nation in various aspects [1]. In Ethiopia, different strategies are being implemented to address the challenges in the education system [2]. Some of these strategies include increasing the number of educational institutions, expanding access to universities for students, establishing industries for learners, allocating 70% of university admissions to science and technology fields, and 30% to social sciences to support technological advancements in the country [3]. Additionally, active learning methods are being implemented in educational institutions across the country. To enhance the quality of education, effective two-way communication between

teachers and students, as well as between students themselves, is crucial [4]. This encourages active participation throughout the entire course.

Active participation has always been a crucial factor in enhancing learners' capabilities. It helps them construct their knowledge, develop curriculum analysis and creation skills, build confidence, and bridge the gap between theory and practice [5]. Active participation also encourages critical thinking and supports meaningful discussions with peers and professors, where learners can present well-informed arguments based on retained information. These skills are vital for their educational progress and future careers.

According to W. Beck and James L, when learners actively contribute in the classroom, they rely less on memorization and engage more in higher-order thinking such as interpretation, analysis, and synthesis [1]. Their active involvement is reflected in their daily communication skills

and interactions with peers and their ability to function in a democratic society [6].

The government employs various techniques to improve the education system, but one of the main challenges is the lack of active learner participation in classroom activities [7]. It is crucial to develop active and responsible citizens who can contribute to achieving the major objectives of education. Therefore, this research aims to address the low participation of second-year surveying engineering students at Wallaga University, College of Engineering and Technology. By implementing strategies that influence student participation in the classroom, their performance can be enhanced. This action research is expected to provide guidance on how to improve student participation in the classroom.

Problem Statement

This study began by observing that many students are passive in classroom courses, both in their participation and outside of it. Previous studies have shown that on average, teachers speak around 200 words per minute, but learners only actively participate in or hear about 50-100 words, which is only half of what is being said. Furthermore, in formal classrooms, students are only attentive for about 40% of the time. Research conducted by [8] found that learners retain about 70% of what they hear at the beginning of class, but only 20% in the last ten minutes. Some learners focus on taking notes or observing the instructor's discussion, which can be attributed to institutional structures [10].

This classroom experience discourages students, teachers, and higher learning institutions, hindering access to quality education and the development of competent citizens [12]. A research [11] nowadays, it is crucial to improve the classroom experience and increase student engagement to attract and retain students on campus, especially considering the growing competition for graduate opportunities. The challenge lies in finding effective methods to enhance student engagement without burdening teachers or limiting their teaching content and style. Therefore, this study aims to address the issue of low student participation in classroom activities among second-year surveying engineering students at Wallaga University's College of Engineering and Technology.

2. Objectives of the Study

2.1. General Objective

The main goal of this study is to boost student participation in the classroom among second-year surveying engineering students at Wallaga University.

2.2. Specific Objectives of the Study

The specific goals of the study were:

1. To identify the factors that contribute to the decrease in student participation.
2. To explore techniques that can be used to improve and increase student participation in the classroom.

Significance of the study

It is widely recognized that classroom participation is

crucial for implementing active learning methods, as it encourages students to actively engage in the learning and teaching process and enhances their understanding.

At Wallaga University, in the Department of Surveying Engineering, second-year students have not been actively participating in classroom activities. Even when group activities are assigned, they show reluctance and prefer the instructor to take the lead.

This lack of participation has affected their confidence in carrying out class activities on their own.

Therefore, we have chosen this topic for the following reasons:

1. To bridge the knowledge gap for underachieving students.
2. Classroom participation can positively influence students' learning and thinking abilities, such as critical thinking, active learning, listening, speaking skills, and career success.
3. Grading participation regularly and consistently motivates students to adjust their study habits and be prepared for active engagement.
4. It is commonly known that class room contribution is required for implanting active learning methods which makes learners active participant in the learning and teaching progresses and makes them more understand.

3. Literature Review

Classroom participation has become a crucial factor in engaging students in higher education. Nowadays, students in higher educational institutions, particularly the millennial generation, actively seek interaction. As educators strive to find effective strategies to increase participation levels in the classroom, it is important to examine existing research to understand what constitutes participation and the factors that directly and indirectly influence it [12].

3.1. Defining Participation

Contribution has been defined in various ways, such as "the number of voluntary responses given [11] "the level of participation in class discussions" [13], and "any comments or questions students offer or raise in class" [14].

