

DEVELOPMENT OF COMMUNITY EDUCATION MANAGEMENT TEXTBOOKS USING HIGH ORDER THINKING SKILL (HOTS) QUESTIONS

Yanti Karmila Nengsih ^{1*}, Ciptro Handrianto ², Mega Nurrizalia ³,
Mahyumi Rantina ⁴, Nurul Hayati ⁵, Rani Mega Putri ⁶ and
Vina Amilia Suganda M ⁷

^{1,3,4,6,7} Universitas Sriwijaya, Indonesia.

^{2,5} Universitas Negeri Padang, Indonesia.

*Corresponding Author Email: yantikn@fkip.unsri.ac.id

DOI: [10.5281/zenodo.11120047](https://doi.org/10.5281/zenodo.11120047)

Abstract

The purpose of this study was to develop a community education management textbook and to discover its characteristics and feasibility containing a high order thinking skill (HOTS). This study used research and development study by adopting the ADDIE development model, consisting of five stages of development, namely Analysis, Design, Develop, Implement, and Evaluate. The findings of the study showed that the education management textbook containing HOTS questions was in the very good category with a total score of 131 or 93.57%. The trial results at the one to one stage obtained a very good practicality value with a percentage of 86%, and in the small group, stage trial obtained a percentage of 83.4% with the very good practicality category. It can be concluded that the community education management textbook has a very good level of validity and practicality. The implication of the textbook development research is expected to help lecturers supporting their students in developing their critical thinking in learning.

Keywords: Critical Thinking, Development Model, Learning Community, Textbook.

INTRODUCTION

Higher order thinking skills (HOTS) constitutes as the highest level in the hierarchy of cognitive process which includes critical, logical, reflective, metacognitive, and creative thinking (Ichsan et al., 2019). Today, students face numerous challenges when there is so much information available, but the time to process it is limited, so that the HOTS encourages individuals to interpret, analyse and choose information with valid resources (Rahmawati et al., 2019). Along with the development of the learning process, lecturers and students need textbooks containing High Order Thinking Skill (HOTS) questions that discuss community education management to support the improvement of students' abilities in the learning process about community education management (Surahman et al., 2018; Rahmayanti et al., 2020). In this order, High-level thinking is an important part of 21st century skills (Zohar & Cohen, 2016). This is because the media that were often used previously caused boredom in the learning process. For this reason, researchers seek to develop the latest teaching materials for students to study community education management in the classroom. The teaching material to be developed is in textbooks containing HOTS questions. According to Jalal and Musthafa (2001), reflective skills are constantly evolving and can be studied, as higher-order reflective skills are one of the stages of thinking that remains inseparable from everyday life. Higher-order thinking skills are the ability to connect, manipulate, and process one's existing knowledge and experience in order to think critically and creatively about decision making and problem solving in new situations (Rita et al., 2021; Roslan et al., 2021).

At the stage of development, students must be able to think at a higher level. Thinking skills are divided into two, namely necessary thinking skills and complex or high-level thinking skills. The ability to think is a skill that can be trained, meaning that creating a conducive learning atmosphere will stimulate students to improve their thinking skills (Nurkhin et al., 2020). One way to train students to think at higher levels, including by creating lessons that develop students' ability to analyze, evaluate, and create with the use of appropriate textbooks. Because in reality, in class, there are still many students who have just reached the competence of applying science, but not many can analyze and create something new from the knowledge that has been learned (Amin et al., 2020; Istiyono et al., 2020).

Research related to HOTS has previously been carried out by several researchers, including research by Winarto et al. (2015) with the title Development of an Integrated Science Module Based on HOTS on the Theme of Energy, research Dinni (2018) with the title HOTS and its relation to Mathematical Literacy Ability, research by Rofiah et al. (2018) with the title Development of Science Learning Module Based on HOTS to Improve Students' Critical Thinking Ability, and research by Putra and Hanggara (2018) with the title The Effect of HOTS-Oriented Scientific Learning Approach on Student Learning Understanding.

Community Education Management (CEM) is one of the compulsory courses in Community Education Program, Faculty of Teacher Training and Education (FKIP) Sriwijaya University. The purpose of CEM with a weight of three credits is to improve student competence in managing community education (Fauziddin et al., 2022; Nengsih et al., 2022).

