

Empirical Study on Curriculum Feasibility Through Learning Material: Evaluation And Development

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Abstract—The level of this research and development (R & D) is the second level that is to test the feasibility of products that have been developed or existed. The product is the teaching materials of the course of writing scientific papers that have been designed by the researchers after analyzing the potential and problems. The feasibility testing technique used is expert judgment. The researcher involves three experts to examine and assess the feasibility of teaching materials. Four feasibility components are assessed namely content or teaching materials, presentation, graphic design, and linguistic elements. The results of these feasibility testing were analyzed by using descriptive statistical techniques. The result of the research proves that the curriculum of writing course in the Universitas Muhammadiyah Makassar requires serious reform effort through improving the quality of teaching materials. The result of the feasibility testing shows that the average score of assessment from three experts is as follows.

Keywords—reform, curriculum, development, teaching materials

I. INTRODUCTION

The main problem underlying this research is the findings related to the limited learning materials of students [1]–[3]. This limitation does not mean that learning materials do not exist. However, it is lack of effort, low interest, and partly due to the economic limitations of students to get quality teaching materials. In fact, around the Universitas Muhammadiyah Makassar itself, some bookstores that provide teaching materials related to the writing of scientific papers can be found. However, it can not be imposed, because there are the responsibility and obligation of each lecturer to overcome this problem. The lecturer should be able to design and develop the learning process itself so that the goal to be achieved can be realized according to the ideals of national education. It is as stated in the 1945 Constitution Article 31 paragraph 3 that the government seeks and organizes a national education system that increases faith and good morals to educate the life of the nation regulated by law. Furthermore, it is affirmed in the Law of National Education System Number 20 in 2003

Article 40 Paragraph (2a) that the teaching staff (lecturer) is obliged to have a professional commitment to improving the quality of education. Therefore, there is no more reason for educators, especially lecturers not to think, create, and gave birth to the latest innovations to fulfill these duties and responsibilities. The task of developing teaching materials for lecturers is also regulated in Government Regulation (PP) Number 19 in 2005 Article 20 that lecturers are expected to develop learning materials or teaching materials and other supporting tools. The regulation was confirmed through Permendiknas Number 41 of 2007 concerning Process Standards which reads a learning process planning which requires the lecturer to develop a learning implementation plan. Thus, the lecturer can no longer avoid his obligation to undertake the development of teaching materials.

[4]–[8] in his writing explaining that educators in this era are required to be critical thinking to advance the education curriculum. Being critical thinking must be a culture or habit for the lecturers. However, Remillard, JT, & Bryans, M.B (2004) revealed that the critical thinking would work if the orientation of educators is in line with the curriculum development policy of education. It is not with indifference to the curriculum and the development of learners.

The Law in Indonesia describes in detail the instruction manual of professional performance of lecturers. One of the laws is the development of processes and educational units as described in the Law of National Education System Number 20 of 2003 Article 39 Paragraph (1) that educational staff is tasked to implement administration, management, development, supervision and technical services to support education processes and units. Argues that the problem is that the condition in which the lecturer or educator does not understand well the duties and functions as described in the law [9]–[13].

Then, do you know the impact of the limitations of students in obtaining quality learning resources and the

inability of faculty to overcome it? The answer is that the poor quality of the learning process affects the low student learning outcomes. Furthermore, the interest and motivation of student learning become low. Therefore, in studying students do not show good enthusiasm with the reason that the limited source of learning so that they also have limited knowledge. This problem can be found in the course of writing scientific papers. The worst thing is that this course has not been able to bring students to good academic writing skills. The description of teaching materials of scientific writing used by the students in the Universitas Muhammadiyah Makassar is a form of draft compiled by lecturers by taking material from the internet.

