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DEVELOPMENT OF A TRAINING MODULE FOR PREPARING TESTLET QUESTIONS TO IMPROVE COMPETENCY OF CHEMISTRY TEACHERS

Menik Purpuniyanti, Bambang Ismanto
Master of Educational Administration, UKSW, Indonesia
Email: menikpurpuniyanti@gmail.com, bambang.ismanto@uksw.edu

ABSTRACT

The aim of this research is to describe the training in preparing questions for learning evaluation instruments that has been carried out by high school chemistry teachers in Boyolali Regency, as well as developing a training module for preparing questions in Testlet form to improve the competency of high school chemistry teachers in Boyolali Regency. Sugiyono's type of research is Research and Development (R&D) with a mixed method research approach from the ADDIE model. Traditional data collection techniques use interviews, documentation studies and questionnaires. The data validation technique is carried out by triangulating sources and techniques. The development stages are carried out through: (1) Potential and Problems, (2) Data Collection, (3) Product Design, (4) Design Validation, (5) Product Revision, (6) Trial, and (7) Product Revision. Limited to 10 Chemistry teachers in Boyolali district. Data analysis techniques use Milles and Huberman. The results obtained were that chemistry teachers in Boyolali district were relatively lacking in participating in question preparation training, the media used was inadequate, research weaknesses were due to limited time, lack of motivation and lack of understanding of the training being attended. In this research, a training module for preparing testlet questions to increase competency was developed, with a module design consisting of an introductory section, learning activity I, learning activity II, learning activity III, learning activity IV and closing. The results showed that the module was suitable for use by module expert validators, material experts and potential users, with suitability scores of 80.88%, 88% and 92% respectively. The training module created after being tested on a limited scale has an N-gain score of 0.7646 and an N-gain percent of 76.457% and is effective for increasing competency.

KEYWORDS *research and development (r&d), training module, testlet questions, competency improvement*

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INTRODUCTION

National education aims to increase the capacity of students to become people who believe in and fear God Almighty, have noble character, are healthy, knowledgeable, smart, creative and independent (Ningsih, 2020). They also want to be democratic and responsible citizens (Ünal & Kaygın, 2019). For this reason, every school must meet the National Education Standards (SNP) that have been set (Helda & Syahrani, 2022; Sumaryanti & Purwanto, 2023). In the evaluation of the 8 National Education Standards in schools, there are 2 SNPs that have a fairly high gap between expectations and reality, namely process standards and assessment standards (Mesiono et al., 2022). Referring to SNP, the learning process and learning evaluation contribute to the outcome of learning.

Teacher competence referred to in RI Law No. 14 of 2005 concerning Teachers and Lecturers is a collection of knowledge and skills, along with behaviors that must be mastered, lived, and possessed by teachers and lecturers when performing professional duties. According to Musfah (2012), teacher competence is a combination of knowledge, attitudes, and skills needed by teachers to provide education and learning. These skills or skills are acquired through education, training, and self-study. According to (Cox, 2023), competency is basically a description of the ability that can be seen by people in working with the type of work.

Article 8 of the Law on Teachers and Lecturers No. 14/2005 stipulates that teachers must possess academic competence, educator certificates, physical and spiritual health, and the ability to realize national educational goals. Continued in article 10 paragraphs 1 & 2, it states that Through professional education, teacher competencies are obtained including pedagogic competencies, personality competencies, social competencies, and professional competencies obtained. Teacher competence is further regulated by Government Regulation as intended in paragraph.

Competence as a learning agent at the 3103primary and intermediate rofession, and 3103Early childhood rofession, which is written in Government Regulation No. 19 of 2005 article 28 (3), consists of: 1) Ability 3103rofessio; 2) Personality ability; 3) Capabilities 3103rofessional; and 4) Capabilities rofes. This is in line with the opinion of (Sutarto & Sari, 2020) who stated that the ability of a teacher consists of: ability 3103rofessio, personality abilities, abilities Rofes and Capabilities Professional .

