

Development of E-Worksheets Based on Outcome-Based Education (OBE) to Improve The Effectiveness of Learning for the Educational Psychology Course at Universitas Negeri Medan

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Abstract. Aim of this study is to create student worksheets in electronic or digital form based on Outcome-Based Education (OBE) in Educational Psychology courses, as well as to assess the feasibility of developing these learning tools for use as OBE-based teaching materials in Psychology courses. Education at the Universitas Negeri Medan. This is R&D research employing Borg and Gall's theory and the ADDIE Model. The test subjects for this study included 2 content/material experts and 2 learning expert lecturers, 14 lecturers teaching Educational Psychology courses, and 569 active students from Universitas Negeri Medan (469 students taking Educational Psychology courses for the 2022/2023 academic year and 100 students who had taken the Educational Psychology Course the previous year). The qualitative data was evaluated using a qualitative data interpretation method Quantitative data was assessed using descriptive statistical methods. The study's findings revealed that: 1) the average answer value for the suitability of the look and content of the Educational Psychology Course Worksheet is 95.94%; 2) the average response value for the needs and suitability of the Educational Psychology Course Worksheet was 97.57%; and 3) experts state that the worksheets are 100% appropriate in terms of content/material and learning. In light of this, it is possible to conclude that the Worksheet for the Educational Psychology Course meets learning goals and is appropriate for use in the learning process of students at Universitas Negeri Medan.

Keywords: Worksheet, Development, Outcome-Based Education, Psychology, Education

1 Introduction

Education in Indonesia has diversity in its application, including a variety of courses spread across various universities as part of formal education in Indonesia. Education in Indonesia has diversity in its application. The Educational Psychology course is one of the most important courses in various study programs, especially education study programs. Educational psychology courses can provide students with an understanding of aspects of human behavior involved in the educational process such as teachers/lecturers/educators, students, and the learning environment. Educational psychology courses provide knowledge and skills for students to be able to demonstrate integrated competencies in personal, social,

pedagogical and professional aspects when interacting with students. Therefore, it is very important to present educational psychology courses systematically and be able to fulfill the learning competencies needed to achieve learning objectives can be achieved optimally.

Universitas Negeri Medan is a university affiliated with the education sector, and has Basic Educational Courses (MKDK) in Educational Psychology. MKDK educational psychology is a mandatory course in semester 3 (three) for every study program at UNIMED. All study programs at UNIMED have a mandatory MKDK Educational Psychology course in semester 3 (three). The total number of lecturers teaching MKDK Educational Psychology is a number of MKDK Educational Psychology classes in all study programs at UNIMED semester 3. In 2023, the number of lecturers teaching MKDK Educational Psychology at UNIMED will be 52 people.

This shows that there are many lecturers who carry out the comprehension experience in the class. A class must have learning tools that have been prepared to help the implementation of learning to be more focused and systematic to achieve the expected competencies. Learning tools include textbooks, RPS, evaluation instruments or learning tests, learning media, and student worksheets [14]. MKDK Educational Psychology already has RPS and textbooks that are used for the teaching and learning process in class. However, based on the results of learning evaluations over the last few years, it shows that the teaching practices carried out are still not standardized by the teaching lecturers. This is also supported by the collection of preliminary data results which show that there is inequality in the learning process in the classes. As a result, the desired learning objectives are not achieved optimally.

The relatively large number of teaching lecturers is accompanied by a diversity of backgrounds in the teaching styles of the teaching lecturers, making it important to create teaching materials that are uniform and easy to understand for every teaching lecturer. Moreover, UNIMED implements hybrid learning which involves more use of technology (such as laptops, internet, online learning media, and other learning applications) that supports the teaching and learning process. This makes teaching and learning practices increasingly diverse in the MKDK Educational Psychology class. Thus, there is a need for practical learning tools, easy to understand by every lecturer, which are technology-based, so that the learning process in class is on target, as per the stated course achievements. Quality and well understood teaching materials will help the teaching and learning process between lecturers and students to achieve optimal learning.

