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Mixed Learning with a Project Based Learning (PjBL) approach in Raid Planning Execution (RPE) Training Courses

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Abstrak

Pesatnya perkembangan teknologi menuntut suatu sistem yang cepat, mudah, murah, efektif dan efisien serta dapat diakses kapan saja dan dimana saja, termasuk dalam dunia pendidikan dan pelatihan. Penelitian ini bertujuan untuk menghasilkan perencanaan pembelajaran online dengan pendekatan Project Based Learning (PjBL) dan media pembelajaran online yang dapat digunakan dalam mata kuliah Pelatihan Eksekusi Perencanaan Raid (RPE). Penelitian ini menggunakan metode Research and Development (R n D) dengan model pengembangan Integrative Learning Design Framework (ILDF) dan model desain pengembangan PEDATI (Learn, Learn, Apply and Evaluation). Subyek penelitian ini melibatkan sepuluh personel di bidang Pemberantasan Pengembangan Sumber Daya Manusia Badan Narkotika Nasional. Pemilihan sampel dilakukan secara acak. Tahapan yang dilakukan antara lain evaluasi satu lawan satu oleh pakar (expert review), evaluasi satu lawan satu oleh peserta pelatihan (one to one) dan evaluasi kelompok kecil. Untuk memperoleh informasi mengenai keefektifan produk yang dihasilkan, dilakukan uji keefektifan. Hasil penelitian ini menunjukkan bahwa perencanaan pembelajaran online dengan pendekatan project based learning dan media pembelajaran online layak digunakan pada mata kuliah Raid Planning Execution (RPE).

***Kata kunci*:** *Pengembangan, Pembelajaran Campuran, Project Based Learning, Raid Planning Execution*

Abstract

The rapid development of technology demands a system that is fast, easy, cheap, effective and efficient and can be accessed anytime and anywhere, including in the world of education and training. This study aims to produce online learning plans with a Project Based Learning (PjBL) approach and online learning media that can be used in Raid Planning Execution (RPE) training courses. This study uses the Research and Development (R n D) method with the Integrative Learning Design Framework (ILDF) development model and the PEDATI development design model (Learn, Learn, Apply and Evaluation). Subject of this study involve ten personnel in the field of eradication of Human Resources Development of the National Narcotics Agency. Sample selection is done randomly. The stages carried out including one-to-one evaluation by experts (expert review), one-to-one evaluation by training participants (one to one) and small group evaluation. To obtain information on the effectiveness of the resulting product, an effectiveness test was conducted. The results of this study indicate that online learning plans with a project-based learning approach and online learning media are appropriate for use in Raid Planning Execution (RPE) training courses.

Keywords: Development, Blended Learning, Project Based Learning, Raid Planning Execution

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1. INTRODUCTION

The current learning process uses various electronic media both offline and online. E-learning is an asynchronous learning activity through computer electronic devices that obtain learning materials that suit their needs (Elyas, 2018; Prestiadi et al., 2020; Suryaningtyas et al., 2020). E-learning is an interesting innovative learning approach, which is flexible, student-centered, interactive, and of course can be accessed anytime, anywhere and by anyone (Novitasari, 2019; Sari et al., 2020; Vagg et al., 2020). The existence of e-learning provides an agreement for lecturers to be able to manage, plan, deliver and evaluate the teaching and learning process (Amin et al., 2021; Junus et al., 2021). E-learning provides flexibility for lecturers to provide access for students to obtain scientific references related to courses, making it easier for interaction between students and the material or subject matter (Budi & Nurjayanti, 2013; Muharto et al., 2019). The learning process with E-learning will

have an effect on the academic performance of students. The use of this technology is considered capable of having a positive and significant impact on the teaching and learning process (Suartama et al., 2019; Tawafak et al., 2019). The successful use of the technology is considered suitable for use in other sectors, such as training (Lettmayr, 2011; Marchalot et al., 2018). The role of training institutions in improving competence plays an important role in professionalizing public services through the formulation of career development programs and training policies as well as providing training support including orientation programs, training for new personnel, and training of trainers (Ginja & Chen, 2020; Vyas, 2019). It is well realized that with appropriate and appropriate training, the improvement of ASN competence will be even better, including what has been done by the Human Resources Development Center of the National Narcotics Agency.

