

Feasibility Test for Developing an APIPA-Based Program Evaluation Concept Model *Website* in the West Nusa Tenggara Middle School Mathematics Teacher Performance Program

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ABSTRACT:

The teacher's role can be seen from the implementation of competencies, namely pedagogical, personal, social and professional competencies. The use of information technology by school policy managers is quite lacking so it is necessary to cultivate the use of information technology. Use of APIPA-based program evaluation website can provide convenience and use of information technology for teachers, leaders and colleagues as material for consideration in decision making and policies for subsequent activities. The type of research used is Development Research (Research and Development), development research design, namely 4D design (Define, Design, Development, Dissemination). The research results show that the development of the APIPA model program evaluation is based on website the junior high school mathematics teacher performance program was declared suitable for use based on the research development stages, namely literature study through Concept Analysis as logic model APIPA model program evaluation, designing program evaluation model designs in the form of program evaluation model books, Content Validity namely the results of expert and practitioner validation which explains it is suitable for use as well as limited trial analysis which states it is valid and reliable.

Keywords: Assessment, Planning, Implementation, Product, Appreciation

Introduction

The last few decades, Education *Science, Technology, Engineering and Maths* (STEM) is attracting increasing attention, as it is often associated with the development of superior human resources and economic growth (Montgomery & Fernández-Cárdenas, 2018). In addition, mastery and knowledge in the field of mathematics has long been considered the most relevant for students' future educational development and work careers (Onion, 2004).

Mathematics is considered as “*Queen of Knowledge*” because almost all fields of science are supported by mathematics (Evendi & Verawati, 2021). Mathematics is one of the most important subjects in human life (Raj Acharya, 2017). Learning mathematics is one of the most important basic knowledge areas because it has a very close relationship with everyday life which aims to hone thinking on complex problems. Because mathematics is an important part of knowledge in the field of science and technology (Raj Acharya, 2017). In line with that, (Eviyanti et

al., 2017) said that Mathematics is one of the subjects that has an important role in the world of education.

However, in reality, students at school predominantly dislike mathematics because it is considered a difficult subject and has many formulas and calculations. This results in students not having interest and motivation to learn mathematics, which results in students' mathematics learning outcomes at school still being low (Isnawan & Wicaksono, 2020). Various efforts have been made intensively and continuously by the Indonesian government to improve education (Darma, 2018).

Educators' skills and abilities in teaching mathematics are in the spotlight (MacDonald, 2020). Along with this, teachers' knowledge of mathematics pedagogy plays an important role in teaching mathematics material (Hill et al., 2008).

So, teachers not only play a role in developing thinking skills, but also students' basic skills in solving problems, especially problems in everyday life (Muhtadi et al., 2017); (Shahrill et al., 2018).

This is so that mathematics learning outcomes can be achieved and produce meaningful teaching (MacDonald, 2020). However, in the context of achieving student mathematics learning performance, it is still a big problem, especially in Indonesia.

This is proven in the results *Trends in International Mathematics and Science Study* (TIMSS) Indonesia in the period 1999 to 2015, where the TIMSS results for that year indicate that the abilities of Indonesian students are still at a low level. TIMSS Indonesia results for the period 1999 – 2015 are summarized from several sources and are presented in the table below.

Table 1. TIMSS Indonesia Results in the Range 1999 – 2015

Year	TIMSS Score		Source
	Class VII	Class VIII	
1999	-	403	(Gonzales & Miles, 2001)
2007	-	397	(Mullis et al., 2008)
2011	-	386	(Mullis et al., 2011)
2015	397	-	(Mullis et al., 2016)

In the latest TIMSS study in 2019, Indonesia was not part of the 2019 TIMSS study (Nilsen et al., 2022). The results in Table 1 show that during their participation in TIMSS, Indonesian students' abilities were still at a low level. Other results were obtained through the Indonesian Student Competency Assessment (AKSI) (Inovasi NTB, 2018) which was released by the Education Assessment Center (Puspendik) of the Ministry of Education and Culture in 2016, as many as 46.83% of class VII junior high school students in Indonesia were classified as lacking reading skills, in the sense of students' ability to understand text, applying the text, reflecting on the text, and relating the content of the text to the real context of social life. Even though skilled reading is a basic skill needed for children to learn

and develop. In West Nusa Tenggara (NTB) Province, the average student reading and science scores are 1079-1538 points lower than the national standard. Assessments in Mathematics also show that the average score of students in NTB is around 50, which is also lower than the national standard. This is certainly not a good achievement, and improvements must be made immediately, especially directed at policy makers (Prasertsin, 2022), where through established policies it will be possible to build a learning and education ecosystem that can improve the quality of mathematics learning performance.

Regional mapping results from the Indonesian Education report card in West Nusa Tenggara show that the quality of the student learning

process based on the Junior High School (SMP) teacher reflection index appears to be in the active category but the learning quality development activities carried out have not been structured. Teachers have not consistently reflected on learning, explored new teaching references, and sparked new innovations, while learning outcomes show that less than 50% of students have reached the minimum competency limit for numeracy and reading literacy skills (Education Assessment Center, 2022).

Improving the quality of performance requires the teacher's role to be very important in the learning process, because the teacher is the one who designs the learning process from start to finish, where the learning designed by the teacher must be student-centered (Fasa, 2020). This is in line with what was stated by (Pendlington, 2005) that the use of affective learning strategies needs to be implemented if we want to make progress in teaching mathematics.

For example, student-centered interactive learning products, such as *problem-based learning* (Savery, 2006). Through presenting problems, students can create new knowledge products (Hung, 2011), increase students' conceptual understanding and have a positive effect on students' long-term knowledge retention (Li & Tsai, 2017). The abilities mentioned above are the teacher's performance.

Teacher performance is a teacher's ability to complete the tasks for which he is responsible (Harjali, 2017); (Sarifudin, 2019), or the abilities that a person displays regarding their work at the place where they work. (Koswara & Rasto, 2016). Teacher performance is very important to determine the quality of education and the achievement of learning goals (Susanto, 2013)(Syahrir et al., 2021). Teacher performance is influenced by factors originating from oneself and factors originating from outside the teacher (Ahmad & Nasution, 2019); (Susanto, 2013).

