

Analysis of the Learning Motivation of Biology Education Students in the Implementation of Field Trip Activities for Plant Taxonomy Courses

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ABSTRACT

This study aims to evaluate the effect of field trip activities on students' learning motivation in the plant taxonomy course. It uses a survey method with a descriptive qualitative approach. The present study was conducted at IAIN Kerinci with a sample of fourth-semester students of the Biology Education Study Program in 2024 who took the plant taxonomy course. The data collection technique was a questionnaire based on learning motivation indicators, according to Uno (2008). The data were analyzed using descriptive statistics to determine the percentage of motivation for each indicator. The results showed that 41.67% of students really agree and 53% agree that field trip activities significantly increased their learning motivation. Analysis per indicator showed that motivation was driven by the desire to succeed (45.56% really agree), demands and need in learning (37.00%), future hopes and aspirations (36.67% really agree), being appreciated in learning (47.78% really agree), and a conducive learning environment (40% really agree). However, a small number of students (5.17%) stated that this activity was less advantageous due to lack of preparation or unsupportive field conditions, so it can be concluded that the field trip method is an effective learning method to increase students' motivation and understanding, especially in practice-based courses such as plant taxonomy.

However, more thorough planning is needed to optimize the benefits of this activity.

Keywords: Learning Motivation, Field Trip, Plant Taxonomy

INTRODUCTION

Learning motivation is one of the crucial elements in the higher education process. Motivation not only drives students to achieve academic goals but also influences how they understand and apply the concepts learned in the world of education (Sunardi & Dwi, 2015). However, students' learning motivation often fluctuates. One of the causes might be the lack of learning methods relevant to learning needs and interests. Less contextual learning methods can make it difficult for students to connect the learning material with real experiences or practical applications. Therefore, a method is needed that not only attracts students' interest but also provides direct experience, such as the contextual learning method, which allows students to learn through direct observation in the field, integrating theory with practice, so that it can increase their involvement, understanding, and learning motivation.

This situation often occurs in various scientific fields, especially in exact sciences such as biology.

In the context of biology education courses, the learning process aims not only to transfer knowledge but also to develop scientific skills and a critical attitude towards natural phenomena. Biology education emphasizes mastery of basic biological concepts, their application in everyday life, and the development of analytical thinking skills through activities involving observation, experimentation, and problem-solving. As prospective educators, biology education students are also required to be able to deliver biological materials in a creative and contextual way, so that the learning they design can motivate their students at the elementary or secondary education level.

The multidimensional characteristics of biology learning often require an integrative approach based on real experiences. The approach needs to include understanding the structure, function, and interactions of various organisms in the ecosystem, as well as the application of biology to environmental and sustainability issues. Therefore, learning in biology education courses should ideally be carried out in the classroom and involve field activities that allow students to directly observe biological objects in their natural environment. This method is expected to increase students' motivation, understanding, and ability to apply biology in a more contextual manner.

In the context of biology education courses, especially on the course of plant taxonomy, the demand for a contextual approach is a significant challenge. Students are challenged to understand abstract and technical concepts, such as plant classification and species identification. Savitri & Sudarmin (2016) argue that students tend to consider this course boring because of the dominance of theory and the lack of practical experience that supports learning. As a result, their learning motivation decreases, bringing about less optimal academic results. Whereas high learning motivation is the key to success in understanding complex scientific concepts, as Widia et.al (2016) suggest, interesting and relevant learning methods can help increase student involvement in teaching and learning. Therefore, innovation is needed in learning to increase student motivation and understanding, especially in courses with an abstract nature, such as the topic of Plant Taxonomy.

A field trip is one of the innovative learning methods that has been proven effective in increasing learning motivation. This method allows students to observe, interact, and analyze learning objects in their natural environment, thereby enriching their understanding of the concepts taught (Astriani, 2018). In the context of the plant taxonomy course, field trips provide students with the opportunity to identify various types of plants directly in their natural habitat. This experience deepens their understanding and increases interest in learning through active involvement and experiential learning (Muchsin et al., 2021). This method is supported by the theory of constructivism, which emphasizes the importance of direct experience in building knowledge. The learning process involving observation and exploration activities in the field allows students to build a more meaningful understanding (Sudarmanto, 2020). Ubaidillah (2018) supports the argument that direct learning experiences can improve students' analytical, problem-solving, and collaboration skills.

