EXPLORING DISCOVERY LEARNING APPLIED IN ENGLISH LANGUAGE TEACHING OF HIGHER EDUCATION

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ABSTRACT

The study aims to expose the discovery of learning applied in higher education. The study applies descriptive qualitative design applying phenomenology. The subjects in this study were three lecturers from a private university in Yogyakarta, Indonesia. The data were gained from interviews and documentation. The data are analyzed using triangulation involving data reduction, data display, and drawing conclusions. The results of the analysis show that there are benefits and challenges to discovery learning when applied in higher education. In conclusion, discovery learning has been one of the alternative teaching ways in higher education.
Keywords: Discovery Learning, English Language Teaching, Higher Education

INTRODUCTION

The success of a learning process can be seen from the achievement of learning objectives. Considering the students' characteristics and needs, the teachers or lecturers are expected to be able to choose the appropriate teaching methods, approaches, and techniques. The obstacle that is frequently encountered is that students tend to be passive in class, even though their participation in the learning process will also influence their learning outcomes. Students are less

encouraged to develop their critical thinking skills in the learning process. Learning in the classroom is still directed at the students' ability to memorize information. The students' brains are forced to remember and hoard new knowledge without comprehensively understanding and applying it daily. As a result, when the students graduate from school, they are theoretically competent but practically more negligible. Still, they are poor at applying theoretical background knowledge, including foreign languages that they are learning.

As participation is crucially important, McGregor (2007) argues that good teaching presents tasks and learning that require active participation. This opinion is also supported by Cohen in Firmansyah et al. (2021), who stated that the more the students participate, the more the students gain in learning. It means that the expected teaching condition is indicated by presenting tasks for students and the activeness of the students in participating during the lesson hours. By actively participating more in the learning process, the objectives of teaching are able to be reached. Otherwise, without the participation of the students, the classroom is meaningless, and the teacher will find it difficult to discover students' level of understanding.

Cooper in Firmansyah et. al (2021) argues that it is not unusual for a few students to monopolize classroom interaction while the rest of the class looks on. Absolutely, this is not an expected student where good teaching process requires all students are to participate wholly instead of partly. In some common classes, there are only few students who are always active in participating to the teacher's questions. However, this is not a good situation for learning. What is expected in a good classroom is a good number of students participating during the lesson.

More ways have been attempted by lecturers to overcome above problems. Being a good facilitator to solve the problems mentioned above needs various creativities in teaching English to help the students learn it as a foreign language. In line with those teaching creativities, the research conducted by Kakar (2020) found that (1) creative and innovative teaching makes the learning process enjoyable and increases students' participation and motivation because it puts students in the learning center process; (2) some students show resistance to changes from a teacher centered approach to a student-centered approach when it was implemented, and (3) some instructors need support from higher education to incorporate creative teaching into their courses because there is a glaring lack of professional development needs. Based on those findings, this study considers that creative teaching of English positively impacts students' academic achievement.

From the explanation above, it can be said that teaching EFL is required to engage with the teaching-learning cycle effectively. Teachers' part in language learning is just a facilitator, and EFL students absorbing the information provided must be an investigator. That is why appropriate learning method become an

essential need. Method that can train students to be proficient in solving the problems they face and can find concepts according to their own. Method that can train and demand students to have critical thinking. Method that helps students gain important knowledge, be proficient in solving problems, find their concepts, have their learning strategies, and have the skills to participate in teams. This method called discovery learning.

The discovery method defines as a teaching procedure that emphasizes teaching, individuals, object manipulation, and experimentation, before arriving at generalizations. Thus, methods that promote active learning, process-oriented, self-directing, self-seeking, and reflection (Suryo in Udin, S.F & Syamsia. (2022)), as well as discovering new knowledge or concepts for themselves.

The use of discovery learning methods is intended so that students are more active in the classroom during the English learning process. An educator must be able to recognize and help students who are less involved and investigate the causes, as well as what efforts can be made to increase student activity, educators must be able to adapt teaching to the needs and understanding of students. This is important to increase the effort and desire of students to think actively in learning activities.

LITERATURE REVIEW

Discovery learning has a long history in teaching-learning (Ozdem-Yilmaz & Bilican, 2020; Restanti, 2020). This method was first developed by Jerome Bruner, a psychologist born in New York in 1915. He argued that discovery learning is an active search for knowledge by humans; students learn best by discovery so they try to find solutions to fix the problems, and the knowledge that goes with it, thereby generating meaningful knowledge. However, it has seen a resurgence in prevalence in the most recent decade. One explanation is the adjustment in training towards more constructivist thoughts regarding information and learning. With its accentuation on the student's information development, discovery learning fits into this system over customary explanatory instructing (Veermans, 2003). The obvious principle of learning in discovery learning is that the materials or content delivered are not in the final form. Still, students are encouraged to identify what they want to know, seek information themselves, and then organize or form (constructive) what they know and understand in a final form (Schunk, 2012; Smaldino et al., 2011).