Contribution plays a vital role in shaping the classroom environment. Several studies, including [15], have explored the concept of classroom contribution. It can be understood as an active engagement process that encompasses various aspects, such as preparation, participation in discussions, group work, communication skills, and attendance. Contribution levels can vary, ranging from simply attending class to giving oral presentations. Classroom contribution can manifest in different forms, including raised questions, suggestions, and can occur over a short or extended period of time. An ideal class discussion involves active participation and engagement from almost all learners, as they learn from and listen to one another [12]. Classroom contribution can also be seen as a crucial aspect of students taking control of their own learning, as described by [9]. They categorize it into five

groups: preparation, participation in discussions, group skills, communication skills, and attendance.

3.2. Factors Affecting Classroom Participation

Various factors influence students' contribution in classroom participation. These factors can be both internal and external. Some students are assertive, active, and confident, while others may be shy and passive. The difference in behavior could be attributed to socio-cultural values that emphasize gender differences.

3.3. Importance of Student's Class Participation

Contribution in the classroom holds significant importance [10]. It is a way to actively involve students in the learning process and breathe life into the classroom. When students come prepared and participate in discussions, they become more motivated and develop critical thinking skills they also report personal growth [8].

Active participation reduces the need for memorization and

encourages higher-level thinking, such as interpretation, analysis, and synthesis. Students who engage in participation also improve their communication skills group interactions, and their ability to function in a democratic society [9]. In a nutshell, when students come prepared and actively participate, they become more motivated, learn better, develop critical thinking skills, and experience personal growth. Their engagement in higher-order thinking increases, and they improve their communication skills, group interactions, and ability to function in a democratic society.

4. Research Methodology

Location: Wallaga University is a public higher education institution in Ethiopia. It is situated in the western part of Ethiopia, specifically in the Oromia regional state. The university is located in Nekemte town, which is the capital of the East Wallaga zone. It is approximately 317km away from the capital city of Ethiopia, Addis Ababa.

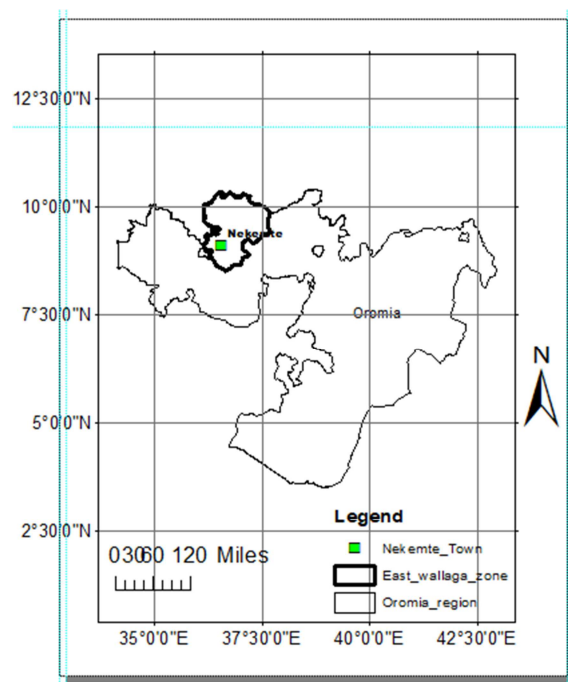


Figure 1. Description of the study area.

Target Group: This action research focuses on 21 second-year surveying engineering students from Wallaga University's College of Engineering and Technology. Out of these students, there are 18 males and 3 females.

4.1. Data Collection

The study aims to make sure that students in the Construction survey class at Wallaga University's College of Engineering and Technology, specifically the second-year surveying engineering department students, are more engaged. To achieve this, we gathered information directly from the students through questionnaires, focus group discussions, and observations.

We distributed questionnaires to all 21 students and as researchers, we also observed the students during their regular teaching and learning sessions since we are their instructors in the construction survey class.

4.2. Data Analysis and Interpretation

The data we gathered through questionnaires, interviews, and class observations showed that students had very low participation in the classroom. According to the respondents, the reasons for this limited participation were the instructor's approach, lack of confidence, absence of incentive methods, shyness and silence, seating arrangement, language barrier, socio-cultural background, and lack of active learning

methods. Based on the respondents' explanations, it can be concluded that the selected case study had very low student participation in the classroom. The findings indicated that more than 85% of the respondents were not proficient in the educational language and couldn't understand what the teacher was teaching, which was the main reason for their low

participation. Additionally, 80% of the respondents lacked confidence and over 76% of them were not satisfied with their department choices. Seating arrangement and socio-cultural background were also identified as issues. Our observation confirmed that students had very limited involvement in classroom activities.