Creating high-quality teaching materials is one way to increase the standard of education. (William, 2002), standardized according to curriculum demands, following developments in science and technology, and able to bridge learning so that predetermined competencies can be achieved [9]. In other words, teaching materials must be practical and easy to understand for both educators and students. The relatively large number of teaching lecturers, accompanied by the diversity of educational style backgrounds of the teaching lecturers, makes it important to create teaching materials that are uniform and easy to understand for every teaching lecturer. Based on this description, it is interesting to conduct research on the development of learning tools or teaching materials in the form of technology-based MKDK Educational Psychology Worksheets at Universitas Negeri Medan, which are valid and of good quality.

2 Research Methods

This research uses development research which is usually called Research and Development (R&D). R&D is a research method used to produce certain products, and test the effectiveness of these products [22]. R&D aims to discover, develop and validate a product, and produce products that are used in various aspects of learning and education, which are usually directed to meet certain needs. The R&D that will be carried out is to produce learning tools in the form of OBE-based MKDK Educational Psychology worksheets for third (third) semester students at UNIMED.

The learning tool developed is the MKDK Educational Psychology Worksheet for third semester students at UNIMED. This MKDK Educational Psychology Worksheet was developed using the ADDIE model. ADDIE is a learning system design model that shows the basic stages of learning system design that are simple and easy to learn [18]. This methodology is divided into five stages of development: 1) analyze, 2) design, 3) development, 4) implementation, and 5) evaluation (testing). The Implementation (implementation) and Evaluation (testing) stages were not carried out because they were not part of the basic research.

The ADDIE model was chosen because it suits the problem behind this research. There is curriculum analysis, concept analysis, task analysis, and looking at characteristics

students and with the existing conditions, it is hoped that with this model a technology-based MKDK Educational Psychology Worksheet can be developed that is useful in the learning process at UNIMED. Apart from that, the ADDIE model was chosen by researchers because the ADDIE model is a coherent design, and there are validation and testing stages which make the development product more perfect.

Schematic image of research implementation workflow using the ADDIE Model with modifications according to research needs, as follows:

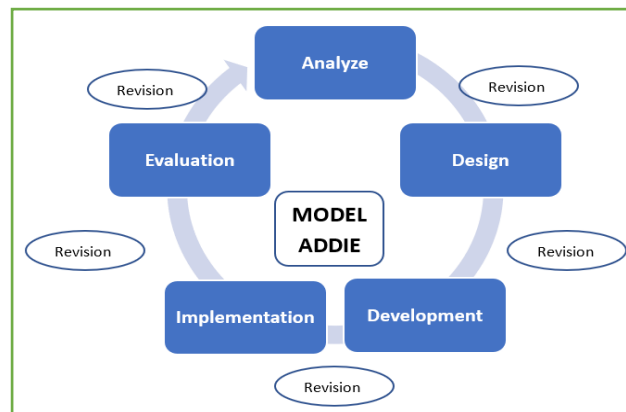


Fig. 1. ADDIE's Model

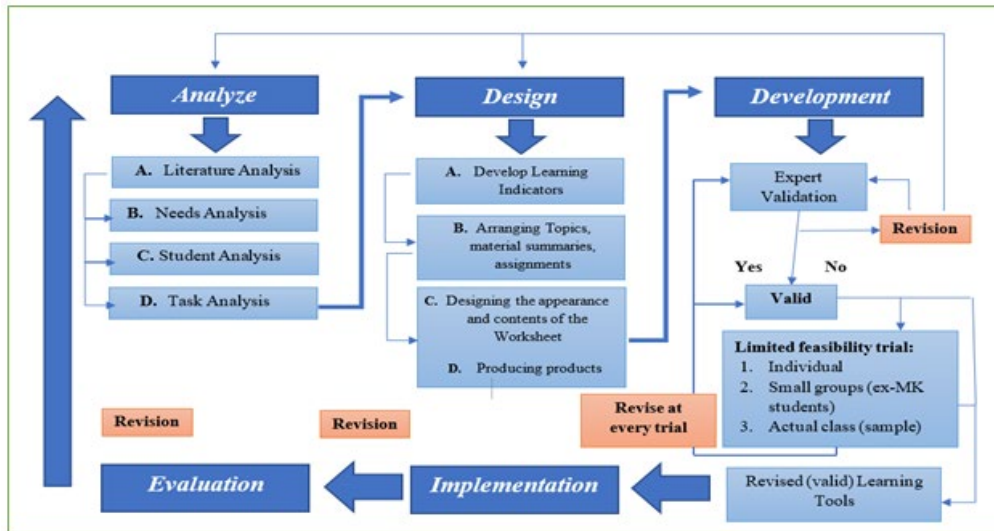


Fig. 2. Product Development Workflow Using the ADDIE Model (First 3 Stages) - Adjusted based on inquiries

