



Development of Innovative Ethno-Vlog Media Based on Ethno-STEM to Equip Students' Creativity and Realize UNNES Conservation Vision

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Abstract: This research is essential for the realization of (a) the vision of Universitas Negeri Semarang (UNNES) as a conservation-minded university and (b) the character of student creativity in the global era. This research aims to develop ethno-vlog learning media based on ethno-STEM to realize the UNNES vision of conservation and student creativity. This research is a development study that uses the Thiagarajan model. The resulting product is an innovative STEM-based ethno-vlog media developed through the stages of definition, design, development, and dissemination. The research subjects are students taking ethnosience and local wisdom courses in the Integrated Science Study Program. As a result of the research data analysis and discussion, the data obtained during the study can be analyzed qualitatively and quantitatively. The analysis of the research data and discussion can be concluded that (a) the Ethno-vlog product has been produced by students taking Ethno-science courses and local intelligence with interesting categories; (b) the student's conservation character and creativity can be developed with the creation and learning of a STEM-based Ethno-vlog project; and (c) students' responses to the tasks of the STEM-based Ethno-vlog project are in good categories. The results of developing this ethno-vlog media can provide students with knowledge about local wisdom for science learning. Additionally, it encourages students to be more caring and actively participate in preserving culture and the environment through innovative educational methods, supporting the conservation vision of Universitas Negeri Semarang (UNNES).

Keywords: ethno-STEM, innovative, creativity, conservation, ethno-vlog media

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INTRODUCTION

The state-of-the-art research refers to the UNNES vision for 2024–2028, which includes (a) world reputation, (b) excellence in education, and (c) conservation perspectives. The research focuses on the priority program of UNNES in 2023, namely, achieving excellence in education, particularly in implementing STEM-based innovative ethno-vlog media. Along with the development of digital technology, the application of vlog-based media (video blog) in education is beginning to be accepted as an effective method to enhance student engagement and understanding of learning materials (Castañeda, 2018). Ethno-vlog is a term that combines ethnosience and video blogging (vlog). Ethnosience is a science field associated with cultural aspects and human life in certain ethnic groups (Sudarmin et al., 2018). Ethnosience is also known in learning, where it uses a cultural approach and local wisdom knowledge of a region and integrates it with science (Widarti et al., 2024). Vlogs are video content individuals or groups produce to share information or experiences on a particular topic. In the context of science education, ethno-vlog media can be an innovative learning media capable of introducing and appreciating local culture while enhancing the understanding of science. Developing and implementing the innovative learning media of Ethno-STEM-based Ethno-Vlog is expected to enhance student creativity and conservation character.

In this research, the character developed is creativity. The 21st-century education emphasizes the importance of creativity, digital literacy, and holistic understanding in facing global challenges, where innovation in learning media becomes essential (Rotherham, 2009). Creativity is the ability to create new things or products. Therefore, creativity can also be the ability to use a brilliant imagination and several possibilities to solve problems because of interaction with the ideas of others and the environment (Sumarni & Kadarwati, 2020). The attitude and ability to be creative are essential in the 21st century, where everybody possesses this ability, but not everyone can maximize it. The character and characteristics of creative students are: (a) like new things and challenges, (b) easily bored, (c) very fond of imagining and reasoning, and (d) fast to change and adaptive. The research focuses on providing student creativity through a STEM-based Ethno-vlog media product development project on Ethno-science and Local Wisdom courses. Creativity in science is called scientific

creativity. Scientific creativity is used to creatively solve problems or produce innovative products (Irma et al., 2023). The STEM-based Ethno-vlog product in this study refers to vlog media about Ethnoscience content in the context of local wisdom reviewed within the scope of Science, Technology, Engineering, and Mathematics (STEM), so it is known as Ethno-STEM (Sudarmin et al., 2018). In the context of higher education in Indonesia, particularly at UNNES, which upholds a vision as a conservation university, there is a need to develop media that is not only technology-based but also capable of instilling cultural and conservation values (UNNES, 2020). One of the innovative approaches is the ethno-vlog based on ethno-STEM, which combines elements of local culture (ethnography) with the fields of science, technology, engineering, and mathematics (STEM), thereby offering culturally and contextually relevant learning media (Barwell, 2013). In an Ethno-STEM-based Ethno-Vlog, the Ethno-Vlog discusses a topic of local wisdom; for example, local herbal tea is discussed in the context of Ethnoscience, Ethno-technology, Ethno-engineering, and Ethno-mathematics. Ethno-mathematics, in this case, can be an attempt to help self-concept and teach them about cultural values (Setiani, 2020).