The relationship between learning motivation and field trip activities has been widely studied, especially in the context of experiential learning. Field trips can stimulate student motivation by creating relevant and interesting learning experiences (Dinata et al., 2018). In plant taxonomy courses, this activity can help students understand the relationship between

theories taught in class and practical applications in the field. Research by Etika & Hidayati (2020) found that authentic field experiences increase student engagement, strengthen their observation skills, and facilitate the transfer of knowledge from theory to practice. However, integrating the field trip method into higher education still faces various obstacles. In the Biology Education study program, students often have difficulty linking theory to practice due to limited time, facilities, and technical support. The learning method that is still dominated by abstract discussion activities is also a challenge in itself. Students tend to be passive and less motivated to explore biology concepts in depth. Such a situation shows that although field trips have great potential to increase learning motivation, their implementation requires careful planning and adequate support from educational institutions (Nurmaliah, 2019).

The novelty of this study lies in the special emphasis on the influence of field trip activities on the learning motivation of biology education students in the plant taxonomy course, which has tended to be boring (Etika & Hidayati, 2020). While other studies have discussed the general benefits of experiential learning methods, this study explores the effectiveness of field trips in the specific context of Biology learning. By implementing this method, it is hoped that students can be more motivated to understand complex biology concepts and improve their learning outcomes. In addition, the results of this study are expected to provide practical recommendations for lecturers in designing more interesting learning and supporting curriculum development to produce competent graduates who are ready to face the challenges of the world of work.

RESEARCH METHODS

The present study is a qualitative study aiming to describe and explain the phenomenon of student learning motivation after implementing the field trip method in plant taxonomy lecture activities based on data that can be measured numerically (Wahyudi, 2022). This study was conducted from May to July 2024, with the research sample being 4th-semester students of the Biology Education Study Program at the State Islamic Institute (IAIN) Kerinci in 2024 who were taking the plant taxonomy course.

This study uses a survey method that is systematically designed in order to collect detailed information to understand the condition of student learning motivation in the plant taxonomy course after participating in the field trip activity. The research instrument is a questionnaire based on learning motivation indicators from Uno (2008) which have been adapted to measure the influence of field trip activities, including passion and desire to succeed, drive and needs in learning, hopes and ideals for the future, appreciation in learning and a conducive learning environment (Hess & Chasins, 2022).

The data collection process begins by giving questionnaires to the research sample, with the condition that the research sample has undergone field trip activities in the plant taxonomy course. The questionnaires were given at the same time at the end of the lecture activities. After that, the data were analyzed using descriptive statistical techniques, which included calculating the percentage in each answer category. Data analysis was carried out by:

1. Data tabulation: The results of each questionnaire were categorized according to learning motivation indicators;

2. Percentage calculation: Data were calculated using descriptive statistical formulas to determine the distribution of answers in each category.

$$P = \frac{f}{N} \times 100$$

Description:

- P : Percentage of answer categories
F : Frequency of answers for a particular category
N : Total number of respondents
100 : Constant for conversion to percentage

(Nugraheni, 2019).

RESULTS AND DISCUSSION

The learning motivation questionnaire based on Uno's (2008) five indicators was modified by adjusting the question items to be relevant to the study that focused on the influence of field trip activities in the plant taxonomy course. For example, the original question, "I have a strong desire to get good grades", was modified to "The field trip activity motivated me to understand the plant taxonomy material in depth to get good learning outcomes." Similar modifications were made to all indicators so that the question items were relevant to the context of the field activity.

The researcher also added several specific question items to evaluate specific aspects of the field trip experience, such as "Direct interaction with real objects during the field trip helped me understand the plant taxonomy material" and "Discussions with lecturers and friends during the field trip improved my understanding." After all the items were modified, the questionnaire was validated by a team of experts (lecturers of biology education at IAIN Kerinci), ensuring that the questions were in accordance with the indicators and consistent in measuring learning motivation.

