



/<u>ISSN 2548-8201</u> (Print) / <u>2580-0469</u> (Online) /

## Design Model for Cooperative Management Learning Material Development in the Digital Era

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#### **Abstrak**

Penelitian ini dilatar belakangi oleh pentingnya bahan pembelajaran dalam mendukung proses dan hasil belajar. Penelitian ini bertujuan untuk mengembangkan Bahan Pembelajaran Manajemen Koperasi di Era Digital. Metode penelitian yang digunakan adalah Model R & D Borg and Gall. Instrumen yang digunakan dalam penelitian ini adalah check list, kuesioner, pretest dan post test serta uji pakar. Teknik analisis data yang digunakan adalah hasil post test, nilai rata- rata mahasiswa, hasil validasi oleh pakar dan ujicoba lapangan. Hasil penelitian ini menunjukan bahwa 1) Hasil Kategori Lokasi UPBJJ UT terdiri dari UPBJJ UT Bandung 21,1%, UPBJJ UT Bogor 36,8%, UPBJJ UT Purwokerto 5,3%, UPBJJ UT Serang 15,8%, UPBJJ UT Surakarta 15,8%, Yogyakarta 5,3%, 2) hasil penilaian Main Field Testing Model Rancangan Pengembangan Bahan Pembelajaran Manajemen Koperasi di Era Digital rata-rata menyatakan baik/positif dan sangat baik/sangat positif, dan 3) Hasil telaah pakar menyatakan uraian bahan ajar mudah dan dapat dipahami.

Keywords : Pengembangan, Bahan Pembelajaran, Manajemen Koperasi, Era Digital

#### **Abstract**

This research is motivated by the importance of learning materials in supporting learning processes and outcomes. This study aims to develop Cooperative Management Learning Materials in the Digital era. The research method used is the Borg and Gall R & D Model. The instruments used in this study were check lists, questionnaires, pretest and post test and expert test. The data analysis technique used is the post test results, the average student score, the results of validation by experts and field trials. The results of this study indicate that 1) The results of the UPBJJ UT Location Category of UPBJJ UT Bandung 21.1%, UPBJJ UT Bogor 36.8%, UPBJJ UT Purwokerto 5.3%, UPBJJ UT Serang 15.8%, UPBJJ UT Surakarta 15.8%, Yogyakarta 5.3%, 2) the results of the Main Field Testing Model for the Design of Cooperative Management Learning Material Development in the Digital Era stated that the average was good/positive and very good/very positive, and 3) The results of the expert review stated the description of the material easy and understandable teaching.

**Keywords**: Development, Learning Materials, Cooperative Management, Digital Era

#### Introduction

Research on Learning Materials in the digital era lasted for three years, this year is the second year of R & D activities for Learning Materials in the digital era in the UT era for the PKOP4316 Course in Cooperative Management in the digital era. This second year of research consists of carrying out conventional, Blended and fully online Learning Materials, by experts in their fields and to students majoring in PIPS who are taking the PKOP4316 Cooperative Management Course in the digital era at several UPBJJ-UT. It also produces the final product of UT Learning Materials in conventional, Blended and fully online forms. Continuation of the second year of research with the first year, namely 1) the first year carries out steps 1 to step 7 which produces learning strategies, blueprints (comprehensive test blueprints) equipped with two sets of formative tests for each module, as the output product of the first year development of UT's new generation of learning materials. 2) the second year carries out the 8th (eighth) step, namely Develop and Select Instructional Materials, based on the design results of the first year, at this stage it produces three forms of Learning Materials in the digital era, namely Conventional. Blended learning and fully online, as a second year output product and an early form of Learning Materials in the UT digital era.

The second year's research is a follow-up to the results of the second year's research & development (R & D) which produces three forms of Learning Materials in the digital era as the initial form (UT) models of Learning Materials in the digital era (UT Learning Materials) which are compiled based on design of learning strategies with approaches, conventional, Blended learning and Fully Online. To produce the final format of UT Learning Materials that can be used by students through formative evaluation, this year

validation and field trials of the second year's research steps are carried out referring to the R & D combination model developed by Borg, Walter R. and Gall, Meredith D (1983) and the R & D model according to Borg and Gall (2007) as in the following diagram.

