International Journal of Advanced Educational Research
ISSN: 2455-6157; Impact Factor: RJIF 5.12
Received: 03-10-2020; Accepted: 17-10-2020; Published: 07-11-2020
www.educationjournal.org
Volume 5; Issue 6; 2020; Page No. 10-14

The learning planning of instructional thematic tasks design in democratic learning management

Jeane C Rende[1], JAM Rawis[2], Henny Tambingon[3], Treesje K Londa[4]
[1] Physics Department, Faculty of Mathematics and Natural Sciences, Manado State University, Indonesia
[2, 3, 4] Manado State University, Indonesia

Abstract
This article presents a planning / design section in a thematic task-based democratic learning management system, which is implemented in the Tahuna City area. This research has an integrated focus, namely exploration of learning objects with the theme of flooding and exploration of learning management that supports groups of students to interact democratically in exploring objects, phenomena, issues in the theme of flooding. This study uses an exploratory research method with an inductive approach. The process of democratization of learning is built through group interaction in the implementation of field activities and the preparation of group reports. The results obtained in management for thematic assignment instructional learning planning activities produce designs for field activities in the form of exploration of the flood phenomenon which are divided into 9 activities, meeting plans for field activities, data collection formats as well as interaction and exploration assessments. The results of this design are ready to be followed up on further management functions.

Keywords: Learning management, democratic learning, thematic, exploration

Introduction

Students experience the same local phenomenon, but differ in understanding it. These similarities and differences in experiences, understandings, and needs become materials for building communication and learning activities together. Democratic education according to Neill[1] is learning to students about the environment where they and the teachers are together to carry out learning activities. Dewey argues that learning must be based on experience where intelligence is developed and directed in the form of individual and community learning activities[2].

The environment around students: physical, social and cultural communities build experiences and bring up challenges that should be developed into learning materials - interactive with classroom learning [3]. Challenges and curiosity about facts, phenomena and issues that develop in the environment must be answered through education in schools. It is important for science educators including physics to understand that student behavior in the classroom is influenced by the knowledge they have from outside into the classroom[4]. Thematic learning is a new concept in pedagogy, and is a new method of integrating various concepts related to everyday life and children's experiences in one curriculum.

Problems that arise in everyday life such as floods, landslides, etc., are closely related and can be explained by scientific concepts and processes. The process of exploring context or objects is continued with exploration of scientific concepts and processes through thematic assignments based on field observations and measurements, which are a form of integration of knowledge and values in society with learning in schools. Democratic learning that explores facts, phenomena, and issues in society and has become the experience of children having an integrated side of knowledge, skills and values.

The results of observations made through the results of early 2013 research in three sub-districts in Sangihe District show that field activities involving junior and senior high school students can build learning communication, initiative for discussion, efforts to obtain information or knowledge from parents, teachers and student researchers. This research develops thematic task-based democratic learning, by optimizing the interaction of learning and exploration of objects, concepts and scientific processes.

Democratic learning innovations that emphasize the exploration of objects, concepts and scientific processes through thematic assignments face the challenges of learning management that support the democratization process of learning and the development of exploratory learning abilities. The purpose of this study was to produce a learning management function, namely learning planning regarding thematic task instructional design in democratic learning management.

Theorytical Framework

Thematic learning is a method of organizing learning around a theme or topic that makes it possible to integrate instruction across subject areas. Thematic learning is a new concept in pedagogy, and is a new method of integrating various concepts related to everyday life and children's experiences in one curriculum. This learning departs from the learning theory that rejects the process of memorizing training as the basis for the formation of children's intellectual structures and knowledge. This learning theory is driven by Gestalt psychology figures, (including Piaget's theory) who emphasize that learning must be meaningful and also emphasize the importance of learning programs that are oriented towards children's development needs. The use of the surrounding environment related to strategic issues is a source of learning that can be packaged into thematic learning designs[3].

Exploratory learning is a learning method for creating new ideas and knowledge that are adapted to environmental changes through continuous experimental activities. The

freedom to learn outside the classroom about contexts that have become students' experiences makes students enjoy exploratory activities that can improve the quality of their experiences[5]. The exploratory learning process generates knowledge with high validity, providing new and innovative ways to analyze reality [6].