Discovery learning forms a ground-breaking instructional approach that encourages students to investigate data and ideas, extends new information, and applied new practices (Maheshwari in Ozdem-Yilmaz & Bilican, (2020)). Discovery learning is a request-based, constructivist learning hypothesis in critical thinking circumstances (Junina & Halim, 2020). The student draws on their own

previous experience and existing information to find realities and connections and new certainties to be educated (Chusni, 2022; Murtiyasa & Karomah, 2020). Understudies associate with the world by investigating and controlling articles, grappling with questions and debates, or performing tests. Thus, understudies might be bound to recall ideas and information found alone.

Westwood in Firmansyah et. al (2021) says, "the discovery method motivates learners to be independent learners". By practicing this method in the classroom while teaching, it in turns make a positive participation of the students. In other words, discovery method is potential to apply to teach the students, so they can be more active to respond the teacher's questions.

Westwood in Firmansyah et. al (2021) then adds that discovery method is characterized by the dominant of students' activeness in teaching and learning process. It is also described that most students centered methods such as; problem-based learning, project-based learning, resource-based learning, and computer-assisted learning are concerned not only with knowledge but also with the development of effective learning strategies, often encompassed by the expression 'learning how to learn' According to Ormrod in Firmansyah et. al (2021), the concept of discovery learning is requiring students to investigate a topic, issue or problem by active means, obtain pertinent information, interpret causes and effects where relevant, and arrive at conclusion and solutions. According to Adkisson in Firmansyah et. al (2021), "this discovery method emphasizes to have their strategy and encourage them to have active learning. It is clear that this discovery method is able to improve the students' activeness and participation. Therefore, it can be said as potential method to apply an appropriate teaching.

According to Sinambela in Ana (2018) there are several steps for the use of Discovery Learning in the classroom, they are: stimulation (providing stimulation), problem statement (identifying problems), data collection, data processing, verification, and generalization (concluding). In stimulation phase, students at the beginning of learning are only given a problem then students feel confused after that student triggers their curiosity to investigate it. In the problem statement (identifying problems) phase, the teacher gives a turn to students to find out events and problems related to teaching materials, after getting a conclusion, one of them can be selected and formulated in the form of a hypothesis. Data collection aims to prove related to existing statements, after those students are allowed to collect the same information, read from the same learning sources, observe objects related to the problem, interview sources related to the problem, and conduct independent trials. Then, data Processing aims to manage data and information previously known to students. All the information that has been obtained is reprocessed for the level of student confidence. Verification aims to review and prove whether or not statements previously existed. The last phase is

a generalization (concluding), which aims to conclude from the results of the information that has been collected.

Applying the discovery learning method can improve the self-discovery capabilities of the individual concerned. Utilization of a discovery learning strategy can change passive learning conditions to be active and creative learners. Change teacher-oriented learning to student-oriented. Changing the student's Expository mode receives the teacher's general information to discovery mode, the student finds their knowledge (Andayani, 2020; Ozdem-Yilmaz & Bilican, 2020). Sofeny (2017) described that his study revealed the effective use of discovery learning for extrovert students rather than introverted students. Following that, the discoveries propose that using direct guidance is also compelling for introverted students instead of extroverted students. The consequences of the discovery learning utilized affect extrovert students more than introvert students (Sofeny, 2017).

The previous researchers also investigated features of the students' issues in procuring language competency in English by utilizing discovery learning (Bernardini, 2016; Cahyani & Yulindaria, 2018; Junizar & Sudiyono, 2020; Sofeny, 2017). The researcher found that discovery learning is more effective in acquiring grammatical competency in English. Thus, it will be helpful to advance the competency of the students in sentence structure. The successful techniques for utilizing the discovery learning strategy were pulled in the youthful students learning English (Isnardiantini et al., 2019).

