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Adaptation of the Student Engagement Questionnaire (SEQ) into Indonesian Version for Secondary School Students

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Abstract. The goal of this research is to adapt the Student Engagement Questionnaire (SEQ) into the Indonesian version. The assessment that is adapted is the Student Engagement Questionnaire (SEQ) formulated by Reeve & Tseng, which consists of 22 items across four dimensions: agentic, behavior, emotion, and cognitive. The adaptation procedure follows the International Test Commission (ITC) Guidelines for Translating and Adapting Tests. The sequence consists of six stages: (1) Initial development; (2) Test construction; (3) Validation; (4) Administration; (5) Scoring and interpreting; (6) Documentation phase. However, this study only reached the scoring and interpreting stage. Therefore, future researchers should continue similar studies through to the documentation stage. In this research, 2 translators, 2 psychometrics experts for content validation, 10 Islamic Junior High School students for readability assessments, and 385 Islamic Junior High School students for construct validation of the instrument are involved. The content validity test resulted in a total mean of 1.34 for the similarity aspect and 1.3 for the comparability aspect, with a s-CVI value of 1.00. The construct validity test, conducted using CFA, yielded results with CFI 0.931, TLI 0.922, RMSEA 0.062, and SRMR 0.045. Furthermore, the Cronbach's Alpha value was obtained at 0.94. Therefore, this instrument has been demonstrated to be both valid and reliable for assessing student engagement.

Keywords: Adaptation, Measurement Tools, Student Engagement, Questionnaire, Indonesian Version

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Introduction

Every learning process in schools requires students to be actively engaged, where students become the main subjects involved in various activities within it (Dadi & Kewa, 2020). Student engagement refers to the involvement of students in learning. The term student engagement is often used to describe how students interact with the school environment, including how much time they dedicate to completing school tasks, as well as their ability to self-regulate and comply with school rules (Putri et al., 2023). Student engagement plays a crucial role in the learning process, facilitating effective learning within the classroom. Without active student involvement, learning will not achieve the desired understanding, comprehension, and knowledge enhancement (Fredricks et al., 2019; Octavia,

2020). Therefore, student engagement is closely linked to students' academic achievements, and optimal academic performance can be realized by fostering student involvement in the classroom learning process (Putri et al., 2024; Sa'diah et al., 2024). Furthermore, student engagement also impacts students' perseverance, adjustment, and well-being within the school environment. Engagement is considered vital for achieving good academic outcomes and preventing school dropout (Bakadorova et al., 2020).

Various studies related to student engagement have become a prominent topic in research (Reeve & Shin, 2020). Based on the analysis of Indonesia's ranking in the PISA study, the issue of student disengagement has become one of the three crucial problems that require immediate attention in the national education system (Prananto, 2025). Student engagement is an important construct because it can predict future academic outcomes, skills, talents, educational achievements, and employment prospects. Engagement in the classroom is a vital aspect of education as it serves as a multidimensional pathway connecting students' motivational conditions to the expected learning outcomes (Lavy & Naama-Ghanayim, 2020; Xu et al., 2023). Therefore, a reliable measurement tool that can assess the level of student engagement among students in Indonesia is certainly needed

Several studies have been conducted regarding the valid and reliable measurement of student engagement for junior high and senior high school students, as outlined by Fredricks & McColskey, 2012 (as cited in Prananto, 2025). Fredrick dkk (2004) developed the School Engagement Scale (SEC) with 19 items, Doğan (2014) created the 53-item Student Engagement Scale (SES). Both of these assessments explore student in terms of three key dimensions: behavior, emotion, and cognitive. *The Student Engagement in School Questionnaire (SESQ), developed by* Hart et al (2011), consists of 33 items covering five aspects: affective engagement-appreciating learning; affective engagement-appreciating school; behavioral engagement-commitment and persistence; behavioral engagement-participation in extracurricular activities; and cognitive engagement. Furthermore, the study by Reeve and Tseng (2011) produced the 22-item Student Engagement Questionnaire (SEQ), and Viega (2016) proposed the 20-item Students' Engagement in School Four-Dimensional Scale (SES4DS). Both assessments comprise four dimensions, with the agentic dimension being included as part of the student engagement framework in school. Although there are several measurement tools that are ready to be used, when these tools are applied in the context of students in Indonesia, they still require some adjustments. This is done to ensure that the results obtained are in line with the culture of the country in question and can be trusted, or valid and reliable. The process of adopting such an instrument is referred to as cross-cultural adaptation (Utari & Lestari, 2022)