Method

Research and development (R&D) using 4D design (*Define, Design, Development, Dissemination*). This research stage starts from **Define** namely a study of development concepts Evaluation of the APIPA model program (*Assessment, Planning, Implementation, Product, Appreciation*) (Thiagarajan et al., 1974) (Creswell, 2003).

Level **Design** namely the initial design of the APIPA-based model program evaluation *website* on junior high school mathematics teacher performance programs. Stage **Development** namely doing *Expert Judgment* and *Focus Group Discussion* (FGD). Stage **Dissemination** namely conducting limited trials. This research used 5 experts in the fields of educational evaluation, educational technology and language. The test subjects were 36 mathematics teachers.

Research result

Describe research data through stages, namely in-depth analysis of each stage. For this reason, it can be explained as follows.

1. **Define (Definition)**

Reviewing relevant literature to understand the concept of program evaluation using the APIPA model *Concept Analysis* namely concept analysis carried out by identifying main concepts which is carried out in the form of expressing them in a hierarchical form, and detailing literature concepts into critical and relevant matters. Concept analysis apart from analyzing concepts also arranges steps to be carried out rationally. This research activity was carried out *Logic Model* program evaluation using the APIPA model *Analysis Concept*.

Analysis of the APIPA model program evaluation concept resulted from modifications to the development of the CIPP model program evaluation and the Alkin Model which were developed based on the weaknesses and potential of each program evaluation model (attached). For this reason, the APIPA model program evaluation concept mapping was produced as follows.

Table 2 Mapping indicators of the development concept of APIPA model program evaluation

No	Syntax	Indicator	Syntax	Indicator
	CIPP and Alkin Model Modifications		Modification Results	
1.	Assessment	Provides information about the state or position of a program	Assessment (A)	Analyze program needs
2.	Input	- Determining available resources, - What alternative to take? - Plans and strategies to achieve needs, - Work procedures to achieve it		- Determining Program Readiness - Determining program objectives - Determine program targets - Determine program achievement strategies
3.	Context	- Background imaging of the program - Provides program objectives and needs analysis of a system - Determine program targets - Determine the extent to which this offer is responsive to identified needs		- Program regulations - Determine work procedures for program activities - Determine resource standards for the program - Determining recommendations from the program needs analysis
4.	Planning	Selection of certain programs that are likely to be successful in meeting program evaluation needs through internal and external information	Planning (P)	- Selecting specific Program activities meets program needs through internal information - Selecting specific Program activities meets program needs through external information. - Determine the schedule of program activities
5.	Implementation	Prepare information on whether a program has been introduced to certain groups appropriately as planned	Implementation (I)	Socialize the program used

No	Syntax	Indicator	Syntax	Indicator
	CIPP and Alkin Model Modifications		Modification Results	
6.	Process	- What the Program does - Who implements the program - When will the program be implemented?		- What activities does the program carry out - Who is involved in program activities - When will program activities be implemented? - Collect program evaluation documents
7.	Product	- Whether the program objectives are met - Has the needs analysis been fulfilled?	Product (P)	- Measuring the achievement of program activities - Analyze the needs of the results of program activities that are met
8.	Improvement	Provides information about how a program can function, work or run	Appreciation	Determine the category of achievement of program activities
9.	Certification	Provide information about the value or benefits of a program		- Providing information on the implementation of program activities - Giving <i>reward</i> program activities. - Provide information on the benefits of program activities - Recommendations for program activities

Based on the results of theoretical analysis and research results that were compared and modified qualitatively, the literature review shows that the evaluation of the APIPA model program has stages, namely *Assessment (A)*, *Planning (P)*, *Implementation (I)*, *Product (P)*, And *Appreciation (A)* which is explained by operational definition as follows.

a) **Assessment** or assessment is information that includes analysis of needs, readiness, goals, objectives and program

achievement strategies to achieve standardization, viewing program regulations as the basis for implementation and determining program resource standards. Apart from that, work procedures for program activities are also determined.

b) **Planning** or planning is the selection of certain program activities to meet program needs through internal and external information and determining an effective and efficient program activity schedule.

c) **Implementation** or implementation is the activity of socializing the what, who, and when of program activities to program policy stakeholders and implementers as well as documenting the forms of program activities.

d) **Product** or product is a measurement of achievement and information on the usefulness of program activities that have been carried out effectively and efficiently.

e) **Appreciation** or appreciation is an interpretation of achievement categories, providing information on implementation, giving

reward, providing information on benefits and recommendations for program activities that have been implemented for program policy decision making.

2. DESIGN (PLANNING)

Based on the results of the study of the program evaluation development concept, an APIPA model program evaluation topology was designed for the junior high school mathematics teacher performance program. The design is made in chart form which can be seen as follows.

