EXPERT AND PRACTITIONER VALIDATION ON AUTHENTIC PROBLEM-BASED LEARNING TASKS IN PROMOTING STUDENTS' CREATIVITY

[1]Endah Tri Priyatni, [2]Abdur Rahman As'ari, [3]Suharyadi, [4]Gatut Susanto, [5]Hoang Thi Hue

1. Faculty of Letters, Universitas Negeri Malang
2. Faculty of Math and Science, Universitas Negeri Malang
3. Faculty of Letters, Universitas Negeri Malang
4. Faculty of Letters, Universitas Negeri Malang
5. Faculty of Letters, Hue University Vietnam

Corresponding e-mail: endah.tri.fs@um.ac.id

Abstract

Fostering students' creativity in learning is not effortless because the average learning activity is usually less challenging. Authentic problem-based learning is a learning model that is expected to foster students' creativity in education. This study aimed to examine expert and practitioner validation on authentic problem-based learning tasks prototype in promoting student creativity. The prototype product was displayed and simulated in virtual zoom and validated by 14 learning experts and 18 practitioners/teachers. The initial data were collected through self-evaluation using a questionnaire. The results showed that the use of real experiences as a learning stimulus could foster creative solutions, which are marked by the emergence of new, unusual ideas, imaginative ideas, new creations that have an impact on the development of student creativity.

Keywords*: authentic, problem-based learning, language learning, and creativity*

Abstrak

Membangun kreativitas siswa dalam pembelajaran bukanlah hal yang mudah karena rata-rata aktivitas belajar biasanya kurang menantang. Pembelajaran berbasis masalah otentik merupakan model pembelajaran yang diharapkan dapat menumbuhkan kreativitas siswa. Penelitian ini bertujuan untuk menguji validitas ahli dan praktisi terhadap prototipe tugas pembelajaran berbasis masalah autentik dalam meningkatkan kreativitas siswa. Prototipe disajikan dan disimulasikan dalam virtual zoom dan divalidasi oleh 14 ahli pembelajaran dan 18 praktisi/guru. Pengumpulan data dilakukan melalui evaluasi diri menggunakan kuesioner. Hasil penelitian menunjukkan bahwa penggunaan pengalaman nyata sebagai stimulus pembelajaran dapat menumbuhkan solusi kreatif, yang ditandai dengan munculnya ide-ide baru yang tidak biasa, ide-ide imajinatif, kreasi baru yang berdampak pada perkembangan kreativitas siswa.

Kata kunci: otentik, pembelajaran berbasis masalah, pembelajaran bahasa, dan kreativitas

1. Introduction

Preliminary studies on subject learning for basic competencies of productive skills in junior high schools showed that the learning activities carried out by teachers were simulative. Simulative learning means that the learning activities carried out by students pretend, for example, pretending to write letters (which are not sent), pretending to write news (whose context of events has been provided by the teacher, rewriting existing procedural texts (which are not being put to use). These simulative experiences, although valuable at some level, do not create a spark of joy in the learners. Students seem to be active, but in fact, they are forced to carry out simulative learning activities. Simulative learning that does not spark excitement and enthusiasm for learning in students be replaced with authentic learning. The primary purpose of using authentic problem-based learning is to develop students' creativity (Laur, 2013).

Creativity is one of the greatest gifts given by God to humans. This invaluable gift must continue to be honed and strengthened because creativity prepares students for all forms of world changes (Robinson, 2011). Creativity allows us to face the opportunities and challenges that are part of our complex and rapidly changing world (Wolska & Dlugosz, 2015). The world of tomorrow needs creative people; the more complex the problems faced by a nation, the more creativity is needed (Robinson, 2011).