Previous research has been conducted to adapt the Student Engagement Questionnaire (SEQ), however, in the sampling process, the researchers involved respondents from secondary to higher education students, who clearly have different characteristics. Additionally, the researchers only conducted a construct validity test without first performing content validity. In fact, content validity testing by experts is necessary to assess the feasibility of the instrument and serve as the basis for refining the translated instrument, ensuring that the translation accurately represents the intent and purpose of the original instrument, even after linguistic adjustments (Rosita et al., 2021).

Therefore, to gain an understanding of the student engagement measurement tools in the context of secondary school students, particularly students at Islamic Junior High School in Indonesia, this study aims to adapt the psychometric measurement tool into an Indonesian version. The adaptation of the assessment involves a comprehensive series of activities, starting with evaluating whether a psychometric tool, in the linguistic and cultural context of the target population, can reproduce the measurement of a construct like the one measured in the source language and culture. The next steps include selecting competent translators, designing a methodology to evaluate the translation results (such as through forward and backward translation techniques), choosing relevant accommodations, modifying the format of the assessment, carrying out the translation process, and ensuring the tool's equivalence in the Indonesian language and cultural context, with support from additional pertinent validity research (Cruchinho et al., 2024). The assessment to be adapted into Indonesian in this study is the Student Engagement Questionnaire (SEQ) formulated by Reeve and Tseng (2011). This selection was made considering the similarity in age and cultural characteristics (Asian) of the sample used in the study. The alignment of the assessment tool with the characteristics of the research subjects can improve the quality and validity of the data. Therefore, researchers need to consider demographic variables such as age, culture, and educational background when choosing an assessment tool (Matius & Gunawan, 2022).

Method

Research Design

This study uses a quantitative research design by adapting the assessment into the Indonesian version. The adaptation procedure follows the International Test Commission (ITC) Guidelines for Translating and Adapting Tests, 2017 (as cited in Fikra, 2023) which process is divided into six stages: (1) pre-development; (2) test development; (3) confirmation; (4) administration; (5) scoring and interpretation; (6) documentation. (1) Pre-development; (2) test development; (3) confirmation; (4) administration; (5) scoring and interpretation; (6) documentation. However, this study only reached the stage of scoring and interpretation due to time constraints.

Participants

The participants in this study are presented in Table 1.

Table 1. Participants

Stage	Number of Participants	Inclusion Criteria
Test Development	2	Doctoral degree (S3); Expert in Psychometrics
Test Development	10	Islamic junior high school students in grades 7 to 9
Confirmation	385	Islamic junior high school students in grades 7 to 9

The study included two experts (expert judges) to carry out content validity testing. The experts were chosen according to the requirement of having a PhD and relevant experience in psychometric. Additionally, 10 Islamic Junior High School students were involved for readability testing, with the goal of ensuring that the resulting assessment could be clearly understood by students and did not lead to ambiguous interpretations. Furthermore, 385 Islamic Junior High School students were involved in data collection to obtain the validity

and reliability of the assessment. The inclusion criteria for selecting students as participants in this study were Islamic Junior High School students from grades 7 to 9 attending schools in Malang Regency. This was done to ensure that the results obtained aligned with the research objectives.

