



**TECHNIUM**  
**SOCIAL SCIENCES JOURNAL**

**Vol. 26, 2021**

**A new decade  
for social changes**

[www.techniumscience.com](http://www.techniumscience.com)

ISSN 2668-7798



9 772668 779000

# **Innovative Learning Strategies to Increase Students' Participation and Quality of English Teaching and Learning Process**

**Andi Tenri Ampa<sup>1</sup>, Nurqalbi<sup>2</sup>**

<sup>1</sup><sup>2</sup>English Education Program of FKIP-Makassar Muhammadiyah University, Indonesia

[anditenri.ampa@unismuh.ac.id](mailto:anditenri.ampa@unismuh.ac.id)<sup>1</sup>, [qalbi@unismuh.ac.id](mailto:qalbi@unismuh.ac.id)<sup>2</sup>

**Abstract.** One of the factors that may influence the success of the teaching and learning process is to use appropriate and innovative strategies of both online and offline. Therefore, the study aimed to describe the extent to which the lecturers of the English education department at Faculty of Teachers Training and Education, Unismuh Makassar apply innovative learning strategies to increase the students' participation and the quality of the teaching and learning process. The study used a 'mixed method', namely by obtaining quantitative and qualitative data. The research subjects were lecturers of the English language education department with the criteria that they had obtained an educator certificate. The research instrument used a questionnaire to answer the problems and to achieve research objectives. Data analysis was performed using descriptive statistics. The results showed that the innovative teaching strategies used by the lecturers were cross over teaching, teaching through smart boards, flipping classrooms, collaboration, virtual reality, cloud computing, inquiry-based teaching and problem-based learning.

**Keywords.** Growth, Gini Ratio and SDGs

## **Introduction**

Educators are currently preparing for a new normal setting in a pandemic situation. Now is the perfect time to adopt a new paradigm. Lecturers do not just translate what they do in class into their online teaching. Long discussions and lectures are no longer the norm in this situation. As educators, we must innovate to teach online by using learning resources on topics and creating learning lists, so that students will be ready for an interesting learning process. One of the efforts that can be done by educators/lecturers is to apply innovative learning strategies to increase participation and quality of learning.

There are many theories for innovative teaching related to students' behaviors, methods, approaches, and strategies (Anderson, 2008), but the competence of educators is an important factor in implementing innovative teaching in universities. Innovative teaching is a necessity for all lecturers to meet the educational needs of the new generation. Therefore, the competence of lecturers for innovative teaching is a key factor influencing innovative teaching performance. Several studies show that many educators still lack competence for innovative teaching (Kalyani & Rajasekaran, 2018).

These competencies are professional certification, cognitive abilities, affective-motivation characteristics, mastery of teaching and learning content, and pedagogical approaches (Blömeke & Delaney, 2014; Harris et al., 2009). Furthermore, there are four core competencies for delivering innovative teaching; they are innovative learning competencies, innovative social competencies, innovative educational competencies, and innovative technology competencies (Zhu, et al., 2013). Innovative learning competence refers to knowledge about how lecturers update course knowledge and content improve methods to collect new knowledge, improve how to obtain learning materials, and solve learning problems through self-reflection (SotoGómez, et al., 2015). This competency aims to improve individual knowledge competence, so that lecturers can convey knowledge effectively to their students. In addition, the ability to access reliable data can help lecturers improve innovative learning (Livingstone, 2012). Innovative social competence is the ability to communicate socially with students from various backgrounds (Jeffrey & Craft, 2004).

In the current pandemic era, online learning is needed that refers to the innovative skills of the lecturer's ability to tolerate the social aspects of the nature of digital communication where students are absent from physical interaction and expression. Therefore, innovative social competencies must be in place to avoid confusion, frustration, miscommunication, and behavior challenging online use (Runco, 2003). Efforts to improve the knowledge and skills of educators, especially at Makassar Muhammadiyah University are by providing an overview of innovative learning strategies that can be carried out in the teaching and learning process in the hope that they can develop themselves and apply them in their teaching and learning process. This is in line with the primary development of university of 2020 which includes the development of human resources, education, and religion which includes the improvement of the skills and abilities of human resources. The use of innovative learning strategies in higher education has the potential to not only improve education, but also to empower communities, strengthen governance, and mobilize efforts to achieve human development goals for the country. The aim of this paper is to suggest useful innovative teaching strategies that can easily impart knowledge to lecturers and students (Kalyani & Rajasekaran, 2018).