The draft then is covered neatly, and it is spread to the students as guidance in learning. The dispersion referred to here is not a, but it must be purchased at a high enough price. Concerning quality, it is not guaranteed. Furthermore, students also use the internet as a learning resource. The description of the teaching materials has not met the feasibility standard. The National Education Standards [14]–[16] explain that the signs to be followed in providing learning materials for learners are to pay attention to their feasibility, effectiveness, and practicality. [17]–[19] also think so. According to him, the general procedure of an educational product that has been developed primarily consists of two primary objectives, namely: (1) developing the product, and then (2) testing the feasibility and effectiveness of the product in achieving the goal.

In this research, the reform of educational curriculum for the scientific writing course at the Universitas Muhammadiyah Makassar is an effort to improve the curriculum quality through teaching materials by examining or testing the feasibility of teaching materials used by students. The test results are used as a reference in developing teaching materials product as the results of improvements of existing teaching materials. [20] revealed that nowadays, much of the learning material is used without going through scientific testing or assessment stages so that the output resulting from the material is not scientific. [20] revealed that before the learning materials are used, they must pass the validity or feasibility test stages so that the material becomes standardized. [21] stated that the curriculum (teaching materials) developed by educators (lecturers) should be measured using feasibility testing either by the expert or through a series of trials. In developing teaching materials, the design principles and development process used must follow the national standards [22]. According to the National Education Standards Agency (BSNP 2006), the feasibility of teaching materials is reviewed from the assessment of several aspects including content, presentation, graphics, and linguistics.

II. RESEARCH METHODS

The method used is research and development (R & D) level two is to test the feasibility of existing products. Classification of development in this research is to improve the product of teaching materials previously used. The

prototype of this new teaching material was developed with careful attention to the aspects that were considered weak in previous teaching materials such as material aspects, systematic presentation, graphics, and language. Based on the level of explanation, this research is descriptive research. This research was conducted at the Universitas Muhammadiyah Makassar in the even semester of 2018. Data were collected using questionnaires. To test the feasibility of the teaching materials, the questionnaire is given to the experts to be subsequently filled based on the results of the examination of the teaching materials. The data were analyzed using the descriptive statistical technique.

III. RESULTS AND DISCUSSION

A. Description of the Feasibility of Teaching Materials (Pre-development)

The following is presented on the results of feasibility testing of the existing teaching materials from three experts. The aspects of teaching materials examined for feasibility are (1) content or material, (2) presentation, (3) graphic design, and (4) language elements.

TABLE 1. RESULTS OF FEASIBILITY TESTING IN TERMS OF CONTENT OR MATERIAL

alidator	Tota score l	Feasibility Percentage	Information
1	45	52.94%	Quite feasible
2	41	48.23%	Less feasible
3	47	55.29%	Quite feasible
Average	44.33	48.82%	Less feasible

The table above informs that the total score of teaching material materials used by the students before development is 44.33 (48.82%) of the ideal 85 score which indicates that the teaching material is in the less feasible category.

TABLE 2. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF PRESENTATION ASPECT

Validator	Total Score	Feasibility Percentage	Information
1	34	52.30%	Less feasible
2	34	52.30%	Less feasible
3	36	55.38%	Less feasible
Average	34.67	53.33	Less feasible

The table 2 shows that the total score of the presentation aspect of teaching materials used by students before the development is 34.67 (53.33%) of the ideal score of 65 which indicates that the presentation of the teaching materials is in the less feasible category.

TABLE 3. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF GRAPHIC DESIGN

Validator	Total Score	Feasibility Percentage	Information
1	72	55.38%	Quite feasible
2	69	53.07%	Quite feasible
3	72	55.38%	Quite feasible
Average	71	55.38%	Quite feasible

The table 3 shows that the total score of the graphic design aspect of teaching materials used by students before the development is 71 (53.33%) of the ideal score of 130 which indicates that the graphic layout of the teaching materials is quite feasible. In this study, the category is quite feasible to meet the determined standards. Therefore, the results of this assessment still concluded that aspects of graphics on teaching materials used by students before the development is not yet feasible.