The Community Education Program still has not developed many teaching materials for compulsory and elective courses (Mayo, 2019; Abad-Segura et al., 2020). In the learning process, the lecturers use several media in public education management courses; one of the often-used media is PowerPoint slides and general knowledge books about educational management in community (Bakar & Hamzah, 2019; Morze & Smyrnova-Trybulska, 2021). The similarity between this study and previous studies is that they both develop HOTS (Puteh et al., 2010; Mulia, 2019).

Meanwhile, each study's difference lies in the approach used and the object being the research target (Karasik, 2020; Brugmann, 2021). Previous researchers used a Module development approach, and this study used the development of Textbooks (Wood, 2019; Baddianaah & Baaweh, 2021). Previous researchers made students as targets or objects in their research, and this research made students of the Community Education Program, FKIP UNSRI as the object of their research.

Based on observations or observations of researchers while being a teaching staff at the Department of Community Education, there are not many Lecturers or Teaching Staff developing Textbooks both on a national scale, or especially in the Department of Community Education, FKIP Sriwijaya University. Moreover, Textbooks for community education that write HOTS questions. With the very lack of research on developing textbooks in out-of-school education, both on community education management and other topics.

Researchers are very interested in conducting research on the Development of Community Education Management Textbooks Containing High Order Thinking Skills (HOTS) Questions for Semester 4 Students of the Sriwijaya University FKIP Community Education Study Program.

RESEARCH METHOD

The research method used in this study is Research and Development approach (Rahman et al., 2022). The product developed in this study is a community education management textbook containing HOTS questions aimed at Semester four students of the Department of Community Education, Sriwijaya University. This study uses a combination of two textbook development models, namely the ADDIE development model, which includes Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009), which are modified in such a way as to suit the needs of students.

Several methods are used in the implementation of research and development, namely, descriptive, evaluative, and experimental methods. The descriptive research method is used in initial research to collect data about existing conditions. The evaluative method is used to evaluate the trial process of developing a product, and the experimental method is used to test the validity and practicality of the resulting product. This research is located in the Sriwijaya University FKIP External Education study program. This research was conducted for 12 months, starting from preparing proposals, conducting research, research results, and publication of research results.

RESULTS

Analysis

The analysis carried out in this development research is a needs analysis. A needs analysis was carried out to collect data regarding developing textbooks containing HOTS questions, which consisted of analyzing problems in the field. Analysis of field problems was carried out by distributing questionnaires using a google form to students. The questionnaire results indicate that it is necessary to develop textbooks containing HOTS questions so that lecturers can have guidelines for assessment, and students have good motivation to solve HOTS questions. It includes the analysis of the material adjusted to the Semester Learning Plan (RPS) and consultations with a team of lecturers who teach in the Community Education Management Course.

Design

Based on the results of the descriptions presented at the analysis stage, after the needs analysis results are obtained, the next is to make a design (design) of a textbook development product containing HOTS questions. After completing the initial textbook design preparation, then determining the involvement of related parties in the design of the product implementation, from this design activity, the final form of the initial design of the product was obtained, namely, a community education management textbook containing HOTS questions which would be applied to students of the FKIP Sriwijaya University in program of Community Education. The HOTS-based questions have cognitive levels of C4 (Analyzing), C5 (Evaluating), and C6 (Creating).

Development

The research product that has been designed is then developed to produce a product before being tested. The development carried out is by validating experts and practitioners on the products that have been designed.

The validation includes material validation and question design. Based on the final results of the validation carried out, it can be concluded that the research product that has been developed in the form of an educational management textbook containing HOTS questions is declared valid and can be tested. A limited trial was conducted in students of the Sriwijaya University FKIP out-of-school education study program.

Validity

The product validity test was carried out by three validators. Validation would be carried out on the HOTS material and design questions, which consisted of material experts in several aspects such as language and presentation. The table 1 presents the results of the experts' validation regarding the HOTS assessment instrument.