The combination of explorative-democratic-thematic learning that was developed in the collaboration of explorative-democratic learning research in 2015 until now is a learning model based on experience and observation of objects in the surrounding environment. The strategic themes that exist in the surrounding environment that have become experiences.

Management is a typical process aimed at achieving a goal effectively and efficiently using all available resources [7]. Learning management is defined as an effort to manage learning which includes planning, implementing, and evaluating learning as well as monitoring in order to achieve learning goals effectively and efficiently [8]. Planning is thinking about what to do with the resources they have. Planning is done to determine the overall goals of the company and how best to meet those goals. Planning is the most important process of all management functions because without planning, other functions cannot run [9].

Method

The research method used is an exploratory method with an inductive approach, which is an approach by drawing general conclusions from real facts in the field. Sources of data in this study were informants (school principals, teachers, parents, school committees), natural objects, and documents. Data collection techniques through interviews, observation and documents with data analysis techniques, reduction, presentation, drawing conclusions.

Results

The theme of the assignment theory being developed and researched is flood. This theme is relevant to the conditions of Tahuna city and its surroundings which are often hit by floods. Students and teachers in the area of Tahuna city and its surroundings directly experienced the impact of the floods and are assumed to have experiences that are challenging and require scientific explanation.

Thematic Task Instructional Design

The basic instructional materials prepared by the researcher include nine activities, as follows:

- **Activity 1:** Definition of floods, types of floods, influencing factors, and impacts of flooding.
- **Activity 2:** Global warming and its impact on flooding
- **Activity 3:** Forest ecological function in flood control
- **Activity 4:** Studying the infiltration process and field observations
- **Activity 5:** Studying the function of land cover crops
- **Activity 6:** Analyze the problem of silting and narrowing of river flows and their impact on the increase in the impact of flooding
- **Activity 7:** Identify (observe) the silting and narrowing of waterways, direct and indirect causative factors, and categories of causative factors.
- **Activity 8:** Identification & analysis of government policies / programs, local wisdom, community behavior related to the use of a river equivalent and flood control
- **Activity 9:** Commitment of students in flood control

Other developments include measuring and analyzing infiltration capacity in: (1) open land without land cover, (2) land with surface cover in the form of grass or shrubs, and (3) land overgrown with trees. The selected land has a slope of 0º - 30º. In developing the design, the teacher identifies parents or community leaders who are the sources of information. Communities involved in the development of instructional designs are people who are considered to have experience and formal or traditional knowledge in handling flood problems.

Preparation of Field Activity Plans

Learning activities differ between activities, so the teacher and the researcher design meetings:

Table 1: Design meetings and thematic task instructional activities

Meetings	Activities	Allocation of learning activities	
		In the field (hour)	In class and at home (hour)
1	Activity-1	1 hour	2 hours 30 minutes
2	Activity-2	1 hour	2 hours 30 minutes
	Activity-3	2 hours	2 hours
3	Activity-4	3 hours	2 hours
4	Activity-5	2 hours	2 hours
	Activity-6	2 hours	2 hours
5	Activity-7	4 hours	3 hours
6	Activity-8	2 hours	2 hours
	Activity-9	-	2 hours

Field activities are the beginning of a series of learning activities, which are designed for six meetings. In each meeting, group activities include: (1) preparation, (2) implementation (observation and measurement), (3) data analysis and report preparation, (4) cross-group report presentation, (5) report revision based on input from facilitators and groups other. Preparation for field activities includes: (1) discussing instructional designs, (2) dividing the assignments of group members, (3) designing strategies and stages of implementing field activities, (4) training in filling out the format and presenting field information / data, evaluating the availability of facilities / equipment. The implementation of field activities includes: (1) observing and recording phenomena or problems related to instructional theories and activities, (2) obtaining issues related to problems, causes and impacts of floods, (3) measurement and calculation (for example, channel dimensions, etc.).