TABLE 4. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF LANGUAGE

Validator	Total Score	Feasibility Percentage	Information
1	33	55%	Quite feasible
2	34	56.66%	Quite feasible
3	34	56.66%	Quite feasible
Average	33.67	56.11%	Quite feasible

From the table above, it is known that the total score of the language aspects of instructional materials used by students before the development is 33.67 (56.11%) of the ideal score of 60 which indicates that the language aspect of the teaching material is in a quite feasible category. In this study, the category is quite feasible to meet the determined standards. Therefore, the results of this assessment still concluded that the language aspects of teaching materials used before development is not yet feasible.

B. Description of the Feasibility of Teaching Materials (Post-development)

After the results of the examination of the teaching materials are obtained, the next step is development. The development in this research is to improve the quality of teaching materials based on the result of the examination. It means that the existing teaching materials are evaluated and refined to produce better quality teaching materials. The aspects examined in the teaching materials are the same as the previous examination of materials namely (1) content or material, (2) presentation, (3) graphic design, and (4) language elements.

TABLE 5. RESULTS OF FEASIBILITY TESTING IN TERMS OF CONTENT OR MATERIAL (POST-DEVELOPMENT)

Validator	Total Score	Feasibility Percentage	Information
1	78	91.76%	Very feasible
2	81	95.29%	Very feasible
3	82	96.47%	Very feasible
Average	80.33	94.51%	Very feasible

The table 5 above shows that the total score of teaching material aspect after development is 80 (94.51 %) of the ideal score that is 85 which indicates that the teaching material is in the very feasible category.

TABLE 6. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF PRESENTATION ASPECT (POST-DEVELOPMENT)

Validator	Total Score	Feasibility Percentage	Information
1	60	92.30%	Very feasible
2	60	92.30%	Very feasible
3	61	93.84%	Very feasible
Average	60.33	92.81%	Very feasible

The table 6 above shows that the total score of teaching material aspect after development is 60.33 (92.81%) of the ideal score that is 65 which indicates that the teaching material is in the very feasible category.

TABLE 7. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF GRAPHIC DESIGN ASPECT (POST-DEVELOPMENT)

Validator	Total Score	Feasibility Percentage	Information
1	124	95.38%	Very feasible
2	119	91.53%	Very feasible
3	125	96.15%	Very feasible
Average	122.67	94.35 %	Very feasible

The table 6 above shows that the total score of teaching material aspect after development is 122.67 (94.35%) of the ideal score that is 130 which indicates that the teaching material is in the very feasible category.

TABLE 8. THE RESULTS OF THE FEASIBILITY TESTING IN TERMS OF LANGUAGE ASPECT (POST-DEVELOPMENT)

Validator	Total Score	Feasibility Percentage	Information
1	57	95%	Very feasible
2	56	93.33%	Very feasible
3	58	96.66%	Very feasible
Average	57	95%	Very feasible

The table 6 above shows that the total score of teaching material aspect after development is 57 (95%) of the ideal score that is 60 which indicates that the teaching material is in the very feasible category.

C. Discussion

The results of this study have a high use value. There is an important message that should be considered by every lecturer or another educator. They should be aware that all forms of learning components used must go through a series of trials. One of them is the feasibility testing in terms of the structure and content of the learning components. One of the components is shown in this research is teaching materials. It is natural that the results of previous studies of problems that resulted in learning, interest, and motivation to study the writing of students' scientific papers are low, because of the quality of teaching materials that have been used far

from the word “feasible.” It is proven by the total score of teaching material materials used by the students before the development. It is only 44.33 (48.82%) of the ideal score that is 85 which means the teaching material is far from the word “feasible.” However, after improvement (development) the scores are increased significantly that is 80 (94.51%) from the ideal score of 85 which indicated that the material of the improvement material was very feasible. It means that the quality of teaching materials after development is better than ever. [23] explains that the material elements in the teaching materials become the essential part that must be considered because this element is a reference learned by learners. Other aspects such as presentation, graphics, and language elements are the added value of supporting material elements. Therefore, the primary concern of a lecturer should be focused on the quality of the content or material of the teaching materials.