The validation results were used to revise items that were deemed unclear or less relevant, resulting in a final questionnaire ready to be used in the study. This process ensures that the resulting instrument not only meets the research needs but also maintains the theoretical basis taken from Uno's (2008) reference, making it a valid and relevant measuring instrument for student learning motivation in the context of implementing field trip activities for plant taxonomy courses, so that it is worthy of being continued to the further research stage (data collection).

The study results showed that, in general, students agree if field trip activities are applied in plant taxonomy lectures. It can be seen from the percentage values in Figure 1.

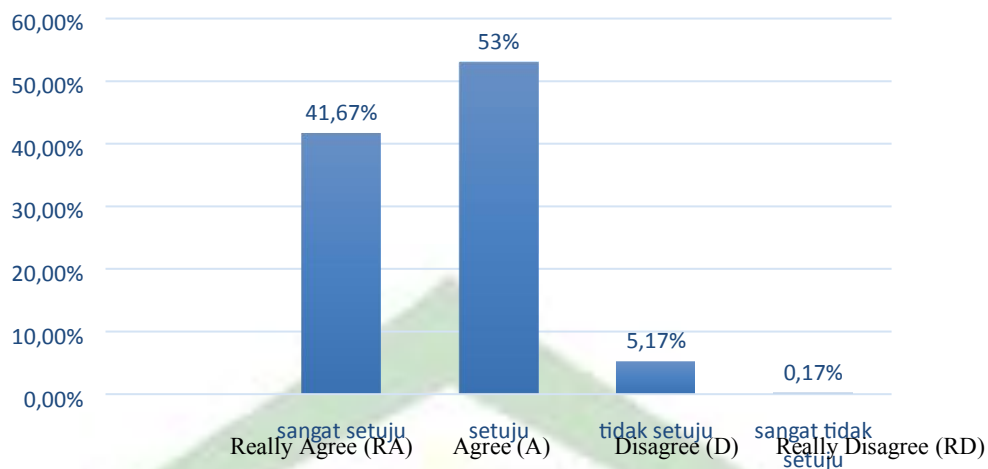


Figure 1. Student Response to Field Trip Activities

Figure 1 shows that 41.67% of students really agree, and 53.00% agree that field trip activities increase learning motivation. Students feel that direct experience in the field enriches their knowledge of plant taxonomy and allows them to see and classify various plant species directly, which is not possible in the classroom. In addition, field trip activities make students feel more interested and involved in the learning process. Interaction with lecturers and friends during field trips helps improve the ability to apply the theories that they have learned in real contexts. This finding is supported by Nwokocha's (2024) research, which found that field trips positively affect the acquisition of practical skills in biology education. Students involved in field trips showed better abilities in remembering facts, understanding concepts, and excelling in practice. In addition, Benton (2013) stated that field trips offer opportunities to motivate and connect students with classroom concepts, which increases students' knowledge foundation, encourages further learning, and improves higher thinking strategies.

Figure 1 also shows that 5.17% of students disagree and feel that field trips do not significantly impact learning motivation. Based on these student statements, it is known that the reasons behind this opinion are the lack of preparation before the field trip or less conducive field conditions. Even 0.17% of students feel that field trip activities are not useful at all due to the lack of students' understanding of the field trip process and feel that this method does not suit their learning style. Moseley et al. (2019) stated that a lack of preparation before the field trip and less conducive field conditions could lead to a less optimal learning experience for students. Students suggest that careful planning and good preparation are essential to ensure that the educational objectives of the field trip are achieved. Fauziah & Candra (2023) emphasise that students' lack of understanding of the objectives and process of the field trip can lead to dissatisfaction and the perception that the activity is not useful. In addition, the mismatch between the field trip method and students' individual learning styles can reduce the benefits obtained from the activity. Students emphasised the importance of providing clear and relevant information before the field trip to increase its effectiveness. In addition, adaptation of teaching methods during the field trip is very necessary to meet the various learning preferences of students in order to increase engagement and motivation.

