JPPIPA 12(1) (2026)

Jurnal Penelitian Pendidikan IPA

http://jppipa.unram.ac.id/index.php/jppipa/index

Integration of the Ethno-Discovery Project and Ethno-Design Literacy: A Contextual Syntax Model in Quality Ornamental Learning

Ilham Zamil[1], Puspaneli[1*], Hari Setia Putra[2], Hamsidar[3], Molli Wahyuni[4], Yusmerita[1], Yuliarma[1], Lili Mulyani[5]

[1] Department of Family Welfare Studies, Universitas Negeri Padang, Padang, Indonesia.
[2] Department of Economics, Universitas Negeri Padang, Padang, Indonesia.
[3] Department of Primary Education, Universitas AL Muslim, Aceh, Indonesia
[4] Department of Primary Education, Bangkinang, Indonesia.
[5] Department of Early Childhood Education Teacher Education, Universittas Negeri Padang, Padang, Indonesia.

Received: September 09, 2025
Revised: November 10, 2025
Accepted: January 25, 2026
Published: January 31, 2026

Corresponding Author:
Puspaneli
puspaneli@fpp.unp.ac.id

DOI: 10.29303/jppipa.v11i12.12807

Abstract: Creativity and plagiarism remain key challenges in learning Ragam Hias (Decorative Motif Design). Common problems include repetitive ideas, reliance on peers' work, limited originality, and low self-confidence. Additionally, existing learning models often lack relevance to students' needs, while assessment standards are not tailored to course characteristics. This study aimed to develop and evaluate the Ethno Discovery Project syntax integrated with Ethno-Design literacy. The development process involved validation, practicality, and effectiveness testing across three student groups. Expert validation showed good validity (0.71) and high reliability (ICC = 0.775). Practicality was rated very good by both observers (0.79) and students (0.77). Effectiveness testing revealed a significant increase in student scores from 5.45 to 9.77 ($p < 0.001$), with high learning activity (82.22%) and interest (81.58%). The results indicate that this syntax is effective, applicable, and culturally relevant for contextual learning in vocational design education.

Keywords: Ethno design literacy; Ethno discovery project; Ornamental learning; Syntax model

Introduction

Plagiarism remains a serious problem in higher education, especially in the creative arts and design. As many as 36% of student design works were identified as plagiarized, with fashion design students accounting for the majority of these cases (Sahrani, 2020). This situation clearly illustrates how weak students' awareness of originality is. Plagiarism in design differs from that in the scientific realm. Copying visual forms without modification and innovation is a violation of academic ethics and hinders the growth of critical and creative thinking processes. Sabri et al. (2012) and Ramísio et al. (2019) show that students who are accustomed to copying designs tend to fail to develop a personal style in their work, which is vital in the world of fashion and visual branding.

Law No. 12 of 2012 Article 35 Paragraph 2 emphasizes that higher education must encourage intellectual intelligence, noble character, and innovative skills. However, in practice, many art education institutions have not fully integrated pedagogical approaches that support exploration and new ideas. This weakness is exacerbated by the lack of contextual learning designs in Ornamental Design courses. These courses are often taught textually with little connection to cultural realities. This results in generic designs that do not reflect the richness of local culture and fail to illustrate the designer's personality.

How to Cite:
Zamil, I., Puspaneli, Putra, H. S., Hamsidar, Wahyuni, M., Yusmerita, … Mulyani, L. (2026). Integration of the Ethno-Discovery Project and Ethno-Design Literacy: A Contextual Syntax Model in Quality Ornamental Learning. *Jurnal Penelitian Pendidikan IPA*, *12*(1), 748–756. https://doi.org/10.29303/jppipa.v11i12.12807

Kusmanto et al. (2024) emphasize the importance of project-based learning as an approach to increase student motivation and originality. When students are involved in exploring local motifs, such as traditional weaving or regional carvings, they not only learn visual techniques but also the values, history, and identity behind the designs. Cultural literacy in design is key to building the uniqueness of a work. Shadiqi et al. (2019) show that students who are trained to recognize and reconstruct local elements into modern design language have a higher potential to produce authentic works that are adaptive to global trends. In addition to project-based learning, the active involvement of lecturers as facilitators of creativity is also important. A study (2023) shows that freedom of ideas facilitated through critical discussion can minimize the tendency for plagiarism and increase students' ethical responsibility in design.