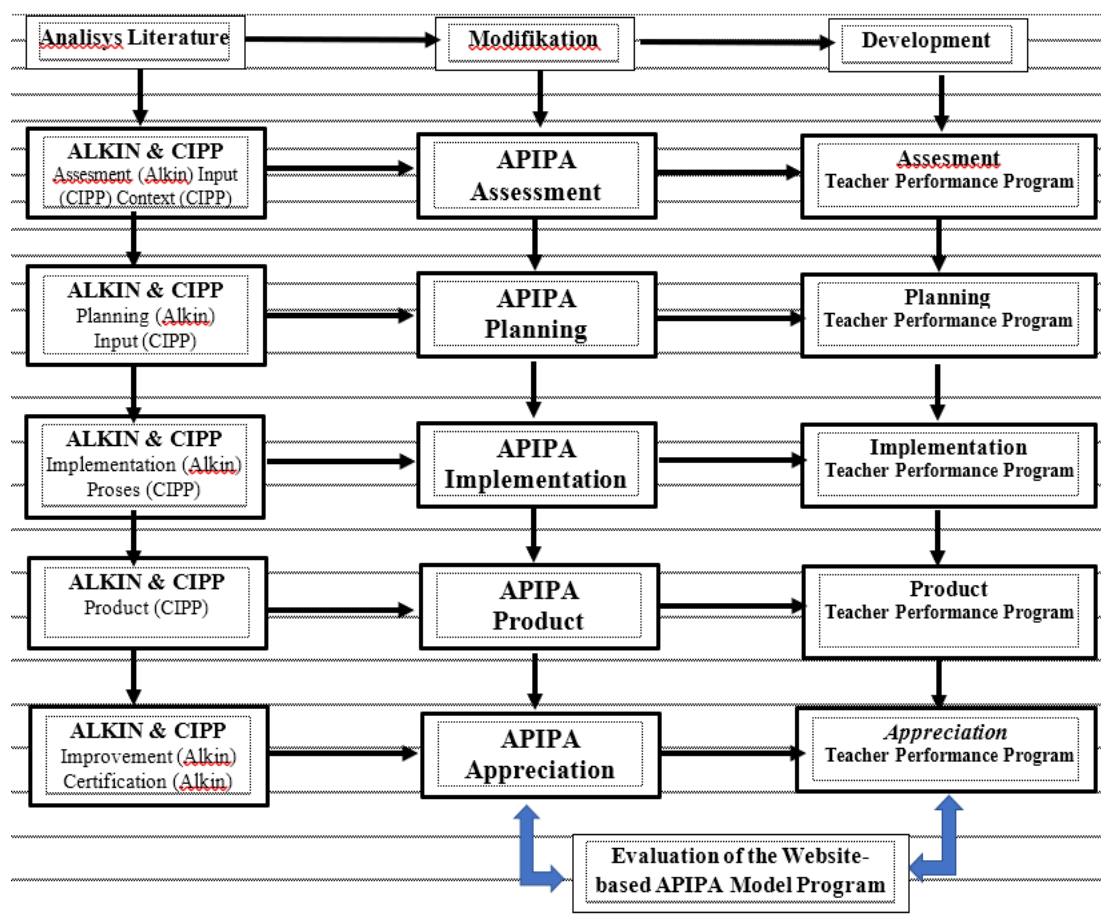


Chart 1 Topology of Program Evaluation Based on APIPA Model *Website*

After carrying out concept and topology analysis, criteria for evaluating the success of the APIPA model program evaluation will be carried out. These criteria can take the form of specific

performance indicators, namely a success checklist. Analysis to see a program evaluation is carried out according to the program stages. To check, an APIPA Model program evaluation checklist has been prepared for the teacher performance program as follows.

Table 3 Checklist for the success of the APIPA Model program evaluation on the teacher performance program.

No	Activity	Appraiser	Teacher (Client)
A. Program Evaluation Policy			
1.	Determine the program that will be evaluated	The assessor receives an assignment letter or work order to carry out a program evaluation	Know the policies related to the program being implemented
2.	Determine the standards for assessors or program supervisors as assessors	The assessor knows the object of the program being assessed	Understand program objects
3.	The program object being evaluated	Ensure the format of the final program evaluation report	Create an Integrity Pact for program implementation.
4.	Evaluation team work procedures	Ensure that the final program report can be received by parties who need and are interested.	
5.	Program evaluation final report format	Create an Integrity Pact for program evaluation assessment.	
6.	Program Implementation Evaluation Instrument	Ensure the feasibility of program implementation evaluation instruments.	
B. Evaluation Assessment Program			
7.	Determine the resources involved	The assessor knows the number of respondents (teachers) being evaluated	Determine the resources (students) involved in the learning class
8.	Standardization of teacher competencies (Professional, Pedagogic, Personality and Social)	Assessors provide scores achieved by teachers regarding teacher competency (Professional, Pedagogic, Personality and Social) based on predetermined instruments	Teachers assess themselves regarding teacher competency (Professional, Pedagogic, Personality and Social) based on predetermined instruments
9.	Composed learning tools	Assess the learning tools that have been prepared by the teacher	Create learning tools every semester.
C. Evaluation of Program Planning			
10.	SWOT Analysis (<i>Strengths, Weaknesses, Opportunities, and Threats</i>)	Assess the SWOT analysis report (<i>Strengths, Weaknesses, Opportunities, and Threats</i>)	Write a SWOT analysis (<i>Strengths, Weaknesses, opportunities and threats</i>) of past learning programs

11.	Learning program activity schedule	Assess the effectiveness and efficiency of the learning program activity schedule in the classroom.	Create a schedule for implementing learning programs in class
12.	Evaluation of learning in class	Ensure the appropriateness of learning evaluation instruments in the classroom	Prepare a learning evaluation grid (UTS/Mid-Semester Exam and UAS/Final Semester Exam)
13.	Self-development activities	Assess the relevance of the self-development activity schedule	Write a schedule of self-development activities
D. Evaluation of Program Implementation			
14.	Learning activities in class	Assess the feasibility of learning activities in class related to initial activities, core activities and closing learning activities	Write notes on learning activities in class regarding initial activities, core activities and closing learning activities
15.	Learning methods used in class	Assess the feasibility of the stages of learning methods used in class	Write a description/stage of the learning method used in class (initial, core and closing learning activities)
16.	Reflective actions during the learning process in the classroom	Assessing the results of reflective actions during the learning process in the classroom	Write down reflective actions during the learning process in class
17.	Participated in self-development activities	Assess the feasibility of the self-development activities being undertaken	Write down the self-development activities you participate in.
E. Product Program Evaluation			
18.	Semester learning assessment component	Assess the feasibility of semester learning assessment components	Recap the learning evaluation results of UTS (Mid-Semester Exam) and UAS (Final Semester Exam)
19.	Interpretation of students' work	Assess interpretation reports of students' work	Write an interpretation of the students' work
20.	Achievements and information on learning programs in class	Assess achievement reports and information on learning programs in class.	Write down achievements and learning program information in class.
F. Appreciation Program Evaluation			
21.	a form of reflective action in giving awards to students when learning takes place	Assessing forms of reflective action in giving awards to students during learning	Write down forms of reflective action in giving awards to students during learning.
22.	Regular counseling for each student	Assess each student's counseling actions periodically	Carry out counseling actions for each student periodically

23.	Learning program achievement	Categorization of learning program achievements	
24.	<i>Reward</i> towards program implementers.	Giving <i>reward</i> towards program implementers.	
25.	Recommendations for improving learning program activities	Providing recommendations for improving learning program activities.	
G. Evaluation of Program Effectiveness			
26.	Learning program category	Provide categories of programs implemented	
27.	Level of implementing the learning program.	Provide categories of program implementers.	
H. Meta Evaluation (evaluating the evaluation of the program being implemented)			
28.	Evaluation of implemented programs	Assess Evaluation of programs implemented	Assessing the Performance program implemented
29.	interviews with program implementers and program stakeholders	Conduct interviews with program implementers and program stakeholders	
I. Final synthesis report (information that can be used as a reference or recommendation for policy decision making by the public)			
30.	Evaluation profile of the program being implemented	Write an evaluation profile of the program being implemented	Obtain information on the evaluation profile of the program being implemented
31.		Write recommendations for program evaluation of the program being implemented.	Obtain information on program evaluation recommendations for the program being implemented
32.		Write down the category of performance program implementer as appreciation	Obtain information on categories of performance program implementers

After comparing theories and relevant research studies to form an operational definition and evaluation checklist for the APIPA model program, a website-based APIPA model program evaluation worksheet was then designed to

measure the performance of mathematics teacher programs. For this reason, you can see the work procedures for evaluating the website-based APIPA model program as below.