The research conducted in the national field by Firmansyah, Ikhsanudin, and Sadra (2021) focused on the use of the Discovery Learning Method to improve participants in answering reading comprehension questions. They used qualitative and quantitative analyses. In qualitative data analysis, they analyzed the displayed data and concluded. While in quantitative data analysis, they analyzed the data from the test which was calculated by the percentage of the student's participation during each cycle in three cycles. In the initial cycle, student participation was 21.30%. Meanwhile, in the second cycle, the participation of the students was 45.62%. In the last cycle, student participation was 60.60%. The findings show that the Discovery Learning method was effective in improving the students' participation in responding to the teacher's questions. Therefore, the discovery learning method could help the teacher in the teaching and learning process because this method encouraged students to learn actively.

Based on some previous research who have mentioned above, it takes into account that teaching by utilizing discovery learning requires the teachers to prepare and determine what activities can facilitate the students to learn different English language skills at various levels and grades and to achieve some oriented learning goals independently (Aldalur & Perez, 2023; Mahmoud, 2014). Based on

the explanation above, the researchers intend to investigate the processes of applying discovery learning in teaching English to the students at Universitas Sarjanawiyata Tamansiswa.

Furthermore, the discovery learning integrates the following five principles (Harisuddin, 2020; Istiqomah, 2018; Septya et al., 2018):

Problem-Solving

Students must be motivated and guided by teachers to solve the problems they face and combine their initial knowledge with the new knowledge gained in the learning process. Thus, students play an active role in the learning process, improving analytical and problem-solving skills.

Learner Management

The lecturers let the students complete the work individually and in groups. The students can handle and manage well.

Integrating and Connecting

Students learn to connect their experiences with new things they get to apply in everyday life. Therefore, they have the opportunity to develop their knowledge in the future.

Information Analysis and Interpretation

Teachers allow students to conduct in-depth analysis and investigate and transform their newly acquired knowledge. Discovery learning emphasizes processes and interactions in learning, not achievement-oriented learning.

Failure and Feedback

Providing feedback in learning is the teachers' duty and responsibility. In discovery learning, it is focused on the process of discovering new things not on the results obtained. Thus, it does not require students to find the right answer, demanding to find new facts.

METHOD

Research Design

The researchers employed qualitative research designed, and it applied a descriptive study. This study constitutes qualitative research, and it applied a case study. This study focuses on discovery learning in English language teaching.

The study was conducted in Universitas Sarjanawiyata Tamansiswa, Yogyakarta. This university was selected since the researchers were English lecturers in this university. In this way, it will be easier for researchers to choose the class to be researched. The subjects of this research was three lectures from the same university. The subjects' experience teaching English have started from three years to five years. To apply the principle of beneficence, specifically, and respondent confidentially in collecting data, the researcher provided a symbol of the name of lecturers. The symbol was Lecturer Respondent (LR1, LR2, LR3).

Data Collection

The researchers were primary instrument in this case study research. Data source taken from interview guidelines, and documentation. According to Riyanto (2010:82), interviews are a data collection method that requires direct communication between the researcher and the subject or respondent. According to Afifuddin (2009:131), the interview is a way of collecting data by asking someone who is an informant or respondent. Based on the experts' explanations, it can be concluded that an interview is a method of data collection by exchanging information and ideas through questions and answers between researchers and subjects or respondents on a particular topic.

In this research, interview guidelines used to find out how the teaching and learning process using discovery learning method used by the three lecturers. Ary in Hasan & Napoli (2020) states that, qualitative researchers may use written documents or other artifacts to gain an understanding of the phenomenon under study. The term documents here refer to a wide range of written, physical, and visual materials, including what other authors may term artifacts. The researchers collected document data such as teaching material, the result of the students' work, classroom activity photo reflecting discovery learning.

Data Analysis

There were three concurrent flows of activities in analyzing qualitative data. The flows are data reduction, data displays, and conclusion drawing or verification.

FINDINGS

Lecturer 1 (LR1)

Based on the data gathered from LR1, LR1 applied discovery learning method from the tenth until the fifteenth meeting. The theme was local business context. Students chose a topic from the theme, and they worked in groups. They asked to do investigation and made field observations about the topic that they choose. Then, they had to collect data through interviews with people directly involved with the local business.

In the first meeting, LR 1 stimulated the students. In this stage, the students have something that confuses, so that they want to investigate it themselves. At the beginning, LR 1 asked students to read or listen to descriptions related to the topic that containing problems. Stimulation provides learning interaction conditions that can develop and help students explore materials. In this case, the lecturer provides stimulation by using the technique 'asking is to ask questions' that can confront students' internal conditions that encourage exploration.

LR1 provided some problems about local business. One of the problems is how technology can affect local business development. It can stimulate students

to identify as many problems relevant to the subject matter. One of them is selected and formulated in a hypothesis. Then, LR1 provide the opportunity to the students to identify and analyze the problems they face. It is a useful technique in building students so that they get used to finding a problem for their hypothesis.

