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ASSESSMENT PRACTICES IN FIELD TRIPS: THE NEED FOR AN ETHNOSCIENCE-BASED FRAMEWORKS

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ABSTRACT

Field trip activities have become an important component of contextual learning in Indonesian schools because they provide opportunities for students to interact directly with real-world environments. This study aimed to investigate how student assessment is implemented during field trip activities and to examine whether ethnoscience-based assessment has been incorporated into current assessment practices. A qualitative case study design was employed involving thirteen respondents from junior high schools and Islamic junior high schools in Tegal Regency, Indonesia. Data were collected through questionnaires, open-ended responses, and documentation of assessment practices. The data were analyzed using thematic analysis supported by data reduction, categorization, interpretation, and conclusion drawing. The findings revealed that field trips are regularly conducted in participating schools and are generally designed to strengthen subject matter understanding and character development. Assessment practices predominantly rely on written reports, teacher observations, presentations, and portfolios. Although critical thinking indicators were considered important by most respondents, systematic assessment of critical thinking rarely occurred. Furthermore, no school reported using a specific ethnoscience-based assessment framework. Teachers identified several challenges, including limited observation time, large student numbers, lack of assessment instruments, and absence of standardized rubrics. The study concludes that ethnoscience-based assessment has not yet been systematically implemented in field trip activities despite its potential to enhance authentic assessment and contextual learning. The development of structured ethnoscience-based assessment instruments is therefore necessary to support meaningful evaluation of students' critical reasoning and understanding of local knowledge systems.

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INTRODUCTION

Educational assessment has undergone significant transformation over the past two decades. Contemporary educational paradigms no longer position assessment solely as a mechanism for measuring learning outcomes but also as an integral component of the

learning process itself. Assessment is increasingly expected to capture students' ability to apply knowledge, solve problems, communicate ideas, and interpret real-life phenomena. Consequently, schools are challenged to implement assessment approaches that reflect authentic learning experiences rather than relying exclusively on conventional written examinations.

Field trip activities have increasingly been recognized as an important form of experiential learning because they allow students to interact directly with real-world phenomena beyond classroom boundaries. Through observation, investigation, discussion, and reflection, students can construct knowledge from authentic experiences rather than relying solely on textbook explanations. Outdoor learning environments provide opportunities for active engagement, multisensory learning, social interaction, and deeper conceptual understanding, particularly in science education (Sahile et al., 2026: 150).

The growing emphasis on contextual learning has encouraged schools to utilize field trips as a strategy for connecting academic content with students' daily lives. Recent studies indicate that learning experiences situated in authentic environments can improve students' understanding of scientific concepts, strengthen inquiry skills, and promote meaningful learning experiences (Kolb, 2015; Sahile et al., 2026). However, the educational value of field trips depends not only on learning activities but also on the quality of assessment used to capture students' learning processes and outcomes.

Within science education, ethnoscience has emerged as an increasingly influential approach for contextualizing learning. Ethnoscience refers to local knowledge systems that develop through community interaction with the environment and are manifested in traditional practices, technologies, ecological knowledge, and cultural values (Solikah et al., 2026: 420). Through ethnoscience, students are encouraged to connect scientific concepts with cultural practices that exist within their own communities. Such integration helps learners understand science not merely as abstract knowledge but as knowledge embedded within social and cultural realities. Conceptual understanding and respect for local wisdom can be improved by applying ethnoscience in learning (Faradilla & Rizal, 2026: 31)

Recent research demonstrates that ethnoscience-based learning contributes positively to scientific literacy, cultural literacy, learning motivation, and critical thinking development. A meta-analysis conducted by Kurniati et al. (2026: 89) reported that ethnoscience-based culturally responsive science education produced a significant positive effect on student learning outcomes and attitudes toward science. Similarly, Atmojo et al. (2025: 251) found that ethnoscience creates meaningful links between culture and science while supporting the development of critical thinking and cultural awareness. These

findings suggest that ethnoscience offers considerable potential for enriching field trip learning experiences.