The Center for Human Resources Development of the National Narcotics Agency has an important role in improving the competence of its employees, especially the competence of the eradication team which is the front line in eradicating drug trafficking in Indonesia (Pradityo & Kurniawan, 2021; Setiaawan et al., 2020). One of the trainings that must be attended by the eradication team is the Refreshment Training, where in the training there is a Raid Planning Execution (RPE) training eye which is a training program that focuses more on field practice and is an accumulation of processes from the process of observation, surveillance, undercover agent (work). Undercover buy, controlled delivery, interview, informant handling, notebook analysis and use of net monitors in the field. This education and training program is focused on the investigation and arrest of narcotics. In Raid Planning Execution (RPE) training, the eradication team is provided with several sub-topics, namely ambush planning, ambush and arrest techniques and techniques for entering dark laboratories. Conventional training so that almost most of the training participants are not familiar with Information and Communication Technology (ICT) where in the current era Information and Communication Technology (ICT) is one of the sources of information related to narcotics abuse in Indonesia (Boonprasom & Sintanakul, 2020; Chai & Kong, 2017; Khalid, 2011). In addition, the implementation of education and training requires a relatively long time so that it can interfere with the duties, principals and functions of the eradication team personnel. Therefore, it is necessary to innovate or change the learning system in Raid Planning Execution (RPE) education and training in order to streamline the available time and energy so that effective training can be carried out.

One of the learning models for training that can be done is mixed learning or what we often call blended learning. Blended Learning is a form of learning system that combines synchronous and asynchronous learning strategies in order to create a learning experience to achieve optimally determined learning outcomes (Chakraborty, 2021; Reyna et al., 2017). Blended learning can be done directly or indirectly. From the teacher's point of view, blended learning is considered to have a slight advantage when looking at the level of success and overall outcomes (Indajang et al., 2021; Shorey et al., 2017) The blended learning system for Raid Planning Execution (RPE) training can be done using the Project Based Learning (PjBL) approach. Project-based learning (PjBL) was chosen to be combined in this research considering that this learning model has a positive impact on the learning process (Afriana et al., 2016; N W Rati & Rediani, 2021; A. Syakur et al., 2020). Where in the learning process with this model students play an active role in the learning process. This is because PjBL involves students with real problems that are found everyday to be solved in learning, where the resulting solution is poured in the form of a Project (Chu et al., 2017; Hernáiz-Pérez et al., 2021; Ni Wayan Rati et al., 2017).

Project Based Learning is a learning method that uses media through working on project activities, both in groups and individually with feedback given by students and emphasizing the use of technology (Girgin, 2020; Safaruddin et al., 2020) Learning using the

Project Based Learning (PjBL) approach can help increase student interest in the learning process. Project Based Learning (PjBL) also allows it to be an effective strategy to introduce methods, media, and designs that will later be used in future work careers (Arizona et al., 2020; Berselli et al., 2020; Kastner, 2020). Blended Learning with the Project Based Learning (PjBL) approach, it is very suitable to be applied to Refreshment training with Raid Planning Execution (RPE) training courses to meet competency development of 20 Lesson Hours (JP) per year for the eradication team. Base on previous study state that the application of PjBL online to student performance is considered effective (Beneroso & Robinson, 2022). Other study also state that PjBL resulted in significant improvements in learning outcomes, as well as in terms of building teamwork and communication skills (Sumarni, 2020; Ting et al., 2021). PjBL can improve student achievement and improve communication between students and lecturers (Salma, 2020; Teresa et al., 2014). Therefore, the use of project-based mixed learning has a greater influence on student achievement.

Based on a review of several previous studies, a gap analysis was found, namely the focus of research conducted on online learning, blended learning and project-based learning in general only examines the results of learning and the results of the implementation of the project-based learning approach as well as individual projects carried out by participants. Therefore, researchers will focus on developing mixed learning with a project-based learning approach that focuses more on teamwork. Researchers will make team projects both online and offline. The purpose of this study is that researchers wish to apply a blended learning learning system with a Project Based Learning (PjBL) approach in Raid Planning Execution (RPE) training courses. The aims of this research is to produce online learning plans with a project-based learning approach and online learning media that can be used in Raid Planning Execution (RPE) training courses.