Studies have been conducted by Zhu, et al (2013) stating that there are four competencies theorized as core competencies for innovative teaching, namely learning competence, educational competence, social competence and technological competence. Innovative questionnaires on educator competence and teaching performance were developed and tested. The results show that lecturers' educational competence, social competence and technological competence are positively related to innovative teaching performance. Thus, educators are expected to use their competencies in implementing innovative teaching strategies in their teaching and learning processes, so that they can assist students in improving learning activities and quality. Furthermore, Liou, et al. (2013) have conducted research that aimed at developing innovative teaching strategies to increase the interest of nursing students in research. This study used a descriptive, pretest-posttest, quasi-experimental design with 103 participants in the experimental group and 106 in the control group. Attitudes toward Research Questionnaire, Class Involvement Scale, Self-Directed Learning Instrument, Nursing Core Competency Scale, Value of Teams survey, and research knowledge test were applied to evaluate the results of innovative teaching strategies. This study confirms that using innovative teaching strategies increases students' interest and enthusiasm.

The results of previous studies show how important it is to apply innovative teaching strategies. Zhu, et al (2013) examined the competencies that educators need to have in implementing innovative teaching strategies, while Liou, et al. (2013) examined the effect of implementing innovative teaching strategies on students' interest. In contrast to this research, it

describes the extent to which lecturers apply innovative learning strategies in increasing participation and quality of learning during this pandemic for the English Language Education students, Makassar Muhammadiyah University. The results of the research will be the basis for developing learning modules based on innovative teaching strategies.

### **Research Questions**

The research questions are formulated as follows:

- a. What types of innovative teaching strategies are used by the lecturers to increase the students' participation and the quality of teaching and learning process in the English Education Program, Makassar Muhammadiyah University?
- b. To what extent have the lecturers implemented innovative learning strategies in increasing the students' learning participation and the quality of their teaching and learning process?

### **Literature Review**

#### ***Innovative Learning Strategies***

Innovative teaching means the creativity and novelty of teachers who change teaching styles or strategies. As all over the world, educational institutions are implementing new technology-based ideas, methods, and innovations to enhance learners' knowledge. Innovative teaching is necessary for the present and future education to help learners reach their full potential. Higher education must serve the intellectual needs of students in the long term (Kalyani & Rajasekaran, 2018).

Learning innovation does not only require the use of technology or the creation of new inventions. Esdal (2017) describes innovation in teaching as "doing things differently" and to do things differently; you have to devise a method, procedure, product, or plan. Poor educational performance is caused by outdated ideas. Therefore, the learning experience must be transformed to become much more important to students' preferences and career paths, tailored to their talents and skills, and sensitive to their culture and identity.

Furthermore, it is said that educators and learners are encouraged to explore, research, and use all available tools to learn something new through innovation in education. This requires a new way of thinking about solving problems. The thinking processes that go into it will help learners increase imagination and their problem solving skills. Finding new ways of looking at problems and better ways of doing things is also an example of creativity (Esdal, 2017).

Markhan (2016) suggests ten innovative teaching strategies, which are as follows:

1. Move from projects to Project Based Learning.

So far, educators have only used projects (assignments), but now it is necessary to use high-quality of Project Based Learning by developing focused questions, using solid and well-crafted performance appraisals, allowing for multiple solutions, soliciting community resources, and selecting interesting and meaningful themes for the project and the method.

2. Teach concepts, not facts.

Concept-based teaching overcomes the standard, fact-based, and rote-oriented curriculum.

3. Distinguish concepts from critical information.

Students need information for important reasons, and to innovate, they need to know something and find the right mix of open-ended questions and hands-on instruction.