Design education today faces increasingly complex challenges, particularly in terms of cultural literacy and the development of original creativity. One innovative approach that can address these issues is Ethno Design Literacy (EDL). This approach offers a pedagogical framework that not only emphasizes technical visual skills, but also instills a contextual understanding of the cultural, historical, and symbolic values of traditional design. The EDL framework encourages students to become active subjects in the learning process, rather than mere followers of trends or imitators of visual forms.

The EDL approach refers to the socio-historical discourse practices theory as described by Prior (2001), which states that knowledge acquisition and academic identity formation occur more effectively when learning is rooted in social and historical contexts. In design education, students are required to explore and interpret local elements such as motifs, textures, and visual philosophies based on their cultural experiences. It is hoped that design will not only be an aesthetic expression but also a medium for representing cultural and social identity. However, the application of cultural literacy in the design education curriculum is still very limited. Curricula tend to be textual, uniform, and lack space for exploration of local cultural diversity. Studies on health-based cultural literacy in Suriname (Diemer et al., 2017) and science education in rural Ireland (Gay, 2018) found that culture-based learning increases student engagement and encourages deep reflective learning. This also applies in the context of design education, where the use of local culture-based learning resources enriches the creative process and strengthens the connection between students and their environment.

The ethnopedagogical approach has great potential to improve the quality of learning. Research results by Mustaqim et al. (2023) show that the integration of local culture in design learning can increase students' creativity, problem-solving, and social awareness. Similarly, research by Kharismawati et al. (2025) emphasizes that exploring culture as a source of design ideas increases the originality of work and encourages the realization of sustainable and contextual designs. Furthermore, ethnopedagogy as the basis for the EDL approach is supported by Sakong et al. (2022), who assert that learning based on local knowledge can create deep conceptual understanding and shape ecological awareness and ethics in design creation. This type of learning is highly relevant in the context of globalization, which often disregards local values. The EDL can serve as a bridge between the need for innovation and the preservation of cultural heritage.

The application of the EDL-based learning model is expected to provide a solution to the problems of plagiarism and monotony in the work of design students. By providing space to explore local culture as a source of inspiration, students not only avoid plagiarism, but also build a distinctive and contextual creative identity. This study aims to develop an ethno-design literacy-based decorative design learning model, with the main objective of not only improving students' visual and technical skills, but also strengthening their understanding of cultural heritage as a source of authentic and innovative creativity. This approach is also in line with the vision of the Merdeka Curriculum, which emphasizes project-based learning, contextual exploration, and strengthening the Pancasila student profile.

To that end, internal campus policies are needed that support contextual learning and originality, from curriculum design to evaluation that values the process, not just the end result. Going forward, synergy between educational institutions and the creative industry can also strengthen the practical value of originality in the professional world. Finally, the implementation of Ethno Design Literacy (EDL) must be supported by teacher training, the development of contextual teaching materials, and synergy between higher education institutions, local communities, and local governments. Through this cross-sector collaboration, EDL has the potential to become a transformative approach that not only improves the quality of design education but also strengthens national cultural identity in the context of global education.

Method

This study uses a research and development approach by adopting the 4-D model (Define, Design, Development, Disseminate) developed by Thiagarajan (1974). The main objective of this approach is to develop and test the Ethno-Discovery-Project (EDP) learning model syntax integrated with Ethno Design Literacy

(EDL) to improve the decorative design skills of Fashion Design students.

Model Development Stages

The development procedure in this study consists of four main stages, as follows:

Define (Definition): This stage aims to identify learning needs through analysis of the curriculum, student characteristics, course assignments, and ongoing learning processes. Data are collected through interviews and document studies of syllabi and semester learning plans (RPS).

Design: In this stage, researchers design the Ethno-Discovery-Project (EDP) learning syntax, which specifically combines elements of design literacy based on local culture. The design is based on the results of needs analysis and theoretical literature on project-based learning and ethnopedagogy.