Explanation of the workflow using the ADDIE Model (Putri, U. N., et al., 2023) with modifications according to research needs, as follows:

a. Analyze

The first thing to do is carry out the analysis stage which consists of literature analysis, needs analysis, student analysis and task analysis. The description of the analysis stage is as follows:

1. Literature Analysis

The literature analysis used is analysis of the curriculum, syllabus, RPS, and textbooks used in the teaching and learning process. This stage aims to identify material topics that will be used in learning tools.

2. Needs Analysis

The analysis of needs is carried out to assess the abilities or competencies that students need to master to improve learning outcomes. Researchers collect information that identifies supporting and inhibiting variables (gaps) in the learning process that each student should have which is an issue for students to attain acquiring knowledge targets that lead to enhancing the quality of education. This includes looking at students' needs while at school.

3. Student Analysis

It is known that students feel bored and find it difficult to understand the material given in class. Students also said that there was inequality in the teaching and learning process between one lecturer and another, thus making students feel a sense of inconsistency or injustice in the process. Furthermore, several students also said that in the learning process teachers had not maximized learning tools in the form of worksheets that were practical and easy to understand in the learning process. Students also said that the existing learning tools were less interesting and less colorful. Therefore, it is hoped that the learning device

products that will be developed can increase the equality of students' understanding, increase innovation and variety of learning tools in schools, expand students' knowledge of the material being taught, Direct learners through the learning process in a more practical and organized manner.

4. Task Analysis

The studies examine the primary tasks that students must complete in order to demonstrate minimum competency. This investigation was conducted to determine whether or not the challenges encountered by students necessitated the creation of learning tools.

b. Design

The planning (design) stage aims to create a product in the form of a module that guidance and counseling teachers can use to improve mental health in pupils through social-emotional learning and self-awareness. The product is designed on paper for the media learning device that will be made, then at this development stage the creation of the product begins in accordance with the structure that has been designed. The first stage is to create an initial display that has been designed, then the second stage is to create media content whose structure has also been adapted to the media structure at the design stage, namely title, topic/material, material summary, example questions and practice questions, practice, etc. At this stage, the appearance and contents of the product are prepared. This includes the use of language, worksheet cover, worksheet content, images, diagrams, tables, and other things related to layout. At this stage validation and revisions are also carried out which cover aspects related to product design. If the product design is deemed appropriate and worthy of testing, the product will then enter the development stage.

c. Development

After producing a prototype/product design, the product development stage is then carried out. This development stage aims to produce a product that is in accordance with the things needed at the analysis stage. This stage is a trial stage for using the product which involves several things, namely:

1. Expert Validation (Content/Material and Learning Process)

At this stage, the product will be validated by content/material experts and also experts in the learning process of educational psychology courses. During this point, the generated product is validated by expert evaluation in order to collect data about the research output's results. A team of specialists in product validation performs media expert validation in terms of display and technological quality, as well as material expert validation in terms of concept and grammar suitability.

2. Revision I of the product

The data obtained from the validation results by the validator is then revised according to the validator's suggestions. Revision I was carried out to improve the product being developed. This is done until the validator declares the product valid, so it can proceed to the next stage.

3. Limited feasibility trials

Products that have been revised based on suggestions from the validator, are then tested in stages on (1) individuals, followed by stage (2) small groups (by

lecturers who teach educational psychology courses at the faculty of educational sciences and students in educational psychology courses). Each process is revised according to the evaluation results.

3 Results and Discussion

After the product design is complete, it is tested on product users. The test subjects for this study were two content/material validators, two learning expert validators, 14 teachers educating psychological education studies, and 569 current pupils at Universitas Negeri Medan (which had been split into two groups: 469 students taking Educational Psychology courses for the 2022/2023 academic year and 100 students who completed the Educational Psychology Course previous to this year's study). Qualitative information was examined utilizing a qualitative approach to interpretive technique, whereas quantitative data was evaluated using descriptive data analysis.