Problem-solving-based authentic learning contains tasks that provide students with challenges to solve problems in an authentic setting and with a learning experience for student engagement (Laur, 2013). Problem-solving exercises will activate their previous knowledge, elaborate content, and organize their process to regulate their process (Brand-Gruwel et al., 2005). An authentic Learning Experience is very essential to foster student engagement. To create engagement, students be given activities to solve complex problems and challenges. These challenges are action-oriented and allow philosophical questions to be contextualized in a challenging inquiry process (Ratzer, 2011). Moreover, these challenges are not designed for simulated experiences in which students pretend to be experts in their field of study. These challenges revolve around open-world questions that encourage critical thinking (Laur, 2013).

Learning informal education, which is still dominated by efforts to reproduce existing and immobile knowledge, encourages the author to create problem-solving-based authentic learning activities that can promote creative thinking skills. Teachers need to bring the real world into the classroom or carry out authentic learning (Starko, 2017).

This study aimed to examine expert and practitioner validation on authentic problem-based learning tasks prototype in promoting students' creativity. In particular, this study aims to examine: (1) the experts' and practitioners' first impression on the product after watching the shows and learning simulations, (2) the quality of the stimulus in triggering the development of students' creativity, (3) potential tasks reflected in the steps of learning to develop students' creativity, and (4) suggestions for the improvement, comments, criticism of all aspects of learning.

2. Literature Review
2.1 The Characteristics of Creativity

Creativity is the ability to turn something ordinary into something extraordinary or something ordinary into something new. Beghetto and Sriraman define creativity as something original and out of the box (Beghetto & Sriraman, 2017). Novelty and originality are the main characteristics of a work categorized as creative (Sternberg & Smith, 1988). There are three criteria for a work to be categorized as creative, namely containing rich and deep imaginative ideas,) a lot of new, unique, distinctive elements that can create new values, and elements that can arouse the reader's inner experience (Yunus, 2015).

Creative works are characterized by novelty and usefulness (Harrington, 2018); (Gaut, 2010). Novelty refers to the idea that the product of creativity must be something

different, unique, or innovative. Besides, creative work is also useful in certain contexts. Creativity is strongly associated with imagination, innovation, originality, and brilliance (Pope, 2005); (Swann et al., 2011). Creativity is characterized by the following four things, namely fluency, flexibility, originality, and elaboration (Kim, 2006). Creativity in general is a disposition for discovery, and novelty (Nixon, 2003). The essence of creativity is novelty, originality, uniqueness, usefulness, or flexibility (Sternberg & Smith, 1988). This is because creativity is a mindset that tends to lead to creative results and focuses more on the product than on the (Robert J Marzano et al., 1997); (R. J. Marzano et al., 1988). Creative activities have certain characteristics, one of which is that creative activities must reveal something new that is expressed in a specific combination of new meanings. This agrees with Dollinger's opinion (Dollinger & Dollinger, 2009) stating that an activity is called a creative activity if the activity promotes discoveries or creations.

The inclusion of this largely personal domain in the category of the creative domain leads to what we might call the 'democratization' of creativity, based on the recognition that all areas of life are potential places for creative action. This suggests that 'ordinary' people, who work in domains not historically considered a place of creative activity, can be creative. In other words, it is possible to see that creative activity exists in all domains and not just the exclusive provinces and properties of a few special people. This is the "everyone" and "everywhere" dimension from which creativity emerges.

Creative thinking skills are one of the key competencies to survive and thrive in the twenty-first century (Tan, 2015); (World Economic Forum, 2015). Therefore, strengthening creativity needs to be done in business, daily life, and education (Wolska & Dlugosz, 2015). In the education sector, developing student creativity must be an important goal. The teacher in the classroom is one of the figures who play an important role in stimulating students' creative abilities

through learning activities, shaping the students' character, personality, and attitudes that support creativity, and teaching creative thinking skills and creative problem solving to students (Wolska & Dlugosz, 2015). Creativity opens many doors, presents opportunities, and gives hope. Formal education plays a key role in developing the creativity of students of all ages.