Field trip activities are particularly compatible with ethnoscience because students encounter local cultural practices, community knowledge, traditional technologies, and environmental phenomena directly. For example, ethnoscientific investigations can be conducted through visits to traditional industries, cultural heritage sites, agricultural communities, local ecosystems, and indigenous knowledge centers. Such experiences enable students to examine how scientific principles are embedded within local wisdom and everyday practices. Amprasto et al. (2020: 66) stated that learning science such as biology requires many learning resources that can be found directly in nature. In addition, environmental activities can improve students' field knowledge, their knowledge of self-rescue techniques in emergencies, as well as improve their physical condition and self-care skills (Lu & Li, 2025: 481)

Despite the growing body of literature on ethnoscience learning, most existing studies focus on instructional models, teaching materials, scientific literacy, or critical thinking outcomes. Relatively little attention has been given to how student learning is assessed during ethnoscience-oriented field experiences. Existing assessment practices often emphasize attendance, participation, and written reports while overlooking students' abilities to interpret local knowledge, analyze evidence, connect cultural practices with scientific concepts, and construct reasoned explanations.

Assessment plays a crucial role in determining whether students successfully interpret and analyze ethnoscientific phenomena. During field trips, students are expected not only to observe cultural practices but also to identify scientific principles embedded within those practices. They should be able to compare traditional knowledge with scientific explanations, evaluate the effectiveness of local technologies, and reflect upon the relevance of indigenous knowledge for contemporary challenges. These competencies require assessment approaches capable of capturing complex reasoning processes rather than merely recording participation or factual recall.

The importance of this issue becomes evident when examining current field trip assessment practices in Indonesian schools. Preliminary data collected from thirteen junior high schools and Islamic junior high schools in Tegal Regency indicate that field trip activities are commonly implemented. All participating schools reported conducting field trips within the last three years, with most organizing such activities once annually. The primary objectives include strengthening subject matter understanding, character

development, and enhancement of thinking skills. However, assessment practices remain dominated by written reports, teacher observations, presentations, and portfolios.

The data further reveal significant inconsistencies in assessment implementation. Several schools reported conducting assessments only after field trip activities had been completed, while others did not perform formal assessments at all. Although some respondents indicated the use of assessment rubrics, most schools lacked standardized instruments specifically designed for field trip evaluation. Teachers frequently reported challenges related to limited observation time, large student populations, absence of specialized instruments, lack of rubrics, and insufficient understanding of assessment procedures.

More importantly, the findings suggest that critical thinking assessment remains underdeveloped. Although respondents consistently rated critical thinking indicators such as identifying facts, distinguishing facts from opinions, asking questions, analyzing cause-and-effect relationships, comparing information, drawing conclusions, proposing solutions, and reflecting on learning experiences as important or very important, only a small number of schools explicitly assessed these competencies. Most teachers acknowledged that existing assessment instruments were insufficient for measuring critical reasoning during field trip activities.

Another notable finding concerns the absence of ethnoscience-based assessment practices. While field trips frequently involve visits to locations containing cultural, historical, environmental, or community-based knowledge resources, respondents did not report systematic efforts to evaluate students' understanding of local knowledge systems or their ability to relate indigenous practices to scientific concepts. This suggests that the educational potential of ethnoscience remains largely untapped within current assessment frameworks.

The absence of ethnoscience-based assessment represents a significant educational concern. Without appropriate assessment mechanisms, teachers may be unable to determine whether students develop meaningful understanding of local knowledge systems or acquire the analytical skills necessary to interpret ethnoscientific phenomena critically. Consequently, valuable learning opportunities generated through field trips may remain underutilized. Furthermore, the lack of structured assessment limits schools' capacity to document and improve the educational effectiveness of field trip programs.