Develop: The development stage involves the validation of the learning model by experts through expert judgment, including validation of learning tools and research instruments. Next, limited practicality tests are conducted through observation and questionnaires given to lecturers and students.

Disseminate: This stage tests the effectiveness of the model on a broader scale through classroom implementation. Evaluation is conducted by examining the model's impact on improving student learning outcomes and the perceptions of users (lecturers and students) regarding the model's usefulness.

Sampling Techniques and Research Subjects

The sampling technique used was area sampling to ensure that respondents were representative of the relevant academic field. The practical test subjects consisted of six lecturers from the Department of Family Welfare, Faculty of Tourism and Hospitality, Padang State University. The composition of participants was three senior lecturers and three junior lecturers who taught the Decorative Design course. Furthermore, 60 students were involved as subjects for the practicality and effectiveness of the integrated Ethno-Discovery project syntax development of Ethno-Design Literacy.

Validity, Practicality, and Effectiveness

The research data were analyzed descriptively, qualitatively, and quantitatively. The data were used to determine the validity, practicality, and effectiveness of the developed syntax. The data obtained were also used to determine the feasibility of the syntax in the classroom and to demonstrate the development of students' design skills.

Expert opinions (expert judgment) were used to test the validity of the model. Validators/experts were asked for their responses to the model and the products developed, including construct validity and content validity. Construct validity was carried out to adjust the model elements to the model development components. Content validity was the suitability between the objectives and the established learning aspects.

The syntax development validity questionnaire was analyzed using the following formula:

$$momenkappa(k) = \frac{\rho_0 - \rho_e}{1 - \rho_e} \quad (1)$$

Explanation:
k = Cohen's Kappa coefficient
ρo = Observed agreement proportion,
ρe = Expected agreement proportion
1 = Constant

Next, the practicality and effectiveness questionnaires were analyzed using the following formula:

$$\text{Degree of} \frac{\text{practicality}}{\text{effectiveness}} = \frac{Average\ Score}{Max\ score} x100\% \quad (2)$$

Next, the degree of practicality and effectiveness criteria were determined based on the achievement scores of observers and respondents in the application of the Ethno-Discovery Project syntax. The categories of practicality and effectiveness are as shown in Table 1 below.

Table 1. Practicality/Effectiveness Categories (Riduwan, 2015)

Level of practicality/effectiveness	Criteria
81 < tp < 100%	Very Practical/very effective
61 < tp < 80%	Practical/effective
41 < tp < 60%	Quite practical/quite effective
21 < tp < 40%	impractical/ineffective
0 < tp < 20%	Very Impractical/very ineffective

The syntax of the integrated ethno-discovery project for ethno-design literacy can be categorized as practical and effective if more than 60% of respondents consider it to be quite practical.

Result and Discussion

Syntax Validation Test Results

The validity test was conducted during the syntax development stage of the Ethno-Discovery Project, involving two experts in their respective fields, namely an instructional design expert and a design expert.

Based on Table 2, the syntax validity value of the integrated Ethno-Discovery Project-Literacy-Ethno-

Design Literacy is 0.71. This result shows that the syntax consistency level is in the valid category.

The ICC (Intraclass Correlation Coefficient) value was calculated using SPSS 17 for the instructor's book. The following is Table 3, which shows the results of the intraclass correlation calculation for the syntax.

From Table 3, it can be seen that the ICC value for syntax from all raters is relatively high, namely 0.775. However, if only one rater is used, the ICC value becomes 0.585, which is still relatively high.