This research also focuses on conservation, which conceptually means methods, ways, and efforts to utilize available resources to ensure their sustainability in the future (Lestari et al., 2021). Conservation in science education is related to wise efforts in managing and utilizing natural resources and the biosphere to obtain the greatest sustainable benefits for present and future generations. The scopes of conservation are (1) wildlife, (2) ecology, (3) resource, and (4) cultural heritage (UNNES, 2021). The ecological benefits of conservation are to protect and maintain (a) the wealth of natural ecosystems sustainably, (b) various rare species of flora and fauna, (c) ecosystems from damage by natural factors and microorganisms, and (d) the quality of the environment to stay awake. The development of STEM-based Ethno-vlog is expected to equip students with creative, analytical, and appreciative thinking skills towards local culture, which are very important in preserving culture and the environment (Jenkins, 2009). Students actively preserve the archipelago's cultural wealth by producing vlogs that focus on local culture and conservation while honing their digital and academic skills (Hung, 2012). This also supports UNNES's efforts to realize the conservation vision, prioritizing cultural and environmental sustainability in the learning process.

Thus, in this research, the characters of creativity and conservation are developed through the STEM-based Ethno-vlog innovative media project in Ethnoscience and local wisdom courses because the development of Ethno-vlog media requires student creativity. Munandar (2016) stated that creative thinking has flexibility, innovation, fluency, and elaboration indicators. Combined with new designs, creative minds can produce new products (Suradika et al., 2023). The formulation of this research problem is how to realize STEM-based Ethno-vlog innovative media to realize student creativity and conservation character. The ethno-vlog media was chosen in this study because this vlog media is one of the social media that students have known. Interactive and engaging learning media can help the abstract learning process towards the concrete one (Sodiqi et al., 2024). In this research, the ethno-vlog will be developed as an innovative learning media that contains science content and concepts as well as local wisdom values that need to be preserved, especially culture related to community, local wisdom or phenomena, and local wisdom of local food and drinks in Indonesia (Sudarmin et al., 2023). Therefore, it is essential to study the development of ethno-vlogs that highlight the unique characteristics of a region that can be used as a learning media (Sari et al., 2024). The vlog application is an application spread across the internet that supports students' habits in the current media development (Awal et al., 2022). This study integrates the ethnoscience approach with STEM (Ethno-STEM) in science learning, including science topics of flora and fauna diversity, food additives, temperature and heat, and motion themes. Integrating ethnoscience into learning will be more effective if it is included in the subject matter with the student's cultural background. The Ethno-STEM approach in this study is a science learning approach in which a topic is studied in the content and context of ethnoscience, ethno-technology, ethno-engineering, and ethno-mathematics (Sumarni & Kadarwati, 2020).

The results of the analysis of previous research showed that in addition to preserving local culture, learning with an ethnoscience and ethno-STEM approach can improve the quality of science education and character (Sukesti et al., 2020), literacy of conservation and science, as well as critical and creative thinking (Sudarmin et al., 2020). Meanwhile, ethno-vlog media is an effective visual vlog to increase interest and creativity (Lestari et al., 2021). Ethno-vlog media makes conveying thoughts, feelings, and information easier through visual platforms (Pancawardhani et al., 2022). In this study, the media was chosen because the media vlog has spread to various media and is used as a source of information, entertainment, and so on. Therefore, educators can utilize vlogs as a learning medium by displaying videos about topics and learning materials attractively and creating interactive, engaging, and enjoyable learning conditions to motivate and equip students with creativity and conservation behavior. In this study, character conservation is a unique vision of the college, so it needs to be well realized in this research. This research aims to produce ethno-vlog media to instill conservation character in students. This research is feasible to strengthen conservation character in students through the Ethno-STEM approach. In the context of UNNES, which has a conservation vision, there is a need for learning media to combine local cultural elements with STEM aspects: Science, Technology, Engineering,

and Mathematics. The ethno-vlog media is designed to help students express their creativity while understanding and appreciating the local culture and their surroundings. Through the ethno-vlog, students learn scientific concepts and are encouraged to be more aware and responsible for preserving culture and the environment.