From a theoretical perspective, this study draws upon constructivist learning theory, authentic assessment theory, and ethnoscience perspectives. Constructivism argues that knowledge is actively constructed through interaction with experiences and environments.

Field trips provide opportunities for students to construct understanding through direct engagement with real-world contexts. Authentic assessment theory emphasizes the importance of evaluating learning through meaningful tasks that resemble real-life situations. Ethnoscience perspectives highlight the educational value of local knowledge systems and their potential contribution to scientific understanding. Together, these frameworks provide a conceptual foundation for examining how assessment practices can support meaningful learning during ethnoscience-oriented field experiences.

Several research gaps justify the present investigation. First, previous studies have predominantly examined the effectiveness of field trips in enhancing learning outcomes rather than focusing on assessment practices. Second, ethnoscience research has largely concentrated on curriculum development and instructional innovation instead of assessment design. Third, limited evidence exists regarding how schools currently assess students during field trips and whether ethnoscientific dimensions are incorporated into assessment frameworks. Fourth, little is known about teachers' perceptions of assessment challenges and their needs for improved assessment instruments. Fifth, many field trips have been conducted, but the assessments still focus on general reports and observations, while assessments that specifically evaluate critical thinking skills through an ethnoscience perspective are not yet available.

Addressing these gaps is important for both theoretical and practical reasons. Theoretically, the study contributes to discussions concerning authentic assessment, experiential learning, and ethnoscience integration within educational contexts. Practically, the findings may inform the development of assessment instruments capable of evaluating critical reasoning and ethnoscientific understanding during field trip activities. Such instruments could support teachers in conducting more comprehensive and meaningful evaluations while enhancing the educational value of field experiences.

Therefore, this study aims to explore current assessment practices used during field trip activities in junior high schools and examine whether ethnoscience-based assessment elements have been incorporated into these practices. Specifically, the study investigates assessment procedures, critical thinking assessment, challenges experienced by teachers, and the need for ethnoscience-based assessment instruments. The findings are expected to provide empirical foundations for the development of more authentic, contextual, and culturally responsive assessment frameworks for field trip learning.

RESEARCH METHODOLOGY

This study employed a qualitative approach using a case study design. The qualitative case study was selected because the research aimed to obtain an in-depth understanding of assessment practices implemented during field trip activities and to explore whether ethnoscience-based assessment elements had been integrated into those practices. Rather than measuring effectiveness statistically, the study focused on understanding how teachers design, implement, and evaluate student learning during field trips.

The case study design enabled the researcher to investigate assessment practices within their natural educational contexts. According to Yin (2018), case studies are appropriate when researchers seek to understand contemporary phenomena within real-life settings, particularly when the boundaries between the phenomenon and context are not clearly evident. In this study, field trip assessment practices were examined as a contextual phenomenon influenced by school culture, teacher beliefs, available resources, and educational objectives.

The study was conducted in junior high schools and Islamic junior high schools located in Tegal Regency, Central Java, Indonesia. Thirteen educational practitioners participated in the study, consisting of twelve teachers and one vice principal. Participants represented diverse subject areas, including science, mathematics, Indonesian language, civic education, informatics, arts and culture, and religious education. Teaching experience among participants ranged from one year to sixteen years. Such variation allowed the study to capture multiple perspectives regarding field trip assessment implementation.

The primary data source consisted of responses collected from educational practitioners regarding field trip implementation and assessment practices. The data included information about field trip frequency, learning activities, assessment methods, critical thinking evaluation, assessment challenges, and perceived needs for assessment instrument development.

Secondary data included school assessment practices, assessment documentation, and theoretical literature related to authentic assessment, ethnoscience, experiential learning, and critical thinking assessment.

The primary instrument was a semi-structured questionnaire containing both closed-ended and open-ended questions. Open-ended questions allowed respondents to elaborate on their experiences and provide recommendations regarding assessment improvement.