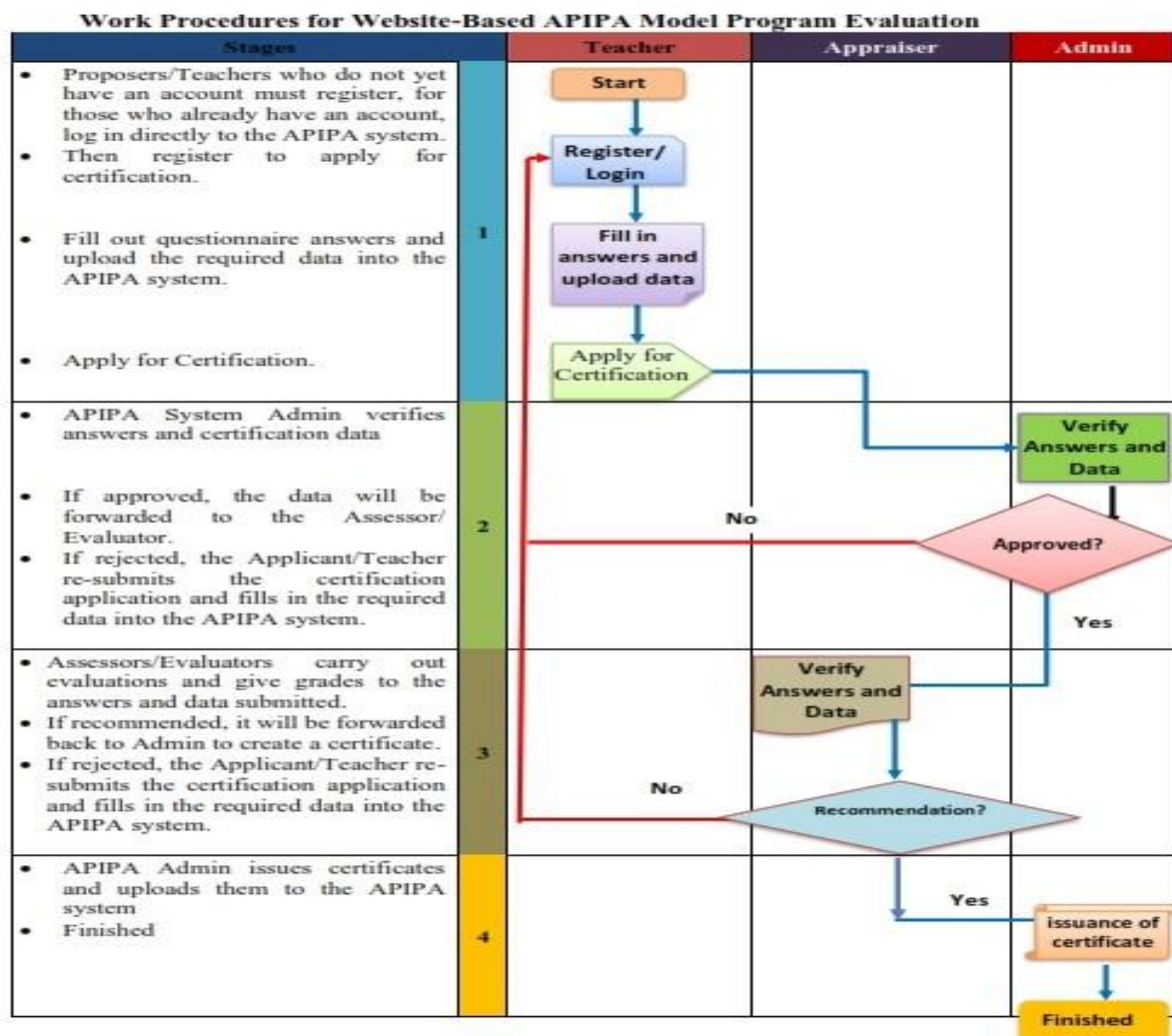


Chart 2 Program evaluation procedures based on the APIPA model *website*

Next, it is prepared in the form of a reference book entitled "APIPA Model Program Evaluation (*Assesment, Planning, Implementation, Product, Appreciation*)" as in the image below.

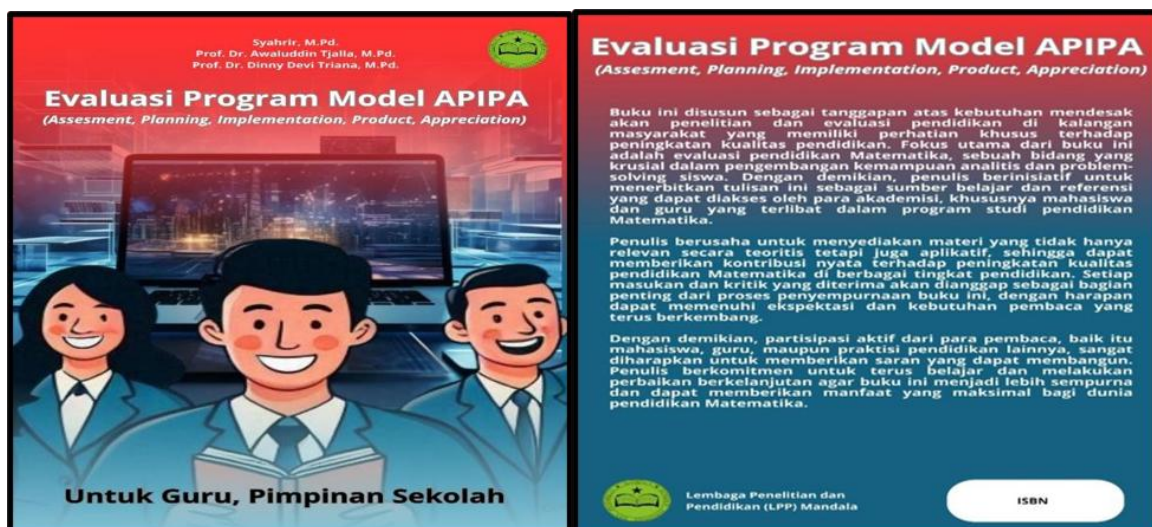


Figure 1 APIPA Model Program Evaluation Book

3. *Development (Development)*

Feasibility of a development *product* carried out with expert validation, to formulate the concept of validity is the degree to which empirical and theoretical evidence supports or justifies the way of interpretation according to its intended use. Generally, validity consists of Internal Validity and External Validity.