> **The problem from LR1:**
> *How technology can affect local business development.*
> **Students' explored problem:**
> *What kind of technology can be use to develop local business.*
> *Not everyone is good at using technology*
> *Whether local business people are technologically literate*
> *Etc.*

LR1 let the students gather the data and information as much as they need at the data collection stage. At this stage, the students interviewed local business people based on their problem statement. These include food stall owners, pottery craftsmen, furniture entrepreneurs, tofu and tempeh traders, and tour and travel agent since Yogyakarta has many tourisms destination. Then, at data processing stage, the data gained from interviews and observations should be interpreted. All readings, interviews, observations, and so on are all processed, scrambled, classified, tabulated, even when necessary to be calculated in a certain way and interpreted at a certain level of trust.

Formulating conclusions is the process of describing findings obtained based on the results of hypothesis testing. Providing the finding is an essential step in the teaching learning process using discovery learning. At the stage, the students composed their findings after processing the data. The amount of data obtained often causes the formulated conclusions to focus on solving the problem. Lecturers should be able to show students relevant data to accept accurate findings. This stage is the verification step.

The last step is a generalization. The generalization stage is the process of drawing a conclusion that can be used as a general principle and applies to all events or problems in common, considering the verification results.

> **The problem from LR1:**
> *How technology affect local business development*
> **Hypothesis:**
> *Internet can help local business development*
> **Generalization:**
> *The internet can be used to promote and market products online so*
> *that local businesses will develop more.*

Lecturer 2 (LR2)

Based on the data gathered from LR2, LR2 applied discovery learning method twice in one semester. LR2 provided stimulation to the students as the first

step. LR2 also stimulated students to offer the problem related to the local business. In this case, LR2 limited the local business to the most common local business in Yogyakarta, namely tutoring service since Yogyakarta is a student city. The lecturer did not reveal the questions as a part of problem identification, so no hypothesis is needed to be tested. However, the lecturer directly asks students to gather data about course or tutoring place.

Students collected data through interviews with some experts and owners of course or tutoring places and conducted observation. The students interviewed them about the reason of establishing tutoring places, what are the ups and downs of having a tutoring business, how they maintain the quality of their tutoring places. They recorded all interview session of each respondent and then, they processed and verified the data by giving the same questions to all respondents. Data verification is used to re-examine data obtained through observation, interview data, and documentation. The purpose of data verification is for the data obtained to be valid.

The above steps were the last, and there was no conclusion needed because there was no hypothesis tested in this discovery learning. Students only collected and verified the data, and they were only required to present the result of the data collected.

Lecturer 3 (LR3)

Based on the observations from LR3, the researcher has obtained an overview of the implementation of the discovery learning method in teaching English. LR3 provided discovery learning during six meetings. The theme is local business in Yogyakarta, and it is a process of learning foreign languages combined with local business. This lesson is also intended to teach students to think creatively when they graduate. They don't have to work in a company but can also build their own business. This is in line with the essence of the discovery learning method which is used to help students think more critically and creatively.

At the beginning, LR3 stimulated students by presenting local business in Indonesia. LR3 took steps that were quite similar to LR2. LR3 did not provide some questions to the students, but she described various local business, especially local business in Yogyakarta, to stimulate students. Stimulation in learning is done by imitating or manipulating the actual situation to describe or indicate a particular process, condition, or object being studied accompanied by an oral explanation. Stimulation is a practical method that develops learners' skills (cognitive and skills) by moving an actual situation into an activity or study room because of difficulties or limitations to practice in a real case.

The next stage was data collection. In this stage, the students gathered the data by observation, interview, and collecting documents such as record videos related to their topic. At this stage, Students visited several food vendors around

the university. They made direct observations of how the food traders' businesses were running, conducted interviews with a number of questions about their businesses, then documented all the processes by recording videos.

Apart from making observations in the field, students were also asked to look for several video sources with other local business themes, then watch and analyze the videos. From here students were then asked to compare the results of video analysis with the results of their direct observations. It is expected that this will encourage students to think more critically and openly. This data processing and verification is the final stage of implementing discovery learning by LR3. There was no conclusion because the was no hypothesis tested also.

