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The Effectiveness of Experiential Seamless Learning to Improve Creative Thinking in Indonesian Language Subjects

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ABSTRACT

Objective: The purpose of this study was to increase creative thinking in Indonesian language learning by using the Experiential Seamless Learning model. **Method:** This research uses Branch's ADDIE model with 66 students as subjects. The data collection techniques used were questionnaires, and the data analysis technique employed was the independent samples t-test. **Results:** The effectiveness of the Experiential Seamless Learning model in enhancing students' creative thinking skills was evaluated, and quantitative data were collected. The t-test results showed a difference between classes using the Experiential Seamless Learning model and conventional classes. The difference lies in the acquisition of the average value of creative thinking skills in the Experiential Seamless Learning model class higher than the conventional class. **Novelty**: The Experiential Seamless Learning model in language learning, an original concept, offers the advantage of providing a fresh perspective on existing topics, specifically by combining two experiential theories and seamless learning. The novelty of new research results lies in their ability to make significant contributions to existing research fields, particularly in the application of learning in continuity, which can be achieved both formally and informally. Novelty with an interdisciplinary approach has the advantage of helping to solve more complex learning problems, especially in improving creative thinking. The research conducted was only limited to description text material, and the mobile seamless learning dimensions used were seven out of ten dimensions.

INTRODUCTION

One of the phenomena that occurred in the 21st-century education era is a significant change in perspective on the learning process. A perspective that suggests education no longer refers solely to factual knowledge but instead to the development of high-order thinking skills (HOTS) (Asyari et al., 2020). In facing this challenge, students are required to possess critical thinking skills, as well as analytical, creative, collaborative, and practical communication skills (Barus et al., 2023; Li, 2020). Therefore, learning is not only about memorizing facts but also about understanding, applying, and critically evaluating information (Polizzi, 2020). Responding to the phenomena and changes in the 21st-century education era that affect life, learning needs to have orientations that meet the demands of the times, one of which is to increase students' creativity (Hartati et al., 2022).

Creativity is one of the essential skills of creative thinking that must be developed in 21st-century education. Creativity in learning determines the quality of learning outcomes. The principles of learning are used as guidelines and references in order to Supporting the process of improving quality learning will reflect the efforts of educators and other stakeholders who care about education. Furthermore, the importance of

developing creative thinking skills in education is emphasized, arguing that education should aim to foster students' creativity so that the needs and demands of the country's society can be met (Nurmantoro et al., 2022). Therefore, in education, creative thinking skills should be integrated into various subjects. In the context of Indonesian language learning, creative thinking plays a crucial role in developing literacy, communication, and problem-solving skills. Creative thinking is a new way of seeing and doing things that involve four aspects: fluency, flexibility, originality, and elaboration. Creative thinking skills are the ability to generate new ideas (Atmojo, 2020). Creative thinking skills enable the development of solutions in various fields, producing innovative solutions of high originality (Mursid et al., 2022).

However, the facts that occur in the field indicate that students' creative thinking skills are still not optimal. This is supported by the results of previous research by Dewi (2023), which indicate that students' creative thinking in discussions on the concept of environmental pollution falls into a very low category. In addition, the 2015 Global Creativity Index (GCI) international study, which ranked Indonesia 115th out of 139 countries with a global creative thinking index learning result of 0.200, indicates that the level of creative thinking is still relatively low. Another study was also reinforced by the 2018 PISA results, which showed that Indonesia scored 371 for reading skills, 379 for math skills, and 389 for science skills.

The low level of creative thinking needs to be addressed more carefully. The low level of creative thinking among students is due to their inability to communicate ideas and answer questions by providing answers that match what is illustrated by the educator or referring to the provided references. Additionally, students tend to memorize or copy what the educator says, thereby not utilizing their original thinking skills in problem-solving (Muslih et al., 2021). In addition, based on interviews with Indonesian language educators at Junior High School 1 Sidoarjo, one of the obstacles to developing creative thinking is the traditional learning method, which still predominantly focuses on memorization and passive understanding, making it less effective in encouraging students to think creatively and optimally. Learning using conventional models can lead to boredom for students, as learning is often centered solely on educators. Therefore, based on these problems, a creative learning approach is needed and relevant to the needs of students in the digital era.