METHODS

The type of this research is research and development that focuses on defining, designing, developing, and disseminating activities. The model is known as the 4D development model developed by Thiagarajan (Thiagarajan, 1974). Research and development (R&D) is a method that results in a product being tested (Sugiyono, 2017). Students, individually or in groups, undertake preliminary studies and seek information about local wisdom in the village environment or its origin by conducting direct observations. In this phase, the students undertake the initial design of an ethno-vlog video that contains STEM and compile the design of the ethno-vlog interview question. In the development phase, the student undertakes the development of the ethno-vlog project, where the scientific content and ethnosience context are based on ethno-STEM. In this study, the Ethno-vlog products are based on Ethno-STEM. The students were required to develop the content of the vlog, consisting of the initial papers containing the introduction or introduction of the Ethno-vlog, the continued vlog containing interviews with the source, as well as the stage of the reconstruction of the social sciences into scientific sciences, which are then validated, and the closing with the message of conservation and creativity. Students presented the developed ethno-vlog products to obtain input from lecturers and peers for improvement. Meanwhile, the dissemination of the ethno-STEM-based ethno-vlog project that has been produced was carried out through national seminars, webinars, and journal publications.

The data consists of descriptive, qualitative, and quantitative data. Qualitative analysis deeply describes the meanings, patterns, and themes that emerge from data obtained through interviews and observations. This qualitative data is then grouped, coded, and thematically analyzed for broader meanings (Miles, 1994). Descriptive quantitative analysis is used to describe the research sample's characteristics numerically. Quantitative data from surveys and questionnaires are analyzed using descriptive statistics such as frequency, percentage, and mean to provide an overview of the studied variables. Qualitative descriptive data is related to the process and products of STEM-based Ethno-vlog media developed by students in this study. Quantitative descriptive data assesses the level of creativity achievement of STEM-based Ethno-vlog products developed by students and the conservation character of students after developing STEM-based Ethno-vlog media. The subjects of this study were science education students who took the Ethnosience and Local Wisdom course in the Integrated Science Cluster, FMIPA UNNES, with a total of 96 students. Research and learning data collection was carried out through the delivery of (a) ethnosience and ecology topic materials in the context of learning and research, (b) scientific science reconstruction patterns based on community science, (c) ethnosience implementation patterns and their integration with scientific learning models, (d) Characteristics and implementation of the Ethnosience or Ethno-STEM approach in science learning, and (e) project assignments related to the development of STEM-based Ethno-vlog media. Research data were collected through (a) interviews, (b) observations, and (c) distributing questionnaires (Syahdan et al., 2021). This study conducted data analysis descriptively and qualitatively based on the data type obtained. The data from the Ethno-Vlog product was analyzed and evaluated by lecturers and experts. After the evaluation, the data was interpreted according to the predetermined criteria.

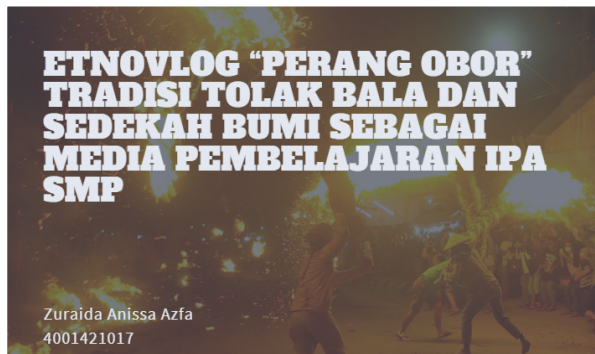
RESULT AND DISCUSSION

This research is related to the assignment to design and develop ethno-vlog media that aims to foster the character of creativity and conservation in students and support brilliance in education. Learning was carried out in 16 meetings with the topics of (1) understanding ethnosience and local wisdom as well as its examples; (2) reconstruction of scientific science based on knowledge of the community; (3) ethnosience and local wisdom in the context of learning and research, as well as its implications in science learning in the school; (4) Project assignment to develop learning tools and Ethno-vlog media to equip the characters of creativity, conservation, and educational rigor; (5) evaluation of learning processes and products and reflection and feedback; and (6) the final exam of the semester. In project activities, students were tasked with designing Ethno-STEM-based ethno-vlog products, with the product design results presented in Table 1.