Table 1: Textbook Material Validation Containing HOTS Questions (by Content/Material Experts)

Indicators	Assessment Items	Score				Total Score
		1	2	3	4	
		SK	K	B	SB	
A. Suitability of material with KD	Completeness of the material.				√	12
	Scope of material.				√	
	Depth of material.				√	
B. Accuracy of Material	Accuracy of concepts and definitions.				√	20
	Accuracy of data and facts.				√	
	Accuracy of examples and cases.				√	
	Accuracy of drawings, diagrams, and illustrations.				√	
	Accuracy of terms.				√	
C. Updates Theory	Pictures, diagrams, and illustrations related to daily life.				√	8
	Using examples and cases found in daily life.				√	
D. Encourage Curiosity	Encourage curiosity.				√	8
	Encourage students to ask questions.				√	
E. Test Items based on HOTS	The questions presented present the HOTS level problem.				√	16
	The questions display the analysis level problem.				√	
	The questions display the evaluation level problems.				√	
	The questions display the level of creating problems.				√	
Total						64
Percentage						100
Category						Valid

Based on the validation results from material field experts, the community education management textbook containing HOTS questions is categorized as having a very good value with a validity percentage of 100%. Even though it has been declared very good, several comments from the validators for improving textbooks have been declared. Furthermore, the validation results from experts in presentation feasibility can be seen in the table 2.

Table 2: Validation of Textbook Material Containing HOTS Questions (by Presentation Feasibility Expert)

Assessment Indicators	Rating Points	Score				Total Score
		1 SK	2 K	3 B	4 SB	
A. Presentation Technique	Arranged Concept.				√	11
	Clarity of learning objectives.				√	
	Completeness of information.			√		
B. Supported Presentation	There are learning indicators.				√	19
	Study instructions.			√		
	Practice questions.				√	
	Glossary.				√	
	References.				√	
C. Learning Presentation	Give motivation.				√	8
	Interaction / involvement of students.				√	
Total						34
Percentage						95%
Category						Valid

Based on the validation results from experts in the field of presentation feasibility, the community education management textbook that contains HOTS questions is categorized as having a very good value with a validity percentage of 95%. Even though it has been declared very good, several comments from the validator for improving textbooks have been declared. Furthermore, the validation results from Indonesian language experts can be seen in the table 3.

Table 3: Validation of Textbook Materials Containing HOTS Questions (by Linguists)

Assessment Indicators	Rating Points	Score				Total Score
		1 SK	2 K	3 B	4 SB	
A. Straightforward	The accuracy of sentence structure.			√		10
	The effectiveness of sentences.			√		
	The rigor of the term.				√	
B. Communicative	Understanding of messages or information.				√	4
C. Dialogical and Interactive	Ability to motivate students.				√	4
D. Conformity with the Development of Students	Conformity with the intellectual development of students.				√	8
	Conformity with the level of emotional development of students.				√	
E. Conformity with Language Rules	Grammatical accuracy.			√		7
	Spelling accuracy.				√	
Total						33
Percentage						82,5%
Category						Valid

Based on the results of the validation from language experts, the public education management textbook containing HOTS questions was categorized as having very good value with a validity percentage of 82.5%. Even though it has been declared in

very good result, several comments from the validator for improving have been listed.

Table 4: Recapitulation of Textbook Validation Results Containing HOTS Questions

Validator	Score Max.	Score / Validation (%)		Conclusion
		I	II	
Content / Material Expert	64	64 / 100%	-	Valid
Presentation Expert	40	34 / 95%	-	Valid
Indonesian Language Expert	36	33/ 82,5%	-	Valid
Total Score/Average of Validation (%)		131/ 93,57%		Valid

Based on the recapitulation table 4, it can be seen that the public education management textbook contains HOTS questions that are validated and declared valid with an average score of 131 or 93.57%.

Limited Trials (One to One and Small Group)

The limited trial of community education management textbooks containing HOTS questions in students of the Sriwijaya University FKIP Community Education study program provides a questionnaire to determine the appropriateness and usability of textbooks containing HOTS questions that have been designed to measure the feasibility and usability of HOTS questions will be seen From the questionnaire filled out by the students, three students (one to one stage) saw the textbook containing HOTS questions that had been provided. Then, from the questionnaire results, a revision will be carried out if difficulties are found, then a questionnaire is given to ten students (small group stage) to re-measure the feasibility and usability of textbooks containing HOTS questions that have been revised from the previous stage. The following is a table of the results of a student questionnaire for Community Education study programs.