2. METHODS

This research is a development research or commonly referred to as Research and Development (R&D) which aims to produce a learning product (Gustiani, 2019; Saepuzaman et al., 2019). The products produced are online learning plans and online learning media with a Project Based Learning (PjBL) approach in the Raid Planing Execution (RPE) Training Course for the eradication team at the Human Resources Development Center of the National Narcotics Agency. This research was conducted at the Center for Human Resources Development of the National Narcotics Agency. This development design uses the Integrative Learning Design Framework (ILDF) development design model which consists of the exploration stage, preparation stage and evaluation stage which is combined with the PEDATI (Learn, Learn, Apply and Evaluation) model at the preparation stage (Lalian et al., 2021; Lasamahu et al., 2021). In the exploration and evaluation stages, the ILDF model will be used. The PEDATI model at the preparation stage which consists of research design development, product prototype development and product design development is carried out using a project based learning approach as shown in Figure 1.

At the evaluation stage, the product that has been produced will be tested and evaluated to find out whether the product that has been produced is suitable for use or not. The stages carried out are one-to-one evaluation by experts (expert review), one-to-one evaluation by training participants (one to one) and small group evaluation. Assessment and testing of learning media experts is carried out by developers during the evaluation process by expert review. The evaluation grid by expert review is as listed in Table 1.