This research uses internal validity in the form of content validity (*content validity*) and construct validity (*construct validity*). Content validity (*content validity*) using the advice of experts (*judgment expert*) while construct validity (*construct validity*) uses empirical evidence in the form of the results of the panelists' assessments on *Focus Group Discussion* (FGD).

a. Expert Validation Data (*Expert Judgment*)

This validity is to determine the extent to which the elements in the APIPA model program evaluation content is relevant and the representation of the construct is in accordance with the objectives of developing the APIPA model program evaluation in evaluating the performance program for junior high school mathematics teachers in West Nusa Tenggara (NTB). The assessment of these items is carried out by ticking a number between 1 (*very inappropriate*) up to 5 (*very suitable*). Expert validation data consists of 5 (three) experts each consisting of language experts, educational evaluation experts, and educational technology experts. Data from expert validation results can be seen in the table below.

Table 4 Validation result data linguist development of APIPA model program evaluation

No	Statement	Alternative Options				
		SS	S	KS	TS	STS
1.	Conformity of the essence (syntax content of the ALKIN model) to the language of relevant research regarding the evaluation of the ALKIN model program		5			
2.	The appropriateness of the gist (syntax content of the CIPP model) language is relevant to the evaluation of the CIPP model program	5				
3.	Conformity of the essence (syntax content of the ALKIN model) of the study language for analyzing the potential and weaknesses of evaluating the ALKIN model program for each syntax	5				
4.	The appropriateness of the essence (syntax content of the CIPP model) of the research language of the analysis of the potential and weaknesses of the CIPP model program evaluation on each syntax	5				
5.	Suitability of the essence (APIPA model syntax content) language combination of concepts, main ideas in each syntax in the development of program evaluation	5				
6.	Suitability of the topological language (flow) for the development of APIPA Model program evaluation on Teacher Performance-based Programs <i>Website</i>	5				
7.	Conformity of language essence development of operational definitions of syntax concepts Program evaluation	5				
8.	Appropriateness of the essence of the language of the empirical study of the program evaluation checklist being developed.	5				
9.	Accuracy of the APIPA model program evaluation syntax language		5			

10.	Conformity of language depth of statement syntax for APIPA model program evaluation	5				
11.	The suitability of the statement sentence in the APIPA model program evaluation syntax is related to the program evaluation steps.	5				
12.	Suitability of complete idea sentences in the APIPA model program evaluation syntax		5			
13.	Writing according to EYD		5			
14.	The language used is easy to understand	5				
15.	The language used is effective	5				
16.	The language used is not ambiguous/has double meaning		5			
Amount		275	100	0	0	0
Shoes Total		375				
Percentage (%)		93,75				

Source: Language expert validation sheet.

Based on the results of table 4.1, it was found that 11 (twelve) statements stated "very suitable" and 5 (four) statements stated "suitable", meaning that it shows the acceptability of the language used in the APIPA model program evaluation concept which is relevant to its development based on theory and research. other relevant. The total observation score is the sum of the scores for each item in the statement of observation results multiplied by the score weight according to the Likert scale. The maximum score is the maximum score on the Likert scale multiplied by

the number of questions, so $5 \times 16 = 80$. The expected total score is the maximum score multiplied by the number of respondents, so $80 \times 5 = 400$. The calculation of the feasibility percentage is obtained from respondent data (expert validation score) which is 375 (93.75%) from the expected score of 400 (100%). Based on the feasibility percentage, it is categorized as very feasible and the results of discussions and suggestions regarding the conceptual evaluation of the APIPA language acceptability model program are concluded as "Fine with revision".

Table 5 Validation result data linguist Middle School Mathematics Teacher Performance Program Evaluation Instrument.

No	Statement	Alternative Options				
		SS	S	KS	TS	STS
1.	Clarity of instructions for filling out the questionnaire	5				
2.	Appropriateness of operational definition sentences for stages (syntax) of junior high school mathematics teacher performance programs	5				
3.	Appropriateness of words (dimensions) at the stages of the junior high school mathematics teacher performance program	1	4			
4.	Suitability of sentences for each indicator (element) of the Middle School Mathematics Teacher Performance program stages	5				
5.	Appropriateness of the sentence instructions for filling in the evaluation form at the performance standardization stage of junior high school mathematics teachers	5				

6.	Appropriateness of the sentence instructions for filling in the evaluation form at the implementation stage of junior high school mathematics teacher performance	5				
7.	Appropriateness of the sentence instructions for filling in the evaluation form at the monitoring and evaluation stage of junior high school mathematics teacher performance	3	2			
8.	Appropriateness of the sentence instructions for filling in the evaluation form at the performance appreciation stage of junior high school mathematics teachers	5				
9.	Suitability of indicator sentences on the dimensions of professional competence	5				
10.	Suitability of indicator sentences in the dimensions of pedagogical competence	5				
11.	Suitability of indicator sentences on the dimensions of personality competence abilities	5				
12.	Suitability of indicator sentences on the dimensions of social competence	5				
13.	Clarity of the sentences of each questionnaire item	3	2			
14.	Language accuracy with respondent level	3	2			
15.	Writing according to EYD		5			
16.	The language used is easy to understand	4	1			
17.	The language used is effective		5			
18.	The language used is not ambiguous/has double meaning	5				
Amount		350	84	0	0	0
Shoes Total		434				
Percentage (%)		96,44				

Source: Language expert validation sheet.