Table 5: Results of Student Questionnaires Regarding Textbooks Containing HOTS Questions Stage One to One

Students' Initial Name	No. Item									
	1	2	3	4	5	6	7	8	9	10
ASN	4	5	4	4	4	4	4	4	5	5
SMN	4	5	5	4	5	4	4	5	3	5
FBI	3	4	4	4	4	4	5	5	4	5
Total	11	14	13	12	13	12	13	14	12	15
Total Score	Percentage					Practicality				
129	86%					Practice				

Based on the table 5, it can be seen that the student response in the one to one stage to textbooks containing HOTS questions, with a percentage of 86%, means that they are in the very good category, so it can be concluded that the developed textbook containing HOTS questions can be practically used.

Table 6: Results of Student Questionnaires Regarding Textbooks Containing HOTS Questions Small-Group Stage

Students' Initial Name	No. Item									
	1	2	3	4	5	6	7	8	9	10
AUN	4	4	4	4	4	4	4	5	4	5
JAW	5	5	4	4	4	4	5	5	5	5
MIA	4	4	4	4	4	4	5	5	4	5
PMI	5	4	5	5	4	5	5	5	5	5
RFS	4	4	4	4	4	4	4	4	4	5
RWL	4	4	4	4	4	4	4	5	5	5
TIP	4	4	5	5	4	4	4	4	5	5
MPS	3	3	4	4	4	4	4	4	5	5
SOR	3	3	3	4	3	4	5	4	5	4
IMU	3	3	3	3	3	3	3	3	4	4
Total	38	38	40	41	38	40	43	44	47	48
Total Score	Percentage					Practicality				
417	83,4%					Practice				

Based on the table 6, it can be seen that the responses of students at the small group stage to textbooks containing HOTS questions were in the very good category with a percentage of 83.4%, meaning that the textbooks containing HOTS questions that were developed could be practically used.

DISCUSSION

Several current studies have shown the evidences that the implementation of Higher Order Thinking Skill (HOTS) questions helps teachers or educators to improve advanced learning activities among students (Nofrion & Wijayanto, 2018). Students are more critical and able to compete fairly with strong academic arguments (Shafeei et al., 2017; Yayuk & As' ari, 2020). They are able to solve their learning problems with develop thinking skills (Fauzan & Arnawa, 2021). They have motivation to communicate and build partnership with their peers in learning situation by applying project-based learning which is main component in HOTS (Eliyasni et al., 2019; Maulyda et al., 2021).

The development of community education management textbooks containing HOTS questions has been carried out in three stages: preliminary studies or needs studies, product development, and product trials (Al-Fikri & Zubaidah, 2018; Pernantah et al., 2022). This textbook containing HOTS questions has gone through the expert review stage or expert validation involving three validators, including material/content experts, presentation experts, and linguists. After being declared valid and feasible to be tested, a trial is carried out with the one to one and small group trial stages.

Furthermore, at the development stage of the community education management textbook containing HOTS questions that have been completed, validation will be held by the validator team. This is done to determine the level of validity of the community education management textbook containing HOTS questions (Fadhilatunisa et al., 2020; Surahman & Sofyan, 2021). At the validation stage, the average value of the validation results obtained with three validators consisting of material/content experts, presentation experts, and linguists obtained a total score of 131 or 93.57%. When assessing the validity, comments or input from experts and comments provided become a reference for researchers for the stage before trying out the textbook containing HOTS questions both in the one to one and small group trial stages.

At the product trial stage, the stages that have been carried out are one to one and small group trials. In the one to one stage, it is known that the community education management textbook containing HOTS questions has a very good level of practicality with a percentage of questionnaires from students of 86%.

After the one to one trial phase was completed, the small group trial was completed with ten students. The community's practical level, education management textbook, contained 83.4% HOTS questions with very good categories.

The trial of community education management textbooks containing HOTS questions had not yet been carried out in the field evaluation stage (Utami et al., 2021). The research design has reached the small group trial stage because the community education management course is also in the 4th semester, which is the next semester. For this reason, researchers will provide input to test the community education management textbook product containing HOTS questions next semester.