The Experiential Seamless Learning (Exsel) model is emerging as a potential solution to address these challenges. Exsel integrates experiential learning with cross-platform connectivity and learning environments, enabling learners to learn holistically without time and space constraints (Redhana, 2024). The combination of experiential learning and seamless learning is believed to enhance the learning system by providing real-world experience and continuity, thereby improving creative thinking ability (Camacho-Zuñiga et al., 2025; Hetharion, 2023; Pornpongtechavanich & Wannapiroon, 2021; Sinha, 2023). The combination is also expected to create a new learning design product that is fun and makes it easier for students to understand the material presented.

The development of the Exsel model is based on learning concepts and theories that emphasize social interactions between learners, their learning environment, and the learning process that can arise naturally, with learners as active agents in the process (Wahab & Rosnawati, 2020). Exsel is also based on learning that is focused and centered on the experiences that students will encounter and learn from. With their direct involvement in the learning process, they will construct their own experiences into

knowledge (Silberman, 2016). The Exsel model integrates models, technology, and media to support continuous learning. By utilizing technology as a tool, the Exsel model seeks to create a dynamic, interactive, and learner-centered learning environment that is relevant to the needs of learners in today's digital era (Himmetoglu et al., 2020). The Exsel model enables learners to acquire thorough knowledge, both within and outside the school environment, in formal and informal settings. The advantage of the Exsel model lies in its ability to provide a comprehensive and varied learning experience (Shemshack & Spector, 2020).

The foundation of the Exsel model is related to the development of learning in the 21st century. Learners are allowed to choose their way and style of learning; they can determine when and where they will learn. In addition, everyone's desire to learn can arise at any time and in any place, so when it does, learners need to be accommodated to learn immediately. This includes providing learning resources, media, and environments (Djamaluddin & Wardana, 2019). In the context of Indonesian language learning, the Exsel Model offers opportunities to connect theory with real practice, enrich learners' learning experiences, and stimulate creative thinking skills through in-depth exploration. The key principles of the Exsel Model are that learning is best understood as a process, not about the results achieved (Sari et al., 2024). Learning is an ongoing process that is based on experience. Learning requires the resolution of conflicts between opposing forces in a dialectical way (Basrah et al., 2024). Learning is a comprehensive process that is not solely the result of knowledge. Learning involves the relationship between humans and the environment. Learning is best understood as a process rather than being related to the results obtained (Ariani et al., 2022).

Referring to the theoretical bases of connectivism, constructivism, and Jean Piaget's theory, the Exsel model is designed as a cycle consisting of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation, implemented in both formal and informal contexts. These four stages are designed to provide opportunities for increased creative thinking. In this study, the Exsel syntax uses an adaptation of the experiential learning cycle by Kolb (1984) and the facilitated seamless learning framework by Wong (2013). Therefore, in this study, a modified strategy combining both approaches was employed. The syntax of the Exsel model is presented in Table 1.

Table 1. Syntax of Exsel.

Setting	Stage	Activities	Prioritization
Formal Informal	Concrete experience	Learners engage fully in new experiences	Feeling
	Reflective observation	Learners observe and reflect on or think about the experience from multiple perspectives	Watching
	Abstract conceptualization	Learners create that integrate the observations sound theory	Thinking
	Active experimentation	Learners use theory to solve problems and make decisions.	Doing