Table 1. Ethno-STEM Based Ethno-Vlog Products for Environmental and Cultural Local Wisdom

Ethno-STEM-based Ethno-Vlog Titles	A brief description of Ethno-vlog content Ethno-STEM based
Ethno-Phenomena Vlog: <i>Legenda Danau Rawa Pening</i> 	The legend of <i>Rawa Pening</i> is one of the historical legends in Central Java that still lasts. <i>Rawa Pening</i> is a natural lake whose presence is significant for the ecological system of central Java. In this ethno-vlog, conservation will be presented regarding the ecological environment of water in <i>Rawa Pening</i>.
Example of Environmental/Ecology conservation EthnoVlog: Ethno-Vlog <i>Keripik Tempe</i>	<i>Tempe keripik</i> is a famous local food in Ungaran. Making the <i>Tempe keripik</i> by the community contains the science concept. In addition, the business of making <i>Tempe keripik</i> can increase the economic value of the community. In this ethno-vlog, the conservation of local food <i>Tempe keripik</i> with high nutritional value is presented.
Example of local food conservation Ethno-Vlog <i>Batik Patron</i>	<i>Batik</i> is an Indonesian cultural heritage that UNESCO has recognized. Some bats are already well known: Batik Solo, Yogyakarta, and Batik Pekalongan. However, one Batik has an interesting motive that does not exist in other areas: <i>Batik Patron Ambarawa</i>. <i>Patron Ambarawa</i> has existed since 1867 but was lost and only found in 1909, so most of the community of Ambarawa and its surroundings do not know it.
Example of Cultural or Batik Conservation Ethno <i>Wedang Tahu</i>-Ethnomedisin Vlog	<i>Wedang Tahu</i> is a traditional drink typical of Semarang City made of boiled rice with various spices such as ginger, carrot, cranberry, and scapula. This beverage has a long history in the culture and traditions of the Java people. Scientifically, <i>wedang tahu</i> contains essential nutrients like protein, fiber, calcium, and iron. By understanding its contents and benefits, we can better appreciate traditional beverages' cultural and health values.
Example of local beverages conservation	

Ethno-Vlog of the War of *Obor*: History, Myths, and Culture in the Perspective of the Ethno-science



Ethno-vlog about ethnoscience in implementing scientific science on the learning of IPA students in high school. The tradition of the War of the Thorns depicts the integration between local wisdom and modern science. Knowledge of the War of Thunder invites students to understand scientific concepts related to the concepts of physics, chemistry, and biology directly while preserving traditional cultural values.

Example: culture and history of the nation conservation

This research has produced various Ethno-STEM-based Ethno-Vlog products to develop creativity and conservation characteristics. The design results of the STEM-based Ethno-vlog media are known, and the Ethno-vlog topics developed by students are presented in [Figure 1](#).

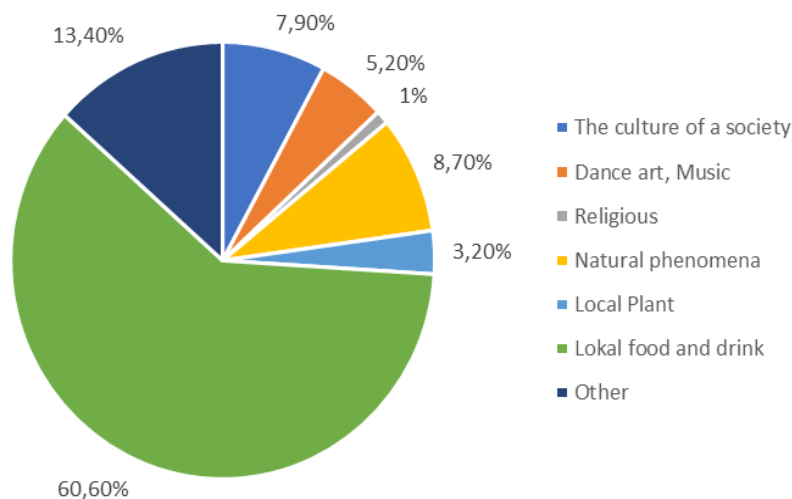


Figure 1. Ethno-vlog theme diagram based on STEM developed by students.