Furthermore, in the aspect of the presentation of teaching materials, teaching materials products that have been used by students are also still far from feasibility. The total score of the presentation aspect of teaching materials used by students before the development is 34.67 (53.33%) of the ideal score of 65 which indicates that the presentation of the teaching materials is in the less feasible category. From the results, the teaching materials are improved in order to increase the quality of the presentation of teaching materials. The results of the quality improvement show that the quality of teaching materials is increasing. If the previous feasibility score was only 34.67 (53.33%), then the result of post-development feasibility study increased to 60.33 (92.81%) of the ideal score of 65 which indicated that the presentation of the resource was in a very feasible category. It is same with graphics aspect. Before the development, the score is only 71 (53.33%) of the ideal score of 130 which indicates that the graphic layout of the teaching materials is in the category quite feasible. Besides, the score of the feasibility testing after the development is 122.67 (94.35%) of the ideal score 130 which indicates that the graphics of teaching materials are in very feasible categories. Finally, feasibility score of the language aspect before development is only 33.67 (56.11%) of the ideal score of 60 which indicates that the language aspect of the teaching material is in a reasonably decent category. However, after improvements, the language's eligibility for teaching materials is increased to 57 (95%) of the ideal score of 60 which indicated that the graphic layout of the resource material is in a very feasible category.

Related to the results of this study, the researcher believes that the improvement of the quality of the four components has relevance to the results of research from several researchers such as [24]–[26] who also developed teaching materials at the university to improve the quality in terms of four aspects namely material, presentation, graphics, and language. Besides, [27]–[29] also researched similar things.

From the results of this study, there is an essential message that education curriculum reform is something that is now becoming very important to do. Ball, DL, & Cohen, DK (1996) in their paper on education curriculum reform

through books or teaching materials. Ball, DL, & Cohen, DK revealed that the book is used as a source of learning that is the significant role in reforming the quality of the educational curriculum. All educators must fully support it because they are the drivers of curriculum reform itself. [30] also revealed that curriculum development becomes a necessity that can not be abandoned since the curriculum requires a sustainable development. Without development, sustainable curriculum development will not be performed. All of these relates to what is expressed by [30] that the reform of the curriculum of education, especially the subjects of writing scientific papers through teaching materials is the effort of the quality development of the curriculum itself. It is expected that this activity will continue so that in the future this reform effort is a sustainable development effort.

Slightly touched on the initial problem of the limitations of learning resources due to the low productivity of lecturers in creating teaching materials and more consumptive use of teaching materials developed by others [31] explains that a curriculum worthy of the learning community is the curriculum created by the of the learning community itself. According to Yazzie teaching materials developed by the part of the learning community is more focused in accordance with the characteristics and needs of the community itself. Thus, the utilization is considered more appropriate. In contrast to teaching materials developed by others, the pattern is universal so that it is not necessarily in accordance with what characterizes or the character or needs of the learning community who use it. Thus, the researcher asserted that the lecturer should be aware of the tasks and essential functions in the success of the lesson which does not directly impact on the development of a better curriculum.