Table 2. Validation Scores for the Integrated Ethno-Discovery Project Syntax for Ethno-Design Literacy

Component	Validator 1	Validator 2	Score	Description
Idea generation technique	4	5	0.89	Very Valid
	4	4	0.75	Valid
	4	4	0.75	Valid
Idea sharing	3	4	0.57	Quite Valid
	4	3	0.57	Quite Valid
	4	4	0,75	Valid
	4	3	0,57	Quite Valid
Visualization of ideas	4	4	0.75	Valid
	4	3	0,57	Quite Valid
Average			0.71	Valid

Table 3. ICC Value of the Syntax of the Integrated Ethno-Discovery Project and Ethno-Design Literacy

Reliability Statistics							
Cronbach's Alpha							N of Items
.765							2
Intraclass Correlation Coefficient							
	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.620[a]	.567	.970	4.263	3	3	.013
Average Measures	.775[c]	.622	.985	4.263	3	3	.013

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

The average validation score obtained was 0.71, which falls within the valid category according to Aiken's V interpretation criteria (Arikunto, 2019; Azwar, 2012). This indicates that the developed syntactic structure has met substantial standards in supporting the cultural-based design thinking process. However, several aspects, such as idea generation, showed a fairly valid score (0.57), indicating room for improvement, especially in the clarity of steps or the presentation of visual narratives in the design. This is in line with the findings of Martin et al. (2012), who emphasize the importance of clarity in the idea exploration phase so that ideas can be transformed into culturally meaningful visuals.

The ICC average measure value of 0.765 indicates a high level of reliability in the assessment by two validators, indicating that the interpretation of the syntax component is fairly consistent (Cicchetti, 1994; Shrout et al., 1979). According to the criteria (Cicchetti, 1994), an ICC value between 0.60–0.75 is categorized as "good reliability," while >0.75 is "excellent."

Meanwhile, the ICC single-measure value of 0.620 indicates that if only one validator conducts the assessment, the consistency of reliability is at a high level, but it is not ideal if used alone. Therefore, it is recommended to continue involving more than one validator in the implementation of tests or validation in the next stage.

The validity and reliability obtained from the Ethno Discovery Project syntax show that this approach is feasible for use as a pedagogical tool in culture-based art and design education. These findings support previous literature stating that a local culture-based approach with visual literacy reinforcement can enhance a more meaningful and contextual learning process (Zubaidah et al., 2017).

However, the results on the idea generation component indicate the need for further exploration of this phase, especially in facilitating students to express the results of cultural exploration into concrete design concepts. This can be done by adding more explicit narrative guidelines or visual examples in the learning syntax.

Syntax Practicality Test Results

The practicality test was conducted by distributing questionnaires to lecturers and students. The first questionnaire was given before the learning activity began (pre-test) to obtain the students' initial knowledge. The next questionnaire (post-test) was given after the students had completed the decorative arts learning activity.

Results of the Practicality Test of the Model Syntax

The product trial was conducted from November 4, 2024, to December 1, 2024, at the Department of Family Welfare Science. The components observed in the syntax practicality sheet were a) instructions, b) objectives, c) materials, d) worksheets, e) language, f) graphics, and g) benefits. A summary of the results of the syntax implementation observations through limited class groups is shown in Table 4.

Table 4. Summary of Limited Trials

Assessment Aspect	Statement	Assessments						po	Pe	K	Description
		1	2	3	4	5	6				
Instruction	The syntax instructions are clear and easy to understand.	4	5	4	4	4	5	0.87	0.13	0.85	Very practice
Puspose	Syntactic objectives are in line with learning indicators	4	4	3	4	4	4	0.77	0.23	0.70	Practice
	Syntactic objectives in accordance with the allocation of learning time	4	4	5	4	4	4	0.83	0.17	0.80	Practice
	The syntactic objectives are clearly written.	4	4	4	4	3	4	0.77	0.23	0.70	Practice
	The syntactic purpose of the operation is clearly written.	5	4	4	5	5	4	0.90	0.10	0.89	Very practice
Material	The material in the syntax is characterized by an ethno discovery project.	3	4	4	4	5	4	0.80	0.20	0.75	Practice
	The material in the syntax is arranged according to the curriculum.	4	3	4	4	4	3	0.73	0.27	0.64	Practice
Worksheet	The questions in the LKK and LKI support the principle of syntax.	4	5	5	4	4	5	0.90	0.10	0.89	Very practice
	The requirements for LKK and LKI encourage students to be able to apply syntactic components.	4	5	3	3	4	5	0.80	0.20	0.75	Practice
	Allocate time according to the requirements of the LKK and LKI	5	4	4	5	4	4	0.87	0.13	0.85	Very practice
	Demands on LKK and LKI can improve students' psychomotor skills.	4	4	4	4	4	4	0.80	0.20	0.75	Practice
	Demands on LKK and LKI can increase student motivation to learn.	4	4	5	4	4	4	0.83	0.17	0.80	Practice
	The questions in the LKK and LKI are easy to understand.	4	4	4	4	4	4	0.80	0.20	0.75	Practice
Language	The language in the syntax is easy to understand.	4	4	4	4	4	4	0.80	0.20	0.75	Practice
	The language used in the syntax is Indonesian in accordance with the Enhanced Spelling System.	5	4	4	5	4	4	0.87	0.13	0.85	Very practice
	The use of terms and notation or symbols in syntax is consistent across sections.	3	5	4	3	4	5	0.80	0.20	0.75	Practice
Graphics	Syntax depicts aesthetic visuals	4	5	4	4	5	5	0.90	0.10	0.89	Very practice
	Attractive cover design	4	5	3	4	5	5	0.87	0.13	0.85	Very practice
	Attractive syntax content design	4	4	5	4	4	4	0.83	0.17	0.80	Practice
Benefits	Highly useful syntax for students	4	4	5	4	4	4	0.83	0.17	0.80	Practice
Total		81	85	82	81	83	85	16.57	3.43	15.78	
Average		4.05	4.25	4.1	4.05	4.15	4.25	0.83	0.17	0.79	Practice