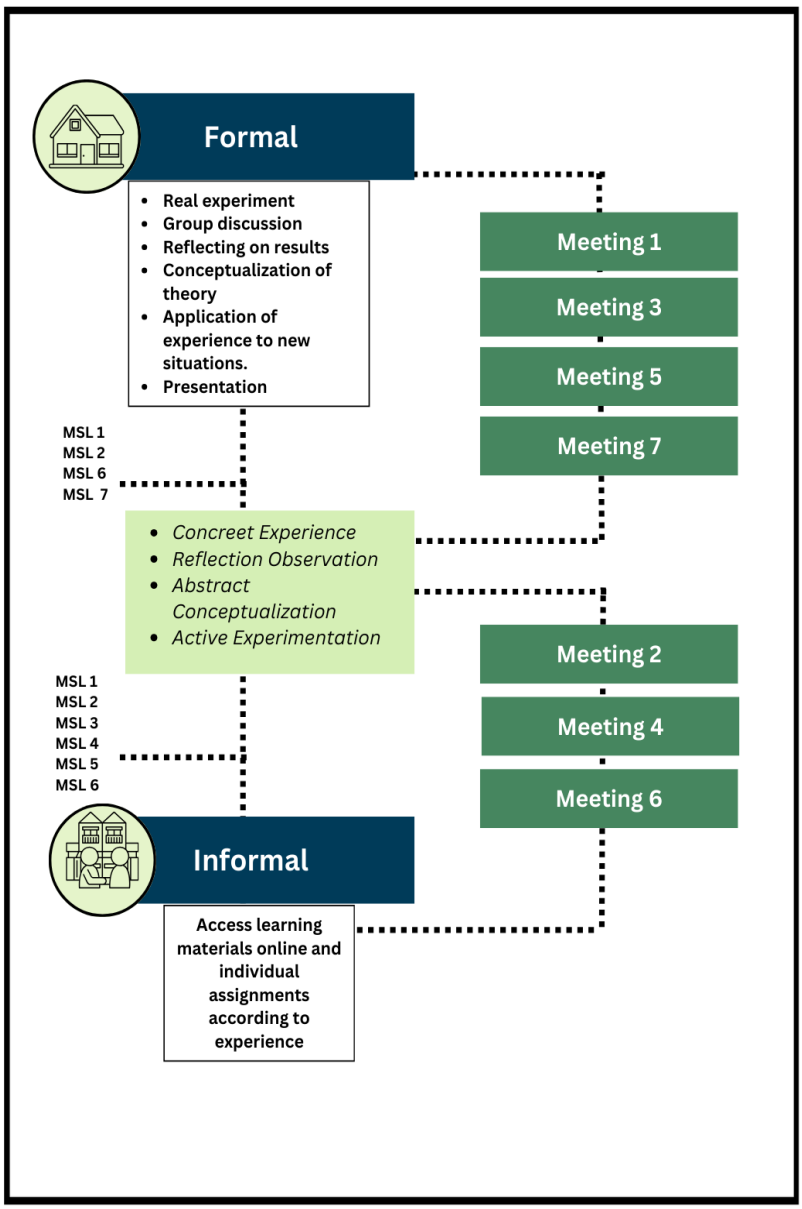

Figure 1. Exsel model.

Previous research has demonstrated that seamless learning, as described by Wong and Looi, can enhance learner engagement (Riska et al., 2024) and foster a stronger connection between formal and informal learning. On the other hand, Kolb's experiential learning states that it has been proven effective in improving critical and creative skills through direct experience (Nurmawanti & Kusuma, 2024). However, the integration of these two approaches in Indonesian language subjects at the junior high school level remains minimally researched, so this research has significant novelty value. The main objective of this research is to develop and evaluate the effectiveness of the Exsel Model in improving the creative thinking skills of junior high school students in Indonesian language subjects. The research seeks to answer the questions: how can the implementation of Exsel improve learners' creativity, and what factors influence its success? This research makes a significant contribution to the education literature by presenting an innovative approach that integrates experiential learning and digital technology across a continuum of formal and informal education contexts. Thus, this

research is not only about creative learning but also provides practical contributions for educators in designing effective and inspiring learning experiences.

Research Novelty

This research has a differentiator or novelty from previous research. The results concluded that the experiential learning model has a significant influence on the creative thinking skills of elementary school students. Therefore, the experiential learning model is one solution for teachers to develop students' creative thinking skills, especially in writing, from the aspects of flexibility, fluency, originality, and elaboration. Additionally, the ideas generated are diverse, expressive, and easy to understand (Asyari et al., 2020).

The application of seamless mobile learning strategies had a significant impact on students' mastery of concepts. Seamless mobile learning also has several advantages, namely 1) students can learn in unlimited classes and times, 2) students can learn anywhere and anytime, 3) learning can be integrated between formal and non-formal education, and 4) students can learn from a variety of sources. Students are a digitally native generation, so they are very familiar with the world of cell phones; 5) students can learn personally and socially, and 6) students can learn digitally and physically (Hamid et al., 2019).

The novelty of the original idea lies in its ability to provide a fresh perspective on an existing topic, specifically the combination of two experiential theories and seamless learning. A disadvantage of this research is that it requires foresight in selecting research topics that are still relevant and have not been widely discussed before. Second, novelty is achieved through new research results that offer the advantage of making significant contributions to existing research fields, particularly in the application of learning, which can be accomplished both formally and informally. The disadvantages that need improvement are that it requires more careful and intensive data processing and analysis in monitoring learning, while educators have limited time. Third, novelty with an interdisciplinary approach has the advantage of helping to solve more complex learning problems, especially in improving creative thinking. The disadvantage is that it requires intense cooperation between different disciplines.