The focus of the second year of R&D in this research is formative evaluation which includes validation and field trials of the R&D model of UT Learning Materials, for Conventional, Blended learning and fully online by carrying out step 8 to step 15 with the following steps 1 ) Preliminary Field Testing was held at Central UT and its surroundings, which involved experts and three students who had taken PSOS4103 Geography & Environmental Conservation in PIPS with qualifications of high learning achievement scores (above 2.5), moderate (2, 2-2.4), and low (2.0-2.1). To validate the initial format of Learning Materials that have been produced in the second year of R & D, 2) Preliminary Product Revision (revisions 1 & 2) are carried out by a team of developers (complete) who work together in groups and in an organization led by researchers so as to produce the initial format of Learning Materials second version (after revisions 1 & 2). In accordance with proportional (conventional, blended, and fully online ), 3) Main Field Testing of (5-15 UPBJJ) with the criteria of UPBJJ areas with very good, moderate, and very poor/weak internet access. Each UPBJJ involves 20-30 students in the learning process. In addition, tutors for TTM, TUTON, and Learning Managers at UPBJJ were also involved. To assess Learning MATERIALS and recommend improvements to Learning Materials in the digital era, 4 ) Operational Product Revision (revision 3) is carried out by a (complete) development team who work in groups and are organized by researchers. For this revision, proportion of the material is in accordance with the provisions in the table for each learning format ( conventional ), 5 ) Operational Field Testing is selected (9-20 UPBJJ). For this trial, each of the 3 UPBJJs with very good, moderate, and very poor/non-existent internet access was selected. Respondents were selected 30-40 students from each UPBJJ. They together with the TTM, Tuton, and UPBJJ learning managers recommended improving the Learning Materials for the fourth time, 6) The Final Product Revision Stage (4th revision) was carried out by the (complete) development team who worked in groups and were organized by researchers. The results of the revision of this stage are the final product of Learning Materials that are ready to be disseminated and implemented , 7) Dissemination and Implementation Stage . This activity can be carried out through national or regional seminars at Central UT and at UPBJJ with Video Conferences by presenting local stakeholders of at least 50 people.

The purpose of this study was to get input from experts and students about Learning Materials in the digital era for the PKOP4316 course Cooperative Management in the digital era and to produce the final Product Learning Materials in the digital era in the digital era UT Conventional, Blended Learning and Fully Online for the PKOP4316 Cooperative Management course in the digital era module 1 to module 9.

#### Method

The research method used is the Borg and Gall R & D Model (2007). In the second year of this research, the Development and Testing of Learning Materials in the conventional, Blended and Fully Online UT digital era for PKOP4316 Cooperative Management in the Digital era refers to steps 8 – 15 of the R & D model developed by Borg, Walter R. and Gall, Meredith D. (1983) for the macro scale, and the R & D

model according to Borg and Gall (2007) for the micro scale.

The instruments used are 1) Check list of observation tools for implementing learning and tutorials using a portion (sample), 2) Questionnaire on student and tutor perceptions about Learning Materials in the digital era and learning processes using samples, 3 ) Increase from pretest to post test results learning, and 4 ) Instruments are made to obtain validation regarding Learning Materials in the digital era in the UT digital era which consists of three forms namely Conventional, Blended and fully Online including experts in various fields namely content experts, Learning Design Experts, Design Experts Audio Visual , Web Design Expert and Communicative Language Expert.

Data analysis used a) Comparing posttest results of students using Learning Materials samples in the digital era MK PKOP4316 Cooperative Management in the Digital era, b) with the average student scores in recent years in the same module sample, and c) Validation results by experts and field trials by students who took the PKOP4316 Course in Cooperative Management in the Digital Era were analyzed descriptively qualitatively against Learning Materials in the conventional digital era, Blended learning and fully online.