4. Make skills as important as knowledge.

21st century innovation and skills are closely related. Choose a few 21st century skills, such as collaboration or critical thinking, to focus on throughout the year.

5. Form teams, not groups.

Innovation is now emerging from the team. Thus, students can work collectively and become better collective thinkers.

6. Use thinking tools.

Many interesting thought-provoking tools are available to think about problems, share insights, find solutions, and encourage different solutions.

7. Use creativity tools.

Use a powerful set of tools to stimulate creativity and innovation, such as Game storming or Beyond Words which includes fun games and visual exercises that can be easily used in the classroom.

8. Reward discovery.

Improve the reward system by using rewards recognizing and rewarding innovation and creativity in learning.

9. Make reflection part of the lesson.

Reflection is needed to anchor learning and stimulate deeper thinking and understanding. There is no innovation without reflection.

10. Be innovative yourself.

Innovation requires self-will; creativity makes teaching interesting and fun.

In addition, Shaw (2015) suggests 8 strategies in implementing innovative learning in the classroom, which are as follows:

1. Challenge students by giving them a problem that is both authentic and interesting. This means that the project must be adaptable enough for learners to adapt it to their own interests.

2. Give students the basics but keep it short. There is some basic information and knowledge to start their project. However, the amount of information the class needs will be less than expected. Divide information into organized blocks of 5 to 10 minutes and present it in lessons at the beginning of class.

3. Encourage students to research independently. If the project design is clear and coherent, learners will get most of the information they need from their own independent research.

4. Build complex skills in students. Encourage learners to use complex tools to complete their projects.

5. Check that students have understood the concepts. In project-focused classes, lecturers need to monitor optimal learning taking place. When students struggle with a problem they can find a solution for.

6. Ensure that students find innovative uses of everyday objects. Learners are taught to look beyond a particular object which will help students flex their creative muscles and think beyond the standard use of everyday objects.

7. Confirm that students know what they still need to learn. To innovate and solve problems effectively, learners need to understand what they already know and what they still need to learn. Lecturers should build their projects, so that students can list things they understand about their projects, as well as things they need to understand better.

8. Do not grade students on innovation and creativity. Grades will work best if there is one correct answer to a particular problem. For projects that emphasize innovation and creativity, there is no answer. If you want students to have a problem and find a completely original solution to it, you cannot motivate them with grades.

Research on learning strategies that support the creation of creative and innovative education is researched by Seechaliao (2017). The results of the study reveal that learning strategies that support the creation of creative and innovative education based on design-based learning, problem solving, creative problem solving, creative thinking, research-based learning, problem-based learning, project-based learning, science, or innovative teaching processes can lead to creatively innovative education. Another innovative teaching method involves the collaboration of participants on various projects. Today, we live in a globalized and collaborative world. Teachers can help develop skills in the classroom by directing students to study and work in groups. Nowadays, collaboration is a strong form of teaching where the responsibility lies with the group of students, educators act as guides, mentors, supervisors. This makes students empathetic, skilled at negotiation, team work, and problem solving.

Furthermore, innovative teaching strategies are also mentioned by Fedena Learn (2019) as follows:

1. Cross over teaching

Learning occurs in informal settings such as after-school study clubs, or trips to museums and exhibitions. Teachers can relate educational content to students' experiences. This teaching strategy is deepened by adding questions related to the subject. Learners can supplement class discussions through field trip notes, photography projects and other group assignments related to the trip.

2. Teaching through Smart Boards

Smart boards are an effective way to bring the classroom to life while helping learners experience a deeper level of engagement and understanding. This is done by creating interactive and visual content. Smart boards transform the teaching experience into an interactive and collaborative experience as teachers use dynamic multimedia content, to help convey topics more effectively to students and make it an engaging visual experience.

3. Teaching through Flipping Classrooms

The learning process in this strategy handed over the responsibility for learning to them by collecting conceptual information. Using a variety of technological tools, students are encouraged to construct knowledge, fill in information gaps and draw their own conclusions if needed. This strategy is one of the best ways of self-study.

4. Teaching through collaboration

Another innovative teaching strategy involves student collaboration on various projects. Teachers can help develop these skills in the classroom by allowing students to study and work in groups.