Research Question

Based on the description above, this research aims to answer the question: How can the effectiveness of the Exsel model enhance students' creativity?

RESEARCH METHODS

Research Design

The method in this study uses Research and Development (R&D) with the ADDIE model approach (Analysis, Design, Development, Implementation, Evaluation). This model was chosen to ensure the systematic and tested development of the resulting learning model.

Research Procedure

The design development procedure for the Exsel model follows the stages of the ADDIE model, as illustrated in Figure 2. The needs analysis conducted can influence the learning model developed. Analysis activities are carried out through five procedures, including a) Validating performance gaps, b) Determining learning competencies, c) Identifying

target characteristics, d) Identifying relevant resources, and e) Determining learning delivery systems (Weldami & Yogica, 2023).

The second stage is design. The design stage involved determining the elements required for the Exsel model, including preparing the Exsel model needs map and the Exsel model framework. Researchers also collected references that would be used in developing materials in the Exsel model teaching materials, namely model books, modules, and learning designs. The third stage is development. The development stage is the final stage of product realization. At this stage, the development of the Exsel Model is carried out by design. After that, the Exsel Model will be validated by experts. During the validation process, the validator uses an instrument prepared in the previous stage. Validation is carried out for content and construct validity learning outcomes. Validators are asked to provide an assessment of the Exsel model, developed based on its eligibility aspects, and offer suggestions and comments related to the model's content. These comments will be used as a reference for improving and refining the Exsel model. Validation was carried out until, in the end, the Exsel model was declared feasible for implementation in learning activities. At this stage, researchers also analyzed the data on the learning outcomes of the Exsel model obtained from the validators.

This was done to assess the validity of the Exsel Model. The fourth stage is implementation. At this stage, it is carried out on a limited basis in schools and classes designated as research sites. Educators conduct learning using the Exsel model, which has been developed. The researcher acts as an observer and records everything on the observation sheet that can be used as an improvement. After the learning process is complete, students take tests (pretests and posttests) using the provided questions. The questions have been prepared based on learning objectives to assess the level of effectiveness of using the Exsel Model. At this stage, researchers also distributed response questionnaires to educators and students containing statement items about the use of the Exsel Model in learning. This was done to obtain data related to the learning outcomes of the practicality of using the Exsel Model. Additionally, educators and students were asked to provide comments as a reference for revision. After distributing questionnaires and conducting student learning tests, researchers nalyzed the data. The first analysis is an analysis based on the results of the response questionnaire. This analysis was conducted to determine the effectiveness of the Exsel Model. The effectiveness data were obtained from the student's learning outcomes test, calculated as the percentage of classical completeness based on the school's minimum completeness criteria. The fifth stage is evaluation. At this stage, researchers made the final revision of the developed Exsel Model based on the input obtained from the response questionnaire or field notes on the observation sheet. This aims to make the developed Exsel Model truly suitable and usable by a broader range of schools.