Table 1. Responses to Appearance and Content Suitability of Worksheet

No.	Statement	Agree	Disagree	Strongly Disagree	TOTAL (%)
			(%)		
1	Worksheet titles are appropriate, clear and easy to understand	98,42	1,23	0,35	100,00
2	Letter spacing, letter font and paper size are appropriate	95,78	3,87	0,35	100,00
3	The images are clear, attractive and the image captions are explained	94,38	5,27	0,35	100,00
4	The use of sentences is easy to understand	97,89	1,76	0,35	100,00
5	The language used is communicative	97,72	1,93	0,35	100,00
6	Worksheets make me have the ability and high desire to learn	94,02	5,80	0,18	100,00
7	The activities/experiments/practices in the worksheets are easy to do, provide experience and help me in concluding concepts	94,73	5,10	0,18	100,00
8	The presentation of tables, table of contents, instructions for using the worksheets and bibliography can be understood clearly	95,96	3,69	0,35	100,00
9	Worksheets can have an influence on student personality	94,55	4,39	1,05	100,00
	Mean	95,94	3,67	0,39	-

N = 569 university students (100 people have taken the Educational Psychology Course, 469 students are currently taking the Educational Psychology Course in the 2022/2023 Academic Year)

The initial table (Table.1) shows that average answer the value for suitability about the appearance as well as the material of the Educational Psychology Course Worksheet is 95.94%.

Table 2. Response to Needs and Suitability of Worksheets Materials

No.	Statement	Agree	Disagree	Total	Feedback
1	The Basic Course in Educational Psychology currently has a textbook	100,00	0,00	100,00	1. Basic Educational
2	The number of classes and the variety of lecturers in the Basic Educational Psychology Course can have an impact on the existence of gaps and variations in the learning process in this Course.	86,11	13,89	100,00	Psychology Course Worksheet is integrated with the Basic Educational
3	The existing diversity has the potential to provide differences in the learning process in each class (material, assignments, discussion processes, etc., can be unequal between one class and another)	86,11	13,89	100,00	Psychology Course textbook
4	There is a need for complementary teaching materials that are practical and simple so that the learning process is easier to implement	100,00	0,00	100,00	2. Worksheets for Basic Educational
5	There is a need for other complementary teaching materials that are easy to understand and use in the learning process	100,00	0,00	100,00	Psychology Subjects should continue to be developed as time goes by
6	The Basic Educational Psychology Course requires worksheets as a complement to teaching materials to support the success of the learning process in this course	97,22	2,78	100,00	3. There is a need to socialize the use of the Basic Educational
7	Worksheets for Basic Educational Psychology Subjects are considered important to facilitate the teaching and learning process	100,00	0,00	100,00	Psychology Course Worksheet for each lecturer teaching the course
8	Basic Educational Psychology Subject Worksheets make the teaching and learning process equal in every class	94,44	5,56	100,00	
9	Basic Educational Psychology Subject Worksheets make the learning process more focused and structured	100,00	0,00	100,00	

10	Worksheets for Basic Educational Psychology Subjects make it easier for lecturers to teach	100,00	0,00	100,00
11	Worksheets for Basic Educational Psychology Subjects help students following the learning process	100,00	0,00	100,00
12	Basic Educational Psychology Subject Worksheets are displayed with concepts that are easy to understand	97,22	2,78	100,00
13	Worksheets for Basic Educational Psychology Subjects prioritize deep understanding and appreciation	100,00	0,00	100,00
14	Educational Psychology Basic Subject Worksheets focus on productive and innovative learning	100,00	0,00	100,00
15	Worksheets for Basic Educational Psychology Subjects are able to produce learning products that suit the needs of students in the future	100,00	0,00	100,00
16	Worksheets for Basic Educational Psychology Subjects have a positive impact both psychologically and cognitively on their users	100,00	0,00	100,00
	Mean	97,57	2,43	- -
N samples = 36 people (14 lecturers + 1 class consisting of 22 students)				

Based on Table 2, the needs and applicability of the Educational Psychology Course Worksheet received an average response score of 97.57%.