5. Teaching through Virtual Reality

Virtual Reality technology involves helping students learn through interaction with the 3D world. For example, instead of taking students through boring history classes, teachers can use 3D technology to explore ancient civilizations, travel to faraway countries for geography classes or even travel to outer space during science classes. Virtual Reality technology offers students valuable opportunities for immersive learning that creates a lasting impression on their minds. It makes learning fun and helps students retain the material for longer – all important points when considering effective teaching methods in the classroom.

6. Teaching through 3D printing technology

Teachers looking for innovative teaching methods may also look to 3D printing as a teaching tool. This method is rapidly gaining global acceptance, especially in higher education institutions where 3D printers are used to create prototypes and make complex concepts easy to understand. In lower grade classes, teachers can use 3D printers to teach content previously

taught through textbooks, thereby helping students gain a better understanding of concepts—especially STEM subjects.

#### 7. Teaching through Cloud Computing

Bringing technology into the classroom allows educators to experiment with innovative teaching methods. The use of cloud computing is one method by which teachers can save important classroom resources, such as lesson plans, notes, audio lessons, videos, and assignment details in the classroom cloud. These can then be accessed by students from the comfort of their homes, whenever necessary bringing the class back to students with the click of a mouse. It also ensures that students who miss classes either due to illness or other reasons stay updated at all times (Fedena Learn, 2019).

Furthermore, research (Huda, et al. 2016) offers analytical-based innovative teaching and learning for universities. The research applies thematic analysis to build models for higher-level institutions and to manage their scenarios for big data applications. The results of the study reveal that it can be used to improve decision making, provide insight, knowledge discovery, and optimize the learning process. Higher education institutions can adopt big data analytics based teaching and learning strategies to continue to provide students with innovative teaching and learning experiences with opportunities to enhance their learning experiences with big data analytics. The theories and research results that have been presented are the basis for describing the results of this study.

#### **Method**

This research belongs to the type of descriptive research using the 'mixed method' which aims to produce a finding about the application of innovative learning strategies to improve the quality of learning English skills at English Education Department of Faculty of Teachers Training and Education, Makassar Muhammadiyah University . The research subjects were a number of lecturers in English Education Program of Makassar Muhammadiyah University. The criteria for determining the research subject are lecturers who have received educator certificates, with the consideration that the lecturers are professional in carrying out their duties as teaching staff in English Education Department of Faculty of Teachers Training and Education, Makassar Muhammadiyah University.

The research instrument was a questionnaire. It was used to obtain information from the lecturers about the innovative strategies used. The questionnaire consisted of 25 items using a Likert scale (5, 4, 3, 2, 1). Research subjects chose answers according to the frequency of use of innovative learning strategies that have been used in the teaching and learning process as well as the obstacles faced in implementing innovative learning strategies in the classroom. The data collection technique was done by online if the lecturer carried out the online teaching and learning process. The researcher contacted the lecturer to get information about the type of online learning that had been used, then the researcher and members collected data by online according to the agreement of the research subject. Questionnaires were sent via email and whatsapp to be answered by research subjects.

The data obtained through the questionnaire were analyzed quantitatively using descriptive statistics, namely by using the percentage technique, namely the total weight of the answers divided by the maximum number of weights of all items multiplied by one hundred ( $f/N \times 100$ ).

## Results

### Types of innovative learning strategies and its application in increasing students participation

The results of data analysis collected through the questionnaire show that the activities implemented by the lecturers in the teaching and learning process can be shown in Table 1 as follows:

Table 1. Percentage of implementation of innovative learning activities

No.	Learning Activities	ALW (5)	OFT (4)	ST (3)	SLD (2)	NV (1)	F	%
I. 1	Informal atmosphere/outside class	2	5	2	3	4	46	57.50
2	Lecturers connect educational content with the experiences experienced by students	8	7	1	0	0	71	88.75
3	Teaching is deepened by adding questions related to the subject.	5	9	2	0	0	66	85.50
4	Students add to class discussions through field trip notes	2	6	3	5	0	53	66.25
								74.50
II. 5	Learning is done by creating interactive and visual content.	2	9	3	2	0	59	73.75
6	Using dynamic multimedia content	3	10	1	0	2	60	75.00
7	Turning teaching experiences into interactive and collaborative experiences	4	11	1	0	0	67	83.75
								77.5
III. 8	Learners are active and responsible for their learning	3	10	3	0	0	64	80.00
9	Learning tailored to the needs of students	5	10	1	0	0	68	85.00
10	Learning takes a lot of time in class and emphasis on practice.	4	9	3	0	0	65	81.25
								82.00
IV. 11	Developing skills by letting students learn and work in groups.	3	13	0	0	0	67	83.75
								83.75
V. 12	Involving Learners learn through interaction with the 3D world.	1	4	5	6	0	44	55.00
								55.00
VI. 13	Storing applications and files such as lesson plans, notes, audio lessons, videos, and assignment details that can be accessed via the internet via 'cloud computing'	0	6	6	1	3	47	58.75
								58.75
VII. 14	Learners formulate their own understanding based on research and questions.	3	11	2	0	0	65	81.25
15	Present what they have learned	2	11	2	1	0	62	77.50
16	Reflecting on the findings	4	7	4	1	0	62	77.50
17	Lecturer as facilitator answers questions ... Educate.....	8	8	0	0	0	76	95.00
								81.56
VIII.18	Teaching is based on real world problems,	7	8	0	1	0	69	86.25

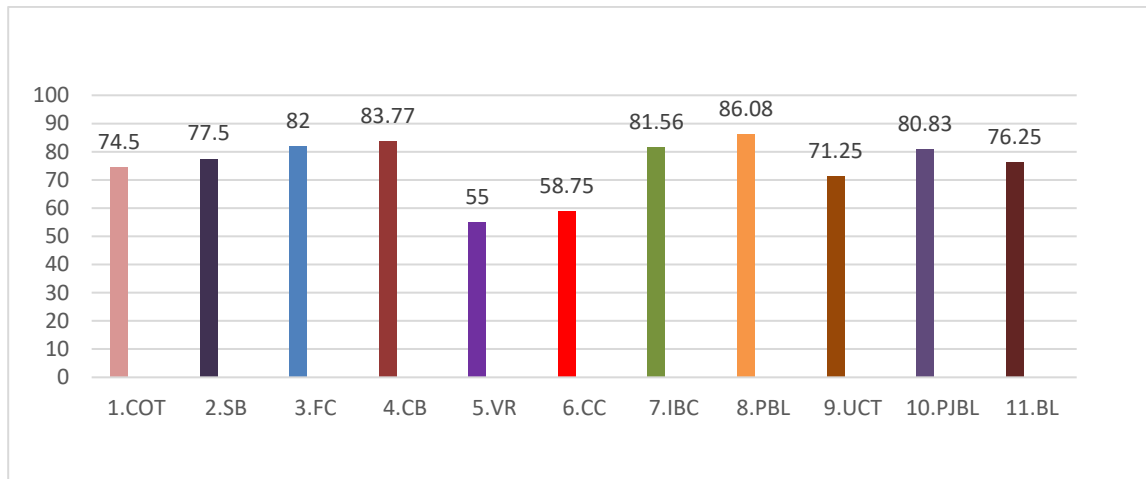
19	Promote the development of critical thinking skills,	6	9	0	1	0	68	85.00
20	Practice problem solving skills, and critical thinking skills	6	10	0	0	0	70	87.0
								86.08
IX. 21	Use a powerful set of tools to stimulate creativity and innovation, such as those that include fun games and visual exercises that can be easily used in the classroom	2	6	7	1	0	57	71.25
								71.25
X. 22	Open the lesson with a challenging question related to project planning	4	8	3	1	0	63	78.75
23	Schedule activities	5	9	2	0	0	67	83.75
24	Supervise the progress of the project and assess the resulting product	4	9	2	1	0	64	80.00
								80.83
XI. 25	Teaching by combining face-to-face learning with online learning aimed at independent learning	6	7	1	0	2	61	76.25
								76.25