After implementing the field trip method, students' learning motivation in the plant taxonomy course was also analysed based on students' responses to each motivation indicator, which can be seen in Figure 2.

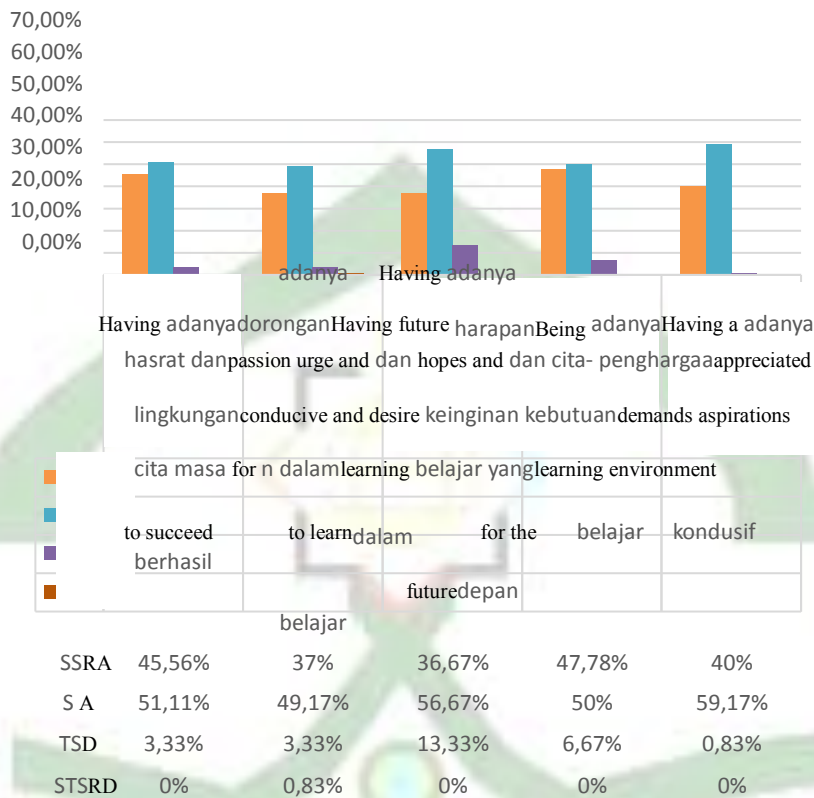


Figure 2. Results of Motivation Analysis Based on Indicators

Figure 2 shows that 45.56% of students really agree, and 51.11% agree that the passion and desire to succeed in every activity play a major role in driving student learning motivation. Passion and desire provide a strong driving force, making students more enthusiastic, focused, and consistent in undergoing the learning process to achieve their academic targets (Utami, 2022). The desire to succeed encourages students to be more proactive in learning, including actively participating in field trips (Susanto et al., 2021). This activity strengthens motivation by providing opportunities to apply theory directly in the field, thereby increasing understanding of plant taxonomy. Then, the desire to succeed is strengthened by various supporting factors, such as guidance from lecturers, motivation from fellow students, and appreciation for the efforts that have been made. A supportive learning environment can help students utilize motivation optimally. In learning plant taxonomy, the desire to succeed can be realized through consistent efforts in understanding plant-type material, completing field practice assignments, and integrating practical experiences into learning outcomes (Sadikin, 2018).

The urge and need to learn are also important elements that influence student motivation. Data shows that 37.00% of students really agree, and 49.17% agree that this indicator influences their motivation. The urge from academic demands, such as completing assignments, preparing for exams, or meeting the expectations of lecturers and parents, is a significant external driver. In the context of a field trip, this indicator of motivation is seen in

students' preparation to recognize plant species in the field and explain previously learned concepts. It means that a field trip not only increases the students' involvement in learning activities but also deepens their understanding of the material being taught.