Based on the results of table 4.2, it was found that 16 (sixteen) statements stated "very suitable" and 2 (two) statements stated "suitable", meaning that it shows the acceptability of the language used in the concept of relevant mathematics teacher performance program evaluation instruments based on theory and research of another relevant research.

The total observation score is the sum of the scores for each item in the statement of observation results multiplied by the score weight according to the scale *Liked*. The maximum score is the maximum score on the scale which is multiplied by the number of questions, so $5 \times 18 = 90$. The expected total score is the maximum score multiplied by the number of respondents,

so $90 \times 5 = 450$. The calculation of the feasibility percentage was obtained from respondent data (expert validation score), namely 434 (96.44%) from the expected score of 450 (100%). Based on the feasibility percentage, it was categorized as very feasible and the results of discussions and suggestions regarding the concept of the mathematics teacher performance program instrument for acceptability concluded that it was "Feasible with revision".

Language experts have provided suggestions for improvements to both the APIPA model program evaluation concept and the mathematics teacher performance program instrument concept. In general, it has been summarized in the table below.

Table 6 Summary of Linguist Study Results

No	Aspect	Linguist Advice	Is
1	Sentence Structure	Sentence construction is still quite effective. There are still several sentences that do not fulfill the subject and predicate elements. Some sentences are passive and unfocused. Corrections for ineffective sentences have been written in the suggestion's column.	It has been revised by researchers
		Minimum sentences have subject and predicate elements. Statements require the right choice of sentences. If you want to be consistent with other sentences.	It has been revised by researchers
2	Consistent	It is best for sentences to have consistent effectiveness values in explaining each stage.	It has been revised by researchers
3	Double Meaning	It is best to avoid ambiguous/double meaning sentences.	It has been revised by researchers
4	Conclusion	Overall, there were not many diction errors found	
5	Suggestion	The choice of words in the context of the sentence should be in harmony and parallel.	It has been revised by researchers
		There is still diction that is not appropriate according to the context of the sentence. Diction improvements have been provided in the suggestion's column.	It has been revised by researchers

Source: Results of linguist validation sheet

Next, validation was carried out by 5 Education evaluation experts, the results of which are shown in the table below.

Table 7 Data from validation results from educational evaluation experts on the APIPA Model program evaluation concept

No	Statement	Answer Choices				
		SS	S	KS	T S	ST S
1.	Suitability of relevant research regarding evaluation of the ALKIN model program	1	4			
2.	Appropriateness of relevant research on the evaluation of the CIPP model program	4	1			
3.	Analysis of the potential and weaknesses of the ALKIN model program evaluation for each syntax		5			
4.	An analysis study of the potential and weaknesses of the evaluation of the CIPP model program on each syntax	4	1			
5.	Combination of main idea concepts in each syntax in developing program evaluation	5				
6.	Topology of development of APIPA Model program evaluation in the Teacher Performance Program		5			
7.	Development of operational definitions of program evaluation syntax concepts		5			
8.	Empirical study of the program evaluation checklist developed.		5			

No	Statement	Answer Choices				
		SS	S	KS	T S	ST S
9.	Accuracy of the APIPA model program evaluation syntax language		5			
10.	Depth of APIPA model program evaluation syntax statements		5			
11.	Statements in the APIPA model program evaluation syntax relate to program evaluation steps.		5			
12.	Complete ideas on the APIPA model program evaluation syntax		5			
13.	Writing according to EYD		5			
14.	The language used is easy to understand	5				
15.	The language used is effective	5				
16.	The language used is not ambiguous/has double meaning		5			
Amount		111	233	0	0	0
Shoes Total		344				
Percentage (%)		86,00				

Source: Education evaluation expert validation sheet

Based on the results of table 4.3, it was found that 6 (four) statements stated "very suitable" and 10 (twelve) statements stated "suitable", meaning that they showed acceptability in terms of educational evaluation used in the APIPA model program evaluation concept which was relevant to its development based on theory and research of another relevant research. The total observation score is the sum of the scores for each item in the statement of observation results multiplied by the score weight according to the Likert scale. The maximum score is the maximum score on the Likert scale multiplied by the

number of questions, so $5 \times 16 = 80$. The expected total score is the maximum score multiplied by the number of respondents, so $80 \times 5 = 400$. The calculation of the feasibility percentage was obtained from respondent data (expert validation score), namely 344 (86%) from the expected score of 400 (100%). Based on the feasibility percentage, it is categorized as very feasible and the results of discussions and suggestions regarding the conceptual evaluation of the APIPA language acceptability model program are concluded as "Fine with revision".

Table 8 Data from validation results from Educational Evaluation experts on the concept of the Middle School Mathematics Teacher Performance Program Evaluation Instrument.

No	Statement	Answer Choices				
		SS	S	KS	TS	STS
1.	Explains the conceptual definition of a junior high school mathematics teacher performance program		5			
2.	Explains the operational definition of a junior high school mathematics teacher performance program		5			
3.	Explains the content aspects of junior high school mathematics teacher performance programs	5				
4.	Explains sub-aspects of junior high school mathematics teacher performance program content	5				
5.	Explaining the content of junior high school mathematics teacher performance programs between dimensions/aspects and elements/sub-aspects.		5			
6.	Explaining the content of junior high school mathematics teacher performance programs between elements/sub-aspects and indicators.		5			

No	Statement	Answer Choices				
		SS	S	KS	TS	STS
7.	Explaining the content of junior high school mathematics teacher performance programs between indicators and the number of question items/statements	5				
8.	The number of question/statement items represents each indicator of the junior high school mathematics teacher performance program	1	3	1		
9.	Explain the content of junior high school mathematics teacher performance program activities for each question/statement.		5			
10.	Explain the instructions for filling out the Middle School Mathematics Teacher Performance Program questionnaire		5			
11.	The questionnaire has a good appearance to use		5			
Amount		80	152	3	0	0
Shoes Total		235				
Percentage (%)		85,45				

Source: Wide validation of educational evaluation experts

Based on the results of table 4.4, it was found that 3 (three) statements stated "very suitable", 7 (seven) statements stated "suitable", and 1 (one) statement stated "not suitable", meaning that it shows the acceptability of the educational evaluation used in the instrument concept. relevant mathematics teacher performance program based on theory and other relevant research. The total observation score is the sum of the scores for each item in the statement of observation results multiplied by the score weight according to the Likert scale. The maximum score is the maximum score on the Likert scale multiplied by the number of questions, so $5 \times 11 = 55$. The expected total score is the maximum score multiplied by the number of respondents,

so $55 \times 5 = 275$. The calculation of the feasibility percentage was obtained from respondent data (expert validation score), namely 235 (85.45%) from the expected score of 275 (100%). Based on the feasibility percentage, it is categorized as very feasible and the results of discussions and suggestions regarding the conceptual evaluation of the APIPA language acceptability model program are concluded as "Fine with revision".