According to (Sholihah et al., 2020), Improving teachers' competence as educators can be done in several ways or strategies in the form of education and training. In the process of increasing teacher competence, it can be done in the following ways or types of training: 1) In House Training (IHT), 2) Internship, 3) Partnership or cooperation, 4) Distance Learning, 5) Special/Specialized Training, 6) Training at LPTK/educational institutions, 7) Internal Coaching, 8) Higher Education.

(Suherman et al., 2021) wrote that the module is part of a planned learning process, arranged in such a way that it makes it easier for students to peroinally so that their learning goals can be achieved. The level of mastery and understanding of students is different, depending on the ability of each student, because the intelligence of each student is different. The content of the module will be easier to understand by students who have a high level of understanding, while for students who have a slightly slow understanding it takes a long time and can learn the content of the material that has not been understood until it is understood, and of course requires assistance from a teacher in the process of understanding it.

In line with Prastowo (2012) who argues that modules are materials used to help the learning process that is made in sequence using words that make it easier for students to understand it, according to their level of understanding, so that participants are able to learn on their own without direction from the teacher. Likewise, as revealed by Susilana and

Riyana (2008), the module is a collection of activity plans designed and arranged in sequence to meet the needs of the user's learning process.

Objectives of the Preparation of Training Modules

As teaching materials and instructional media, modules must have information and learning resources, so that there is a development in conveying these learning materials to students. Agung and Wahyu (2012), stated that the purpose of using modules in learning activities is to achieve effective and efficient education. However, another opinion from Prastowo (2010), it is stated that the purpose of making modules is:

1) Without or with the guidance of educators, students can learn independently
2) In learning activities, the work of educators is not so domineering and authoritarian
3) Teaching an honest attitude from students.
4) It can accommodate several levels and also knows the speed and slowness of the learning process from students.
5) Students have the ability to self-assess their level of mastery of the modules used during the learning process.

Activities in the process of collecting and processing data to measure the achievement of student learning outcomes are defined as assessors, according to Article 1 of Permendikbud Number 23 of 2016 concerning assessment standards. After the learning activities are completed, assessments are carried out to measure students' understanding. During the evaluation process, test kits are required. A teacher usually uses a test form measuring device. Instruments, both written tests and other tests that have been standardized for the assessment process in learning activities, because the assessment results obtained provide information so that they can be used as a reference for decision-making. According to (Ryabko et al., 2025) educational assessment does two things: (1) evaluate individual performance or system effectiveness; and (2) improve learning.

The evaluation process of student learning outcomes is carried out by teachers as teachers. Teachers have the main task of educating and teaching, and from the learning process it is very important to know the results of the learning process. A teacher must assess the extent to which students can understand and master the lesson. On the other hand, students should also know how their work is done along with the results. This can be known by a teacher who conducts an evaluation. Pre-evaluation also needs to be carried out, before conducting an evaluation (Derrick & Samuel, 2017).

According to Law Number 14 of 2005 concerning Teachers and Lecturers, pedagogic competence consists of the ability of teachers to manage the learning process; understand students, and assess student learning outcomes. Teachers must not only understand the material, be able to develop teaching and learning programs, and be able to evaluate. This ability is very important for teachers. This is in line with the opinion of (Ndlovu, 2025) that evaluation activities are very important to track the success and achievement of the goals of various learning activities.

Learning evaluation is important in education to know the extent to which students understand the subject. If we pay attention to the world of education, we can know that evaluation always occurs at a certain time during a certain period of time. Teachers must be good assessors during the learning process. This is in accordance with what (Spaan et al., 2025) said that learning evaluation is the main subject of the evaluation topic, which operates in the classroom or in the teaching and learning process (Spaan et al., 2025).