2. 2 Authentic Problem Based Learning Task

Authentic Learning Experiences engage students in their learning and help them develop essential competencies of the 21st century. These skills, which include critical thinking, collaboration, communication, and creativity, also provide students with a framework for contextualizing or understanding their learning experiences. Developing these skills prepares students for college, careers, and other parts of life, and helps students see their education from a world perspective outside the classroom, not just as an exercise to be completed in the classroom. The differences between authentic learning and simulations can be seen in Table 1.

Table 1: Differences Between Simulations and Authentic (Laur, 2013)

Simulations	Authentic Learning Experiences
Let's pretend	Purpose-driven
Activity-based	Extended learning
Content knowledge application is limited	Promotes depth of knowledge throughout the process
Read about experts	Expert involvement
Replication	Innovation
Classroom production	Community or global audience
Focus on teacher assessment	Focus on audience assessment

Table 1 shows that authentic learning brings real-world instead of artificial problems into the classroom so that students are encouraged to find creative solutions to the problems. Besides, students in authentic

learning not only read expert opinions but are involved as experts, not only repeating something that other people have found but innovating through authentic activities. What is being solved is that problems that occur in society or in other words global problems that occur outside the classroom. This activity involves audience assessment, not just teacher assessment (Laur, 2013).

The products developed in this study authentic problem-based learning activities. The stimuli used to trigger authentic learning activities are continuous text (in sentences), non-continuous text (tables, images, graphics, infographics), visual and audiovisual, mixed (for example, continuous text and graphics). The selected text can be in the form of a single text, which is the text that comes from one source or multi-text, that is, text that comes from multiple sources. The text is digital because it is presented online. The type of text used is a literary text and informational text (Martin & Rose, 2008). The contents of the text are tailored to the needs of students, which are related to personal problems (fiction, personal letters, biographies, e-mails, WA, blogs, social media), public issues (news, announcements, public rules), educational issues, and work.

The authentic learning activity in the language learning model consists of five units. Each unit discusses one text, namely unit 1. procedure text, unit 2. advertise text, poster, and slogan, unit 3. description text, unit 4. narrative text, and unit 5. exposition text. Each unit contains four of the following activities: (1) observe an authentic phenomenon that happens to our environments, (2) identify the problem, (3) give solutions, and (4) express the solution in a variation mode of communication.

In the first activity, observe an authentic phenomenon that happens to our environments. The stimulus is in the form of authentic texts that can be found around the students. Stimulus in the form of continuous text (in sentences) or non-continuous (graphics, tables, infographics), or mixed (a combination of continuous and non-continuous text). In this activity, students are asked to read or observe the text carefully and

then ask as many questions as they can about what they want to know or ask. From these stimulants, one problem is chosen to be analyzed and a solution is found, then students are motivated to discuss the problem solving, synthesize the results, then report the results in various interesting modes.

3. Research Methods
3.1 Research Design

In line with the objective of the study which was to examine expert and practitioner validation on authentic problem-based learning tasks prototype in promoting student's creativity, this study was categorized as a qualitative study. The data were collected in the form of words and no treatment was done to the data (Bogdan & Biklen, 2007).

3.2 Data and Sources of Data

The data collected in this study were in the form of verbal data that included comments, criticisms, and suggestions from the expert and practitioner teams. The sources of the data were 14 learning experts and 18 practitioners/teachers who served as the validators in this study. Experts from various disciplines were invited from Universitas Negeri Malang. They were currently involved in the Development Team in The Leading Integrated School of Tana Tidung Regency. Meanwhile, the practitioners consisted of teachers who were teaching different subjects in The Leading Integrated School of Tana Tidung Regency, South Borneo, Indonesia. The details on the experts and practitioners can be seen in Table 2 and Table 3.