If we pay attention to the data in Table 1, it can be interpreted that of the 11 innovative learning strategies proposed by the experts, all of them were implemented by the lecturers, but the the levels of presentation are different, it does not even seem to use it optimally (100%). The comparison of the percentage of the use of these strategies can be seen in Table 2 as follows:

Tabel 2. Percentage of Using Innovative Learning Strategies

No.	Innovative Teaching Strategy	%
1	<b>Cross over teaching</b>	<b>74.50</b>
2	<b>Teaching through Smart Boards</b>	<b>77.50</b>
3	<b>Teaching through Flipping Classrooms</b>	<b>82.00</b>
4	<b>Teaching through collaboration</b>	<b>83.75</b>
5	<b>Teaching through Virtual Reality</b>	<b>55.00</b>
6	<b>Teaching through Cloud Computing</b>	<b>58.75</b>
7	<b>Inquiry-based Teaching</b>	<b>81.56</b>
8	Problem based Learning	86.08
9	Use creativity tools.	71.25
10	<b>Project-based learning (PBL)</b>	<b>80.83</b>
11	<b>Blended learning</b>	<b>76.25</b>

**Figure 1. The percentage comparison of the use of innovative learning strategies can also be seen in the following diagram:**



Teaching strategies play an important role in converting teaching inputs into good outputs so as to make the teaching environment conducive to learning. The innovative learning strategies proposed by Fedena Learn (2019) are Cross Over Teaching (COT), Teaching through Smart Boards (SB), Flipping Classrooms (FC), Collaboration (CB), Virtual Reality (VR), Cloud Computing (CC), Inquiry-based Teaching (IBT), Problem based Learning (PBL).

#### **Application of Innovative Learning Strategies to improve student learning quality and achievement**

There are various types of learning strategies implemented by lecturers in the English Department of Education, Makassar Muhammadiyah University.

1. An innovative teaching strategy known as 'Cross over teaching' with an indicator that learning can be carried out in informal situations, which can be carried out outside the classroom, teaching content is related to the student's learning experience, which consists of questions and discussions. The results show that of the 4 indicators, there are 2 indicators that are implemented with a higher percentage, namely the suitability of learning content with students' prior knowledge (88.75%), while the second indicator implemented by lecturers is by asking questions related to learning content (85.50%). However, if the lecturers' answers are averaged, it can be concluded that the lecturers implement the 'Cross over teaching' learning strategy with a presentation rate of 74.50%.

This innovative learning strategy (Fedena learn, 2019) is able to connect educational content with issues that are important in students' daily lives. Studying in college can be enriched with experiences from everyday life; Informal learning can be deepened by adding questions and knowledge from the class. These connected experiences spark further interest and motivation to learn. This cross-learning experience exploits the strengths of both environments and provides authentic and engaging learning opportunities for learners. Because learning occurs throughout life, leveraging experiences across multiple settings, a wider opportunity is to support learners in recording, connecting, remembering, and sharing their diverse learning (Fedena learn, 2019).

2. The second teaching strategy is 'Teaching through smart boards'. The results of the responses from the lecturers showed that of the three indicators of this learning strategy, namely interactive, visual, multimedia and collaborative content, it showed that the lecturers carried out with high presentations (73.75%, 75.00%, and 83.75%). If averaged, the implementation rate of this strategy reaches 77.50%.
3. The third teaching strategy is 'Teaching through Flipping Classrooms'. There are three indicators in the implementation of this strategy, namely: students are responsible for their learning, adjustments to the needs of students, learning is carried out in class, so that the

emphasis is on a lot of practice. The results of the analysis showed that there were 3 (18.75%) lecturers who answered that they always gave responsibility to students, 10 (62.5%) answered often, and sometimes there were 3 (18.75%). Meanwhile, the second indicator is the adjustment of learning to the needs of students. The results of the analysis show that there are 5 (31.25%), 10 (62.5%) always and often adapting learning content to the needs of students, while only 1 (6.25%) sometimes adapting learning content to the needs of students. The third indicator is about the implementation of classroom learning and emphasis on practice. The results of the analysis show that there are 4 (25%) who always do it, while 9 (56.25%) often do it, and only 3 (18.75%) sometimes do it in learning. Thus, if combined, the implementation of the Teaching through Flipping Classrooms' learning strategy reaches 82%.