Table 4 shows the results of the syntax implementation observation recap. Based on the recap of these activities, a score of 0.79 was obtained. This result indicates that the level of syntax consistency is considered practical.

Results of the Student Response Questionnaire

The questionnaire was administered to 60 students in three decorative design classes. The data analysis of student responses to the Ethno-Discovery project syntax is shown in Table 5.

Table 5. Recapitulation of Student Practicality

No Item	K	Description
1	0.85	Very Practice
2	0.72	Practice
3	0.84	Very Practice
4	0.77	Practice
5	0.62	Practice
6	0.93	Very Practice
7	0.71	Practice
8	0.73	Practice
Average	0.77	Practice

Table 5 shows the results of the recapitulation of observations on the implementation of syntax in decorative arts learning. Based on the recapitulation of these activities, an average score of 0.77 was obtained. These results indicate that the level of consistency of the practicality of the syntax is classified as practical.

The results of the observation show that the syntax has a high level of practicality overall with a coefficient of agreement (K) score of 0.79. This category indicates that the syntax can be implemented well in the context of decorative design learning. The highest scores were obtained in the aspects of "worksheets" and "graphics," which each reached 0.89, falling into the very practical category. This shows that the learning material is presented visually well and supports active project-based learning that emphasizes cultural exploration.

Conversely, the aspects that received relatively lower scores were "material" and "learning objectives" with scores ranging from 0.64 to 0.75. This indicates the need for refinement in the formulation of learning objectives and content development to be more precise and in line with curriculum outcomes.

These findings are consistent with a previous study by Prahani et al. (2022), which states that the effectiveness of contextual learning models is highly dependent on the clarity of instructions, visualization of material, and the integration of objectives with the local context.

The overall average score of 0.77 indicates that students find the syntax easy to understand, clear, and highly relevant to learning activities. Students' positive responses mainly relate to the visualization of projects and active involvement in the learning process. This is in line with constructivist theory (Piaget, 1973) and the project-based learning model, which places students as active subjects in constructing knowledge through the context of local culture.

These findings are reinforced by a study by (Eskak et al. (2021), which confirms that local culture-based learning can shape conceptual understanding and improve students' creative thinking skills.

Data from two sources (expert observers and students) indicate that the Ethno Discovery Project syntax is suitable for implementation in vocational design learning environments, especially in contexts that require integration between local culture, design creativity, and visual literacy. Areas for improvement mainly lie in the formulation of objectives and the presentation of more detailed and modular material.

Furthermore, extensive implementation testing is recommended to examine the stability and sustainability of the syntax model in various other design course contexts, such as textile design, fashion design, or fashion illustration.