Participant Recruitment Procedure

The sampling procedure was carried out using purposive sampling, considering the alignment of the subject characteristics with the research objectives (Nuralim et al., 2023). This approach was adopted because the study required participants who met inclusion criteria relevant to the research goals. Some biases may arise when using purposive sampling techniques. Therefore, to mitigate such biases, the researcher established appropriate sample selection criteria that align with the research objectives (Stratton, 2024). Data collection was conducted both face-to-face and online through Google Forms. Prior to data collection, the study received ethical approval from the Ethics Committee of Universitas Negeri Malang with the approval number 19.06.19/UN32.14.2.8/LT/2026. Thus, the research adheres to ethical standards and protects the rights, dignity, and well-being of the participants involved in the study.

Research Instruments

The assessment used in this study is the Student Engagement Questionnaire (SEQ) developed by Reeve and Tseng (2011), which consists of 22 items with four dimensions: agentic, behavioral, emotional, and cognitive dimensions..

Table 2. Student Engagement Questionnaire Blueprint

No	Dimension	Item Distribution	Total
1.	Agentic	1, 2, 3, 4, 5	5
2.	Behavioral	6, 7, 8, 9, 10	5
3.	Emotional	11, 12, 13, 14	4
4.	Cognitive	15, 16, 17, 18, 19, 20, 21, 22	8
Total			**22**

Data Analysis

The content validity analysis was performed by calculating the average score in the semantic validity test and the Content Validity Index (CVI) method used in the content validity test. This analysis was performed to review the results of the content validity testing conducted by the expert judges, resulting in the conclusion that each item in the questionnaire is in accordance with its construct. The method for determining the CVI value, according to Yusoff (2019) is as follows:

$$\text{CVI for Item (I-CVI)} = \frac{\text{Agreed item}}{\text{Number of expert}}$$

$$\text{CVI for Scale (S-CVI)} = \frac{\text{Sum of I-CVI scores}}{\text{Number of item}}$$

Picture 1. CVI Formula

Confirmatory Factor Analysis (CFA) was applied to the construct validity test analysis to evaluate the extent to which each item accurately measures or provides relevant

information about the intended construct (Umar & Nisa, 2020). Subsequently, reliability was measured using Cronbach's alpha (Maulana, 2022), with JASP software.

Results

Pre-Development

After the researcher found the Student Engagement Questionnaire (SEQ), the researcher sent an email to the developers of the tool to request permission to adapt the tool into the Indonesian language.

Test-Development

At this stage, the researcher selected translators to carry out the language adaptation using forward translation and backward translation techniques with the following criteria: (1) a good understanding of English; (2) a good understanding of language; (3) adequate experience in translation and the construction of psychological measurement tools. After the forward translation and backward translation process, the researcher conducted semantic and content reviews of the adapted tool with two experts who have adequate experience in the field of construct and psychometric tool adaptation. Next, the results of the expert review were subjected to content validity testing. In conducting the semantic review, the experts were presented with the assessment tool using a seven-point Likert scale to assess the degree of similarity and comparability of the tool after the forward and backward translation.

Table 3. Similarity and Comparability Score

	Similarity		**Comparability**	
	Expert 1	**Expert 2**	**Expert 1**	**Expert 2**
Total Score	34	25	34	23
Mean	1,54	1,13	1,54	1,04
Mean Total	1,34		1,30	

According to the results of the semantic review calculation presented in Table 3, a score of 1.34 was obtained for the similarity aspect and a score of 1.3 for the comparability aspect, meaning that no further review of the items is necessary, as the average score is not greater than 3 (A. D. Sperber, 2004).

Next, the experts conducted a content review of the assessment tool that had been translated into another language. The experts evaluated using a four-point Likert scale to determine the extent to which the items align with the original construct (item relevancy), how important the inclusion of the items is in the tool (item importance), and how well the tool can be understood (item clarity). Additionally, the experts were able to provide comments for item improvements if needed.

Table 4. CVI Content Review Results

Evaluation Aspect	**Mean i-CVI**	
	Expert 1	**Expert 2**
Relevancy Item	1,00	1,00
Importance Item	1,00	1,00
Clarity Item	1,00	1,00
s-CVI		1,00

The i-CVI value indicates the proportion of evaluators who assign a relevant score of 3 or 4 to each item of the construct being evaluated, while the s-CVI represents the percentage of items that receive a relevance score of 3 or 4 from all evaluators (Suryadi et al., 2023). Based on Table 3, the mean i-CVI values for the relevancy item, importance item, and clarity item from 2 experts were 1.00, and the s-CVI value was 1.00. According to Davis (1992), an acceptable CVI value from two experts is 0.80. Therefore, it can be concluded that the assessment tool is valid and can represent the construct being measured, even though some suggestions for improvement were provided.