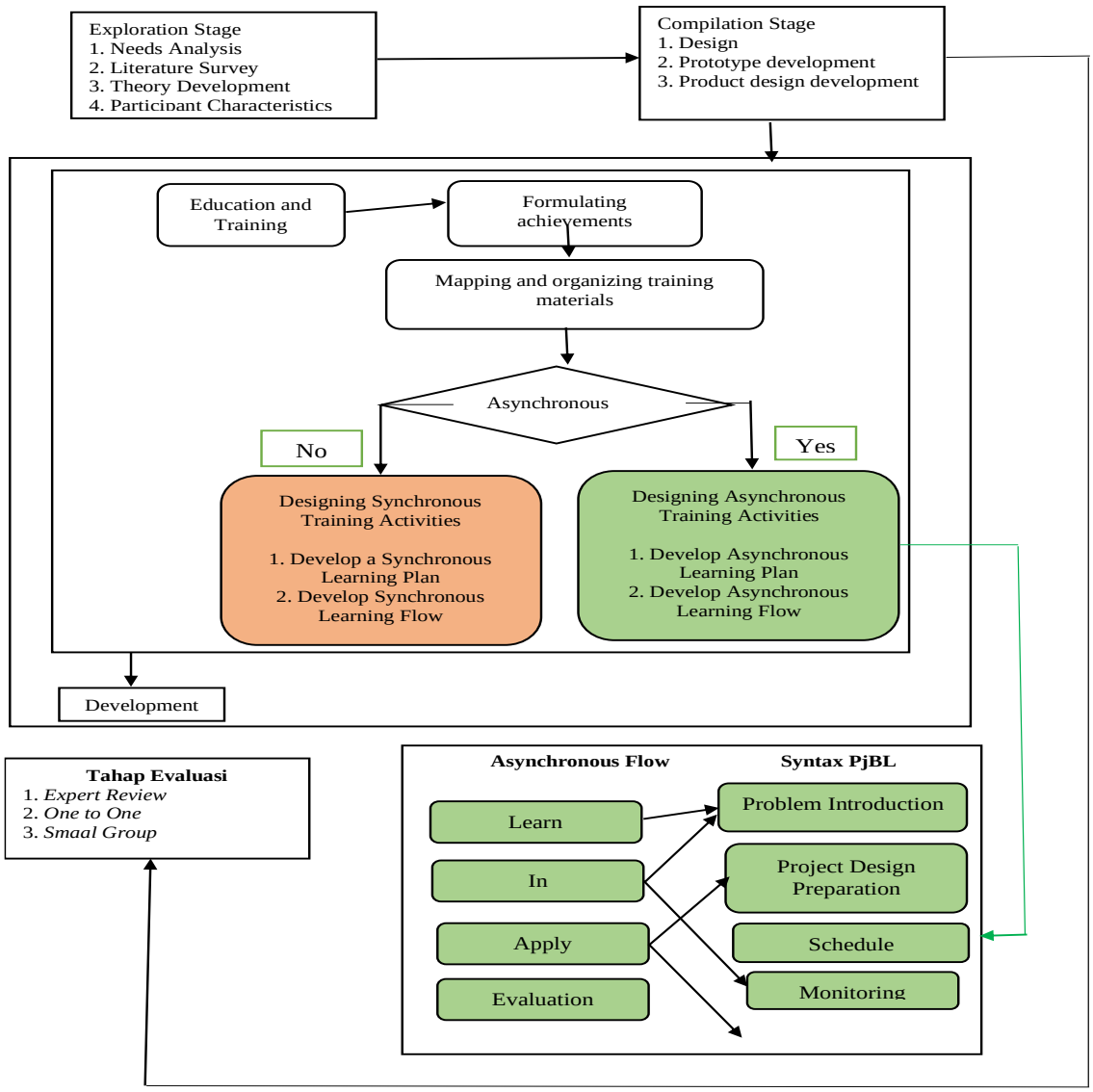

Figure 1. Development plan

Table 1. The evaluation grid by expert

No	Aspect	Rated indicators	Item Number	Scale
A	Learning	1. Determination of the use of media with the goals to be achieved	1	4
		2. Media according to the characteristics and students	2, 3	
B	Media Display	3. Display of the layout and color composition of learning materials in network-based learning media	4, 5, 6	
		4. Increased carrying capacity and relevance of graphic display	7, 8, 9	4
		5. Ease of using navigation on network-based learning media	10	
C	Program/ Compatibility	6. Ease of understanding instructions, accessing navigation and searching for the desired data	11, 12, 13	4

No	Aspect	Rated indicators	Item Number	Scale
		or material		
		7. Kecepatan kapasitas kapasitas *loading* media	14	
		8. Completeness of tools and suitability of functions in meeting the needs of learning and using the browser	15, 16	
D	Presentation of Materials and Media	9. Improved appearance and tidiness of network-based teaching materials	17, 18	
		10. The level of readability of text, fonts, backgrounds and icons on network-based learning media	19, 20, 21, 22, 23	4
		11. Video quality	24	
		12. The suitability of other media used in network-based learning (presentation slides)	25	
		13. Media stands alone and can be used for online learning	26	

After the expert gave an assessment, the next stage was product revision. This process is carried out by the developer then followed by a one-to-one evaluation by the user (one to one). The developer selects one of the personnel in the field of eradication who has attended training. The selection of personnel who have been training participants is carried out on three representatives of the work unit and then one participant is selected from the three selected satkers. The next stage is evaluation. By involving 10 personnel in the field of eradication. Sample selection is done randomly. After getting the results of the small group trial, then these results are used as the basis for perfecting blended learning products.

To obtain information on the effectiveness of the resulting product, an effectiveness test was conducted. The pilot training program or the effectiveness test phase with the number of students as many as 20 people from the eradication field personnel and have met the requirements for this training. Effectiveness testing is carried out in this activity to determine the effectiveness of the product developed under conditions that are close to the real thing, namely to get results in the form of effectiveness of learning outcomes through an analysis of improving student learning outcomes seen through initial test data and final learning tests.

3. RESULTS AND DISCUSSION

Results

The results of this study are the result of product development that has passed several stages, namely the exploration stage and the preparation stage as well as the results of product trials. At this stage of preparation, the researcher used the PEDATI design model (Learn, Learn, Apply and Evaluation) to draft an online learning design using a Project Based Learning approach. In the early stages, researchers formulate learning outcomes and map and organize subject matter which can be seen in Table 2.

Base on Table 3, the developer determines and categorizes the subject matter into subjects, sub-topics and subject matter in accordance with the learning outcomes that have been determined. Based on the results of mapping and organizing the subject matter, for further selection and determination of asynchronous and synchronous materials which can be seen in Table 3.

Table 2. Formulate Learning Outcomes and Map and Organize Subject Matter

Subject	Sub Topic	Subject matter
Raid Planning and Executing	Attack Planning	1. Planning, Organizing and Structure of Tasks 2. Explanation of Command Duties 3. Explanation of the Tasks of the Surveillance group
	Ambush and Capture Techniques	1. Explanation of the Tasks of the ambush group 2. Vehicle Stopping Techniques 3. The Aim of the Ambush 4. The technique of conducting an ambush 5. Techniques for making arrests
Techniques for entering the dark laboratory of Narcotics	Techniques for entering the dark laboratory of Narcotics	1. Get to know the Dark Narcotics Laboratory 2. The technique of entering the dark laboratory of Narcotics

Table 3. Determination of Asynchronous and Synchronous Materials

Learning Outcomes	Subject	Sub Topic	Learning Settings		
			Sync		asynchronous
			SL	SM	
Training participants can understand planning and ambush and capture correctly	*Raid Planning and Executing*	1. Attack Planning 2. Ambush and Capture Techniques	√		√ √
Training participants can understand and know about the dark laboratory of Narcotics	*The technique of entering the dark laboratory of Narcotics*	The technique of entering the dark laboratory of Narcotics	√		√

Base on Table 3, the two subjects, Raid Planning and Executing and Arrest Techniques and Techniques for entering the dark laboratory of Narcotics will be studied synchronously and asynchronously. Synchronous is carried out for practical material and is a complement to the project being worked on. The next thing to do is to design asynchronous learning activities such as designing a variety of digital materials, independent objective tests. The presentation of the material is done using text and power point media. The results of the asynchronous activity design can be seen in Table 4.