Table 2: Details of the Experts' Learning Expertise

No.	Expertise	Number of experts
1.	Language Learning	3
2.	Humanities and Social Learning	6
3.	Mathematics and Science Learning	5
	Total	14

Table 3: Details of the Practitioners' Learning Expertise

No.	Expertise	Number of practitioners
1.	Language Teachers	6
2.	Humanities and Social Teachers	6
3.	Mathematics and Science Teachers	6
	Total	18

3.3 Data Collection

The product prototype in the form of authentic problem-based learning tasks was displayed and simulated by the Researcher Team in an interactive virtual zoom session and validated by 14 experts and 18 practitioners/teachers. The validation was done through self-evaluation using an assessment guide.

3.4 Research Instruments

An assessment guide was used by the experts and practitioners to conduct a self-evaluation. The assessment guide contained a table that helped the experts and practitioners evaluate four aspects including their first impression on the quality of learning, their impression on the quality of the stimulus, their impression on the quality of the tasks and comments, criticisms, and suggestions on the entire learning process. Texts were used as a stimulus to encourage students to think and conduct learning. The texts were multi-texts in nature; therefore, they could be in the form of infographics, audio texts, audio-visual texts, continuous texts, or the combination of two or three text types. The tasks were in the form of learning steps that must be carried out by learners to achieve learning outcomes, namely the development of students' creativity.

3.5 Data Analysis

The data were analyzed using a thematic analysis technique that was conducted by grouping similar comments, criticisms, and suggestions, then analyzing them based on their trends seen from the percentage of the assessment results. The grouping was focused on four aspects, namely: (1) the experts' and practitioners' first impression on the product after watching the shows and learning simulations, (2) the quality of the stimulus in triggering the development of students' creativity, (3) potential tasks reflected in the steps of learning to develop students' creativity, (4) suggestions for the improvement, comments, criticism of all aspects of learning.

4. Result and Discussion
4.1 First Impression

The participants of this study, namely 14 learning experts from the fields of language, humanities, mathematics, and science and 18 teachers from the language, social and humanities, mathematics, and science groups were asked to be involved in virtual authentic problem-based learning activities and use the self-evaluation instrument to assess the quality of the learning simulations. In the first session, a stimulus was shown in the form of a bicycle image and presented related to the regional conditions or areas that require problem-solving, such as the following example.

Researcher	In Tana Tidung Regency, the water area is wider than the land. The fastest transportation to other districts is by water, namely by speedboat, which is quite expensive. How do you solve this problem? Can bicycles solve the problems faced by the Tana Tidung community? *Cycling is usually done on a solid foundation, such as land. Can you ride on water?*
Participant 1	It's impossible.
Participant 2	It can happen, but how?
Participant 3	It's difficult to do it.
Researcher	Playing a video about cycling on water.

After the video about water bikes was played, almost all participants (90.62%) gave an amazing impression after seeing the simulations presented by the research team regarding authentic problem-based learning. They stated that there was a simple, straightforward way to trigger students' creativity by asking questions related to big and imaginative, and creative ideas.

4.2 The Quality of the Stimulus

In the second session, the researcher presented various local problems experienced by the community and daily personal problems around the participants. An example of a social problem was the problem experienced by fishermen related to the significant decrease in the catch of giant prawns, while an example of a personal problem shown was a picture of an old shoe rack displayed beside the entrance to the house. After reading or observing the stimuli, the participants were asked to ask wondering questions, identify the problems, find the best solutions to these problems, and interestingly communicate the solutions. After that, each participant was asked to use a self-evaluation instrument to assess the quality of the impressions and the learning simulation that had been implemented.

Based on the research findings, 72.12% of participants stated that the stimulus in problem-based learning had the potential to generate unique, useful, new, and out-of-the-box ideas. Meanwhile, 27.18% of participants agreed that guiding questions or examples had the potential to support the effectiveness of the stimulus to help students generate unique, new, and useful ideas.