Table 3. Content/Material Expert Response Results

No.	Statement	Response	Feedback
1	Suitability of material to learning objectives	suitable	The material is appropriate and equivalent to various developments in the world of education, and students are also invited to explore various things that can stimulate high-level thinking skills, make minor improvements related to writing typos and neat appearance.
2	The information presented is in accordance with current developments	suitable	
3	Conformity of the material with the concepts stated in the source/reference	suitable	
4	Conformity of assignments/practicals with the material presented in the Worksheet	suitable	
5	The presentation of worksheet	suitable	

	material guides students to actively think, communicate, search, manage data and conclude	
6	Presenting pictures, charts, etc. can help students understand the material being presented	suitable
7	Compatibility of the language used according to the rules of excellent and accurate Indonesian / Ejaan Yang Disempurnakan (EYD)	suitable
8	The use of sentences is easy to understand	suitable

Table 4. Results of Learning Expert Responses

No.	Statement	Response	Feedback
1	Compatibility of the language used according to the rules of excellent and accurate Indonesian / Ejaan Yang Disempurnakan (EYD).	suitable	Overall it is good, only minor revisions such as the use of writing format and language to make it clearer, appropriate to the material, and equal/uniform
2	The use of sentences is easy to understand	suitable	
3	The choice of worksheet cover is appropriate and attractive	suitable	
4	Clarity of writing and images	suitable	
5	Setting the proportions (shape, layout, etc) of the table to the shape and size of the paper	suitable	
6	Use of terms and symbols	suitable	
7	Suitability of placement and availability of illustrations in each material	suitable	
8	Completeness of the Worksheet content structure (Title, study/usage instructions, tasks, and other supporting information)	suitable	

Based on tables 3 & 4, it can be concluded that the MKDK Educational Psychology Worksheet is appropriate in terms of material/content aspects, learning aspects, as well as its usefulness for users of the MKDK Educational Psychology, namely lecturers and course students.

Apart from quantitative analysis, qualitative analysis was also carried out. The results of the qualitative analysis show several results, namely: (1) The MKDK Educational Psychology Worksheet is integrated with the MKDK Educational Psychology textbook; (2) Educational Psychology MKDK Worksheet so that it continues to be developed as time goes by; (3) There is a need to socialize the use of the MKDK Educational Psychology Worksheet for every lecturer teaching the MKDK Educational Psychology so that understanding of the use of the Worksheet is equal.

In this research, the problems raised in the problem formulation to overcome them will be discussed. There are two types of results of this development research, the first is the production of Outcome-based educational psychology (OBE) course worksheets and the second is knowing the feasibility of the product that has been made.

The results of the preparation of the product consist of the initial part of the soul: title page, foreword, table of contents, diagrams and tables, inspiration material, followed by practical assignments in the form of observation assignments, observing assignments, accompanied by work instructions, and complete with related self-reflection pages. learning process and the material provided. The product cover displays the title and is equipped with a student identity column. The worksheet created consists of several parts that complement parts of the educational psychology course book. Students are provided with assignments and exercises so they can prepare for work steps and follow instructions.

Several validation and revision processes were carried out to produce worksheet products for educational psychology courses. Some of the responses were taken based on: 1) Response to Appearance and Content Suitability of Worksheet; 2) Response to Needs and Suitability of Worksheet Materials; 3) Content/Material Expert Response Results; and 4) Learning Expert Responses. Based on these four things, the results obtained are: 1) average answer value for suitability of the look and content of the Educational Psychology Course Worksheet is 95.94%; 2) average response value for the needs & suitability of the Educational Psychology Course Worksheet was 97.57%; 3) Experts state that the worksheets are 100% appropriate both in terms of content/material and in terms of learning.

4 Conclusion

Given the study's findings, the Worksheets part of the Educational Psychology Courses earned a very positive assessment, specifically suited to learning demands, having with an average weight score of more than 95%. It may be determined that the resulting Educational Psychology Course Worksheet product meets the learning goals of students enrolled in the Educational Psychology Course at Universitas Negeri Medan. Given what has been discovered, it can be determined that this Educational Psychology Course Worksheet is appropriate during application to both learning and instruction of Educational Psychology Courses at Universitas Negeri Medan.