#### **RESULTS AND DISCUSSION**

Based on the results of filling in the instrument to obtain student assessments regarding the learning design model for the PKOP4316 Course in Cooperative Management in the Digital era, the following results are obtained:

Semester saat ini 19 responses

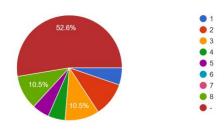


Figure 1. Semester Category Results
Recap

Table 1. Recapitulation of UPBJJ UT Location Category Results

- NI -	1 4 4	A t	D
No	Location of	Amount	Percentage
	UPBJJ UT		
1	UPBJJ UT	4	21.1
	Bandung		
2	UPBJJ UT	7	36,8
	Bogor		
3	UPBJJ UT	1	5.3
	Purwokerto		
4	UPBJJ UT	3	15.8
	Serang		
5	UPBJJ UT	3	15.8
	Surakarta		
6	Yogyakarta	1	5.3
	Total	19	100

Source: Data Processing Results, 2023

The percentage for the results of the Main *Field Testing Assessment* Model for the Development of Learning Materials for the PKOP4316 Course in Cooperative Management in the Digital era are as follows:

1. Question 1: Conformity between competency achievements and material content

Table 2. Recap Questions 1

Scoring scale	Amount	Percentage
Student	Amount	reiteiltage
1	0	0
2	0	0
3	0	0
4	8	42.1
5	11	57.9

Total	19	100

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the suitability factor between competency achievements and the content of the material in the learning material development design model for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 42.1% stating good/positive and 57.9% stating very good/very positive.

2. Question 2: Level of difficulty of the material with competency gains

Table 3. Question 2 Recap

rable 5: Question 2 necap		
Scoring scale Student	Amount	Percentage
1	0	0
2	1	5.3
3	8	42.1
4	6	31.6
5	4	21.1
Total	19	100

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the factor of the difficulty level of the material with competency achievement in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% declared bad, 42.1% stated sufficient, 31.6% stated good/positive and 21.1% stated very good/very positive.

3. Question 3: Compatibility of competency outcomes with Formative Tests

Table 4. Question 3 Recap

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	1	5.3
4	10	52.5
5	8	42.1
Total	19	100

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the suitability factor between competency achievements and formative tests on the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% stating sufficient, 52.6% stating good/positive and 42, 1% stated very good/very positive.

4. Question 4: Appropriateness of time for implementing the student learning process with this MK learning material

Table 5. Question 4 recap

Table 3. Question Treeap		
Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	1	5.3
4	10	52.5
5	8	42.1
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the suitability factor for the time of implementing the student learning process with learning materials in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% stating sufficient, 52.6% stating good/positive and 42.1% stated very good/very positive.

5. Question 5: Suitability of the Material with the Implementation of the TTM/Tuton process

Table 6. Question 5 Recap

Table 0. Question 3 Necap		
Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	1	5.3
4	12	63.2
5	6	31.6
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the suitability factor of the material with the implementation of the TTM/Tuton process in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a value of 5.3% stating sufficient, 63.2% stating good/positive and 31.6% stated very good/very positive.

6. Question 6: The attractiveness of the physical form of learning materials

Table 7. Question 6 recap

Scoring scale Student	Amount	Percentage
1	0	0
2	1	5.3
3	5	26.3
4	6	31.6
5	7	36.8
Total	19	100

Source: Data Processing Results, 2023

From filling out questionnaires by 19 students at UPBJJ, the attractiveness factor of the physical form of learning materials in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% stating bad, 26.3% stating sufficient, 31.6% stating good/positive and 36.8% stated very good/very positive.

7. Question 7: Ease of material in learning materials

Table 8. Question 7 recap

Scoring scale Student	Amount	Percentage
1	0	0
2	1	5.3
3	4	21.1
4	6	31.6
5	9	47.4
Total	19	100

Source: Data Processing Results, 2023

From filling out questionnaires by 19 students at UPBJJ, the factor of ease of material in learning materials in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 21.1% stating sufficient, 31.6% stating good/positive and 47.4% very good/very positive

8. Question 8: The systematic coherence of material in learning materials

Table 9. Question 8 recap

Amount	Percentage	
0	0	
0	0	
1	5.3	
9	47.4	
9	47.4	
19	100	
	0 0 1 9	

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the systematic coherence factor of the material in learning materials in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% stating sufficient, 47.4% stating good/positive and 47.4% stated very good/very positive.