After completing all the series of stages in the research on the development of community education management textbooks containing HOTS questions, it can be said that the resulting product in the form of community education management textbooks containing HOTS questions is in the valid and practical category to be used by students in supporting the learning process.

CONCLUSION

Based on the results of research and discussion, it can be concluded that the public education management textbook containing HOTS questions developed was declared valid by the validators consisting of material/content experts, presentation experts, and linguists with a very good category based on the average score of 131 with a percentage of 93, 57%.

The trial results at the one to one stage obtained a very good practicality value with a percentage of 86%, and in the small group, stage trial obtained a percentage of 83.4% with the very good practicality category. This research product indicates that the community education management textbook contains HOTS questions that have a very good level of validity and practicality.

Students experience a lot of problems in their learning, especially in terms of readiness, family conditions, peer influence, and learning facilities. They need a guide in learning that is able to foster their critical thinking as a new academics. Implication of this study is expected that this community education management textbook will be able to make a contribution to students majoring in non-formal education in exploring the science of community education in high order thinking skills.

This book is recommended to universities for wider use by prospective community educators, so that it can be applied by the expert and practitioners in community learning context.

Acknowledgement

We would like to acknowledge research grant of Universitas Sriwijaya, Indonesia, which provided financial support for the study. We also would like to express our gratitude for the journal's editor and reviewers for their continuous support by giving valuable comments and suggestions to improvement of the article.

References

- 1) Abad-Segura, E., González-Zamar, M. D., Infante-Moro, J. C., & Ruipérez García, G. (2020). Sustainable management of digital transformation in higher education: Global research trends. *Sustainability*, 12(5), 2107.
- 2) Al-Fikri, H., & Zubaidah, E. (2018). Developing module of children literature to increase the students' critical thinking. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan*, 21(2), 162-175.
- 3) Amin, A. M., Corebima, A. D., Zubaidah, S., & Mahanal, S. (2020). The correlation between metacognitive skills and critical thinking skills at the implementation of four different learning strategies in animal physiology lectures. *European Journal of Educational Research*, 9(1), 143-163. <https://doi.org/10.12973/eu-jer.9.1.143>
- 4) Baddianaah, I., & Baaweh, L. (2021). The prospects of community-based natural resource management in Ghana: a case study of Zukpiri community resource management area. *Heliyon*, 7(10).
- 5) Bakar, A. A. A., & Hamzah, M. I. (2019). Professional learning community practices in improving self-efficacy of elementary school islamic education teachers at Melaka Tengah, Melaka. *International Journal of Education and Pedagogy*, 1(1), 38-49.
- 6) Branch, R. M. (2009) *Instructional design: The ADDIE approach*. New York: Springer.
- 7) Brugmann, J. (2021). Is there method in our measurement? The use of indicators in local sustainable development planning. In *The Earthscan Reader in Sustainable Cities* (pp. 394-410). Routledge.
- 8) Dinni, H. N. (2018, February). HOTS (high order thinking skills) dan kaitannya dengan kemampuan literasi matematika. In *PRISMA, Prosiding Seminar Nasional Matematika* (Vol. 1, pp. 170-176). Retrieved from <https://journal.unnes.ac.id/sju/index.php/prisma/article/view/19597>
- 9) Eliyasni, R., Kenedi, A. K., & Sayer, I. M. (2019). Blended learning and project based learning: The method to improve students' higher order thinking skill (HOTS). *Jurnal Iqra': Kajian Ilmu Pendidikan*, 4(2), 231-248. <https://doi.org/10.25217/ji.v4i2.549>
- 10) Fadhilatunisa, D., Rosidah, R., & Fakhri, M. M. (2020). The effectiveness of the blended learning model on the students' critical thinking skills and learning motivation in accounting department. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan* 23(2), 194-208.
- 11) Fauzan, A., & Arnawa, I. M. (2021). Analysis of high order thinking skill of students in contextual problems solving. In *Journal of Physics: Conference Series* (Vol. 1742, No. 1, p. 012021). IOP Publishing. <https://doi.org/10.1088/1742-6596/1742/1/012021>
- 12) Fauziddin, M., Suryanti, S., & Wiryanto, W. (2022). Community-based education and regional culture: Has it been put into practice?. *AL-ISHLAH: Jurnal Pendidikan*, 14(2), 1069-1078.
- 13) Ichsan, I. Z., Sigit, D. V., Miarsyah, M., Ali, A., Arif, W. P., & Prayitno, T. A. (2019). HOTS-AEP: Higher order thinking skills from elementary to master students in environmental learning. *European Journal of Educational Research*, 8(4), 935-942. <https://doi.org/10.12973/eu-jer.8.4.935>
- 14) Istiyono, E., Dwandaru, W. S. B., Setiawan, R., & Megawati, I. (2020). Developing of computerized adaptive testing to measure physics higher order thinking skills of senior high school students and its feasibility of use. *European Journal of Educational Research*, 9(1), 91-101. <https://doi.org/10.12973/eu-jer.9.1.91>
- 15) Jalal, F., & Musthafa, B. (Eds.). (2001). Education reform in the context of regional autonomy: The case of indonesia. ministry of national education, national development planning agency, the republic of Indonesia.
- 16) Karasik, R. J. (2020). Community partners' perspectives and the faculty role in community-based learning. *Journal of Experiential Education*, 43(2), 113-135.