Results of Syntax Effectiveness Testing

Student Competency Testing Using Learning Outcome Evaluation

Student competency testing refers to learning outcome evaluation conducted to obtain the degree of effectiveness of the developed syntax. The competency test was conducted using a test in three decorative design classes. Twenty students from each class participated in the test.

The following are the learning outcomes of students based on the average pretest (before) and posttest (after) scores for decorative design learning.

Table 6. Recapitulation of Student Competency Test Results

Class number	Number of participants	Pretest	Average Posttest
1	20	5.50	9.70
2	20	5.50	9,80
3	20	5.35	9,80

From Table 6, learning outcomes improved across all classes. Student competence increased by applying the integrated Ethno-Design Literacy Ethno-Discovery Project syntax. In class 1, the average score increased from a pretest score of 5.50 to 9.70. Meanwhile, in class 2, the average score increased from a pretest score of 5.50 to 9.80. Finally, in class 3, the average score increased from a pretest score of 5.35 to 9.80.

Table 7. Print Out Normality Test

One-Sample Kolmogorov-Smirnov Test							
		Pretest 1	Posttest 1	Pretest 2	Posttest 2	Pretest 3	Posttest 3
N		20	20	20	20	20	20
Normal Parameters[a,b]	Mean	5.5000	9.7000	5.5000	9.7500	5.3500	9.8000
	Std. Deviation	1.57280	.57124	1.60591	.44426	2.05900	.41039
Most Extreme Differences	Absolute	.225	.450	.275	.463	.161	.487
	Positive	.130	.300	.175	.287	.161	.313
	Negative	-.225	-.450	-.275	-.463	-.156	-.487
Kolmogorov-Smirnov Z		1.005	2.014	1.229	2.071	.722	2.178
Asymp. Sig. (2-tailed)		.265	.160	.097	.301	.674	.150

a. Test distribution is Normal.
b. Calculated from data.

Paired Samples Test									
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest 1 – Posttest 1	-4.20000	1.67332	.37417	-4.98314	-3.41686	-11.225	19	.000
Pair 2	Pretest 2 – Posttest 2	-4.25000	1.58529	.35448	-4.99194	-3.50806	-11.989	19	.000
Pair 3	Pretest 3 – Posttest 3	-4.45000	2.21181	.49458	-5.48516	-3.41484	-8.998	19	.000

From Table 7 of the data analysis, it appears that the Asymp. Sig. (2-tailed) significance value for class 1 is 0.265, which is greater than 0.05. The significance value Asymp. Sig. (2-tailed) for class 2 is 0.301 and for class 3 is 0.674, which are greater than 0.05. Therefore, based on the decision criteria in the Kolmogorov–Smirnov normality test above, it can be said that the data are normally distributed. This means that the assumption or normality requirement has been met in the regression model.

Based on Table 42 of the SPSS "paired samples test" output, the significance value (2-tailed) from the SPSS output is 0.000 ($\alpha < 0.05$), so Ho is rejected, meaning that there is a difference between the pre-test and post-test scores. Then, in the Excel attachment, it is known that the average post-test score is higher than the pre-test score, where the average post-test score is 76.25 and the average pre-test score is 64.5, so it can be said that there was an increase in student scores before and after the application of the developed syntax.

Faculty Observations of Student Learning Activities and Interests

After conducting student competency tests, observations were also made of student learning activities and interests. Faculty members observed student activities during the learning process using observation sheets. The results of the calculations of the data from the observations of student activities are summarized in Table 8.

Table 8. Recapitulation of Lecturers' Observation Scores on Student Learning Activities

Statements	Assessment			Total	Max	%	Category
	1	2	3				
Read the material carefully	4	3	4	11	15	73.33	Effective
Understanding and solving problems related to ornamentation in LKK and LKI in syntax in your own way	4	5	5	14	15	93.33	Very Effective
Compare and discuss answers with group members	5	4	4	13	15	86.67	Very Effective
Listening to and paying attention to explanations from lecturers or friends	3	4	4	11	15	73.33	Effective
ask professors or friends about matters related to design	4	3	4	11	15	73.33	Effective
answering questions or providing responses, opinions, suggestions, or criticism	4	5	5	14	15	93.33	Very Effective
Average	4.00	4.00	4.33	12.33	15.00	82.22	Very Effective

Referring to Table 8, it is known that the average value of student activity observations is 82.22%. Based on the criteria from Sugiyono (2017) and Akbar (2013), the results of student activity observations are categorized as very effective. The developed syntax can activate students during learning.