DISCUSSION

The aim of this study is exploring discovery learning to teach English at higher education. Holmes and Hoffman (2000) described discovery learning as exploration and problem-solving that involves creating, integrating, and generalizing knowledge. It is supported by Juhaeni, et al (2020) that students are encouraged to utilize higher-order thinking skills, take risks in conducting experiments, and explore various subjects when they are taught using this method. To have the maximum exploration, this research was carried out by employing a case study involving three different lecturers. Three lecturers teach using the discovery learning method, but with different cases. The results shown by implementing this method, the students became more creative, critical, and enjoy the learning process.

According to the data, it was discovered that the lecturers participated in a number of different activities in order to carry out the stimulation stage. The lecturers kicked off the process of teaching and learning by questioning the students, encouraging them to read books, and engaging them in a variety of different learning activities to get them ready for problem-solving. It is consistent with the findings from other studies. Efrini (2016), Zalviani & Zainil (2021) discovered that one of the professors who was watched in her research presented questions to motivate the pupils.

This finding agrees with Bruner's findings in Mushtoza (2016). He stimulated the use of questioning to provide pupils with exposure to internal situations that inspire exploration through the questions he poses. The lecturers foster and encourage discovery learning by creating an environment conducive to the process. Students have the option of making educated guesses at the answers and letting the teacher know that they are doing so. The purpose of stimulation at this stage was to offer learning interaction circumstances that might foster student development and assist them in investigating the information. Sorohiti & Aini (2020) state that the discovery technique involves a carefully guided and assisted

process facilitated by the teacher, with rules subsequently elicited and explicitly taught. In this situation, the researchers demonstrated mastery of the strategies of presenting a stimulant to the pupils in order to encourage them to investigate the goal that can be attained. They were confronted with something that makes it difficult for them to make sense of things, and then they proceed to avoid making any broad statements, which sparks their interest in investigating the matter further.

In the the problem statement stage, the students were given the opportunity to find as many agendas as possible that are pertinent to the topic that was being discussed. The results obtained from other studies were not affected by this discovery in any way (Efrini, 2016; Hanafi, 2016; Mufida et al., 2015; Mukharomah, 2015). According to the findings of their investigation, the stage of formulating a problem statement was given by the instructor in the form of a question regarding the materials that was to be verbally posed by the students to one another and posed in English. According to the findings that were discovered by Efrini (2016), in order to implement the problem statement, the instructor posed the question, assigned listening tasks that were related to the subject, created examples and posed questions about them, and requested that the students locate difficult words and to mean synonyms based on the text that was provided.

The subsequent action in the procedure data collection. In this research, the lecturers encouraged the students to read and listen to the assigned works of literature, for example, the description of local business in Yogyakarta. After that, the lecturers gave the students permission to look at various objects. The lecturers provide the question rather than proving the hypothesis, which enables the students to collect (collection) relevant information, read the literature, observe the objects, interview sources, and conduct their own trials, among other things. Students were required to actively seek out information that was relevant to the issues that they were experiencing as a consequence of this step. It connected students, unintentionally, with the knowledge problem that has been owned. This finding is in line with Joolingen in Mufida et. al (2015) that stated discovery learning is a type of method where learners construct their own knowledge by experimenting with a domain, and inferring rules from the results of these experiments.

After collecting the data, the following stage is the processing of the data. The findings of this study showed that the professors actually did implement this step. One activity was completed by the lecturers in order to carry out this step. The professors challenged the students to make sense of the data they had gleaned from a variety of sources, including reading, interviews, observations, and others. According to Syah (2004), data processing is an activity to process data and information that has been obtained by students through interviews, observations,

and so on, then interpreted. "All information readings, interviews, observations, etc., all are processed, randomized, classified, tabulated, even if necessary calculated in a certain way and interpreted at a certain level of trust" (Djamarah, 2006)

In this research, the lecturers asked the students to write down all the information they collected before presenting it to the other students. This finding lends credence to the findings of the earlier research conducted by Mushtoza (2016) and Efrini (2016). In the study that Mushtoza (2016) conducted, the instructor gave the students an assignment to write a text that was based on the data collection step before having them perform the data processing step. Efrini (2016) found that the teachers asked the students to write a text based on an example and data that was found, do the task, and answer questions about the text in order to implement this step.

The next stage is verification. In this stage, the lecturers asked the students to conduct in-depth research in order to disprove the hypothesis by presenting alternative findings that were associated with the outcomes of data processing. The lecturers also gave the students the opportunity to discover a concept, theory, rules, or understanding through the examples that the students had encountered in their own lives. Bruner in Mushtoza (2016) stated this stage directs students to check the truth and validity of the results of data processing, through various activities, including asking friends, discussing, and looking for various relevant sources, and associating them, so that it becomes a conclusion. Based on the results of processing and interpretation, existing information, statements, or hypotheses that have been previously formulated are then checked, whether answered or not, whether proven or not.