In [Figure 1](#), the topics that are mostly related to culture in communities are related to the local wisdom of local food and beverages, followed by subjects such as dance, art and music, natural phenomena, and other cultures of communities. Local wisdom about food and beverages is an interesting theme for students to use as an ethno-vlog title because typical food is easily found in each of their regions. Each region has a unique taste and appearance that distinguishes it from other regions or today's modern food. The choice of topic is an essential element in making vlogs; the learning material must also be relevant to the topic of the vlog raised ([Uno, 2022](#)). In the context of different Ethno-STEM, each approach allows for the straightforward integration of Ethnoscience and STEM fields and subjects in learning ([Sudarmin, 2024](#)). The research was asked whether the project tasks matched the topics in the ethnoscience and local wisdom courses. Most students (95%) as research subjects stated that the project assignments the lecturer gave were highly appropriate and already matched. Meanwhile, 5% stated that the assignments provided by lecturers were quite appropriate. In the project tasks, students raised topics that discuss local wisdom, the process of stage reconstruction of the social sciences into the scientific sciences, and the context in science learning, as well as explained the meaning of ethnoscience and the type of ecology ([Sudarmin et al., 2023](#)). In this study, many students still do not know (39.1%) and lack knowledge (48%) about STEM-based ethno-vlogs in science learning. Students generally do not know that ethno-vlog videos contain discussions of the reconstruction of science in society into scientific science integrated with science, technology, engineering, and mathematics. [Lestari et al. \(2021\)](#) stated that to integrate science learning with STEM, it is necessary to increase students' awareness and understanding of STEM by emphasizing local wisdom and conservation.

The analysis of student response data on the self-assessment of STEM-based Ethno-vlog products showed that the products produced are in the category of quite interesting to very interesting. The products produced

are in the form of various ethno-vlog videos ranging from topics of food and drinks to arts and culture, as shown in Table 1. Ethno-vlog videos contain several components, including an opening that explains the description of ethnoscience and local wisdom in the area, interviews with resource persons, the process of reconstructing products in the form of food, drinks, and arts and culture, and a closing (Sumarni et al., 2022). Students expressed their creativity in making videos using applications that can make them more enjoyable, such as using a cap cut to clarify sound or making subtitle text. In this study, the designed Etno-STEM-based Etno-Vlog product was followed by designing the content and context in the Etno-Vlog video. After that, the Etno-STEM-based Etno-Vlog production process was carried out, and examples of Etno-Vlog products that fell into the good and excellent categories are presented in Table 2. One of the challenges in project creation is the time required for the video shooting process (Subali et al., 2016). In making projects, students can design themes to develop creativity in product creation (Sulaeman, 2020). The creative thinking process will encourage creative behavior, producing creative work. Students' creative thinking ability is a skill that is very important in creating a work (Dewi, 2015).

Table 2. Ethno-Vlog products based on ethno-STEM to develop character creativity and conservation

Ethno Vlog Title and Conservation Message	Short Description	Link Youtube
Sesaji Rewanda traditions in Goa Kreo for environmental conservation 	This ethno-vlog is linked to the nature of environmental conservation among the Goa Krea people and the culture of <i>Sesaji Rewanda</i>.	https://www.youtube.com/watch?v=v_s2lly2fMw
Ethnofood-vlog Lontong Tuyuhan khas Rembang for local food conservation 	This ethno-vlog is related to the conservation character of the local food Lontong Tuyuhan typical strap, which is loaded and contains a lot of scientific concepts.	https://youtu.be/NR3vS8Tif4?si=mu7XqpB9EI4dMYYC

Ethno-Vlog Rokok Kretek Kudus
For Cultural Conservation



This ethno-vlog is related to the cultural conservation of the Kudus people's culture of making kretek cigarettes and the scientific process of kretek smoking culture.