A teacher must be able to create a variety of assessment tools that are sufficient to evaluate students, especially those related to cognitive aspects. So far, there has been almost never a test that evaluates the quality of the questions made by the teacher, so the questions used for tests or tests are almost never different. In fact, a teacher's ability to create questions that can reveal complex cognitive aspects must be followed by the

development of an increasingly advanced student mindset. Based on a questionnaire given to high school chemistry teachers in the Boyolali district area, it was found that most teachers had never participated in training in the preparation of questions for evaluation of the learning outcomes of their students. And for this Covid-19 pandemic, more and more teachers are participating in training, especially in the process of preparing questions. This is evidenced by the results of a questionnaire on Chemistry teachers at State High Schools in Boyolali district who last participated in question preparation training in 2019. Thus, this training is very necessary to be carried out. This situation can be described in Table 1

Table 1. Questionnaire Results on State High School Chemistry Teachers in Boyolali

Question	Teacher's Response
Have participated in training / Not yet	Not yet (70.59%), Already (29.41%)
When to Conduct Training	Not yet (70.59%), 2017 (5.9%), 2018 (17.65%), 2019 (5.9%)
Event Organizer	Not yet (70.59%), LPPM UNS (17.65%), MGMP (11.76%)
Media	Not yet (70.59%), PPT (29.41%)
Question Preparation Training	Never Ever (70.59%), Testlet (5.88%), HOTS (11.76), HOTS and LOTS (5.88%), Multiple Choice (5.88%)

Data processed by researchers

From the table, it can be seen that many teachers have not received training in the preparation of tests, so to improve teacher competence, training needs to be held. And to support the success of the training, it is necessary to have the help of training modules, because so far teachers have only used powerpoint media in the training process they are undergoing. From the table, it can be seen that 70.59% of respondents have never participated in training in preparing questions for evaluation. The number of respondents was 17 Chemistry teachers from State High Schools in Boyolali Regency.

Because in the implementation of the training, it turns out that no one has ever used a training module, so it is necessary to prepare a module for training. According to (Tarigan et al., 2021), modules are learning tools or means that achieve the expected competencies and can be used independently. The module contains materials, methods, limitations of learning materials, instructions for learning activities, exercises for evaluating. With the teacher being able to compile this testlet question, the teacher will be able to easily find out the mastery of the student's paad concept, in addition to the teacher is also easier to get analysis from the results of daily tests or other tests, so that if it will be mapped from the results of the student test, the teacher will be easier to map it.

The training that has been attended by Chemistry teachers in Boyolali district is question preparation training in the form of training in the preparation of HOTS, HOTS and LOTS, Multiple Choice, and some take part in Testlet training. All forms of questions used for evaluation certainly have advantages and disadvantages. Among the types of questions used in the evaluation, testlet questions are a combination of description questions and multiple-choice questions. Of course, it will have its own advantages compared to the description or multiple choice questions that have been used by teachers.

Testlet test instruments can be used as an alternative in the assessment process, according to (Dwijayanti & Savitri, 2022). An explanation was given that the test combined the advantages of multiple-choice questions with description-type questions. A set of questions in this same information is called testlet questions. (Embretson, S.E., &

Reise, S.P in Yamtinah, 2015). This question item is considered and necessary as a group of assessments that share problems in one context. In each correct question can be given to students in whole, partially, or not as a sign that they have known the correct answer before moving on to the next question with full knowledge of the correct answer. The question items are related to each other with other supporting questions.

Based on these findings, the researcher seeks to improve teachers' ability to prepare test questions for learning evaluation, by conducting research related to training in the preparation of test questions for chemistry teachers at State High Schools in Boyolali Regency. The approach in developing the training module for the preparation of questions used by the researcher refers to the Sugiyono model (2012) which is synergized with the ADDIE model. The procedures according to Sugiyono are: Potential and problems; Data collection; Product Design; Design Validation; Design Revision; Product Trials; Product Revision; Trial Use; Product Revision and Mass Production is a research procedure according to Sugiyono. However, the research conducted by the researcher is a development procedure only up to stage 7, namely Product Revision after product trials. Especially in the 3rd stage, namely product design, the ADDIE model development stage will be used. This means, in making products will be carried out through the stages of the ADDIE model, namely: analysis; desig;, development; implementation; and evaluation.