The application of the PEDATI development design with a project based learning approach resulted in an online learning plan for Raid Planning Execution (RPE) training courses. After compiling the draft of the learning device, then proceed with the evaluation process. This evaluation process involves several experts including learning design experts, material experts and learning media experts, while one to one and small group evaluations are carried out by users of online learning products.

Table 4. The Results of the Asynchronous Activity Design

Subject	Training Objectives	Sub Topic	Subject matter	Asynchronous Learning Activities			
				Self-Asynchronous	Collaborative Asynchronous	Collaborative Asynchronous	Self-Asynchronous
				learn	in	apply	Evaluation
Raid Planning and Executing	Training participants can understand and plan attacks, ambushes and arrests correctly	Attack Planning	1. Planning, Organizing and Structure of Tasks 2. Explanation of Command Duties 3. Explanation of the Tasks of the Surveillance group	Slide PDF	discussion	Proyek	Test
		Ambush and Capture Techniques	1. Explanation of the Tasks of the ambush group	Slide PDF	discussion	Online Assignments	Test
			2. Vehicle Stopping Techniques	Slide PDF Video			
			3. The Aim of the Ambush	Slide PDF			
			4. The technique of conducting an ambush	Slide PDF Video			
			5. Techniques of making arrests				
The technique of entering the dark laboratory of Narcotics	Training participants can know and understand the technique of entering a dark laboratory correctly	The technique of entering the dark laboratory of Narcotics	1. Get to know the Dark Narcotics Laboratory 2. The technique of entering the dark laboratory of Narcotics	Slide PDF Video	discussion	Online Assignments	Test

Based on the suggestions and inputs as well as the results of the assessment on the questionnaire from the three experts with good categories, the design, media and learning materials were declared suitable for use in learning in the Raid Planning Execution (RPE) training course with revisions. Furthermore, in user evaluation, in the one-to-one test which was tested on three combat teams (Arikunto & Safruddin, 2009),, the results can be seen in Table 5.

Table 5. Result of One-To-One Test

No	Statement	Average
1.	Learning Aspect	3.67
2.	Material Aspect	3.75
3.	Display Aspect	3.44
4.	Program Aspect	3.50
5.	Aspects ofLanguage and Communication	3.46
	All	**3.56**
	Percentage	**89.00%**

Based on Table 5, the data obtained the product developed is in the "very good" category indicated by an average value of 3.56 and a percentage value of 89% meaning that users, namely the eradication team, agree that learning media is used in the Raid Planning Execution (RPE) Training Course. The three people stated that the learning media was very feasible to use. After the one-to-one evaluation is carried out, the next step is the small group evaluation. This evaluation was carried out by fifteen members of the eradication team who had attended Raid Planning Execution (RPE) training courses. The results of the small group test evaluation can be seen in Table 6.

Table 6. The Results of the Small Group Test Evaluation

No	Statement	Average
1	The formulation of learning objectives in blended learning materials is very clear	3.47
2	There is a brief explanation in the introduction to blended learning	3.47
3	Assignment questions or quizzes are provided in accordance with the learning objectives	3.73
4	Suitability of learning with target characteristics	3.6
5	Continuity of material to achieve competence (sequence)	3.8
6	The relevance of the material to the learning objectives	3.67
7	*Clarity of the description of the material presented in blended learning*	3.87
8	Accuracy of practice with material and goals	3.6
9	*Contemporary and up-to-date material in blended learning*	3.13
10	Graphic display such as layout, color, and typography are quite interesting	3.33
11	Ease, capacity, and suitability for students	3.53
12	The navigation contained in the blended learning (application) is easy to use	3.33
13	Contrasting text and background colors so the display is clear	3.47
14	Use of color combinations for matching text	3.4
15	Harmonious, balanced and attractive color composition	3.53
16	There are learning instructions that make it easier for the target / user to take advantage of the program	3.53
17	Accessibility of navigation within the media and between media, easy access to learning components	3.67
18	Access speed loading capacity	3.67
19	Ease of searching the desired data/material	3.33
20	The online learning media feature can function properly using the browser that is used.	3.4
21	The speed level of the time required to download online material content is very good.	3.8
22	Program has spelling correctness according to the applicable language (EYD)	4.00
23	Editorial clarity and ease of understanding, no double meaning	3.13
24	Communicative use of language style	3.2
25	The suitability of the language style with the target / user	3.6
26	The level of readability of texts/editors in online learning media is very good (no editorial errors)	3.00
	Average	**3.51**
	Percentage	**87.00%**