<https://www.youtube.com/watch?v=Ru0pRLQTHY0>

This video is very creative in shooting, clear sound, interesting content, and the description of the scientific reconstruction is very detailed and complete.

Ethno-Drink Coffee Santan: Digging Local Wisdom and Scientific and Conservation of Local Beverages



Ethno-Drink Kopi Santan: Menggali Kearifan Lokal dan Sains Ilmiah

This ethno-vlog is related to the conservation of Ngopi Santan culture in Blora. Santan, which in making coffee santan, is very tight with atoms, molecules, compounds, solutions, and colloids.

<https://www.youtube.com/watch?v=aDaNqoQcBr8>

This video is unique and creative; from the photographs, the creative theme of soft coffee, as well as the scientific reconstruction of it, is very complete.

In this study, all Ethno-vlog products produced by students were assessed. The results are as follows. The Ethno-Vlog, a STEM-based media developed for educational purposes, has proven to be user-friendly, with 79.8% of students finding it easy to operate and 15.5% considering it fairly easy. Its accessibility on devices such as phones and laptops, supported by platforms like YouTube, enhances its effectiveness as an engaging learning tool that merges creativity and information (Priana, 2017). Systematically, the Ethno-Vlog presents content through an appealing introduction, in-depth main discussion, clear visualizations, and an interactive closing, with 27.4% and 41.7% of users rating its systematic presentation as "good" and "very good," respectively. However, around 30.9% indicated a need for refinement, suggesting that video editing tools like CapCut and Canva could enhance content quality further. Regarding playback ease and sound clarity, 70.8% – 80.7% of the Ethno-Vlogs played smoothly with clear sound, though about 20% encountered issues due to incompatible formats or high resolutions. The product also scored well in graphics and lighting, with 75.2–80.4% rated "good," though 19.6–24.8% suggested improved resolution, stability, and visual appeal. Notably, the Ethno-Vlog fosters creativity and conservation values among students, with 93.6% recognizing its role in character development and 94.7% promoting a conservation ethos (Agussuryani et al., 2020). By preserving local wisdom, the Ethno-Vlog serves as an innovative model for instilling conservation awareness through education, enhancing learning motivation, outcomes, and creativity, and providing new experiential knowledge for students.

In this study, the stages of implementing applied research expertise were carried out sequentially, namely implementing innovative STEM-based ethno-vlog media on Semarang State University (UNNES) students for approximately eight meetings. Evaluation, reflection, feedback, and follow-up activities were conducted to identify the limitations, strengths, weaknesses, and follow-up plans for innovative ethno-vlog media implemented on UNNES students. Vlogs have a level of correlation between vlog content and character formation, so vlogs can

be used as learning media. This vlog-shaped learning media not only increases the effectiveness of learning but also allows for cultural exploration as a learning resource (Amida et al., 2022).

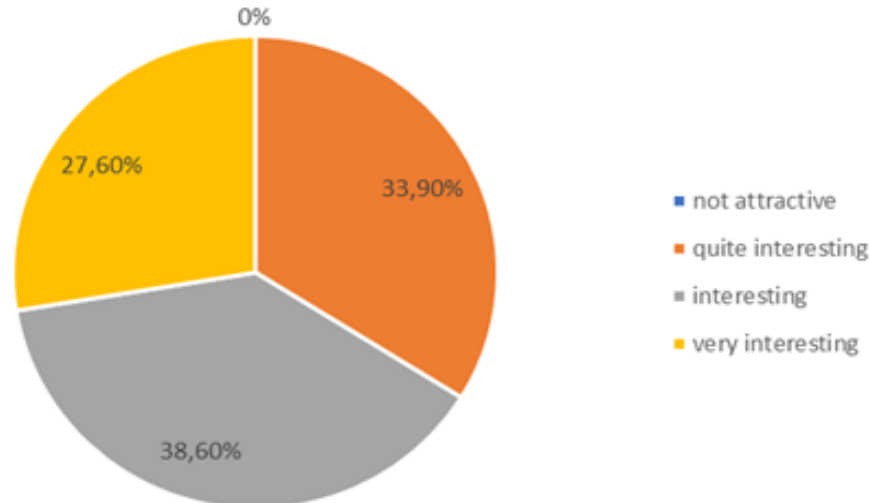


Figure 2. Diagram of Self Response to the Generated STEM-Based Ethno-vlog Products.