The final stage is a generalization. Under consideration of the findings of the verification, the lecturers requested that the students reach a conclusion in order to obtain general principles and apply them to any and all situations or problems that are identical. In this section, students were also responsible for coding or categorizing the information, which served as the individual formation of concepts and generalizations. The generalization of the student acquired new information regarding alternative answers or settlements that require logical proof.

This finding is consistent with the findings and conclusions obtained from earlier research carried out by Mufida (2015), Mushtoza (2016), and Efrini (2016). Researchers Mufida (2015) and Mushtoza (2016) discovered that this step required the students to draw conclusions based on the activities that they participated in while learning. Efini (2016) found that this step was implemented by having the instructor ask the students to summarize the overall lesson before providing feedback and assigning homework.

It is possible to draw a conclusion from the lecturer's explanation and the

whole discussion during the learning process. According to Kosasih (2014), the role of the teacher is no longer a supplier of knowledge. The teacher is a facilitator who ensures that the appropriate task is carried out (Brown, 2001). The experience gained from the instructor was beneficial. It is anticipated that it will become proficient in the step of data processing. The ability to think systematically was the competency that was developed through participation in this activity. Other skills developed included developing attitudes of honesty and tolerance. It is for them to concisely express their opinion and to develop their excellent and appropriate language skills.

In the closing activity, the lecturers provided the students with feedback on the learning process and results. According to Harmer in Mushtoza (2015), the idea that one of the roles of the teacher is to respond to the questions and comments of the students is an appropriate one. The definition of the word "response" is "to react to the content and construction of a performing task and suggest ways in which it could be improved." This agrees with Bruner's findings in Mushtoza (2015). He hopes that the process of learning will be successful and creative if the instructor allows the students to discover a concept, theory, rules, or understanding through the use of examples that he has experienced in his own life.

In the end, the finding of this research found that exploring discovery learning in teaching at higher education could encourage students to think critically. It is in line with many previous studies on a similar topic from Kusumawardhani et al. (2019); Mufida & Mayasari (2015); Udin &Syamsia (2022); Mukharomah (2015); and, Murtiyasa & Karomah (2020). Students can, of course, be encouraged and stimulated to take an interest in the subject matter. As Beyer in Istiqomah (2018) explained that, the process of critical thinking involves making clear an,d well-reasoned judgments. Ideas ought to be rationalized thoroughly thought out, and evaluated whenever one is engaged in critical thinking. The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information gathered from or generated by observation, experience, reflection, reasoning, or communication as a guide to belief and action. The skills of observation, interpretation, analysis, inference, evaluation, explanation, and metacognition are all included in the list of fundamental abilities required for critical thinking. Students are responsible for carrying out all of the activities and presenting the report in order to put discovery learning into practice in the classroom.

CONCLUSION

In conclusion, the discovery learning method is an effective teaching method for teaching students in higher education. By using this method, students are getting more active and more encouraged to study and improve their English

skills. Based on the findings of the research, the lecturers are recommended not to provide full subject matter. Students are sufficiently given the main concepts for students to be guided so that they can find themselves until, finally, they can organize the concept as a whole. It is in line with the concept of the discovery learning method itself. This method is used for developing active students' learning by discovering themselves and investigating themselves; then, the results obtained will be faithful and long-lasting in memory, and students will not be easily forgotten. The learning process is assisted by a discussion and assignment model, group discussions to solve problems, and teacher's guidance.

In this research, the three lecturers carried out the process of discovery learning, which consists of six stages. The stimulation stage assisted students in identifying topics, encouraged students to learn, and assisted students in exploring in order for them to reach their objectives. The following is the problem statement stage. Students are required to find any problems encountered in learning; they are given the experience to ask questions, observe, search for information, and try to formulate a problem. Allowing students to identify and analyze the problems they face is a useful technique in building students so that they are accustomed to finding a problem. When exploration takes place, the lectures allow students to gather as much information as is relevant to prove whether or not the hypothesis is true. It is called the data collection stage. Students are allowed to collect (collection) a variety of relevant information, read literature, observe objects, interview resource persons, conduct their trials, and so on. All information readings, interviews, observations, etc., are processed, randomized, classified, tabulated, even if necessary, calculated in a certain way, and interpreted at a certain level of trust. It is done in the data processing stage. The next stage is the verification stage. This stage directs students to check the truth and validity of the results of data processing through various activities, including asking friends, discussing and looking for various relevant sources, and associating them so that it becomes a conclusion. Based on the results of processing and interpretation, existing information, statements, or hypotheses that have been previously formulated are then checked, whether answered or not, whether proven or not. The last stage is a generalization. The generalization/drawing conclusions stage is the process of drawing a conclusion that can be used as a general principle and applies to all events or the same problem; pay attention to the verification results.