After the expert review process of the translated assessment tool, the researcher conducted a cultural adaptation by performing a readability test with 10 Islamic Junior High School students in Malang Regency to assess how well the tool could be understood and to identify potential difficulties or barriers that might arise during its use. Based on the readability test results, several items were revised.

Confirmation

At this stage, the researcher distributed the Student Engagement Questionnaire (SEQ) to 385 participants to test the construct validity of the assessment tool, resulting in a valid measurement tool through Confirmatory Factor Analysis (CFA) and reliability testing through Cronbach's Alpha. Confirmatory Factor Analysis (CFA) is widely regarded as the most reliable method for testing construct validity in assessment tools across psychology, education, and social sciences. Its confirmatory nature enables researchers to accurately determine whether each item in a test effectively measures or provides relevant information about the intended concept (Umar & Nisa, 2020).

Table 5. CFA Model Fit Results for the Student Engagement Questionnaire (SEQ)

Index	Value
Comparative Fit Index (CFI)	0.931
Tucker-Lewis Index (TLI)	0.923
Bentler-Bonett Non-normed Fit Index (NNFI)	0.923
Bentler-Bonett Normed Fit Index (NFI)	0.891
Parsimony Normed Fit Index (PNFI)	0.791
Bollen's Relative Fit Index (RFI)	0.877
Bollen's Incremental Fit Index (IFI)	0.932
Relative Noncentrality Index (RNI)	0.931

Table 6. CFA Other Model Fit Results for the Student Engagement Questionnaire (SEQ)

Metric	Value
Root mean square error of approximation (RMSEA)	0.062
RMSEA 90% CI lower bound	0.055
RMSEA 90% CI upper bound	0.069
RMSEA p-value	0.002
Standardized root mean square residual (SRMR)	0.045
Hoelter's critical N (α = .05)	181.420
Hoelter's critical N (α = .01)	193.191
Goodness of fit index (GFI)	0.883
McDonald fit index (MFI)	0.673
Expected cross validation index (ECVI)	1.578

Based on Table 5 and Table 6, the results of the CFA Model Fit Test show that the results are acceptable according to the fit indices and threshold values proposed by Haryono & Wardoyo, 2016 (as cite at Khairi et al., 2021). The Comparative Fit Index (CFI) value of

0.931 and the Tucker-Lewis Index (TLI) value of 0.922 fall into the good fit category. The CFI value ranges from 0 to 1. A CFI value of 0.90 indicates a good fit, while a CFI value between 0.80 and 0.90 is often referred to as marginal fit. Similarly, the Root Mean Square Error of Approximation (RMSEA) value of 0.062 falls into the acceptable category. An RMSEA value < 0.05 indicates a close fit, while an RMSEA value between 0.05 and 0.08 indicates a good fit. The Goodness of Fit Index (GFI) value of 0.883 is categorized as adequate. The GFI value ranges from 0 (poor fit) to 1 (perfect fit), with a GFI value of 0.90 considered a good fit, while a GFI value between 0.80 and 0.90 is often referred to as marginal fit. Since all four model fit indices indicate acceptability (validity), according to Hair & Alamer (2022), a measurement tool is considered valid when at least 3-4 model fit criteria are met. A significance test was then conducted on each λ coefficient (factor loading) to determine whether each item positively contributes to measuring each dimension of the construct being tested.