Question
 Usefulness/illustrations/pictures/gra phics in helping understanding the material

Table 10. Question 9 recap

Amount	Percentage
0	0
1	5.3
4	21.1
6	31.6
8	42.1
19	100
	0 1 4 6 8

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the usefulness/illustration/image/graphic factors in helping understanding the material in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% which was declared bad, 21.1% was considered sufficient, 31.6% stated good/positive and 42.1% stated very good/very positive.

10. Question 10: Relation of the contents of learning materials to tests

Table 11. Recap Questions 10

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	3	15.8
4	7	36.8
5	9	47.7
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the linkage factor between the content of learning materials and tests on the design model for the development of learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 15.8% declared sufficient, 36.8% declared good/positive and 47.4 % declared very good/very positive.

11. Question 11: Student opinion about the benefits of learning materials for life/work

Table 12. Recap Questions 11

rable 121 Hedap Questions 11		
Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	1	5.3
4	9	47.4
5	9	47.7
Total	19	100

Source: Data Processing Results, 2023

From filling out questionnaires by 19 students at UPBJJ, student opinion factors about the benefits of learning materials for life/work in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% for the sufficient category, 47.4% for the category good/positive, and 47.4% for the very good/very positive category.

12. Question 12: Students' attitudes toward the learning process using these instructional materials

Table 13. Recap Questions 12

Table 201 Hedap Questions 22		
Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	3	15.8
4	11	57.9
5	5	20.3
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the factors of student attitudes towards the learning process that uses constructional materials in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 15.8% for the sufficient category, 57.9% for the good category/ positive, and 26.3% for the very good/very positive category.

13. Question 13: Adequacy of learning implementation time

Table 14. Recap of Question 13

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	3	15.8
4	11	57.9
5	5	20.3

Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the adequacy factor in the time of implementation of learning in the learning material development design model for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 15.8% for the sufficient category, 57.9% for the good/positive category, and 26, 3% for very good/very positive category.

### 14. Question 14 : Adequacy of time for the exercise

Table 15. Recap of Questions 14

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	4	21.1
4	11	57.9
5	4	21.1
Total	19	100

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the adequacy factor of the time for carrying out the exercise on the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 21.1% for the sufficient category, 57.9% for the good/positive category, and 21. 1% for very good/very positive category.

## 15. Question 15: Adequacy of time for conducting formative tests

Table 16. Recap Questions 15

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	5	26.3
4	8	42.1
5	6	31.6
Total	19	100

Source: Data Processing Results, 2023

From filling out the questionnaire by 19 students at UPBJJ, the adequacy factor in the time of carrying out the formative test of the design model for the development of learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 26.3% for the sufficient category, 42.1% for the good/positive category, and 31, 6% for very good/very positive category.

16. Question 16: Up to date references to this learning material

Table 17. Recap Questions 16

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	2	10.5
4	8	42.1
5	9	47.4
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the factor of learning material reference updates in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 10.5% for the sufficient category, 42.1% for the good/positive category, and 47, 4% for very good/very positive category.

17. Question 17: Suitability of the Material with the Implementation of the TTM/Tuton process

Table 18. Recap Questions 17

Amount	Percentage
0	0
0	0
2	10.5
9	47.4
8	42.1
19	100
	0 0 2 9 8

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the suitability factor of the material with the implementation of the TTM/tuton process on the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 10.5% for the sufficient category, 47.4% for the good/positive category , and 42.1% for the very good/very positive category.