RESEARCH METHOD

This research is a Research and Development (R&D) research. With the research object of Chemistry teachers in Boyolali Regency, data collection techniques use interviews, observations, questionnaires and tests. The research method with a mix method that refers to Sugiyono's research procedure up to the seventh step is integrated with the design of the development of the ADDIE model, with the following description.

Table 2. Integration of Sugiyono's R&D stage with ADDIE

It	**Development stage**		**Activities**
	Sugiyono	ADDIE	
1	Potential and Problems	*Analysis*	Analysis of needs and problems through field studies, carried out to understand the training objectives, participants' targets, and training environment. Identify learning needs and available resources.
2	Data Collection	*Design*	Determination of material, systematics of module writing, determination of testing methods
3	Product Design		Preparation of training module design
4	Validation		Validation test of module experts and subject matter experts

5	Design Revision	*Development*	The product is revised according to the suggestions of the validators
6	Product Trial	*Implementation*	Limited scale trial for members of the Boyolali district Chemistry MGMP
7	Product revision	*Evaluation*	Product revision based on the results of a limited-scale trial

Data Collection Techniques

This study uses questionnaires, interviews, documentation, and tests to collect data. The instruments used in data collection are: interview sheets, validation sheets, questionnaire sheets, and questions for pretest and post test. Data validation techniques for qualitative data with data tri-angulation, and quantitative data were processed by effectiveness tests with IBM SPSS.

RESULT AND DISCUSSION

Thesis of Training on the Preparation of Questions Used by Teachers

In general, the training on the preparation of testlet questions was attended by Chemistry teachers who are members of the MGMP Subject Teacher Conference group in Boyolali district which consists of 15 public schools, MGMP members themselves consist of public and private schools in the district. But in this study, it was limited to public schools and was randomly taken for training participants.

The implementation of MGMP Chemistry activities in Boyolali was carried out on Wednesday with the number of activities in each semester being carried out at least three times. In MGMP meeting activities, it generally discusses learning tools, media used in the learning process, or issues related to teachers' duties in the teaching and learning process in the classroom, either due to curriculum changes or other things.

Based on the results of the interview with the chairman of the Boyolali Regency Chemistry MGMP, it was stated that so far for the training activities for the preparation of questions have never been obtained by Chemistry teachers in Boyolali, both organized by the agency and by other agencies that support the teacher's duties. This is also in line with the response from Chemistry teachers in Boyolali, based on a questionnaire obtained that of the 17 respondents of Chemistry teachers in public schools, 70.59% stated that they had never participated in question preparation activities, and 29.41% had participated in it. The activity was organized by LPPM UNS or from the empowerment of MGMP.

The implementation of the training that was followed, according to him, has been a long time, from the range of 2017 to 2019, because after that there were no face-to-face activities, most of the activities were online and what was given was how to change the learning process as well as online, with various problems. After the Covid-19 outbreak, training training in various institutions has mushroomed, but there is a lot about curriculum renewal with all related aspects. This statement is also supported by the results of Chemistry teacher respondents about their participation in question preparation training, there are 70.59% who have never participated in question preparation training, 5.9% who participated in 2017, 17.65% who participated in 2018, and 5.9% who participated in 2019.

Activity organizers, according to the chairman of MGMP from the office, are rarely obtained, and the MGMP itself has not been able to fully hold training. This is evidenced by the results of respondents who have participated in the training on the preparation of

questions, as many as 17.65% of the training was obtained from LPPM UNS and 11.76% from the Chemistry MGMP, for this reason why the training on the preparation of testlet questions was held in the MGMP Chemistry community of Boyolali district.

Development of Training Module for Testlet Question Preparation

1) Potential and Problems

The existence of potentials and problems is the initial stage of the research process carried out. According to Sugiyono (2019), potential is everything that can be further developed and will provide added value, so that at this stage it will determine how the product will be developed later.