Furthermore, the lecturer also tested the students' interest in learning. The percentage score for the calculation of the results of the observation of student

interest was 81.58%. Based on the criteria from Sugiyono (2017) and Akbar (2013), the results of the observation of student interest were categorized as very effective. The developed syntax has been able to increase students' interest in learning.

The data shows that there was a significant increase in the average scores across all classes. The increase from the pretest to the posttest scores indicates that students experienced substantial competency development after participating in the Ethno-Discovery Project syntax-based learning. The increase in scores in class 1 reached 4.20 points, in class 2 it was 4.30 points, and in class 3 it was 4.45 points.

Conclusion

This study proves that the Ethno-Discovery Project syntax integrated with Ethno-Design Literacy is a valid, practical, and effective learning approach in improving student competence in decorative design courses. The validation process by experts shows that the syntax structure has met the content feasibility criteria, with an average validity score of 0.71 (valid category) and a high reliability level (ICC = 0.765). The results of the practicality test through lecturer observation and student questionnaires showed an average score of 0.79 from observers and 0.77 from student responses, both of which fall into the practical category. This indicates that the syntax is easy to use, understandable, and supports an active and contextual learning process. Furthermore, the effectiveness of the syntax was proven through a significant increase in student learning scores in three classes, from a pretest average of 5.45 to a posttest average of 9.77, which was confirmed by a paired t-test ($p < 0.001$). Student learning activities during the learning process were also high, with an observation score of 82.22% and learning interest reaching 81.58%, both of which were categorized as highly effective. Thus, it can be concluded that the Ethno-Discovery Project syntax is not only able to bridge the mastery of design content, but also fosters active engagement, creativity, and appreciation of local cultural values. This syntax is recommended for widespread implementation in design-based vocational curricula, as well as adaptation into other courses that support project-based learning and local wisdom. The main conclusions of the study may be presented in a short conclusion section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Acknowledgments

The author would like to express his deepest gratitude to the Department of Family Welfare Sciences for granting permission and providing support so that this research could be carried out properly. Thanks are also extended to Padang State University for providing funding and facilities so that this research could be completed as planned. It is hoped that the results of this research will contribute significantly to the development of science, enrich academic knowledge, and serve as a useful reference for future research.

Author Contributions

Authors 1 and 2 contributed to finding research ideas, conducting the research, and writing the article manuscript. Authors 3 and 5 contributed to processing the research data and translating the article into English. Author 4, 6, 7, and 8 contributed to using a combination of the ethno-discovery project and ethno-design literacy in the syntax of the developed model.

Funding

We would like to thank the Research and Community Service Institute of Padang State University for funding this research. The cost of publishing this article was also funded by Padang State University through the Research and Community Service Institute.

Conflicts of Interest

The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

References

Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Remaja Rosdakarya Offset.

Arikunto, S. (2019). *Prosedur Penelitian: Suatu Pendekatan Praktik (Cetakan 5)*. Jakarta: Rineka Cipta.

Ashby, S. (2023). *A Speculative Critical Design Inquiry into the Impact of GenAI Chatbots on University Students' Brainstorming*. University of Tilburg. Retrieved from http://arno.uvt.nl/show.cgi?fid=182934

Azwar, S. (2012). *Reliabilitas dan Validitas*. Yogyakarta: Pustaka Pelajar.