The questionnaire was designed to explore five major dimensions:

1. Characteristics of field trip implementation.

2. Existing assessment practices.
3. Assessment of critical thinking skills.
4. Challenges encountered during assessment.
5. Needs for future assessment instrument development.

Data were collected through questionnaire distribution to teachers and educational administrators involved in organizing field trip activities. Respondents completed the questionnaire individually based on their professional experiences. The questionnaire gathered both descriptive and reflective data. Descriptive responses provided information regarding current practices, while reflective responses revealed participants' perceptions, challenges, and expectations concerning assessment development.

Data were analyzed using the interactive model proposed by Miles, Huberman, and Saldaña (2014: 46), consisting of data condensation, data display, and conclusion drawing. During data condensation, responses were categorized according to themes relevant to the research objectives. Similar responses were grouped into broader categories such as assessment methods, assessment challenges, critical thinking assessment, and ethnoscience integration. Data display involved organizing findings into tables and thematic summaries to facilitate interpretation. Frequencies and patterns were examined to identify dominant trends among participants. Finally, conclusions were drawn through interpretation of emerging themes and comparison with existing theoretical frameworks and previous research findings.

To ensure trustworthiness, the study applied triangulation between quantitative descriptive responses and qualitative explanations provided by participants. Furthermore, interpretations were continuously compared with existing literature concerning authentic assessment, field trip learning, and ethnoscience education. This process enhanced the credibility and consistency of the findings.

RESULT AND DISCUSSION

Field Trip Implementation in Participating Schools

The findings demonstrate that field trip activities have become an established educational practice in participating schools. All respondents reported that their schools had conducted field trip, outing class, or study tour programs within the last three years. Most schools organized field trips once per year, while one school reported conducting field trips every semester. This finding indicates that experiential learning outside the classroom has been recognized as an important component of educational practice.

Table 1. Frequency of Field Trip Implementation

Frequency	Number of School
Once per year	11
Every semester	1
Irreguler	1

The educational objectives of field trips varied across schools. However, strengthening subject matter understanding emerged as the dominant objective, followed by character development and thinking skill enhancement.

Table 2. Main Objectives of Field Trips

Objective	Frecuency
Strengthening subject content	7
Character development	4
Thinking skill development	1
Recreation	1

These findings suggest that schools primarily view field trips as opportunities to reinforce classroom learning through direct experience. This perspective aligns with experiential learning theory, which emphasizes that knowledge is created through the transformation of experience and constructed through interaction with authentic environments (Krakowka, 2012: 236). Richmond further demonstrated that applying Kolb's experiential learning cycle as a guide in designing field trips helps ensure that these activities contribute to internalizing relevant theories and concepts, and she presented three practical models: an informal neighborhood survey, a formal scavenger hunt, and a virtual field trip using Google Earth (Krakowka, 2012: 240). Saman et al. added that field trips and experiential learning opportunities have historically been employed as teaching instruments within social studies classrooms, since these activities facilitate the connection between classroom instruction and real-world environments (Abdullah et al., 2024: 354). Interestingly, respondents reported that field trips often involved multiple subjects simultaneously. Science, social studies, Indonesian language, civic education, arts, and informatics were among the most frequently involved subjects. Such interdisciplinary implementation creates favorable conditions for ethnoscience integration because ethnoscience inherently combines scientific, cultural, social, and historical perspectives.

Current Assessment Practices During Field Trips

Although field trips were widely implemented, assessment practices appeared less systematic. Only a limited number of respondents reported conducting comprehensive

assessment throughout the field trip process. The most frequently used assessment methods were written reports, teacher observations, portfolios, and presentations.

Table 3. Assessment Method Frequency

Objective	Frecuency
Written report	4
Teacher observation	2
Portofolio	1
Presentation	1
Written test	1
Reflection journal	1

A notable pattern emerged regarding assessment timing. Nearly all respondents indicated that assessment occurred after the completion of field trip activities. Only one respondent reported conducting assessment before the activity.