18. Question 18: Ease of accessing TUTON initiation materials

Table 19. Recap Questions 18

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	1	5.3
4	8	42.1
5	10	52.6
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the ease of accessing TUTON initiation material in the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 5.3% for the adequate category, 42.1% for the good/positive category, and 52. .6% for the very good/very positive category.

19. Question 19: Achievement of uploading the TUTON taskTable 20. Recap Questions 19

Scoring scale Student	Amount	Percentage
1	0	0
2	0	0
3	3	15.8
4	9	47.4
5	7	36.8
Total	19	100

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the achievement factor of uploading the TUTON assignment on the design model for developing learning materials for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 15.8% for the sufficient category, 47.4% for the good/positive category, and 36, 8% for very good/very positive category.

Question 20: Contribution of TUTON scores to UAS scores

Table 21. Recap Questions 20

- rabio III result Questions Is		
Amount	Percentage	
0	0	
3	15.8	
3	15.8	
7	36.8	
6	31.6	
19	100	
	Amount  0 3 3 7 6	

Source: Data Processing Results, 2023

From filling in the questionnaire by 19 students at UPBJJ, the contribution factor of the TUTON score to the UAS score in the learning material development design model for Subject PKOP4316 Cooperative Management in the Digital era obtained a score of 15.8% for the bad category, 15.8% for the sufficient category, 36.8% for the good/positive category, and 31.6% for the very good/very positive category.

The results of the research related to the material expert questionnaire on the Design Model for Development of Learning Materials for the PKOP4316 Course in Cooperative Management in the Digital era are as follows:

#### Results of the Study of the Cooperative Development Module General Impression

The teaching materials are adequate, however, the formulation of ICT, practice questions and evaluations are still not in line

with the TPU with an analytical ability orientation (HOTS), and the description of the material is lacking in illustrations.

#### **Improvement Suggestions**

- 1. Adjusting the competency level (TPK) with HOTS-oriented TPU.
- 2. To facilitate students' understanding of the material, it is necessary to add illustrations in the material description, so it is not full material.
- 3. Practice and evaluation questions must be upgraded to HOTS.

# Results of the Study of General Management and Cooperative Management Modules General Impression

The description of the teaching materials can be understood, but it would be inappropriate if there was a description of the material on "general management" let alone described in 1 special KB, even though the focus for this module 2 is on cooperative management. So that later there is no need for TPK number 4. The practice and evaluation questions are still LOTS.

#### **Improvement Suggestions**

Module 2 should only focus on Cooperative Management, so that KB 1 on General Management can be removed/replaced. So KB 1 and 2 may even have KB 3 with material that focuses on Cooperative Management, so that the description of cooperative management can be more in-depth. Because if KB 1 is about general management, that's actually the material in the Management course, so there's no overlap, it's just omitted.

## Concrete suggestions for Module 2 – Management Cooperative

- KB 1: Basic Concepts of Cooperative Management
- KB 2 : Cooperative Organizational Management
- KB 3 : Management of Cooperative Organizations in the Digital era

#### Results of the Study of the Digital Cooperative Strategy Module General Impression

The teaching materials are adequate, however, the formulation of ICT, practice questions and evaluations are still not in line with the TPU with an analytical ability orientation (HOTS), and the description of the material is lacking in illustrations.

#### **Improvement Suggestions**

Adjusting the competency level (TPK) with HOTS-oriented TPU. To facilitate students' understanding of the material, it is necessary to add illustrations in the material description, so it is not full material. Practice and evaluation questions must be upgraded to HOTS

#### Conclusion

Based on the results described by the authors above, the authors can conclude 1) The results of the UPBJJ UT Location Category consist of UPBJJ UT Bandung 21.1%, UPBJJ UT Bogor 36.8%, UPBJJ UT Purwokerto 5.3%, UPBJJ UT Serang 15.8 %, UPBJJ UT Surakarta 15.8%, Yogyakarta 5.3%, 2) the results of the assessment of the Main Field Testing Model Design Development of Cooperative Management Learning Materials in the Digital era on average stated good/positive and very good/very positive, and 3) The results of the expert review stated that the description of teaching materials was easy and understandable.

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