IV. CONCLUSION

The curriculum of the writing of scientific writing at Universitas Muhammadiyah Makassar is still far from the word “feasible.” Therefore, the curriculum reform efforts undertaken in this research are through the development of curriculum component that is teaching materials. This development is in the form of quality improvement of teaching materials that are reviewed on four aspects, namely content or material, presentation, graphic design, and language. The form of this curriculum reform is improving the quality of teaching materials concerning the feasibility of these four aspects. The result of the feasibility testing before the development shows that the average score of assessment from three experts is as follows. The material aspect is 44.33 (48.82%), and it is stated less feasible. The presentation aspect is 34.67 (53.33%), and it is stated less feasible. The graphic design aspect is 71 (55.38%), and it is stated quite feasible. The aspect of language is 33.67 (56.11%), and it is stated quite feasible. From these results, the curriculum reform efforts undertaken are through the development of these four aspects. The results after the development show that the average score of assessment from three experts is as follows. The material aspect is 80.33 (94.51%), and it is stated very feasible. The presentation

aspect is 60.33 (92.81%), and it is stated very feasible. The graphic design aspect is 122.67 (94.35%), and it is stated very feasible. The aspect of language is 57 (95%), and it is declared very feasible.

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REFERENCES

- [1] M. S. Saggaf, R. Salam, dan R. Rifka, "The Effect of Classroom Management on Student Learning Outcomes," in *International Conference on Education, Science, Art and Technology*, 2017, hal. 98–102.
- [2] R. Niswaty, S. Rusbiati, J. Jamaluddin, dan R. Salam, "The Influence of Teacher's Reinforcement for Students Motivation," in *International Conference on Education, Science, Art and Technology*, 2017, hal. 148–152.
- [3] M. S. Saggaf, N. Nasriyah, R. Salam, dan H. Wirawan, "The Influence of Teacher's Pedagogic Competence on Learning Motivation of Student of Office Administration Expertise Package," 2018.
- [4] H. Kadbey, M. Dickson, dan M. McMinn, "Primary Teachers' Perceived Challenges in Teaching Science in Abu Dhabi Public Schools," *Procedia - Soc. Behav. Sci.*, vol. 186, hal. 749–757, 2015.
- [5] N. M. Nasri, Z. M. Yusof, S. a/p Ramasamy, dan L. Halim, "Uncovering problems faced by science teacher," *Procedia - Soc. Behav. Sci.*, vol. 9, hal. 670–673, 2010.
- [6] C. Bradford dan M. Braaten, "Teacher evaluation and the demoralization of teachers," *Teach. Teach. Educ.*, vol. 75, hal. 49–59, 2018.
- [7] J. Smit, M. Gijssel, A. Hotze, dan A. Bakker, "Scaffolding primary teachers in designing and enacting language-oriented science lessons: Is handing over to independence a fata morgana?," *Learn. Cult. Soc. Interact.*, vol. 18, hal. 72–85, 2018.
- [8] M. J. Luna dan M. G. Sherin, "Using a video club design to promote teacher attention to students' ideas in science," *Teach. Teach. Educ.*, vol. 66, hal. 282–294, 2017.
- [9] S. Crowder, S. Mikulay, dan B. E. Turvey, "Chapter 3 - Criminal Justice Educators: Ethical Issues in Teaching," B. E. Turvey dan S. B. T.-E. J. Crowder, Ed. San Diego: Academic Press, 2013, hal. 63–85.
- [10] W. B. Anderson, "The great war against venereal disease: How the government used PR to wage an anti-vice campaign," *Public Relat. Rev.*, vol. 43, no. 3, hal. 507–516, 2017.
- [11] K. Schlosser, "Education and intimate war of position: The National Security League's Committee on Patriotism through Education, 1917–1919," *Polit. Geogr.*, vol. 60, hal. 66–75, 2017.