Education Evaluation Experts provide suggestions and input in assessing the mathematics teacher performance program instruments and the APIPA model program evaluation concept qualitatively as in table 4.5 below,

Table 9 Summary of Expert Study Results on Educational Evaluation

No	Aspect	Educational Evaluation Expert Advice	Is
1	Conclusion	Overall, it is quite suitable.	
2	Suggestion	Whereas measuring the evaluation of the Mathematics Teacher Performance Program using the website-based APIPA program evaluation model has 5 (five) stages of evaluation implementation, it is necessary to adjust the indicators, potential and weaknesses of the modification of the evaluation model into a program success checklist.	It has been revised by researchers
		Apart from using questionnaires, it must also accommodate instruments such as interviews and documents. So don't use all instruments in the form of questionnaires.	
		for performance assessment to be further specified.	

Apart from language experts and educational evaluation, validation was continued by educational technology experts totaling 5 experts as tabulated in the table below.

Table 10 Validation result data Educational Technology expert regarding Evaluation of APIPA-based Model Programs *Website* in the Middle School Mathematics Teacher Performance Program

No	Statement	Answer Choices				
		SS	S	KS	TS	STS
1.	Explain the operational definition of the stages (syntax) of APIPA model program evaluation	2	2			1
2.	Explain the stage indicators (syntax) for evaluating the APIPA model program	5				
3.	Explains the operational definition of the stages (syntax) of the junior high school mathematics teacher performance program	5				
4.	Explain indicators of achievement of junior high school mathematics teacher performance programs	1	4			
5.	Explain the content of the APIPA Model program evaluation topology	5				
6.	The relationship between indicator content and the APIPA program evaluation checklist	5				
7.	Conformity of dimension/aspect content with elements/sub-aspects of junior high school mathematics teacher performance programs	5				
8.	Conformity of element/sub-aspect content with indicators of junior high school mathematics teacher performance programs	5				
9.	Conformity of procedures (<i>Flowchart</i>) evaluation of the website-based APIPA model program in evaluating junior high school mathematics teacher performance programs	4	1			
10.	Readability of the APIPA profile on the website display	3	2	1		
11.	Website www.apipa.org explains the duties of administrators, assessors and teachers as targets for evaluating the APIPA model program	2	1	2		
12.	Administrator work procedures can be understood and carried out according to their duties	5				
13.	The appraiser's work procedures can be understood and carried out according to his duties	1	4			
14.	Teachers' work procedures can be understood and carried out according to their duties	5				
15.	Website www.apipa.org can be understood quickly and straightforwardly by website users.	5				
16.	Website www.apipa.org has good access speed	5				
17.	Website www.apipa.org can help the school in developing other teacher performance programs.	5				
Amount		335	56	9	0	1
Shoes Total		401				
Percentage (%)		94,35				

Source: results of educational technology expert validation sheet

The total observation score is the sum of the scores for each item in the statement of observation results multiplied by the score weight according to the Likert scale. The maximum score is the maximum score on the Likert scale multiplied by the number of questions, so $5 \times 17 = 85$. The expected total score is the maximum score multiplied by the number of respondents, so $85 \times 5 = 425$. The calculation of the feasibility percentage was obtained from respondent data (expert validation score), namely 401 (93.75%) from the expected score of 425 (100%). Based on the feasibility percentage, it is categorized as very

feasible and the results of discussions and suggestions for developing an evaluation of the website-based APIPA model program for the mathematics teacher performance program for the acceptability of educational technology, it is concluded that it is "Feasible with revision". Educational technology experts provide suggestions and input in assessing the concept and implementation of mathematics teacher performance program instruments and program evaluation based on the APIPA model *website* qualitatively as in table 4.10 below,

Table 11 Summary of expert study results on educational evaluation

No	Aspect	Educational Evaluation Expert Advice	Is
1	Conclusion	Overall, it is quite suitable.	
2	Suggestions/In put	Whereas measuring the evaluation of the Mathematics Teacher Performance Program using the website-based APIPA program evaluation model has 5 (five) stages of evaluation implementation, it is necessary to adjust the indicators, potential and weaknesses of the modification of the evaluation model into a program success checklist.	It has been revised by researchers
		Assessors are required to assess or observe learning device documents and teacher work programs for one semester.	
		Apart from using a questionnaire, you must use a minimum of 2 (two) data collection times. First stage: assessment aspect/dimensional instrument; second stage: Planning, Implementation, Product and Appreciation instruments.	
		APIPA model program evaluation information is presented directly and clearly in the website.	
		for the assessment of mathematics teacher performance programs to be more specified for junior high school teachers and written on the website.	

b. Data Focus Group Discussion (FGD)

One of the practicalities and relevance of developing this research product is providing an assessment or acceptability of the APIPA model program evaluation development concept which consists of 17 statements. The assessment carried out by practitioners who were part of the FGD activities, totaling 14 teachers, showed that

acceptability (*acceptability*) development of quantitative and qualitative evaluation of the APIPA model program. Conceptual acceptability of technology and educational evaluation in developing APIPA-based program evaluation models *website* in assessing junior high school mathematics teacher performance programs using this website. The results of the FGD can be seen in the table below.

Table 12 Results data educational practitioner validation regarding the evaluation of APIPA-based model programs *Website* on junior high school mathematics teacher performance programs.