4.3 The Quality of the Learning Steps

Authentic problem-based learning consisted of four steps: (1) observe an authentic phenomenon that happens to our environments, (2) identify problems, (3) give solutions, and (4) express the solution in a variation mode of communication. The research data showed that 81.25% of participants agreed that the learning steps were simple and feasible and that the solutions required for the problems had the

potential to foster students' creativity. Meanwhile, 18.75% of participants were not quite convinced with the potential of the four steps for creativity development if they were not assisted with the examples of creative solutions.

4.4 Experts and Practitioners' Recommendations

The suggestions, comments, and criticisms provided by the experts and practitioners are presented in Table 4 and Table 5.

Table 4: Expert Recommendations

No.	Expert Recommendations
1.	Provide a column to accommodate participants' questions.
2.	When the courage to ask appears, leads participants to more critical and creative inquiries.
3.	Invite participants to ask investigative questions.
4.	Encourage participants to develop challenging solutions.
5.	Ask participants to express their findings in an interesting manner using multiple modes.
8.	My impression is that participants are not encouraged to discover for themselves how they should find answers to their questions. A teacher needs to ask participants questions that can trigger them to find their ways of conducting the solutions.
9.	The additional example of problem and solution used to generate creative ideas that contain novelty and uniqueness is provided as follows: the poster has been used in the school, but many school members do not comply. One reason is that the procedure seems mundane. How can the poster be changed (added, reduced, or rearranged) so that all school members can comply with the protocols?

Table 5: Practitioner Recommendations

No.	Practitioner Recommendations
1.	There must be some prior knowledge or guiding questions for students to generate creative ideas.
2.	There must be some prior knowledge or guiding questions for students to generate creative solutions.

Discussion

The results of the expert and practitioner validation showed that the majority of the participants agreed that the stimuli provided in the problem-based learning had the potential to generate unique, useful, new, and out-of-the-box ideas. Similarly, the stimuli and the learning steps were also useful to develop students' creativity. For the participants to generate creative ideas and solutions, scaffolding needed to be provided in the form of examples, models, or guiding questions.

Scaffolding or mediated learning is a theory put forward by Vigotsky, specifically related to the idea of the Zone of Proximal Development. According to Vigotsky, the level of development of the child's ability is in two levels, namely the level of actual ability (which the child has) and the level of potential ability (which can be mastered by students). The zone between the actual and potential ability levels is called the Zone of Proximal Development. To reach that potential ability level, students need a ladder or bridge to reach it. One of the steps is assistance from a teacher in the form of user support or assistance step by step in learning and problem-solving. The variety of assistance given depends on the level of difficulty experienced by students, for example: breaking down assignments into smaller ones, organizing sections, inviting rethinking, discussing thought processes if the assignment is complex, carrying out cooperative learning, carry out dialogue in small groups, giving concrete instructions, doing question and answer, giving key cards, or modeling. Besides, assistance can be provided in the form of activating students' background knowledge, providing tips, strategies, and key procedures for carrying out assignments or solving problems faced by students. This assistance is provided for students to overcome their frustration in doing a difficult assignment or achieving a complex skill.

5. Conclusions and Suggestions

Authentic problem-based learning tasks were developed to foster students' creativity. Activities were developed by presenting a stimulus in the form of continuous text, non-continuous text, or a combination of both. The stimulus was used to foster students' curiosity through the questions asked. The stimulus was chosen based on the real-world situations surrounding the students. After the stimulus was provided, the students were asked to observe an authentic phenomenon that happens to our environments, identify problems, give solutions, and express the solution in a variation mode of communication. The problem-solving stimulus and learning steps developed in this study were considered the potential for the development of novel and unique ideas. Scaffolding questions and scaffolding activities need to be provided at the beginning of the lesson to familiarize students with learning activities that require higher-order thinking skills.

Considering the importance of authentic problem-based learning activity in fostering student' creativity, it is strongly recommended that teachers in all subject matter can apply this activity in the classroom to create meaningful learning experiences and make creativity the primary goal of learning.

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