The analysis of the student response to the Ethno-vlog media product shows that Ethno-vlog has a good reputation (58.3%). Meanwhile, the category is very good for the reputation of the IPA education product, which is still low (17.3%). Through the video, ethno-vlogs can raise and strengthen the image and quality of IPA educational products to attract more and more public interest in choosing IPA educational products as a place to seek out more quality science. STEM-based ethno-vlogs integrate community knowledge and practices into IPA learning, thus making learning more contextual and relevant for students to see real applications of scientific concepts in everyday life. Learning using ethno-vlog media integrated with ethno-STEM can contribute to a problem through the activities performed by the pupils to transform society's original knowledge into scientific knowledge (Laila et al., 2022). In the process of learning STEM, teachers can link concepts in the learning process with local intelligence that exists in the environment to introduce natural resources so that they can meet the learning objectives (Sumarni et al., 2022).

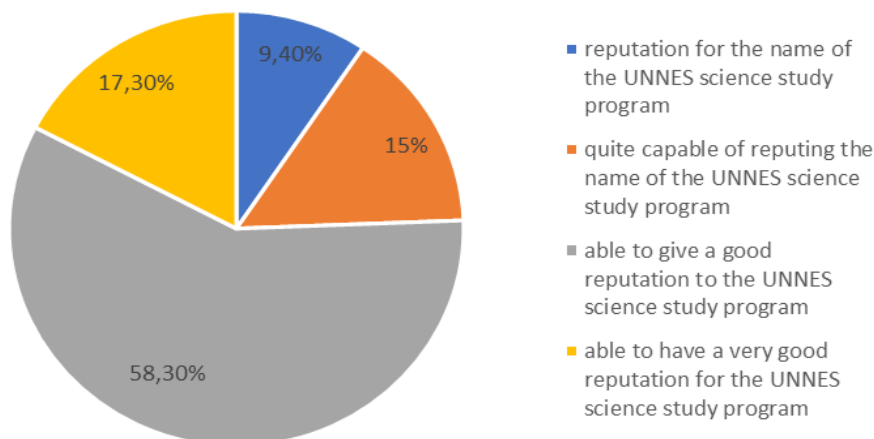


Figure 3. Diagram Relationship of Ethno-vlog products to IPA Educational Reputation.

The study also explored the association of Ethno-vlog products with the characteristics of creativity, conservation, and educational excellence. 49.6% of creators stated that ethno-vlogs can pour creativity into their creations, from designing ethno-vlogs to producing their products. Creating this content demands that creators develop creative ways of presenting information about culture and traditions. It covers various visual formats, exciting narratives, and innovative imaging techniques. Creative thinking is essential to stimulate creativity and hone students' creative thinking skills. One way to do this is by using varied and clear learning strategies that focus on developing students' creativity. Learning that utilizes local wisdom can encourage students to create creative ideas (Sari et al., 2023). 26.8% of ethno-vlogs are essential in preserving and disseminating knowledge of potentially endangered cultures and traditions. With the presence of this video, it can help preserve heritage

for future generations. 23.6% of ethno-Vlogs provide education that not only focuses on academic aspects but also includes learning about cultural values and history, thus providing a more holistic insight to the audience. Overall, ethno-vlogs combine creativity, conservation, and educational excellence, making them a powerful tool for promoting and preserving culture. The results of the analysis of STEM-based ethno-vlogs with creativity, conservation, and educational brilliance show that the resulting ethno-vlogs can develop the characters of creativity, conservation, and educational brilliance. The character of conservation can also be realized through one of its learning methods, through the learning of Ethno-STEM PjBL with the assignment of the ethno-STEM project (Sudarmin et al., 2023). The MPPj-STEAM model is also effective in developing the character of preservation among the indicators of care, creativity, love of the homeland, responsibility, and care for the environment that can be planted in the pupils (Fikrina et al., 2023). Character education must be built as early as possible to prepare children to face complex future problems, such as lack of responsibility, attention to the world around them, and lack of self-confidence. Character education trains students to become human beings characterized by heart, mind, body, taste, and spirit (Sudarmin et al., 2019).