The findings reveal that written reports remain the dominant assessment method used by teachers following field trip activities. This pattern indicates that assessment is primarily directed toward evaluating final products rather than documenting learning processes that occur during field experiences. Such findings contrast with recommendations from outdoor learning research, which emphasize that observation, inquiry, reflection, and interaction should constitute important components of assessment because these processes represent essential dimensions of experiential learning (Sahile et al., 2026: 150).

From the perspective of authentic assessment theory, this practice presents limitations. Authentic assessment should capture student performance while learning occurs in real-world contexts rather than relying solely on retrospective reports. As argued by Wiggins (1998: 67), authentic assessment becomes meaningful when students demonstrate understanding through direct engagement with realistic tasks. The findings therefore indicate a gap between the experiential nature of field trips and the assessment methods employed to evaluate learning outcomes.

Critical Thinking Assessment Remains Underdeveloped

One of the most significant findings concerns the assessment of critical thinking skills. Although nearly all respondents considered critical thinking indicators important or very important, only a small proportion of schools explicitly assessed critical reasoning during field trips. This finding is concerning because previous studies have demonstrated that ethnoscience-based learning can strengthen students' abilities to analyze evidence, connect local knowledge with scientific explanations, and solve contextual problems.

The discrepancy between educational goals and assessment practices suggests that teachers recognize the importance of critical thinking but lack practical instruments for measuring it. Consequently, valuable learning outcomes generated through field experiences may remain undocumented. Only one respondent indicated that critical thinking was assessed through discussion activities. The remaining respondents either did not assess critical thinking or lacked specific procedures for doing so. This finding is particularly important because all respondents rated critical thinking indicators as either important or very important.

Table 4. Perceived Importance of Critical Thinking Indicator

Indicator	Dominant Response
Identifying facts	Important to Very Important
Distinguishing facts and opinions	Important to Very Important
Asking questions	Important to Very Important
Analyzing cause and effect	Important to Very Important
Comparing information	Important to Very Important
Drawing conclusions	Important to Very Important
Providing solutions	Important to Very Important
Reflecting on experiences	Very Important
Collaboration	Very Important
Defending opinions with evidence	Important to Very Important

A contradiction therefore emerges between educational aspirations and assessment practices. Although teachers consistently acknowledge critical thinking as an educational priority, they frequently encounter difficulties in operationalizing assessment procedures that can systematically measure these competencies in the classroom (Cahyaningrum et al., 2022: 3). In the Indonesian context, this contradiction is particularly evident, as Cahyaningrum et al. reported that many teachers have never conducted formal critical thinking skills assessments, and neither schools nor individual teachers have had access to the development of appropriate assessment instruments for measuring students' critical thinking (Cahyaningrum et al., 2022: 3). At the elementary school level, this gap is further reinforced by Maryono et al., who identified several specific difficulties experienced by teachers in developing higher-order thinking assessment instruments, namely limited understanding of the operational verbs aligned with HOTS, difficulties in adjusting basic competencies and learning indicators when designing lesson plans, challenges in formulating HOTS-based questions, and constraints in managing the time required to construct such instruments (Maryono et al., 2022: 1533). Internationally, similar patterns have been observed. Schulz and FitzPatrick found that although K–9 teachers believed higher-order thinking was essential for all students and attempted to teach it through instructional activities, they were not always sure how to include it in their assessments

and frequently did so only minimally, with the result that lower-order questions tended to dominate paper-and-pencil assessments due to limited time for remediation (Schulz & FitzPatrick, 2016: 68). Consequently, several respondents in the present study explicitly stated that current assessment instruments were either insufficient or only partially capable of measuring students' critical reasoning abilities. The absence of structured critical thinking assessment limits teachers' ability to identify students' strengths and weaknesses in reasoning processes, and opportunities to improve instructional quality and to align pedagogy with the development of higher-order thinking competencies may be lost.