Table 7. Second-order Factor Loading Values for the Student Engagement Questionnaire (SEQ)

						95% Confidence Interval	
Factor	Indicator	Std. estimate	Std. Error	z-value	p	Lower	Upper
SecondOrder	Agentic Engangement	0.725	0.034	21.322	< .001	0.659	0.792
	Behavioral Engangement	0.902	0.017	52.303	< .001	0.868	0.935
	Emotional Engangement	0.986	0.014	68.701	< .001	0.958	1.014
	Cognitive Engangement	0.917	0.017	54.975	< .001	0.884	0.949

In Table 7, it can be observed that the Std. estimate second-order factor loading for each dimension is greater than 0.5. According to Hair & Alamer (2022) a valid factor loading must be higher than 0.5, and the p-value must be <0.001, indicating that the factor loading is statistically significant. Agentic engagement has a Std. estimate of 0.725 > 0.5 and $p < 0.001$. Behavioral engagement has a Std. estimate of 0.902 > 0.5 and $p < 0.001$. Emotional engagement has a Std. estimate of 0.986 > 0.5 and $p < 0.001$. Cognitive engagement has a Std. estimate of 0.917 > 0.5 and $p < 0.001$. Therefore, it can be concluded that the four-factor model tested demonstrates a good correlation with each item in accordance with the proposed theory.

Next, Cronbach's Alpha reliability testing was conducted to examine how consistent the measurement tool is. The purpose is to ensure that the tool provides similar results every time it is used under the same conditions, ensuring that the data generated is reliable (Rosita et al., 2021).

Table 8. Reliability Test Results

Coefficient	Estimate
Coefficient α	0.940

Based on Table 6, the Cronbach's Alpha for the 22-item Student Engagement Questionnaire (SEQ) is 0.94. An acceptable alpha value should range from 0.70 to 0.95 (Maulana, 2022), indicating that the SEQ is both reliable and effective for measuring student engagement consistently.

Administration

After going through several procedures, the adaptation of the Student Engagement Questionnaire (SEQ) into the Indonesian version for the sample population of Islamic Junior High School students resulted in 22 valid and reliable items with a four-point Likert scale, which can be used by secondary school students.

Scoring and Interpretation

The scoring of the Student Engagement Questionnaire (SEQ) in the Indonesian version uses a four-point Likert scale. For each statement, respondents are asked to choose one of the four answers, namely: Strongly Agree, Agree, Disagree, and Strongly Disagree. With the scoring and interpretation criteria presented in Table 7.

Table 9. Scoring and Interpretation

Scoring	Interpretation
4	Strongly Agree
3	Agree
2	Disagree
1	Strongly Disagree

Discussion

This study aims to adapt the Student Engagement Questionnaire (SEQ) into an Indonesian version. The adapted measurement tool is the Student Engagement Questionnaire (SEQ) developed by Reeve & Tseng (2011). Student engagement is conceptualized as the extent to which students actively and productively engage in learning activities. Engagement is understood as behavior that reflects focus, attention, effort, persistence, interest, and enthusiasm in completing tasks (Reeve et al., 2020). In recent research, Reeve and Tseng (2011) proposed a multidimensional construct of student engagement, consisting of four dimensions: agentic, behavioral, emotional, and cognitive engagement. Agentic engagement refers to proactive, constructive, and reciprocal actions initiated by students to assess their academic progress and create a more supportive learning environment for themselves (Reeve & Shin, 2020). Behavioral engagement is the observable actions of students in the learning process, such as classroom participation, adherence to rules, and involvement in extracurricular activities, which is often measured through attendance levels (Trinh, 2023). Furthermore, Xu et al. (2023)defined emotional engagement as the emotional responses of students that can enhance their overall engagement and academic performance. According to Eren & Söylemez (2020) (2020), cognitive engagement is characterized by students' self-regulation abilities and the application of cognitive strategies to improve learning outcomes.

In the adaptation process, the procedures followed the International Test Commission (ITC) Guidelines for Translating and Adapting Tests, 2017 (as cited in Fikra, 2023), which consist of six stages: 1) pre-development; (2) test development; (3) confirmation; (4) administration; (5) scoring and interpretation; (6) documentation. (1) pre-development; (2) test development; (3) confirmation; (4) administration; (5) scoring and interpretation; (6) documentation. However, this study only reached the stage of scoring and interpretation due to time constraints.