At this stage, interviews were conducted, the researcher conducted an interview with the chairman of the Boyolali Regency Chemistry MGMP and supported by data from MGMP members to check the truth of the interview results. This stage needs to be done with the aim of obtaining valid data, so that it can be used for guidelines in determining the product specifications made.

A training is carried out in essence as a form of effort to improve competence or ability (chaerudin, 2018). Teachers' abilities need to be continuously improved in order to meet learning objectives, as conveyed by the chairman of MGMP Chemistry Boyolali district,

"The existence of training for teachers, whatever form it takes, is a step of the process of improving the professionalism of a teacher, by participating in training, their competence will increase. Especially related to teacher activities for student services, it can be the way of teaching, the way of learning media is also the evaluation instrument"

The results of the interviews show that there are still many Chemistry teachers who have not had enough training activities in the preparation of evaluation questions. So far, the questions used are only using existing ones, searching on the internet, or books that you already have.

2) Data Collection

The training module developed in this study uses the ADDIE development model which is adjusted to the development model from Sugiyono.

3) Product Design

The development of the module design of this testlet question preparation training is based on the principles of ADDIE

The content in the question preparation training module consists of:

1. Introduction

The introduction contains the background, objectives, competencies, scope and indications for the use of the module.

2. Learning Activity I: Basic Concepts of Assessment/Assessment

The learning activity section I contains introductions, learning outcomes, indicators of learning achievements, objectives, material descriptions, activities, exercises, summaries, fotmatic tests and feedback.

3. Learning Activity II: Basic Concepts for Preparing Testlet Questions

The learning activity section I contains introductions, learning outcomes, indicators of learning achievements, objectives, material descriptions, activities, exercises, summaries, fotmatic tests and feedback.

4. Learning Activity III: Procedures for Preparing Testlet Questions

The learning activity section I contains introductions, learning outcomes, indicators of learning achievements, objectives, material descriptions, activities, exercises, summaries, fotmatic tests and feedback.

5. Learning Activity IV: Preparation of Testlet Questions

The learning activity section I contains introductions, learning outcomes, indicators of learning achievements, objectives, material descriptions, activities, exercises, summaries, fotmatic tests and feedback.

6. Cover

4) Expert Validation

The process of expert validation is carried out after the module design is completed, which is carried out by module experts, material experts and prospective module users. The purpose of this validation is to get input, criticism and suggestions from the modules that have been made so that there are improvements made at the design revision stage. This testlet question preparation training module is validated by three (3) experts, namely one (1) module expert, one (1) material expert, and 6 (six) prospective module users.

The data obtained from the experts includes the score of each instrument, comments for further development or improvement. The validated components are: (a) the size of the module; (b) module cover design; (c) the content of the module material; (d) Cover. In this thesis, a training module for the preparation of testlet questions is also attached.

To obtain the feasibility of the results of expert validation consisting of module experts, material experts and prospective module users who have filled out the instrument sheet. The following is an explanation of the validation results from experts with the calculation of scores from the training module along with their guidance from each validator.

Table 3. Test Eligibility Score from Module Experts

It	Module Expert Indicators	Score
1	Module size according to writing standards	3
2	Margin and paper size fit on module	4
3	Illustration of module images depicting training content/materials that reveal object characters	3
4	Not too much use of typeface and image combinations	3
5	Module title color contrasts with the background color and module content	3
6	The proportion of the font size of the title, subheading, and supporting text of the module is more dominant and professional compared to the size of the module and the author's name	2
7	Clarity of module specifications	3
8	Suitability of content to learning objectives	4
9	Clarity of the theory used	3
10	Theory alignment with learning objectives	4
11	Clarity in the presentation of training systematics	4
12	The use of letter variations is not excessive	4

13	The fit of the image to the text or content of the material	2
14	Normal spacing between letters	4
15	Clarity of material content about Testlet question preparation training	3
16	Clarity of the flow of training module material	3
17	Clarity in formulating the conclusion of the Testlet question preparation training module	3
	Total	55
	Percentage	80,88 %