The data analysis and report preparation activities were carried out by groups facilitated by teachers and the research

team. Assessment of the performance of field activities is based on assessment of activities such as measurement, the process of validating measurement methods, etc., and assessment of the quality of group reports. The evaluation of the quality of the report by the facilitator is based on the following indicators: (1) percentage of assignment theory coverage, (2) ability to analyze and describe phenomena, (3) ability to formulate concepts and describe scientific processes, mastery of field activity procedures, (4) ability to present data and interpret data, (5) the ability to connect experiences with scientific concepts and processes, (6) the ability to interpret scientific values in society. The assessment scale uses a score range of 0 - 10.

Design of Field Activity Performance Appraisal Format

Analysis of performance data for field activities per meeting using a format such as Table 2.

Table 2: Format for Collecting and Analyzing Field Activity Performance Data

Meetings / Activities	Performance indicators	Group Score (x)					Mean	σ_x
		Group-1	Group-2	Group-3	…	…		
1	(1)							
	(2)							
	(3)							
Etc								

The format of Table 2 produces the mean score and variance of the entire group score per indicator at each meeting. Data and analysis of learning interaction data in groups were obtained from recording the frequency of interactions within each group in a series of activities: field observations, report preparation and report presentation between groups. Statements or questions raised by group members are classified into three categories of interaction: (1) asking questions or opinions; (2) building togetherness and group cooperation, and (3) initiatives to develop tasks and activities outside of scheduled activities.

Design of Inter-group Interaction Assessment Format

Field activities and the results of exploration of objects, concepts and scientific processes are carried out with the aim of providing input on improved reports, sharing experiences and knowledge between groups, practicing scientific communication and strengthening democratic interactions. In democratic interaction between groups, three categories of interaction are formulated, namely: (1) preparing the group to respond to other groups, (2) presenting group responses to the group presenting activity reports, and (3) analyzing input from other groups and formulating responses to input other groups.

The democratic interactions that become a reference for assessing the readiness of the group in responding to the exposure of other groups are: (a) involving all members to identify parts of the exposure of other groups, (b) analyzing and making agreement on the formulation of response theory, (c) discussing the suitability of the formulation of responses to the work the group itself as a reference for input presented to the group that explains.

For the category of expressing responses to other groups, the democratic indicators are: (a) arranging the rotation of group members to convey group opinions, (b) discussing how to express opinions so as not to offend and can build open and democratic communication.

For the category of analyzing input and giving feedback, the democratic indicators are: (a) recording, analyzing and evaluating together the input which is considered to improve the quality of the group report, (b) jointly formulating the report's revised responses and appreciating the input of other groups, (c) formulating a statement of response feedback for other group responses that were rejected, (d) arrange rotation of group members to submit feedback. Table-3 is a format for data acquisition of interactions between groups.

Table 3: Interaction data collection format between groups

Meetings/Activities	Group	Frequency of asking questions and responses, by interaction category and indicator								
		Category-1			Category-2		Category -3			
		In-1	In-2	In-3	In-1	In-2	In-1	In-2	In-3	In-3
1	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
2	etc									

Based on the data conducted by the group of students and validated by the results of the facilitator's entries, data analysis was carried out to determine the development of the intensity of the interaction (mean and variance).

Table 4: Format of interaction data analysis between groups

Meetings	Activity	Group	Indicator Score								
			Category-1			Category-2		Category -3			
			(1)	(2)	(3)	(1)	(2)	(1)	(2)	(3)	(4)
1	1	1									
		2									
		3									
		4									
		5									
	Mean score										
	score variants										
	etc										

From the table above, a graph of the group's average score from the initial meeting to the last meeting will be displayed, per interaction category and its indicators.

Design of Exploration Abilities Assessment Format

The individual exploration ability score is based on answers in four stages of exploration, namely:

(1) Exploration stage-1: Identifying facts, phenomena and issues about the object being studied.

(2) Exploration stage-2: Describing in detail the characteristics of facts, phenomena and issues as well as the relationship with each other, the factors that influence or control the condition of the object.

(3) Exploration stage-3: Identifying physics and science concepts that apply to facts, phenomena and issues, identifying variables, formulating relationships between variables based on physical and scientific concepts.

(4) Exploration stage-4: Formulating a network of concepts of physics and science and formulating the whole scientific process so that a scientific description of the object is produced.

The data analysis format for exploration ability is presented in Table 5.