Research conducted by Hulu et al. (2022) explains that students involved in each stage of a field trip show a high level of involvement, both in terms of direct observation of plant specimens and in recording relevant data. For example, during a field trip, students make visual observations of plants and actively record the morphological characteristics, habitats, and distribution patterns of the specimens found. In addition, field trips also encourage students to be more active in asking questions and discussing, which strengthens their understanding of the material being studied. Thus, the present study confirms that direct experience gained during field trips can enrich student learning (Bansuhari, 2020).

The indicator of future hopes and aspirations is the third indicator in examining field trip activities in increasing student learning motivation in plant taxonomy courses. The data shows that 36.67% of students really agree and 56.67% agree that future hopes and aspirations influence learning motivation. Long-term aspirations such as becoming a competent biologist or teacher provide a framework that motivates students to work hard. In field trips, these hopes are realised through their desire to master practical skills relevant to the workplace, such as the ability to classify plants directly in the field (Ratnasari et al., 2017). This finding is in line with the opinion of Djamarah and Zain (as cited in Hasbullah et al., 2019) which emphasises the importance of direct learning outside the classroom to deepen understanding of the material.

The indicator of being appreciated is considered important by 47.78% of students who really agree and 50.00% who agree. Appreciation, whether in the form of grades, recognition, or praise, provides positive feedback that motivates students to continue learning. In field trip activities, appreciation can be in the form of students being recognised by their lecturers for being successful in correctly identifying plants or being given good scores for their field reports. This positive feedback increases self-confidence and strengthens students' motivation to maintain the quality of their learning. It aligns with Rahayu's argument (cited in Andriani & Rasto, 2019) that rewards can improve motivation and learning outcomes.

The last indicator is a conducive learning environment, where 40.00% of students really agree, and 59.17% of them agree that a conducive learning environment plays an important role in increasing learning motivation. A supportive learning environment, such as a comfortable classroom atmosphere, good relationships with classmates, and support from lecturers, helps create a more productive learning atmosphere. In field trip activities, a conducive environment is reflected in the support of lecturers who facilitate learning in the field, adequate tools, and opportunities for group discussions. All of these factors directly increase student involvement and motivation (Uno, 2008).

CONCLUSION

Field trip activities in the plant taxonomy course at IAIN Kerinci generally received positive responses from students, with 41.67% really agreeing and 53.00% agreeing that this activity increased learning motivation through direct observation, interactive discussions, and application of theory to practice. Then, the analysis of motivation indicators showed that the

desire to succeed (45.56% really agree, 51.11% agree) encouraged students' enthusiasm in achieving academic targets. Meanwhile, academic demands such as field assignments (37.00% really agree, 49.17% agree) strengthened their involvement. Future hopes such as becoming a competent biologist and teacher also contributed greatly (36.67% really agree, 56.67% agree), supported by being appreciated in the form of grades and recognition (47.78% really agree, 50% agree) which increased motivation. In addition, a conducive learning environment, including lecturer support and adequate facilities, were important factors (40% really agree, 59.17% agree). However, a small number of students feel less advantaged due to minimal preparation or unsupportive field conditions, implying improvements and method adaptations are needed to optimize the effectiveness of this activity. However, in general, the application of field trip-based learning methods can be an effective method to improve student motivation and learning outcomes, especially in courses that require in-depth understanding and practical skills such as plant taxonomy.

IMPLICATIONS AND SUGGESTIONS

The findings of this study have significant implications for the field of biology education, particularly in enhancing students' learning motivation through practical activities. The analysis shows that field trips in plant taxonomy courses have a positive impact on students' learning motivation. It indicates that integrating more field-based learning experiences can effectively increase engagement and interest in biology education.

However, the sample size used was relatively small and limited to a specific geographic area, which may affect the generalizability of the results. In addition, this study focused more on students' self-reported motivation, which may not fully reflect the true impact of field trips on their learning experiences.

Future studies can address these limitations by involving larger and more diverse samples to increase the generalizability of the findings. In addition, using objective measures of students' motivation and learning, such as pre- and post-field trip assessments, can provide a more comprehensive understanding of the impact of field trips. Investigating different types of field-based activities and their specific effects on different aspects of students' motivation would also be valuable for further research.

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