Table 1. Questionnaires' that fulfilled by students.

Here's a table of reasons why students may not participate in class, along with the percentage of students who said "yes" or "no" to each reason:

S/N	Reasons why students do not participate in the class	Yes	No
1	you don't know the language very well	85.7%	14.3%
2	Lack of confidence	80.95%	19.05%
3	Socio-cultural background problem	9.5%	90.47%
4	The department in which we are currently enrolled is totally not our choice.	76.19%	23.8%
5	The instructors don't use active teaching methods	9.5%	90.47%
6	I can't easily understand what the teacher is teaching	90%	10%
7	I have not good approach with Instructor's	14.3%	85.7%
8	The teacher doesn't give me an opportunity to talk	4.7%	95.3%
9	I fear teacher's face when he looks at me	15%	85%
10	Seating arrangement is not suitable	4.7%	95.3%

4.3. Actions Taken

There are many students who are not active participants in the class. So, we need to take action to improve their participation. We have implemented several strategies:

1. Planning: We assign students some responsibility for increasing participation. On the first day of class, we discuss the goals of classroom participation and ask students to come up with guidelines. They generate excellent guidelines like not interrupting others when they are talking and critiquing ideas instead of criticizing the person. We divide sub-topics and encourage students to freely participate in their daily activities without fear or interruption.
2. Language barriers: We allow students to speak in educational language in and out of class. We advise them to read English materials and watch English movies to improve their understanding of the language. This helps them understand what the teacher is saying and read educational materials with ease.
3. Building confidence: We advise students to speak their mind without fear and ask questions from simple to complex. Simple questions engage their thinking, build a fact base, and increase confidence. Correctly answering simple questions increases the likelihood of attempting harder questions.
4. Allowing enough time: Giving students enough time to respond increases the length and correctness of their responses. It also decreases the number of "I don't know" or no answer responses and increases the number of volunteered, correct answers.
5. Seating arrangement: We exchange the seating arrangement of students depending on the nature of the problem. This can be done by rotating their positions within certain intervals.
6. Establishing positive relationships: Building positive relationships between students and instructors reduces

the approach gap. We advise students to see their instructors as fatherly and brotherly figures.

7. Breaking up lectures: Students can only listen to an instructor for a limited time. We break up lectures with activities, interactive questions, and other ways to keep students engaged and motivated.
8. Encouraging participation: We ask for new hands or new people to speak, ask students opinion questions, learn their names and call them by their names, and control over-participation.

By implementing these actions, we have observed an increase in student participation. However, more action is still needed.

The following figure shows that the students are actively participating on every activity both inside and outside of the classroom.

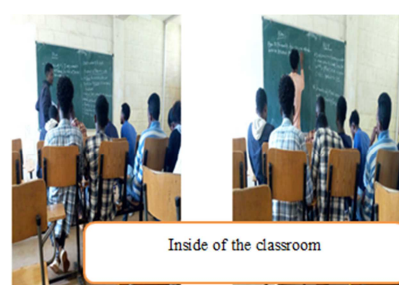


Figure 2. Participation of students inside of the classroom.



Figure 3. Participation of students outside of the classroom.

5. Conclusion

In the case of this study most of second year surveying engineering students were not participating in the class room. Due to this, various reasons were identified why students are not actively participating in the class. Diffident data's were analyzed and from the collected and analyzed data and discovered that most of the selected students are not participating. To address this issue and improve classroom participation, different strategies were implemented such as changing the seating arrangement, building positive relationship between students and instructors, encouraging students to speak their mind without any fears, and using interactive teaching methods. The results of this research show that students are now more motivated to participate and achieve their goals.

6. Recommendations

The instructors and technical assistants need to do more than just their usual assistance to help students. The number of students per session and group should be kept as small as possible, and lab report should be written individually. Additionally, students should come prepared with flowcharts to the lab for better participation. However, these activities may be difficult to implement due to large class sizes, a wide range of lessons to cover, and instructor behavior.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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