Absence of Ethnoscience-Based Assessment Practices

One of the most significant findings of this study is the absence of systematic ethnoscience-based assessment. Although field trip activities often expose students to local knowledge systems and cultural practices, assessment instruments rarely evaluate students' ability to identify scientific principles embedded within these practices. This issue is not isolated, as similar challenges have been documented in studies of critical thinking skills assessment in Indonesian schools, where teachers often acknowledge higher-order thinking as an educational priority but have never formally developed or implemented valid instruments to measure it, and neither schools nor individual teachers have had access to such instrument development (Cahyaningrum et al., 2022: 10). The problem extends beyond the Indonesian context, as international research by Schulz and FitzPatrick found that while K–9 teachers agreed that critical and higher-order thinking goals were essential and clearly specified in curriculum documents, the corresponding instructional activities and assessments often operated at a noticeably lower cognitive level, with lower order questions tending to dominate paper-and-pencil assessments due to limited time and the teacher's conviction that lower-order thinking must be mastered first (Schulz & FitzPatrick, 2016: 68).

This finding is inconsistent with the theoretical foundation of ethnoscience, which views local knowledge as a valuable source of scientific understanding that can be integrated into formal science education. Zidny et al. emphasized that indigenous knowledge offers rich and authentic contexts for science learning and should be systematically incorporated into curricula, because science education focused solely on scientific concepts is insufficient to support young people in becoming reflective representatives of their communities (Zidny et al., 2020: 176). Ethnoscience therefore encourages learners to interpret traditional practices, cultural artifacts, and community

knowledge through scientific perspectives while simultaneously appreciating their cultural significance.

In practical terms, students participating in visits to traditional industries, agricultural sites, or cultural heritage locations should ideally be assessed on their ability to observe phenomena, formulate questions, analyze relationships between local practices and scientific concepts, evaluate evidence, and draw conclusions. However, such dimensions were largely absent from existing assessment practices. Hikmawati et al. reported that although the assessment system suitable for ethnoscience-based science learning should encompass both test-based and non-test-based assessments covering performance, attitudes, portfolios, and products, and that suitable methods for ethnoscience-based learning include investigation, experimentation, and field observation, these practices remain underdeveloped in many school contexts (Hikmawati et al., 2021; 63). This internal contradiction is further reinforced by Ali et al., who noted that most contextualized assessments in science education emphasize content validity without empirically confirming their construct structure, and that there remains a lack of studies integrating content, empirical, and construct validity evidence in culturally responsive assessment instruments (Ali et al., 2025: 19).

This finding indicates a significant gap between the potential educational value of field trips and the assessment practices currently implemented. Students may encounter rich ethnoscientific phenomena during field experiences, yet schools lack mechanisms to evaluate how students understand and interpret these experiences. Consequently, the concern raised by Cahyaningrum et al. becomes highly relevant, namely that when teachers have no access to properly developed instruments, critical thinking skills at the level specified by educational goals cannot be meaningfully diagnosed or improved through classroom practice (Cahyaningrum et al., 2022: 10).

From an ethnoscience perspective, assessment should not merely measure factual knowledge. Instead, it should evaluate students' ability to construct relationships between local knowledge and scientific concepts, critically examine cultural practices, and appreciate the role of indigenous knowledge in sustainable community development. Consistent with this orientation, Ali et al. demonstrated that a transparent "content–empirical–construct" validation framework can be used to develop ethnoscience-based pre–post assessment instruments, providing a methodological foundation for measuring students' cultural responsiveness and scientific understanding in a more balanced manner (Ali et al., 2025: 19).

Teachers' Need for Ethnoscience-Based Assessment Instruments

Another important finding concerns teachers' strong demand for improved assessment instruments. Nearly all respondents stated that assessment instruments specifically designed for field trip activities were needed or highly needed. Participants suggested various forms of assessment instruments, including observation rubrics, reflection journals, student worksheets, portfolios, checklists, and combinations of multiple assessment techniques.