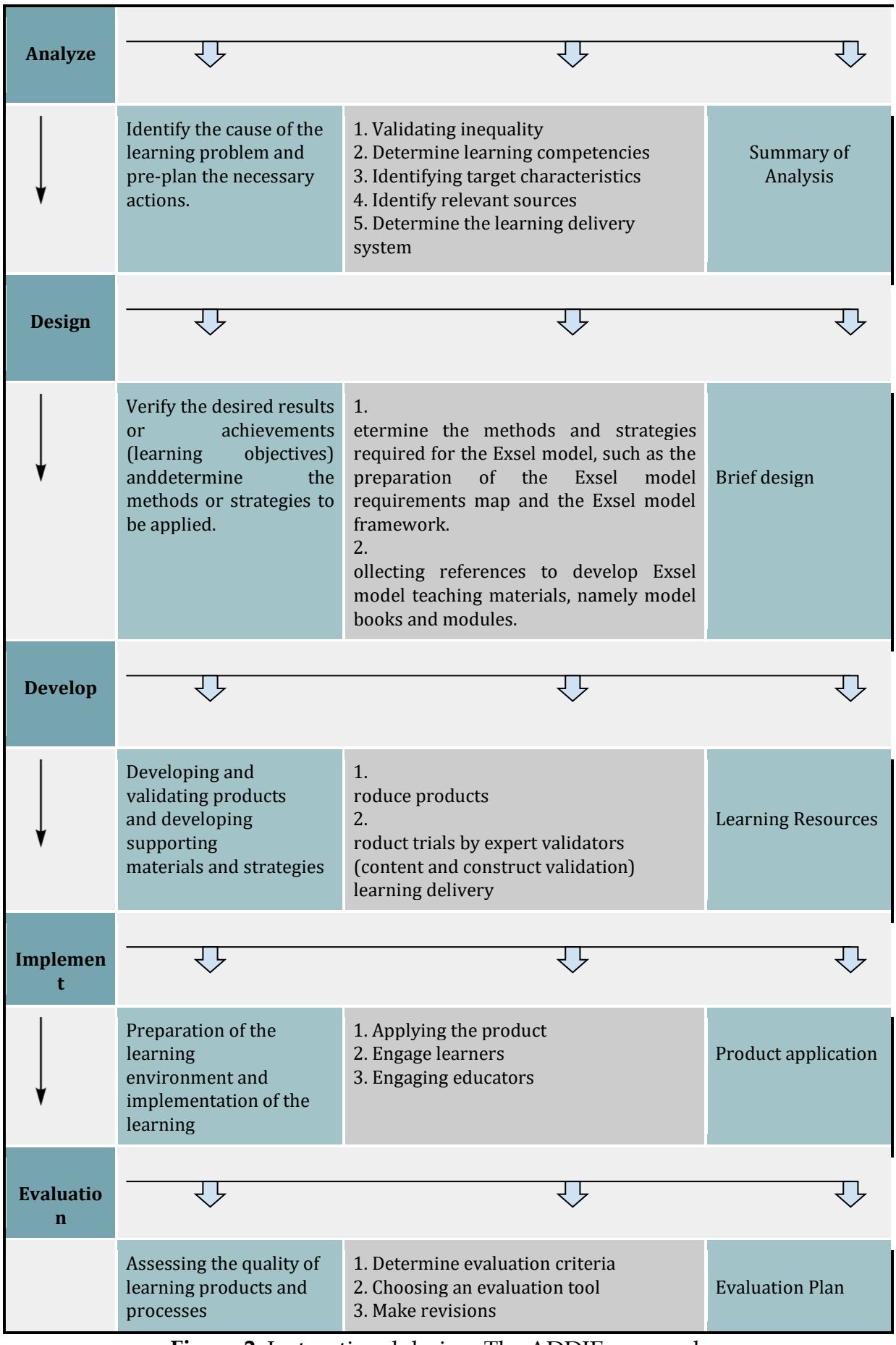

Figure 2. Instructional design: The ADDIE approach.

Research Subject

The subjects of this study were students in classes IX-G and IX-I of JHS 1 Sidoarjo in the 2023/2024 academic year. The basis for selecting classes IX-H and IX-J as research subjects because they are part of the 6-semester program class. The number of research subjects consisted of 66 students.

Data Collection Technique

The data collection techniques employed in this study include tests to measure students' creative thinking skills, observations to record students' activities during learning, questionnaires to assess students' perceptions of the practicality and effectiveness of the model, and interviews to explore the views of students and teachers.

Data Analysis

The effectiveness of this model can be known by implementing the Exsel model in learning. In this case, sampling was taken to carry out the trial. Sampling to assess the effectiveness of this Exsel model employs a random sampling technique. The random sampling technique is used when sampling is conducted without regard to strata or levels in the population. In this case, the population is considered homogeneous (Sugiyono, 2017), as indicated in Table 2.

Table 2. Pretest-posttest control design.

Group	Pretest	Treatment	Posttest
A (Exsel Model)	O1	X	O2
B (Convensional Model)	O3		O4

To determine the effectiveness of the Exsel model on students' creative thinking, an independent sample t-test was employed. This test was conducted to determine the effectiveness of using the Exsel model on students' creative thinking skills. The data will be collected twice; the first collection is used to determine the similarity of the pretest. The second analysis was conducted to determine the similarity in the post test. The data used as the pretest value are the students' caring attitudes. The reason it is used as a measure of a student's initial ability is that in Indonesian language subjects, there is an assessment of a student's creative thinking skills. The data used as the posttest value are the students' creative thinking skills in applying the Exsel model.

To analyze the results of student's creative thinking skills, the following steps are taken: 1) Calculating the acquisition of students' scores on the Indonesian language subject description text material based on established indicators of students' creative thinking skills. 2) Calculating the total score or maximum score. After obtaining the number of acquisition scores and total scores, a t-test analysis is carried out. Table 3 provides the scoring guideline for analyzing the results.