From the module experts, a total score of 55 was obtained for the training module, with the conclusion that the training module is suitable for trial after improvement/revision. The assessment score is assessed by the formula:

AP = (Actual Score)/(Ideal Score) x 100%
= 55/68 x 100%
= 80,88%

From the feasibility table, the score of 80.88% is included in the "very feasible" category with a score limit of 76% to 100%, but nevertheless there are still some things that must be revised according to the suggestions or input from module expert validators before testing module users.

Table 4. Test Feasibility Score from Material Experts

No	Module Expert Indicators	Shoes
1	Suitability of the content of training materials for the preparation of *testlet questions*	4
2	Completeness of the content of the training material for the preparation of *testlet* questions in a systematic order and arrangement	3
3	The content of the training module material is easy to understand for trainees	3
4	The material in the training module can help trainees in the process of preparing *testlet questions*	4
5	The material in the training module can motivate training participants in compiling *testlet questions*	4
6	The design of the content of the training module is neat, the placement of titles, subheadings, and table captions does not disturb the reader and is easy to understand	3
7	The font size used is not too large and not too small, and it also uses easy-to-read text	3
8	The systematics and conditions for presenting the model are appropriate	3
9	Description of the material in accordance with the module development objectives	4

10	The material in each sub-chapter is explained clearly and is easy to understand	4
11	Theoretical clarity used in the module	4
12	Suitability of the material to the learning objectives	4
13	The fit of the image to the text or content of the material	3
14	Interesting training module materials to use	3
15	Training module material complete with instructions for the implementation of *testlet question preparation*	4
	Total	53
	Percentage	88,33 %

After analysis, an assessment score from material experts was obtained of 88.33%, it was concluded that this training module is qualified and worthy of being tested after revision or improvement to the training module. Using a score of 1 - 4, the assessment score is assessed by the formula:

AP = (Actual Score)/(Ideal Score) x 100%
= 53/60 x 100%
= 88,33%

Based on the score obtained using the formula and grouped into the "very decent" category with an interval of 76% - 100%. The training module still needs to be revised or improved for the sake of better modules to be used in training.

5) Design Revision

After the module is corrected, given suggestions, before being tested, revisions are carried out first in accordance with brainstorming, constructive criticism from experts. Here are the suggestions given by validators, module experts, and material experts.

Table 5. Input/Suggestions from Module Validators and Material Validators

It	Validator	Input/Comments
1	Module Members	1. Outer Cover Revision : ✓ Logo image placed on top ✓ Author name is shifted down to drop after the module title ✓ The writing of the undergraduate program is wrong, ✓ Create covers with more interesting image arrangements, sentences and colors 2. Inner Cover Revision: Institution Name Adjust Outer Cover 3. Revision of Module Content ✓ Use more operational verbs HOTS in formulating KD, CP Indicator and TP ✓ Point 2) Explain the difference between assessment and evaluation, to analyze the difference between assessment and evaluation

		✓ Point 3) Explaining the forms of tests for assessment, becoming Identifying forms of tests for assessment 4. Add a Bibliography at the end of each learning activity
2	Material Expert	1. Overall, the Testlet question preparation training module was rated very well with most of the criteria receiving "Strongly Agree" and "Agree" ratings 2. Addition of Exercises: Add more exercises or case examples to reinforce the reader's understanding of the concepts taught in the module. 3. Clearer Table of Contents: Ensure that the table of contents includes all sections and sub-sections of the module clearly and structured. 4. Use of Technology: Consider using technologies such as hyperlinks or multimedia in modules to increase reader interactivity and engagement.