After completing the initial development phase and conducting both forward and backward translation, the researcher proceeded with content validity and construct validity testing in the development phase. The content validity test was conducted in two stages. First, the researcher calculated the mean total similarity and comparability scores. The results, with a mean total similarity of 1.34 and a mean total comparability of 1.3, indicated that no further review of the instrument was needed based on Sperber's (2019) threshold values. In the second stage, the researcher performed an analysis using the Content Validity Index (CVI) on the content review results, which gave an s-CVI value of 1.00. While all items were deemed relevant, important, and understandable, experts provided some constructive feedback. The feedback included: (1) revisions to clarify certain items; (2) a need to reconsider the translation of several items to prevent overlap in meaning, particularly for items 6 and 10; and (3) avoiding overuse of the word "saya" in repetitive statements. After receiving the feedback, the researcher made improvements to several items and consulted an English expert to ensure the instrument's language was more suitable.

The construct validation was carried out through Confirmatory Factor Analysis (CFA) and Cronbach's Alpha reliability testing. The model fit testing showed results in the good category for CFI, TLI, and RMSEA. Meanwhile, the GFI was in the adequate category, with a value of $0.883 < GFI < 0.90$, indicating that the proposed model can predict the correlation between variables reasonably well. The second-order factor loading for each dimension was also greater than 0.5. Therefore, it can be concluded that each item in the four-dimensional model tested has a positive contribution in measuring each dimension of the model and aligns with the theory of Reeve and Tseng (2011), which serves as the reference, although not entirely perfect. Thus, improvements are needed regarding the model, particularly for the GFI index. Nevertheless, the fit indices produced by the model are strong and can be maintained. Furthermore, in addition to meeting content and construct validity, the adapted measurement tool also achieved a Cronbach's Alpha score of 0.94, which indicates that the construct is highly reliable and suitable for use.

In the end, the adaptation process of the Student Engagement Questionnaire (SEQ) in its Indonesian version resulted in 22 statement items (no items were discarded) with a four-point Likert scale answer choice: Strongly Agree (score 4), Agree (score 3), Disagree (score 2), and Strongly Disagree (score 1). With the similar characteristics of students, specifically adolescents, this measurement tool is suitable for use with high school students. It can also be used by students attending non-Islamic educational institutions, as it does not contain any religious elements in the individual items.

Novelty of the Research

Prior research has utilized Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) for construct validity testing, along with reliability testing of the Indonesian version of the Student Engagement Questionnaire (SEQ). The sample for that study was gathered via incidental sampling, including 595 respondents from junior high school, senior high school, and undergraduate students in seven provinces of Indonesia: North Sumatra, West Sumatra, Riau, Jambi, West Java, Yogyakarta, and East Java. This study expands on the previous methodology by introducing content validity testing through semantic review and the Content Validity Index (CVI), alongside CFA for product validity and Cronbach's Alpha

for reliability. Furthermore, adjustments were made to the SEQ statement items to ensure they were appropriate for the context and characteristics of the research subjects, who were junior high school students from an Islamic Junior High School.

Implications and Contributions

The key contribution of this research is the adaptation of the SEQ into an Indonesian version that is more relevant to the characteristics of junior high school or Islamic Junior High School students. The inclusion of content validity testing via the Content Validity Index (CVI) adds a solid basis for evaluating the suitability and relevance of each item for measuring student engagement among this specific group. The revisions made to the statement items are intended to refine the accuracy and reliability of the measurement tool, thus improving the effectiveness of student engagement measurement, taking into account the unique educational context and learning experiences Junior High School students as compared to those in higher education.

Therefore, the results of this study are expected to make a significant contribution to the development of a more valid and applicable Student Engagement Questionnaire (SEQ) within the context of Indonesian education. It is also anticipated to provide deeper insights into the dynamics of student engagement at the junior high school (SMP/Islamic Junior High School) level.

The study is expected to contribute to the creation of education policies that prioritize student engagement and help support teaching practices that better address the psychological and academic needs of Indonesian students. As this study was limited to the scoring and interpretation stage, it is recommended that future researchers continue similar investigations to include the documentation phase.