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, *6*(4), 284–290. https://doi.org/10.1037/1040-3590.6.4.284

Diemer, F. S., Haan, Y. C., Nannan Panday, R. V, van Montfrans, G. A., Oehlers, G. P., & Brewster, L. M. (2017). Health literacy in Suriname. *Social Work in Health Care*, *56*(4), 283–293. https://doi.org/10.1080/00981389.2016.1277823

Eskak, E., & Susanto, H. B. (2021). Etika Penerapan Motif Batik Tradisional Dalam Desain Alas Kaki (Ethics of Traditional Batik Motif Application on Footwear Design). *Dinamika Kerajinan Dan Batik: Majalah Ilmiah*, *38*(2), 173–184. https://doi.org/10.22322/dkb.v38i2.7121

Kharismawati, N. P., & Riyana, C. (2025). Development of Cultural Literacy Based Learning Design with Successive Approximation Model. *Jurnal*

Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran, *11*(2), 691. https://doi.org/10.33394/jk.v11i2.15008

Kusmanto, H., Zamzani, Z., & Suryaman, M. (2024). Unleashing the secrets of academic writing: exploring Indonesian language courses in higher education. *Journal of Education and Learning*, *18*(4), 1166–1172. https://doi.org/10.11591/edulearn.v18i4.21662

Martin, B., & Hanington, B. (2012). *Universal methods of design: 100 ways to research complex problems*. Rockport Publishers.

Mustaqim, T., Fatichah, C., & Suciati, N. (2023). Deep Learning for the Detection of Acute Lymphoblastic Leukemia Subtypes on Microscopic Images: A Systematic Literature Review. *IEEE Access*, *11*, 16108–16127. https://doi.org/10.1109/ACCESS.2023.3245128

Piaget, J. (1973). *To Understand Is to Invent: The Future of Education*. Grossman Publishers.

Prahani, B. K., Rizki, I. A., Jatmiko, B., Suprapto, N., & Amelia, T. (2022). Artificial Intelligence in Education Research During the Last Ten Years: A Review and Bibliometric Study. *International Journal of Emerging Technologies in Learning*, *17*(8), 169–188. https://doi.org/10.3991/ijet.v17i08.29833

Prior, P. (2001). Voices in text, mind, and society: Sociohistoric accounts of discourse acquisition and use. *Journal of Second Language Writing*, *10*(1–2), 55–81. https://doi.org/10.1016/S10603743(00)00037-0

Ramísio, P. J., Pinto, L. M. C., Gouveia, N., Costa, H., & Arezes, D. (2019). Sustainability Strategy in Higher Education Institutions: Lessons learned from a nine-year case study. *Journal of Cleaner Production*, *222*, 300–309. https://doi.org/10.1016/j.jclepro.2019.02.257

Riduwan. (2015). *Dasar-Dasar Statistika*. Bandung: Alfabeta.

Sabri, B., Katin, Y. E., & Idrus, Y. (2012). Kreativitas Mahasiswa S1 Tata Busana dalam Mata Kuliah Desain Ragam Hias Jurusan Kesejahteraan Keluarga. *Journal of Home Economics and Tourism*, *1*(1), 7036. Retrieved from https://ejournal.unp.ac.id/index.php/jhet/article/view/508/0

Sahrani, R. (2020). *Angka Plagiarisme Naik, Apa Pentingnya Jadi Mahasiswa Berintegritas?* Retrieved from https://www.kompas.com/edu/read/2020/12/07/.

Sakong, S., Huang, J., Eikerling, M., & Groß, A. (2022). The structure of the electric double layer: Atomistic versus continuum approaches. *Current Opinion in Electrochemistry*, *33*, 100953. https://doi.org/10.1016/j.coelec.2022.100953

Shadiqi, M. A., Muluk, H., & Milla, M. N. (2019). Experiment Replication: A Proposed Solution for Developing Psychological Research in Indonesia. *ANIMA Indonesian Psychological Journal*, *33*(4), 213–230. https://doi.org/10.24123/aipj.v33i4.1795

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: uses in assessing rater reliability. *Psychological Bulletin*, *86*(2), 420–428. https://doi.org/10.1037/00332909.86.2.420

Sugiyono. (2017). *Metode penelitian pendidikan (pendekatan kuantitatif, kualitatif, dan R&D)*. Bandung: Alfabeta.

Zubaidah, S., Fuad, N., Mahanal, S., & Suarsini, E. (2017). Improving Creative Thinking Skills of Students through Differentiated Science Inquiry Integrated with Mind Map. *Journal of Turkish Science Education*, *14*(4). https://doi.org/10.12973/tused.10214a