4. The fourth teaching strategy is 'Teaching through collaboration'. The indicator of this learning strategy is to carry out the teaching and learning process by involving students in learning with group work. The results of data analysis show that all lecturers use this strategy, with a percentage of 18.75% who always use it, while those who do it often reach 81.25%.
5. The fifth teaching strategy is 'Teaching through Virtual Reality', which involves students learning through interaction with the 3D world, for example, directing students to use 3D technology to visit places related to learning content. The results of the responses of the lecturers showed that the use of this strategy was very low, only 1 person (6.25%) always used it, and 4 (25%) used it often, while 11 people (68.75%) used it only occasionally and rarely. If averaged, the level of strategy use only reaches 55%.
6. The sixth teaching strategy is 'Teaching through Cloud Computing', which is conducting the teaching and learning process by archiving files consisting of notes, lesson plans, audio, video, and details of assignments that can be accessed again by students via the internet. . The results of the lecturers' responses show that no one always implements the learning strategy, however, there are 37.50% who often and sometimes use it, and there are even 25% who never use it. Therefore, the use of this strategy is still low; the percentage of its use only reaches 58.75%.
7. The seventh teaching strategy is 'Inquiry-based Teaching'. There are four indicators that can be observed in the use of this strategy, namely, first, teaching involves students finding their own understanding based on observations and investigations carried out by students with direction and guidance from the lecturer as a facilitator. The results of data analysis show that there are 87.50% of lecturers using this strategy, only 12.50% who have never used this strategy. Second, after students understand the material given, they present the results of their understanding in front of the class. The results of the questionnaire show that the lecturers use this strategy with a presentation of 68.75% who always and often use this strategy, only 31.25% who sometimes and rarely use this strategy. Third, students' findings based on their understanding are reflected by the lecturer as a facilitator. The results of the questionnaire analysis showed that the lecturers often even always carried out these activities with a presentation of 68.75%, while the task of the lecturer as a facilitator in providing answers to students' questions in the discussion was carried out by lecturers with a very high percentage, reaching 95%. Thus, if averaged, it can be concluded that the level of use of the 'Inquiry-based Teaching' learning strategy is quite high, reaching a percentage of 81.25%.
8. The eighth teaching strategy is 'Problem based Learning'. The indicator of the learning strategy is that the lecturer provides material based on problems in the context of students' daily lives. This strategy aims to develop students' critical thinking skills, so that they can provide opinions about the problems observed. Based on the responses of the lecturers, they are very enthusiastic about using the strategy. The results of the analysis show that 93.75%

who always and often use real-world-based learning, develop students' critical thinking skills. Likewise, learning by training students' ability to solve problems, lecturers always and often do this strategy with a very high presentation, which is 100%.

9. The ninth teaching strategy is 'using creativity tools'. The strategy refers to the use of innovative tools that can stimulate students' creativity in learning. The results of the analysis show that not all lecturers always or often use this strategy. Data shows that only 12.50% use it all the time, 37.50% use it frequently. In addition, 50% rarely or never use this strategy.
10. The tenth teaching strategy is 'Project-based learning', which is a learning strategy carried out by giving assignments and activities to students to be designed to produce a product that can be presented in front of the class. The results of the responses show that all lecturers use this strategy; only their level of use is different; 75% of lecturers always and often use this strategy, 25% who sometimes and rarely use it. Thus it can be concluded that the use of this strategy achieves a rather high percentage (78.75%).
11. The eleventh teaching strategy is 'Blended learning', namely learning that unites 'online and face to face' learning. This strategy is used by lecturers in general, only 12.50% have never implemented this learning strategy. Thus, it can be concluded that 87.50% of lecturers carry out blended learning.