Research Limitations

This study has several limitations, such as the sample being limited to certain age groups, regions, and education levels, which may affect the representativeness of the findings for the wider population (Suriani et al., 2023). A further limitation stems from the purposive sampling technique, which does not guarantee that the sample is truly representative of the population in both quantity and characteristics. Additionally, since purposive sampling does not involve random participant selection, it cannot be considered equivalent to random sampling, thus restricting the generalizability of the results to a larger population. As a result, purposive sampling has its limitations when used for making generalization or drawing statistical conclusions applicable to the entire population (Lenaini, 2021).

Conclusion

This study aims to adapt the Student Engagement Questionnaire (SEQ) into an Indonesian version. The adaptation process was conducted based on the International Test Commission (ITC) Guidelines for Translating and Adapting Tests. Content validity was tested through the Content Validity Index (CVI) and construct validity was tested through Confirmatory Factor Analysis (CFA). Reliability testing was also conducted, resulting in a measurement tool consisting of 22 items with four dimensions: agentic, behavioral, emotional, and cognitive engagement, which are valid and reliable. Practically, this adapted

measurement tool is recommended for use with junior high school and senior high school students to assess the level of student engagement.

Author Contributions

Each author has made a significant contribution to the research and manuscript writing. UD is responsible for the entire article writing process, from conceptualization, methodology development, to drafting. NH and YH contributed by providing academic guidance and reviewing the manuscript refinement process. All authors have read, approved, and take full responsibility for the final version of the manuscript published.

Declaration of Conflicting Interests

The authors affirm that there are no relevant conflicts of interest in relation to this study. The findings and interpretations outlined in this article are based solely on independent research and have not been impacted by any external factors or interests.

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Student Engagement Questionnaire (SEQ) Indonesian Version for Secondary School Students

No	Pernyataan	Sangat Sesuai	Sesuai	Tidak Sesuai	Sangat Tidak Sesuai
		4	3	2	1
1	Selama pembelajaran, saya mengajukan pertanyaan				
2	Saya memberitahu guru apa yang saya sukai dan tidak				
3	Saya memberi tahu guru apa yang saya minati				
4	Selama pembelajaran, saya menyampaikan pilihan dan pendapat saya				
5	Saya memberikan saran tentang cara membuat kelas menjadi lebih baik				
6	Saya mendengarkan dengan seksama saat di kelas				
7	Saya berusaha keras di sekolah				
8	Pertama kali guru membahas topik baru, saya menyimak dengan cermat				
9	Saya bekerja keras ketika kami memulai sesuatu yang baru di kelas				
10	Saya memperhatikan selama pembelajaran				
11	Saya menikmati belajar hal-hal baru di kelas				
12	Ketika kami mengerjakan sesuatu di kelas, saya merasa tertarik				
13	Ketika berada di dalam kelas, saya merasa ingin tahu tentang apa yang kami pelajari				
14	Kelas terasa menyenangkan				
15	Saat mengerjakan pekerjaan sekolah, saya mencoba mengaitkan apa yang dipelajari dengan apa yang sudah diketahui				
16	Ketika belajar, saya mencoba menghubungkan apa yang saya dipelajari dengan pengalaman sendiri				
17	Saya mencoba membuat semua ide yang berbeda saling berkaitan dan masuk akal saat belajar				
18	Saya membuat contoh sendiri untuk membantu saya memahami konsep penting yang dipelajari				
19	Sebelum mulai belajar, saya memikirkan apa yang ingin dicapai				
20	Ketika sedang mengerjakan tugas sekolah, saya menyempatkan diri untuk berhenti sejenak dan mengecek apakah yang saya kerjakan sudah benar dan sesuai.				
21	Saat belajar, saya mengecek apakah saya benar-benar memahami isi materi, bukan hanya melihat apakah jawaban saya benar atau salah.				
22	Jika apa yang sedang dikerjakan sulit dipahami, saya mengubah cara mempelajari materi tersebut				