Table 3. Scoring guidelines for descriptive text creative thinking test.

Measure aspects	Question	Indicator	Score
Originality	8. Choose a title that matches the description text above! 9. Choose one of the pictures below. Write a description paragraph that matches the picture.	Did not answer or give an incorrect answer. Answers in his/her way but cannot be understood Answer in his way: The calculation process was directed but not completed. Answers in his/her way, but there is a mistake in the calculation process, so the result is wrong. In its way, the calculation process and results are correct.	0 1 2 3 4
Fluency	1. According to Ananda, what idea dominates the text above? 2. Why does the author recommend that readers visit the island of Gili Trawangan? 3. According to Ananda, the difference between the topic of text one and text two is... 5. If waste is left without action, what will happen to the beach?	Does not answer or give ideas that are not relevant to the problem. Providing an idea that is irrelevant to the problem-solving. It provides a relevant idea, but the answer is incorrect. Providing more than one answer is still relevant, but the idea is incorrect. Provides more than one relevant idea, and the solutions are correct and precise.	0 1 2 3 4
Flexibility	4. According to Ananda, if hewere a leader in the region, what would he do to address the conditions in the text? 7. If you were the manager of the tourist spot, what would you focus on improving? 8. Choose a title that matches the description text above!	Does not answer or answers in one way or more, but all wrong. Answers in only one way, but gives wrong answer Answers in one way, the calculation process, and the result is correct Gives answers in more than one way (diverse), but the results are wrong because there are errors in the calculation process Providing answers in more than one way (diverse), process calculations, and the results are correct.	0 1 2 3 4
Elaboration	5. According to Ananda, what efforts can be made to reduce actions like the one in the picture?	Did not answer or gave an incorrect answer There are errors in the answer, and it is not accompanied by details There are errors in the answer, but they are accompanied by	0 1 2

Measure aspects	Question	Indicator	Score
	9. Edit the description text above by paying attention to spelling accuracy, use of prepositions, and effective sentences	lack of details. There are errors in the answer, but they are accompanied by detailed breakdown Provide correct and detailed answers.	 3 4

RESULTS AND DISCUSSION

Results

The results showed that the use of the developed Exsel model was significantly effective in improving students' creative thinking skills compared to conventional methods. This is inseparable from the model developed. The independent t-test results showed a significant value ($p = 0.004$), with the average creative thinking score in the Exsel group (34.880) being higher than that in the conventional group (32.790).

To determine the effectiveness of the Exsel model in improving creative thinking, a t-test analysis was conducted. The calculation of t-test statistics was carried out using the SPSS program, with decision-making based on the analysis results, specifically the value of asymp. Sig (2-tailed) < 0.050; then, the Excel model can enhance creative thinking. Meanwhile, if the value of asymp. Sig (2-tailed) > 0.050, then the Exsel model cannot improve creative thinking.

In this trial, the posttest was administered to 33 students from the Exsel model class and 33 students from the conventional class. The similarity test of the two posttest means in the Exsel model class, and the conventional class aims to determine whether there is a difference in the learning outcomes of the two classes after treatment. When learning is carried out using the Exsel model in the Exsel model class and the conventional class model, then a test is conducted to get the posttest value in both classes. After collecting the posttest data from the two classes, an equality test was conducted to determine the extent to which the Exsel model influenced the posttest means in the Exsel model class and the conventional class. This posttest equality test uses an independent sample t-test, based on the results in Table 4, comparing the posttest scores given to the Exsel model class and the conventional class.

Table 4. Mean test results of the posttest for Excel and conventional model classes in a formal setting to enhance creative thinking.

Class		N	Mean	Std. Deviation	Std. Error Mean
Creative Thinking	post_Exsel	33	348.824	331.904	.569
	post_konvensional	33	327.879	221.864	.386

Table 4 indicates a significant mean difference in creative thinking ability between learners taught using the Exsel method and the conventional method, with the Exsel method producing a higher mean. The p-value (Sig. 2- 2-tailed) of 0.004 (less than 0.05) indicates that this difference is statistically significant.