### **Conclusions and Suggestions**

There are eleven types of innovative learning strategies used by lecturers in increasing participation and learning quality, namely: Cross over teaching, Teaching through smart boards, Teaching through Flipping Classrooms, Teaching through collaboration, Teaching through Virtual Reality, Teaching through Cloud Computing, Inquiry-based Teaching, Problem based Learning, using creativity tools, Project-based learning, Blended learning. However, the eleven innovative learning strategies have not been implemented maximally. There are only two innovative learning strategies that are implemented with a higher frequency than other strategies, namely 'problem based learning' and 'Inquiry based teaching'. Therefore, it is recommended for lecturers to implement or use various types of innovative learning strategies in various ways, so that the students being taught are interested in learning and not boring.

### **Acknowledgments**

The research received a grant from Makassar Muhammadiyah University. Therefore, it is a must for the authors to express indebtedness and thanks.

### **References**

- [1] Bot, L., Gossiaux, P. B., Rauch, C. P., & Tabiou, S. (2005). 'Learning by doing': a teaching method for active learning in scientific graduate education. *European journal of engineering education*, 30(1), 105-119.
- [2] Clark, D. B. (2013). Learning through collaborative argumentation. *The international handbook of collaborative learning*, 314.
- [3] Choi, K., Lee, H., Shin, N., Kim, S. W., & Krajcik, J. (2011). Re-conceptualization of scientific literacy in South Korea for the 21st century. *Journal of Research in Science Teaching*, 48, 670–697. doi: 10.1002/tea.20424
- [4] Esdal, Lars. (2017). Clearing Policy Barriers to Student-Centered Learning: Recommendations for a More Relevant, Personalized, and Equitable Minnesota EducationSystem. <https://eric.ed.gov/?q=source%3a%22education+evolving%22&id=ED605561>

- [5] Fedena learn. (2019). Innovative Methods of Teaching Strategies : That Will Help Every Teacher In The Classroom, February 25, 2019. <https://fedena.com/blog/2019/02/innovative-methods-of-teaching-strategies-that-will-help-every-teacher-in-the-classroom.html>
- [6] Huda, M., Anshari, M., Almunawar, M. N., Shahrill, M., Tan, A., Jaidin, J. H., ... & Masri, M. (2016). Innovative teaching in higher education: the big data approach. *TOJET*.
- [7] Kalyani, D., & Rajasekaran, K. (2018). Innovative teaching and learning. *Journal of applied and advanced research*, 3(1), 23-25
- [8] Kelly, S. W., Burton, A. M., Kato, T., & Akamatsu, S. (2001). Incidental learning of real world regularities in Britain and Japan. *Psychological Science*, 12, 86–89.
- [9] Liou, S. R., Cheng, C. Y., Tsai, H. M., & Chang, C. H. (2013). Innovative strategies for teaching nursing research in Taiwan. *Nursing research*, 62(5), 335-343.
- [10] Markham, T. (2016), 10 Ways to Teach Innovation. <https://innovativeteachingmethods.wordpress.com/2016/04/13/10-ways-to-teach-innovation-by-mindshift/>
- [11] Shaw, T. (2015). 8 things every teacher can do to create an innovative classroom. <https://www.eschoolnews.com/2015/08/03/innovative-classroom-490/>
- [12] Sary, S. P., Tarigan, S., & Situmorang, M. (2018). Development of innovative learning material with multimedia to increase student achievement and motivation in teaching acid base titration. In *3rd Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2018)*. Atlantis Press.
- [13] Sharples, M., Adams, A., Alozie, N., Ferguson, R., FitzGerald, E., Gaved, M. & Roschelle, J. (2015). Innovating Pedagogy 2015: *Open University Innovation Report* (4).
- [14] Seechaliao, T. (2017). Instructional strategies to support creativity and innovation in education. *Journal of education and learning*, 6(4), 201-208.
- [15] Vikasconcept. (2020). The Importance of Innovation in Education. <https://vikasconcept.com/the-importance-of-innovation-in-education/>
- [16] Zhu, C., Wang, D., Cai, Y., & Engels, N. (2013). What core competencies are related to teachers' innovative teaching?. *Asia-Pacific Journal of Teacher Education*, 41(1), 9-27.