6) Product Trial

Based on the results of the revision/improvement, feasibility validation is then carried out for prospective users, namely Chemistry teachers who are members of the MGMP group of Chemistry Subjects in Boyolali Regency. After being stated by experts that this training module is feasible to be tested on prospective module users, a trial process of prospective module users on a limited scale is carried out, namely sampling 6 teachers from different schools in a random way. Based on the results of the assessment of potential users, the following are the results of the calculation of the training module score of each prospective user validator.

From the results of the validation assessment of prospective module users, the total score of prospective users (1) was 18 or 90%, prospective users (2) were 17 or 85%, prospective users (3) were 17 or 85%, prospective users (4) were 20 or 100%, prospective users (5) were 19 or 95% and prospective users (6) were 20 or 100%. From these acquisitions, it can be concluded that this training module is worthy of being tested after improvements are made according to the suggestions of prospective users. The calculation of each prospective user is presented in the following calculations:

Potential User 1	Potential User 2	Potential Users 3
AP = x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$	AP=x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$	AP=x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$
= x 100%$\frac{18}{20}$	= x 100%$\frac{17}{20}$	= x 100%$\frac{17}{20}$
= 90 %	= 85 %	= 85 %

Potential Users 4	Potential Users 5	Potential Users 6
AP=x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$ = x 100%$\frac{20}{20}$ = 100 %	AP=x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$ = x 100%$\frac{19}{20}$ = 95 %	AP=x 100%$\frac{Skor\ Aktual}{Skor\ Ideal}$ = x 100%$\frac{20}{20}$ = 100 %

Nilai Rata - Rata = (90% + 85% + 85% +100% + 95% + 100%)/6
= 92,5 %

Based on the average score obtained from validators of prospective users of the training module, a result of 92.5% was obtained, if matched with the feasibility interval of the existing module, it is included in the "very feasible" category, however, there is still a need for improvement according to the advice of the validators before being used in limited trial activities.

7) Design Revision

Input and suggestions from potential users are used as the basis for improvements at the module revision stage. The results of the assessment of prospective users are presented in the following table:

Table 6. Module Validation Results by Prospective Users

It	Validator	Feedback / Comments
1	Potential User 1	Terms, symbols, symbols to be more consistent
2	Potential User 2	More consistent in the use of symbols, symbols,
3	Potential Users 3	The module is good, just be more consistent in the use of the term
4	Potential Users 4	Ready-to-use modules
5	Potential Users 5	Use of symbols to be more consistent
6	Potential Users 6	The training module is good and ready to use

In this study, it was also found that the training modules made were declared effective in the training process. This can be seen from the Ngain score obtained which is 0.7646 from the Ngain score table according to Melzer in Syahfitri 2008:33 that the Ngain score value of >0.7 is included in the effective category. And in the development of this module, a Ngain percent score of 76.4571% means that the use of this training module is declared effective for improving teacher competence in the preparation of testlet questions, based on the table from Huke, R.R 1999 that the Ngain percent value is >76%, then the category of effectiveness interpretation is classified as effective.

CONCLUSION

There are still many Chemistry teachers in Boyolali district who have not participated in question preparation training, 70.59% of the number of respondents who stated that they have never participated in question preparation training, the rest have participated in question preparation training with various types of question preparation. The media used in the training is not a product in the form of training modules, the existing media is in the form of handouts and powerpoints.

This training develops a training module in the preparation of Testlet questions to improve the competence of Chemistry teachers in terms of the preparation of learning

evaluation tools. The modules developed can be read, used, and studied with a design consisting of introduction, learning activities one to learning activity three, which are equipped with summative questions to train understanding and mastery of the material in each learning activity. From the results of expert validation, both module experts and material experts, it was found that the modules developed were declared very feasible to use with a score of 80.88% and 88.33%. Meanwhile, the feasibility test of prospective module users was obtained on average 92.5% and was declared very feasible to use. From the results of the limited trial, it was found that there was a change in the value of the pretest with the post test, and it increased. So it was stated that there was an increase in the competence of Chemistry teachers with training in the preparation of testlet questions with modules developed, with the acquisition of Ngain percent of 76.4571% declared effective for improving teacher competence.

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