- 17) Mahendraa, I. W. E., Parmithib, N. N., Hermawan, E., Juwanad, D. P., & Gunartha, I. W. (2020). Teachers' formative assessment: Accessing students' high order thinking skills (HOTS)? *International Journal of Innovation, Creativity and Change*, 12(12), 180-202.
- 18) Maulyda, M. A., Affandi, L. H., & Hidayati, V. R. (2021). The level of students' metacognition thinking during online lectures in the covid-19 pandemic. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan*, 24(2), 178-192.
- 19) Mayo, P. (2019). Higher education in a globalising world: Community engagement and lifelong learning. In *Higher education in a globalising world*. Manchester University Press.
- 20) Morze, N., & Smyrnova-Trybulska, E. (2021). Web-based community-supported online education during the COVID-19 pandemic. *International Journal of Web Based Communities*, 17(1), 9-34.
- 21) Mulia, F. (2019). Meningkatkan kemampuan keterampilan berpikir kritis mahasiswa PGSD pada mata kuliah pendidikan IPA menggunakan model project-based learning. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan*, 22(1), 52-63.
- 22) Nengsih, Y. K., Handrianto, C., Nurrisalia, M., Waty, E. R. K., & Shomedran, S. (2022). Media and resources development of android based interactive digital textbook in nonformal education. *Journal of Nonformal Education*, 8(2), 185-191. <https://doi.org/10.15294/jne.v8i2.34914>
- 23) Nofrion, N., & Wijayanto, B. (2018). Learning activities in higher order thinking skill (HOTS) oriented learning context. *Geosfera Indonesia*, 3(2), 122-130. <https://doi.org/10.19184/geosi.v3i2.8126>
- 24) Nurkhin, A., & Pramusinto, H. (2020). Problem-based learning strategy: Its impact on students' critical and creative thinking skills. *European Journal of Educational Research*, 9(3), 1141-1150. <https://doi.org/10.12973/eu-jer.9.3.1141>
- 25) Pernantah, P. S., Rizka, M., Handrianto, C., & Syaputra, E. (2022). Inovasi bahan ajar pendidikan IPS berbasis digital flipbook terintegrasi local wisdom dalam menunjang perkuliahan jarak jauh. *J-PIPS (Jurnal Pendidikan Ilmu Pengetahuan Sosial)*, 8(2), 136-145. <https://doi.org/10.18860/jpips.v8i2.14886>
- 26) Puteh, S. N., Maarof, N., & Tak, E. (2010). Students' perception of the teaching of historical thinking skills. *Pertanika Journal of Social Science and Humanities*, 18, 87-95.
- 27) Putra, R. A., & Hanggara, A. (2019). Pengaruh pendekatan pembelajaran saintifik berorientasi higher order thinking skills (HOTS) terhadap pemahaman belajar siswa (studi kasus pada kelas x sman 1 Baregbeg). *Equilibrium: Jurnal Penelitian Pendidikan dan Ekonomi*, 15(02), 44-50.
- 28) Rahman, M. A., Melliyani, M., Handrianto, C., Erma, E., & Rasool, S. (2022). Prospect and promise in integrating multiliteracy pedagogy in the english language classroom in Indonesia. *Eternal (English, Teaching, Learning, and Research Journal)*, 8(1), 34-52. <https://doi.org/10.24252/Eternal.V81.2022.A3>
- 29) Rahmawati, A., Nurhidayati, A., & Saputro, I. N. (2019). Building higher order thinking skills (HOTS) for pre-service vocational engineering teachers by applying a multi-method approach to the learning process through lesson study. *Pertanika Journal of Social Sciences & Humanities*, 27(2), 1709-1725.
- 30) Rahmayanti, H., Ichsan, I. Z., Azwar, S. A., Purwandari, D. A., Pertiwi, N., Singh, C. K. S., & Gomes, P. W. P. (2020). DIFMOL: Indonesian students' hots and environmental education model during covid-19. *Journal of Sustainability Science and Management*, 15(7), 10-19.
- 31) Rita, Y., Muliana, I. L., & Handrianto, C. (2021). Taksonomi bloom dalam materi sistem persamaan linear pada program paket c di PKBM hang tuah pekanbaru. *JURING (Journal for Research in Mathematics Learning)*, 4(1), 69-80. <http://dx.doi.org/10.24014/juring.v4i1.12354>
- 32) Rofiah, E., Aminah, N., & Sunarno, W. (2018). Pengembangan modul pembelajaran IPA berbasis HOTS untuk meningkatkan kemampuan berpikir kritis siswa kelas viii smp/mts. *Jurnal Pendidikan*, 7(2), 285-295.
- 33) Roslan, S., Hasan, S., Zaremohzzabieh, Z., & Arsad, N. M. (2021). Big five personality traits as predictors of systems thinking ability of upper secondary school students. *Pertanika Journal of Social Sciences & Humanities*, 29S, 251-269.