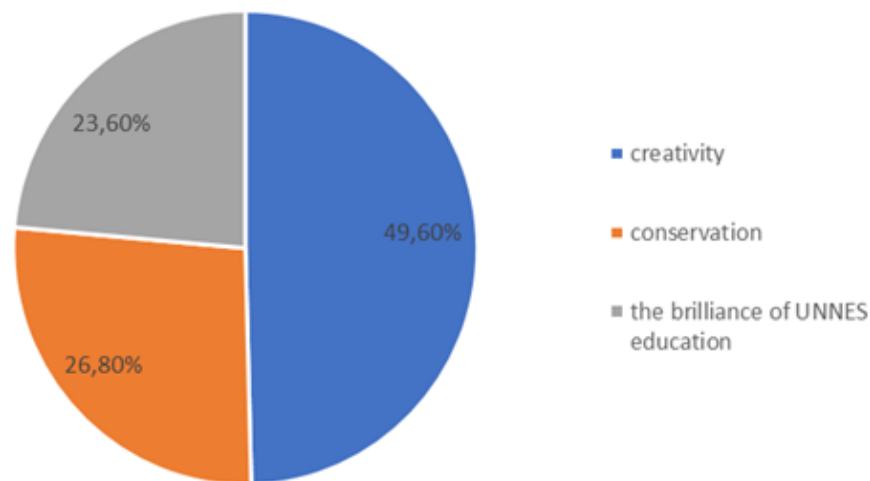


Figure 4. Ethno-vlog Relationship Diagram with the Character of Creativity, Conservation, and Educational Excellence.

Implementing and disseminating ethnoscience learning is essential to integrating society's knowledge into science knowledge. Program monitoring activities were conducted with the FGD, and interactive discussions among the research team, UNNES lecturers, and students to reach an agreement in designing schedules and discussions of activities, sharing of responsibilities, and systematic implementation of the innovative Ethno-vlog-based STEM media among UNNES students. Advanced preparatory activities are carried out for coordination and consolidation, explicitly related to dividing tasks and responsibilities between research teams so that expertise-based research can run smoothly. Procedural implementation activities start with initial design, monitoring, and implementation in learning activities, followed by evaluation, dissemination, and feedback. Ethno-vlog products are documented through video and published on YouTube, followed by webinars or workshop activities to share experiences and project results with the community. As a media that integrates information technology, vlogs, now called YouTube channels, can be used as an effective learning media (Pamulang et al., 2021). This initial research is fundamental to enhance students' creativity and understanding in a contextual manner based on local culture. This ethno-STEM-based ethno-vlog media combines science, technology, engineering, and mathematics with ethnography, thereby creating a relevant and contextual learning experience for students. In addition to enhancing digital skills, this media supports UNNES's conservation vision through content that fosters appreciation for culture and environmental conservation practices. Using vlogs as interactive educational media also aligns with the development of digital technology while simultaneously strengthening students' digital literacy. Thus, this research not only supports the achievement of academic competence but also integrates the values of cultural and environmental conservation, which are at the core of UNNES's vision as a conservation university.

CONCLUSION

The data obtained during the research was analyzed qualitatively and descriptively to develop ethno-STEM-based ethno-vlog learning media to realize the UNNES conservation vision and the creativity of science students. The results of the research data analysis and further discussion can be concluded as follows: (a) Ethno-vlog products have been produced by students taking ethnoscience and local wisdom courses with diverse

topics. 60.6% of students are taking topics about local food and beverage wisdom. (b) Students' conservation character and creativity can be developed through the creation and learning of STEM-based ethno-vlogs. There are 93.6% of students who can come up with ideas so that they can produce interesting ethno-vlog videos. There are 94.7% of ethno-vlog videos that can convey conservation values about the importance of maintaining local wisdom. (c) Student responses to the ethno-vlog media products can represent the Science Education study program well. The existence of this ethno-vlog video can show innovation in education towards local wisdom. The results of the ethno-vlog can be seen on YouTube.

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