Table 5. Results of posttest analysis of exsel and conventional model classes creative thinking.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Creative Thinking	Equal variances assumed	1.520	222	3.027	65	.004	2.094	.691	712	3.476
	Equal variances are not assumed.			3.045	57.755	.004	2.094	687	717	3.471

The posttest results in Table 5 show that students in creative thinking are significantly different; this means that what causes the posttest to be significantly different is the treatment, and the Exsel model group's posttest is better than the conventional formal setting group's posttest, from the two t-test analysis above it can be concluded that the Exsel model is effective in increasing creative thinking. Overall, this paired t-test analysis indicates that the Exsel model is more effective in improving students' creative thinking skills than conventional methods for students in grade IX at JHS 1 Sidoarjo.

Discussion

This study examines the effectiveness of the Exsel model in enhancing the creative thinking of junior high school students in Indonesian language subjects. The research was conducted through five stages, namely analysis, design, development, implementation, and evaluation. Design experts conducted initial validation. The evaluation showed that the developed model was effective for learning. The implementation of this model yields better results in terms of learners' understanding. The findings of this study support the effectiveness of the Exsel model in enhancing students' creative thinking skills, as measured before and after its implementation. The acquisition of results from testing creative thinking skills before using the learning model yielded an average value that is nearly the same as the average value of the class taught conventionally.

After conducting a t-test on the two classes, the significant results showed no difference in creative thinking ability. In other words, the creative thinking ability of students in the two classes is the same. In addition, the initial testing process was completed, and learning with the Exsel model was carried out thoroughly from start to finish. In the final stage of learning, creative thinking skills were once again put to the test. The test results showed that the class that used the Exsel model obtained a higher

creative thinking score compared to the class that applied the conventional learning method.

Additionally, the t-test results revealed a statistically significant difference between the two classes. This difference is evident in the average score of creative thinking skills, which is higher in the class that uses the Exsel model. This finding demonstrates that the application of the Exsel model is practical in enhancing students' creative thinking skills (Anggraeni et al., 2023; Kartikasari et al., 2022; Saeed & Ramdane, 2022; Wijaya et al., 2021).

The Exsel model is effective if it can improve creative thinking by predetermined indicators. Each learner has a different level of thinking ability; therefore, there are indicators of creative thinking ability. The indicators of creative thinking are: (1) Fluency includes: a) bringing many thoughts, many problem solutions, many answers, and many questions smoothly; b) giving many suggestions or ways of doing things; c) thinking of more than one answer. (2) Flexibility includes: a) forming a variety of ideas, questions, and answers; b) looking at problems from a variety of perspectives; c) looking for many directions or alternatives; d) being able to develop ways or strategies of thinking or approaches. (3) Originality includes a) being able to come up with new and different statements, b) having thoughts about unusual strategies, and c) being able to make several different combinations and parts. (4) Elaboration includes a) being able to improve and develop products or ideas and b) adding or clarifying parts of ideas, objects, and even situations so that they become more unique (Herawati et al., 2019).

CONCLUSION

Fundamental Finding: The Exsel model can significantly improve the creative thinking of junior high school students in Indonesian language subjects. Learning using the Exsel model is effective in increasing creative thinking compared to conventional learning. Implication: Improving creative thinking skills is crucial in learning because they are closely related to a student's ability to compose descriptive texts based on structure and linguistic elements. The results of this study show that the Exsel model can be a practical approach to improving creative thinking. Thus, the findings of this study provide strong empirical evidence and relevant information in response to research needs in the learning context. **Limitations:** The application of experiential learning indicators in this study was not entirely evident in every learning encounter, especially in informal contexts. This concept is based on the idea of seamless learning, which is defined as continuity in learning. The research conducted was limited to the Indonesian language subject material, specifically descriptive text elements of listening, reading, interpreting, speaking, and presenting, as well as writing. Additionally, several factors, including learner motivation, the quality of learning implementation, and educator characteristics, can influence the study's results. Therefore, further observations are needed to identify additional factors that can affect the effectiveness of the Exsel model. **Future research**: The Exsel model is flexible and can be used in any learning context, whether formal or informal. For further development, including syntax development or model development, the ten dimensions of seamless learning can be adjusted to meet the specific needs of the situation and learning conditions, thereby making this model more complex. The development of similar research can be carried out continuously and sustainably by utilizing creative thinking and learning outcomes over a more extended period. To enable

the long-term effects of continuous research to be observed. Additionally, several factors, including learner motivation, the quality of learning implementation, and educator characteristics, can influence the study's results. Therefore, further observations are needed to identify additional factors that may affect the effectiveness of the Exsel model.

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