References

- [1] Akbar, Sa'dun. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: PT. Remaja Rosdakarya Offset.
- [2] Ango, B. (2013). *Pengembangan Lembar Kerja Peserta Didik (LKPD) Mata Pelajaran Teknologi*.
- [3] Arikunto, S. (2017). *Pengembangan Instrumen Penelitian dan Penilaian Program*. Yogyakarta: Pustaka Pelajar. Azwar, S. (1998). *Metode Penelitian*. Yogyakarta: Pustaka Pelajar.
- [4] Darmadi, H. (2013). *Dimensi-dimensi Metode Penelitian Pendidikan dan Sosial*. Bandung: Alfabeta.
- [5] Daryanto & Dwicahyono, A. (2014). *Pengembangan Perangkat Pembelajaran*. Penerbit Gava Media: Yogyakarta.
- [6] Depdiknas, (2008). *Panduan Pengembangan Bahan Ajar*. Jakarta: Depdiknas
- [7] Furi, LMI, Handayani, S., & Maharani, S. (2018). Eksperimen dengan model pembelajaran berbasis proyek terpadu batang dan pembelajaran berbasis proyek untuk meningkatkan hasil belajar dan kreativitas peserta didik pada kompetensi dasar teknologi pengolahan susu. *Jurnal Penelitian Pendidikan*, 35(1), 49-60.
- [8] Gall, M. & Borg, W. (1989). *Educational Research*. New York, London: Longman.

- [9] Jippes, E.; van Engelen, J.M. L.; Brand, P.L.P. dan Qudkerk, M., (2010), Competency-basedm (CanMEDS) residency training programme in radiology: systematic design procedure, curriculum and success factors, *Eur Radiol*, 20(4): 967-977
- [10] Lestari, B. & Fatmawati, L., (2022). LKPD Digital Berbasis Soal HOTS Dalam Pembelajaran Tematik Untuk Mengembangkan Keterampilan Berpikir Kritis. *Seri Prosiding Ilmu Sosial & Humaniora*, 3, 421-427.
- [11] Majid, Abdul. (2006). Perencanaan Pembelajaran. Bandung: PT Remaja Rosdakarya
- [12] Majid, Abdul. (2008). Perencanaan Pembelajaran: Mengembangkan Standar Kompetensi Guru. Bandung: Remaja Rosdakarya.
- [13] Nabilah, S., Nursan, M., & Suparyana, PK (2021). Sosialisasi penggunaan Zoom meeting dan aplikasi Google Classroom kepada guru di SDN 17 Springs Padang Selatan. *Jurnal Inovasi Riset*, 1(12), 1–4.
- [14] Nazarudin, (2007), Manajemen Pembelajaran: Implementasi Konsep, Karakteristik dan Metodologi Pendidikan Agama Islam di Sekolah Umum, Yogyakarta: Teras.
- [15] Nurazlina, dkk. (2022). Pengembangan LKPD Larutan Penyangga Berbasis Proyek yang Terintegrasi Nilai Karakter. *Jurnal Penelitian Pendidikan, Psikologi Dan Kesehatan (J-P3K)* 2022, Vol. 3 (No. 3): 251256.
- [16] Prastowo, A. (2012). Panduan Kreatif Membuat Bahan Ajar Inovatif. Jogjakarta: Diva Press.
- [17] Prastowo, A. (2014). Pengembangan Bahan Ajar Tematik. Jakarta: Prenadamedia Group.
- [18] Pribadi, Benny. A. (2010). Model Desain Sistem Pembelajaran. Jakarta: Dian Rakyat.
- [19] Riduwan, (2014). Belajar Mudah Penelitian untuk Guru-Karyawan dan Peneliti Pemula. Bandung: Alfabeta.
- [20] Rusman. (2012). Model–Model Pembelajaran. Depok: PT Rajagrafindo Persada
- [21] Sugiyoni, (2016). Metode Penelitian & Pengembangan Research and Development. Bandung: Alfabeta
- [22] Sugiyono, (2013). Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, dan R & D). Bandung: Alfabeta
- [23] Sugiyono. (2014). *Metode Penelitian Pendidikan Pendekatan Kuantatif, Kualitatif, dan R&D*. Bandung: Alfabeta
- [24] Wahyuni, Sri. (2019). Pengembangan Lembar Kerja Peserta Didik (LKPD) Terintegrasi Imtaq pada Materi Popok Struktur dan Fungsi Jaringan pada Tumbuhan untuk Kelas XI SMA Tahun 2018/2019. Pekanbaru: Publikasi. (Diakses: 10 Januari 2023)
- [25] Widyantini, Theresia., (2013). Penyusunan Lembar Kegiatan Siswa (LKS) sebagai Bahan Ajar. Artikel. Yogyakarta: PPPPTK Matematika.