Table 5: Format of data analysis on the ability to explore objects, concepts and scientific processes

Meeting	Object/Activity	mean score and variance mean of exploration ability							
		Object identification		object description		concept identification		formulation of concept networks	
		mean	variance	mean	variance	mean	variance	mean	variance
1	1								
2	2								
3	3								
4	4								
5	5								
6	6								

Furthermore, from the results of the analysis of the determination of the mean and variance of scores, a graph of the development of the mean and variance can be presented from the initial meeting to the final meeting. An average graph can provide clues to which meetings or activities have low and high average scores. The graph of the development of the variance of the exploration ability score can provide clues to the diversity of the ability to explore and reflect the extent to which the impact of democratic learning interactions increases the ability of individuals to explore.

Discussion

Planning in learning management in the design of instructional activities for thematic tasks in groups with field activities to optimize learning interactions that can build learning communication, initiatives for discussion, efforts to obtain information and integrate experiences about natural phenomena into learning. This research develops thematic task-based democratic learning, with exploration of scientific objects, concepts and processes.

The results of learning planning include: 1) Thematic task instructional design, which is organized into nine activities related to the flood phenomenon; 2) Compiling the design of field activities into six meetings with different time allocations; 3) The design of the field activity performance appraisal format with three interaction category indicators; 4) The design of the interaction assessment format between groups, which is divided into three categories and in each category three indicators are assessed; 5) The design of the exploration ability assessment format, with the individual exploration ability score based on answers in four stages of exploration. This learning planning received good support from the government, school principals, teachers, and the local community.

Waite [10] suggests that freedom of thought in a pleasant atmosphere can increase learning initiative and the ability to apply what is learned. Learning planning is a systematic process that analyzes the needs of students and arranges possibilities related to needs [11]. Planning for fun learning is designed in this study, where students have the opportunity to exchange ideas in group interactions, and apply what they have learned from natural phenomena, namely floods.

Planning field activities that have been designed by researchers provide an important role to support advanced learning activities. This design provides direction for activities so that students can build competence and improve learning abilities, as well as assist teachers in learning innovation.

Conclusion

Thematic task instructional planning planning in learning management carried out with the group resulted in a design for the exploration of the flood phenomenon which was divided into 9 activities. This design is divided into 6

meetings with different time allocations for learning activities in the field and in the classroom or at home. Development of materials and activities in the form of simulations of field activities, training in data processing and presenting graphics, preliminary discussion of scientific concepts and processes before carrying out field activities.

Acknowledgment
The author would like to thank the team of Physics Department lecturers who have participated in the development of explorative-democratic-thematic learning. Thanks also to Tahuna city government, school principals, teachers, school administrators, and the community involved.

References

1. Neil. Summerhill School: A New View of Childhood, 1993.
2. Eldeeb R. Review and Critique of the book "Education and Experience" by John Dewey". IOSR Journal of Research & Method in Education (IOSR-JRME). 2013; 1(2):44-47.
3. Medellu CS. Perancangan Tugas Tematik dengan Pendekatan Sosiosaintik, LP2AI UNIMA, 2015.
4. Redish EF. The role of context and culture in teaching physics: The implication of disciplinary differences. Paper presented at the World Conference on Physics Education, Baheçeşehir University, Istanbul, Turkey, 2012.
5. Waite S, Davis B. The contribution of free play and structured activities in Forest School to learning beyond cognition: An English case. In Learning beyond cognition, ed. B. Ravn and N. Kryger, 257–74. Copenhagen: the Danish University of Education. 2007.
6. Reiter B. Theory and Methodology of Exploratory Social Science Research. International Journal of science and research methodology (Ijsrm). 2017; 5(4):129-150
7. Terry H. Operations Management. Retrieved from CiteSeerX, 2005.
8. Ardiansyah. Faktor-faktor yang Mempengaruhi Luas Pengungkapan Enterprise Risk Management. Jurnal Ekonomi, Manajemen dan Akuntansi, 2014, 23(2).
9. Henry F. General and Industrial Management. Ravenio Books, 2016.
10. Waite S. Teaching and learning outside the classroom: personal values, alternative pedagogies and standards. Education. 2011; 39(1):65–82.
11. Yuspen. Faktor Pendukung Keberhasilan dalam Pembelajaran, 2010. Retrieved from: http://psbpsma.org.