Based on the Table 6, the average result of the evaluation of the small group trial is 3.51 and if presented the value is 87%. This value is included in the very feasible category

(Arikunto & Safruddin, 2009). So based on a small group trial, the resulting product is very suitable for use.

Discussion

The development of online learning models in Raid Planning Execution (RPE) training courses is carried out conceptually and procedurally. One strategy that can be applied to overcome the existing problems at the National Narcotics Agency's Human Resource Development Center is through the development of online learning. Online learning is a learning strategy where cognitive materials are studied independently anywhere and anytime through electronic devices such as gadgets or laptops (Englund et al., 2017; Hughes et al., 2020; Mardiana, 2020).

The online learning design applied to the Raid Planning Execution (RPE) training course is the PEDATI model combined with the project based learning syntax. The materials contained in online learning are presented in the form of pdf, document files, ppt, and videos, while the skill-based materials are studied online with a project based learning approach (Quintela-del-Río & Francisco-Fernández, 2017; Abd. Syakur et al., 2020). Project Based Learning (PjBL) can help students to be able to experience and experience project assignments firsthand (Jalinus et al., 2019; Mustapha et al., 2020; Wakid et al., 2020). Testing the feasibility of online learning with a project based learning approach in the Raid Planning Execution (RPE) training course is carried out in two ways, namely formative evaluation and product revision. Formative evaluation was carried out to test the feasibility of the product resulting from the development of online learning by an expert review(Githua, 2013; Schneider & Bodensohn, 2017). Suggestions and input from expert reviews become the basis for revising the product.

This online learning research and development has several differences with the research conducted by previous developers. As a comparison, the developer will describe some of the differences that exist. The following are some relevant studies, entitled "Development of E-Learning as a Blended Learning tool for the implementation of training in the preparation of teaching materials at the Center for Religious Education and Training in Denpasar" (Ariawan et al., 2022). This study aims to produce learning products in the form of e-learning as a blended learning tool that is valid, practical, and efficient in the implementation of training in the preparation of teaching materials at the Denpasar Religious Education and Training Center. The findings showed that Blended learning with PjBL assisted by Moodle was effective in improving mathematics literacy and student learning independency. This research aimed to describe mathematics literacy seen from learning independency on Blended learning with PjBL assisted by Moodle (Angreanisita et al., 2021). The findings showed that Blended learning with PjBL assisted by Moodle was effective in improving mathematics literacy and student learning independency. The description of the improvement seen from learning independency obtained various results as shown by high learning independency which reached high and moderate mathematics literacy skills. Based on the table above, we can conclude that the research and development carried out are both online-based but there are differences in the development model and learning strategy.

The implication of this research is the creation of online learning plans with a project-based learning approach and online learning media that can be used in Raid Planning Execution (RPE) training courses. This is very useful for agencies whose learning contains Raid Planning Execution (RPE) such as the Human Resources Development of the National Narcotics Agency. The limitation of this research is that its scope is very limited to the research subject. So it is hoped that further research will be able to expand the scope of research by involving more subjects and deepening the study of Project Based Learning (PjBL) approach in Raid Planning Execution (RPE) Training Courses.

4. CONCLUSION

Based on the formulation of the problem and the data obtained both at the research, development and evaluation stages, it can be concluded several things, including the following: (1) Research and development that has been carried out has produced a product, namely an online learning plan with a project based learning approach. and online learning media (2) The development of online learning media has gone through several stages of formative evaluation, namely to material experts, instructional design experts and learning media experts. Furthermore, the evaluation is carried out by users, namely through one-to-one and small group trials. Based on the formative tests of experts and users, it was stated that online learning media was suitable for use in Raid Planning Execution (RPE) Training Courses.

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