REFERENCES

Aldalur, I., & Perez, A. (2023). Gamification and discovery learning: Motivating and involving students in the learning process. Heliyon, 9(1), e13135. https://doi.org/10.1016/j.heliyon.2023.e13135

Afifuddin. 2009. Metodologi Penelitian Kualitatif. Bandung: CV Pustaka Setia

Ana, N. Y. (2018). Penggunaan Model Pembelajaran Discovery Learning dalam

Peningkatan Hasil Belajaran Siswa di Sekolah Dasar. Jurnal Imiah Pendidikan dan Pembelajaran, 2(1), 21-28. doi: 10.23887/jipp.v2i1.13851

Andayani, S. W. (2020). Penerapan Model Discovery Learning Untuk Meningkatkan Kreativitas Belajar pada Mata Pelajaran Ilmu Gizi Siswa Tata Boga di SMK. In Jurnal KELUARGA Vol. https://core.ac.uk/download/pdf/322556213.pdf

Bernardini, S. (2016). Discovery learning in the language-for-translation classroom: corpora learning aids. Cadernos https://doi.org/10.5007/2175-7968.2016v36nesp1p14

Brown, H. Douglas. 2001. Teaching by principles, Longman: San Francisco State University.

Cahyani, I., & Yulindaria, L. (2018). The Effectiveness of Discovery Learning Model in Improving Students Fiction Writing. Indonesian Journal of Learning and Instruction, 1(1). https://doi.org/10.25134/ijli.v1i1.1281

Chusni, M. M. (2022). AN EVALUATION OF IMPLEMENTATION OF THE DISCOVERY LEARNING MODEL ON NATURAL SCIENCE LEARNING. Lentera Pendidikan: Jurnal Ilmu Tarbiyah …. https://journal3.uinalauddin.ac.id/index.php/lentera_pendidikan/article/view/22254

Djamarah, S. B. (2006). Strategi Balajar Mengajar. Asdi. Jakarta

Efrini, M. (2016). Discovery Learning Method Based on Scientific Approach in Curriculum 2013 in Teaching English at Senior High School. International Seminar on Education.

Firmansyah et. al (2021). The use of guided discovery learning method to improve participation in answering reading comprehension questions. Journal of Applied Studies in Language. http://ojs.pnb.ac.id/index.php/JASL

Hanafi, H. (2016). The Effect of Discovery Learning Method Application on Increasing Students' Listening Outcome and Social Attitude. DINAMIKA ILMU. https://doi.org/10.21093/di.v16i2.552

Harisuddin, M. I. (2020). Penerapan discovery learning untuk meningkatkan kemampuan pemahaman konsep matematis siswa SMPN 1 Pagaden. E-Jurnal Mitra Pendidikan. jmp/article/view/673

Hasan & Napoli (2020). A Case Study of English Teaching Methods at SMK Muhammad Yaasiin Sei Lepan. The SEALL JOURNAL: The STKIP Al Maksum English Education, Linguistics and Literature Journal. https://jurnal.stkipalmaksum.ac.id/index.php/jellas

Holmes, B.T. & Hoffman P.S. (2000). Elicit, engage, experience, explore: discovery learning in library instruction. Reference Services Review. 28(4), 313-322.

Isnardiantini, S., Usodo, B., & Soegiyan, H. (2019). The Effect Of Discovery Learning Based Teaching Material By Utilizing Traditional Game On Mathematic Abilities Of The 2nd Graders Of Elementary School. International Journal of …. https://dergipark.org.tr/en/pub/ijere/issue/45614/573773

Istiqomah, R. (2018). Improving senior high school student's creativity using

discovery learning model in islamic senior high school 1 jambi city. European Journal of Multidisciplinary https://revistia.com/index.php/ejms/article/view/6028

Juhaeni, Jazilah, N., Isnaini, L. Z., & Khoiru, F. H. R. (2020). Grammar Translation Method and Discovery Learning to Learn Tenses: Which is Better for Indonesian Students? Advances in Social Science, Education and Humanities Research, 434, 299–303. https://doi.org/10.2991/assehr.k.200427.060