- [12] C. Muraraneza dan G. N. Mtshali, "Implementation of competency based curriculum in pre-service nursing education: Middle range theory," *Int. J. Africa Nurs. Sci.*, vol. 8, hal. 53–58, 2018.
- [13] L. Clouder, A. Adefila, C. Jackson, J. Opie, dan S. Odedra, "The discourse of disability in higher education: Insights from a health and social care perspective," *Int. J. Educ. Res.*, vol. 79, hal. 10–20, 2016.
- [14] F. Kent, J. Courtney, dan J. Thorpe, "Interprofessional education workshops in the workplace for pre-registration learners: Aligning to National Standards," *Nurse Educ. Today*, vol. 62, hal. 58–61, 2018.
- [15] C. Gerrity, "The New National School Library Standards: Implications for Information Literacy Instruction in Higher Education," *J. Acad. Librariansh.*, vol. 44, no. 4, hal. 455–458, 2018.
- [16] N. Leap, P. Brodie, dan S. K. Tracy, "Collective action for the development of national standards for midwifery education in Australia," *Women and Birth*, vol. 30, no. 3, hal. 169–176, 2017.
- [17] A. Riddell dan M. Niño-Zarazúa, "The effectiveness of foreign aid to education: What can be learned?," *Int. J. Educ. Dev.*, vol. 48, hal. 23–36, 2016.
- [18] G. Rong, H. Zhang, B. Liu, Q. Shan, dan D. Shao, "A replicated experiment for evaluating the effectiveness of pairing practice in PSP education," *J. Syst. Softw.*, vol. 136, hal. 139–152, 2018.
- [19] K. Muralidharan, "Chapter 3 - Field Experiments in Education in Developing Countries," in *Handbook of Economic Field Experiments*, vol. 2, A. V. Banerjee dan E. B. T.-H. of E. F. E. Duflo, Ed. North-Holland, 2017, hal. 323–385.
- [20] G. Solano-Flores dan S. Nelson-Barber, "On the cultural validity of science assessments," *J. Res. Sci. Teach.*, vol. 38, no. 5, hal. 553–573, 2001.
- [21] J. Novakovich, S. Miah, dan S. Shaw, "Designing curriculum to shape professional social media skills and identity in virtual communities of practice," *Comput. Educ.*, vol. 104, hal. 65–90, 2017.
- [22] G. Towler dan R. K. Sinnott, *Chemical engineering design: principles, practice and economics of plant and process design*. Elsevier, 2012.
- [23] J. Sweller, "Cognitive load theory, learning difficulty, and instructional design," *Learn. Instr.*, vol. 4, no. 4, hal. 295–312, 1994.
- [24] J. Joyce, D. H. Gitomer, dan C. J. Iaconangelo, "Classroom assignments as measures of teaching quality," *Learn. Instr.*, vol. 54, hal. 48–61, 2018.
- [25] H.-M. Lai, Y.-L. Hsiao, dan P.-J. Hsieh, "The role of motivation, ability, and opportunity in university teachers' continuance use intention for flipped teaching," *Comput. Educ.*, vol. 124, hal. 37–50, 2018.
- [26] O. Espinoza dan N. McGinn, "Graduates' satisfaction as a measure of quality: Evidence from two programs in three Chilean universities," *Int. J. Educ. Res.*, vol. 90, hal. 133–143, 2018.
- [27] L. Brennan, T. Cusack, E. Delahunty, S. Kuznesof, dan S. Donnelly, "Academics' conceptualisations of the research-teaching nexus in a research-intensive Irish university: A dynamic framework for growth & development," *Learn. Instr.*, 2017.
- [28] T. Le Huu Nghia, "What hinders teachers from translating their beliefs into teaching behaviors: The case of teaching generic skills in Vietnamese universities," *Teach. Teach. Educ.*, vol. 64, hal. 105–114, 2017.
- [29] J. Artés, F. Pedraja-Chaparro, dan M. del M. Salinas-Jiménez, "Research performance and teaching quality in the Spanish higher education system: Evidence from a medium-sized university," *Res. Policy*, vol. 46, no. 1, hal. 19–29, 2017.
- [30] S. A. Barab dan A. L. Luehmann, "Building sustainable science curriculum: Acknowledging and accommodating local adaptation," *Sci. Educ.*, vol. 87, no. 4, hal. 454–467, 2003.
- [31] T. Yazzie, "Culturally Appropriate Curriculum: A Research-Based Rationale," 1999.