- 34) Shafeei, K. N., Hassan, H., Ismail, F., & Aziz, A. A. (2017). Incorporating higher order thinking skill (HOTS) questions in ESL classroom contexts. *LSP International Journal*, 4(1), 101-116. <https://doi.org/10.11113/lspi.v4n1.49>
- 35) Surahman, D., & Sofyan, A. (2021). The effect of community language learning and emotional intelligence on students' speaking skill. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan*, 24(1), 82-90.
- 36) Surahman, E., Wedi, A., Soepriyanto, Y., & Setyosari, P. (2018). Design of peer collaborative authentic assessment model based on group project based learning to train higher order thinking skills of students. In *International Conference on Education and Technology (ICET 2018)* (pp. 75-78). Atlantis Press. Retrieved from <https://www.atlantis-press.com/proceedings/icet-18/125926623>
- 37) Utami, D. M. A., Prihantoro, P., Apriani, E., Hidayah, J., & Handrianto, C. (2021). Empowering ICT potentials in english language teaching. *Journal Polingua: Scientific Journal of Linguistics, Literature and Language Education*, 10(2), 42-48. <https://doi.org/10.30630/polingua.v10i2.180>
- 38) Winarno, W., Sunarno, W., & Sarwanto, S. (2015). Pengembangan modul IPA terpadu berbasis high order thinking skill (HOTS) pada tema energi. *Inkuiri*, 4(1), 82-91. <https://doi.org/10.20961/inkuiri.v4i1.9562>
- 39) Wood, L. (2019). PALAR: Participatory action learning and action research for community engagement. In *Action learning and action research: Genres and approaches* (pp. 193-206). Emerald Publishing Limited.
- 40) Yayuk, E., & As' ari, A. R. (2020). Primary school students' creative thinking skills in mathematics problem solving. *European Journal of Educational Research*, 9(3), 1281-1295. <https://doi.org/10.12973/eu-jer.9.3.1281>
- 41) Zohar, A., & Cohen, A. (2016). Large scale implementation of higher order thinking (HOT) in civic education: The interplay of policy, politics, pedagogical leadership and detailed pedagogical planning. *Thinking Skills and Creativity*, 21, 85-96. <https://doi.org/10.1016/j.tsc.2016.05.003>