Table 5. Theachers' Preferred Assessment Instrument

Indicator	Dominant Response
Observation rubric	4
Reflection journal	3
Combination of instruments	3
Student worksheet	1
Portofolio	1
Checklist	1

Teachers consistently emphasized the importance of instruments that are practical, structured, easy to implement, and capable of assessing higher-order thinking skills. Teachers consistently expressed strong demand for assessment instruments capable of measuring higher-order thinking skills in field trip settings. This need aligns with recent findings indicating that ethnoscience-based learning environments can improve critical thinking, scientific literacy, and student engagement when supported by appropriate learning and assessment designs.

The findings suggest that future assessment instruments should not merely evaluate participation or report quality. Instead, they should assess how students observe, interpret, analyze, and reflect upon ethnoscientific phenomena encountered during field experiences. Such an approach would better align assessment with the educational objectives of field trip learning and ethnoscience education.

Several respondents explicitly stated that future assessment instruments should focus on students' abilities to observe real phenomena, analyze information, formulate explanations, draw conclusions, and solve problems based on evidence collected during field activities. These expectations closely align with the objectives of ethnoscience-based assessment.

The findings suggest that teachers are not resistant to innovative assessment approaches. Instead, they require practical guidance and valid instruments that can be applied efficiently within field trip contexts.

Integrated Discussion

Overall, the findings indicate that field trips have become an established educational practice in participating schools and are generally viewed as valuable opportunities for contextual learning. However, assessment practices remain dominated by conventional approaches that emphasize final products rather than learning processes.

The findings also reveal a substantial discrepancy between the recognized importance of critical thinking and the actual implementation of critical thinking assessment. Although teachers consistently acknowledge the importance of reasoning skills, assessment instruments capable of measuring these competencies remain largely unavailable.

Furthermore, the study demonstrates that ethnoscience-based assessment has not yet been systematically incorporated into field trip activities. Existing assessment practices focus primarily on attendance, attitudes, participation, and written reports, while students' understanding of local knowledge systems and their connections to scientific concepts receive limited attention.

These findings support constructivist perspectives that emphasize the importance of learning through direct experience. However, they also suggest that meaningful experiential learning requires equally meaningful assessment practices. Without appropriate assessment frameworks, schools may fail to capture important learning outcomes generated through interactions with authentic cultural and environmental contexts. Consequently, the development of ethnoscience-based assessment instruments represents both an educational necessity and an opportunity to strengthen authentic assessment practices in Indonesian schools.

CONCLUSIONS AND SUGGESTIONS

This study examined assessment practices implemented during field trip activities in junior high schools and explored whether ethnoscience-based assessment had been integrated into these practices. The findings indicate that field trips have become an important component of contextual learning, supporting character development and subject knowledge. However, assessment practices remain predominantly conventional and emphasize learning products rather than students' learning processes during field experiences.

The study found that teachers mainly use written reports, observations, presentations, and portfolios to evaluate students after field trips. Although critical thinking is widely recognized as an essential learning outcome, it is rarely assessed through structured

instruments or clear rubrics. Furthermore, ethnoscience perspectives have not yet been systematically incorporated into assessment despite students' direct engagement with local knowledge, cultural practices, and community-based technologies. Teachers also reported challenges such as limited time, large class sizes, and the absence of standardized assessment guidelines, highlighting the need for more practical and authentic assessment tools.

These findings demonstrate the importance of developing ethnoscience-based assessment frameworks that evaluate both students' scientific understanding and their ability to relate science to local cultural contexts. Future studies should focus on designing and validating such instruments, while schools, curriculum developers, and policymakers should collaborate to integrate ethnoscience into authentic assessment practices that promote critical thinking, cultural awareness, and meaningful science learning.

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