Junina, I., & Halim, A. (2020). The effect of discovery learning-based worksheet on students' metacognition skill and learning outcomes. Journal of Physics: Conference Series. https://doi.org/10.1088/1742-6596/1460/1/012100

Junizar, F., & Sudiyono, S. (2020). The Effectiveness between Discovery Learning and Word Wall Methods in Improving Vocabulary At Seventh Grade Students. PROJECT (Professional Journal of English Education), 3(2), 180. https://doi.org/10.22460/project.v3i2.p180-186

Kakar, A. F., Sarwari, K., & Miri, M. A. (2020). Creative Teaching in EFL Classrooms: Voices from Afghanistan. Journal of Foreign Languange Teaching and Learning. https://doi.org/10.18196/ftl.5252

Kosasih, E. (2014). Strategi Belajar dan Pembelajaran Implementasi Kurikulum 2013. Yrama Widya. Bandung

Kusumawardhani, A. D., Mulya, D., & Faizah, A. (2019). Empowering Students' Creativity and Critical Thinking through Discovery Learning-based Writing Assessment. Linguists: Journal of Linguistics and Language Teaching, 5(1), 1. https://doi.org/10.29300/ling.v5i1.1913

McGregor, Debra. (2007). Developing Thinking; Developing Learning. Maidenhead: Open University Press.

Mahmoud, A. K. A. (2014). The Effect of Using Discovery Learning Strategy in Teaching Grammatical Rules to first year General Secondary Student on Developing Their Achievement and Metacognitive Skills. International Journal of Innovation and Scientific Research ISSN.

Mufida, I., Hafifah, G. N., & Mayasari, L. (2015). The Implementation of Discovery Learning To Teach Speaking At the First Grade Students At Smp Institut Indonesia. Tell Journal.

Mukharomah, L. (2015). The Use of Discovery Learning Method to Improve Students' Writing Descriptive Text. PROJECT (Professional Journal of English Education).

Murtiyasa, B., & Karomah, I. I. Al. (2020). The impact of learning strategy of problem solving and discovery towards learning outcomes reviewed from students learning motivation. In Universal Journal of Educational …. academia.edu. https://www.academia.edu/download/64806694/UJER36_19516658.pdf

Mushtoza, D. A. (2016). Discovery Learning in Teaching Report Writing for Junior High School Students Based on 2013 Curriculum. IJET (Indonesian Journal of English Teaching), 5(1), 55–77. https://doi.org/10.15642/ijet2.2016.5.1.55-77

Ozdem-Yilmaz, Y., & Bilican, K. (2020). Discovery Learning—Jerome Bruner. Science Education in Theory and Practice. https://doi.org/10.1007/978-3-030-43620 9_13

Riyanto, Y. 2010. Metodologi Penelitian Pendidikan.Surabaya : Penerbit SIC.

Septya, E., Febriana, R., & Delyana, H. (2018). Penerapan Model Pembelajaran Discovery Learning Terhadap Penalaran Komunikasi Matematis Siswa. IV (1). http://ejournal.stkip-pgri-sumbar.ac.id/index.php/jurnal lemma/article/view/2738

Schunk, D. H. (2012). Learning theories: An educational perspective. In Reading.

Smaldino, S. E., Lowther, D. L., & Russel, J. D. (2011). Instructional Technology & Media for Learning (9th ed.). Pearson Prentice Hall.

Sofeny, D. (2017). the Effectiveness of Discovery Learning in Improving English Writing Skill of Extroverted and Introverted Students. Jurnal Penelitian Humaniora, 18(1), 41. https://doi.org/10.23917/humaniora.v18i1.3639

Sorohiti, M., & Aini, E. N. (2020). Grammar Teaching Materials : What Makes Them Interesting ? Proceedings of the 4th International Conference on Sustainable Innovation 2020–Social, Humanity, and Education, 518(4), 270–277.

Udin, S.F & Syamsia. (2022). Study of the Implementation of the Discovery Learning Model on the Speaking Skills of Class VIII Students at Madrasah Tsanawiyah Darul Ulum Sasa, Ternate City. Langua: Journal of Linguistics, Literature, and Language Education. https://jurnal.stkipkieraha.ac.id/index.php/langua/

Veermans, K. (2003). Intelligent Support for Discovery Learning. In Educational Research. http://doc.utwente.nl/38699/1/t000001b.pdf.

Zalviani, N. & Zainil, Y. (2021). The Implementation of Discovery Learning for Reading Skill in EFL Classroom at SMPN 8 Padang. Journal of English Language Teaching. https://doi.org/10.24036/jelt.v10i1.111376