No	Statement	Answer Choice Score				
		SS	S	KS	TS	STS
1.	Explain the operational definition of the stages (syntax) of APIPA model program evaluation	14				
2.	Explain the stage indicators (syntax) for evaluating the APIPA model program	14				
3.	Explains the operational definition of the stages (syntax) of the junior high school mathematics teacher performance program	13	1			
4.	Explain indicators of achievement of junior high school mathematics teacher performance programs	12	2			
5.	Explain the content of the APIPA Model program evaluation topology	14				
6.	The relationship between indicator content and the APIPA program evaluation checklist	10	2	2		
7.	Conformity of dimension/aspect content with elements/sub-aspects of junior high school mathematics teacher performance programs	14				
8.	Conformity of element/sub-aspect content with indicators of junior high school mathematics teacher performance programs	14				
9.	Conformity of procedures (<i>Flowchart</i>) evaluation of the website-based APIPA model program in evaluating junior high school mathematics teacher performance programs	14				
10.	Readability of the APIPA profile on the website display	13	1			
11.	Website www.apipa.org explains the duties of administrators, assessors and teachers as targets for evaluating the APIPA model program	12	2			
12.	Administrator work procedures can be understood and carried out according to their duties	9	1	4		
13.	The appraiser's work procedures can be understood and carried out according to his duties	14				
14.	Teachers' work procedures can be understood and carried out according to their duties	14				
15.	Website www.apipa.org can be understood quickly and straightforwardly by website users.	13	1			
16.	Website www.apipa.org has good access speed	11	3			

17.	Website www.apipa.org can help the school in developing other teacher performance programs.	14				
Amount		1095	52	18	0	0
Shoes Total		1165				
Percentage (%)		97,90				

Source: Tabulation of FGD results data

To get better input, an assessment is carried out by practitioners who are part of the activity *Focus Group Discussion* (FGD) totaling 14 people (FGD participants consisting of education evaluation practitioners, mathematics education lecturer practitioners, school principals, and junior high school mathematics teachers) showed that assessing acceptability (*Acceptability*) development of a quantitative APIPA model program evaluation. The maximum score is the maximum score on a Likert scale multiplied by the number of questions, so $5 \times 17 = 85$. The expected total score is the maximum score multiplied by the number of respondents, so $85 \times 14 = 1,190$. The calculation of the feasibility percentage was obtained from respondent data (expert validation score), namely 1,165 (97.90%) from the expected

score of 1,190 (100%). Based on the results of the data tabulation from the FGD results, it was concluded that the acceptability of developing a website-based APIPA model program evaluation for the junior high school mathematics performance program was *very suitable*. Based on the results of discussions and suggestions that the development of the APIPA model program evaluation is based *website* on the junior high school mathematics performance program it was concluded that it was "suitable for use"

Education practitioners provide suggestions and input in assessing the development of APIPA-based program evaluation models *website* in the junior high school mathematics performance program qualitatively as in table 4.12 below,

Table 13 Summary of Study Results from educational practitioners

No	Aspect	Educational Evaluation Expert Advice	Is
1	Conclusion	Overall, it is suitable.	
2	Suggestions/Input	Whereas measuring the evaluation of the Mathematics Teacher Performance Program using the website-based APIPA program evaluation model has 5 (five) stages of evaluation implementation, it is necessary to adjust the indicators, potential and weaknesses of the modification of the evaluation model into a program success checklist.	It has been revised by researchers
		Assessors are required to assess or observe learning device documents and teacher work programs for one semester that will be used by the teacher.	
		APIPA model program evaluation information is conveyed directly and clearly regarding implementation procedures in the website.	

4. Dissemination

The trial activity of the website-based APIPA model program evaluation instrument on the junior high school mathematics teacher performance program in 5 schools was carried out at SMPN 1 Mataram City (9 teachers), SMPN 3 Mataram City (8 teachers), SMPN 4 Mataram

City (8 teachers), SMPN 8 Mataram (5 teachers), and SMPN 9 Mataram (6 teachers) with a target of mathematics subject teachers for class VIII and class IX, totaling 36 teachers. The trial activities were carried out from 25 to 29 March 2024. Data on the trial results can be seen in table 4.13 below.

Table 14 Validity of Data from Testing Research Instruments

Statement	r Count	r Table	Criteria	Statement	r Count	r Table	Criteria
1.	0,751	0,329	Valid	2.	0,725	0,329	Valid
3.	0,775	0,329	Valid	4.	0,725	0,329	Valid
5.	0,787	0,329	Valid	6.	0,712	0,329	Valid
7.	0,815	0,329	Valid	8.	0,834	0,329	Valid
9.	0,727	0,329	Valid	10.	0,725	0,329	Valid
11.	0,737	0,329	Valid	12.	0,743	0,329	Valid
13.	0,762	0,329	Valid	14.	0,775	0,329	Valid
15.	0,738	0,329	Valid	16.	0,762	0,329	Valid
17.	0,751	0,329	Valid	18.	0,737	0,329	Valid
19.	0,788	0,329	Valid	20.	0,762	0,329	Valid
21.	0,736	0,329	Valid	22.	0,725	0,329	Valid
23.	0,725	0,329	Valid	24.	0,775	0,329	Valid
25.	0,729	0,329	Valid	26.	0,754	0,329	Valid
27.	0,712	0,329	Valid	28.	0,787	0,329	Valid
29.	0,781	0,329	Valid	30.	0,742	0,329	Valid
31.	0,783	0,329	Valid	32.	0,775	0,329	Valid
33.	0,747	0,329	Valid	34.	0,898	0,329	Valid
35.	0,754	0,329	Valid	36.	0,717	0,329	Valid
37.	0,759	0,329	Valid	38.	0,753	0,329	Valid
39.	0,756	0,329	Valid	40.	0,747	0,329	Valid
41.	0,725	0,329	Valid	42.	0,812	0,329	Valid
43.	0,735	0,329	Valid	44.	0,783	0,329	Valid
45.	0,755	0,329	Valid	46.	0,687	0,329	Valid
47.	0,716	0,329	Valid	48.	0,797	0,329	Valid
49.	0,719	0,329	Valid	50.	0,862	0,329	Valid
51.	0,795	0,329	Valid	52.	0,857	0,329	Valid
53.	0,725	0,329	Valid	54.	0,812	0,329	Valid
55.	0,775	0,329	Valid	56.	0,725	0,329	Valid
57.	0,785	0,329	Valid	58.	0,854	0,329	Valid
59.	0,721	0,329	Valid	60.	0,837	0,329	Valid
61.	0,835	0,329	Valid	62.	0,858	0,329	Valid
63.	0,825	0,329	Valid	64.	0,803	0,329	Valid

Source: Tabulation of research instrument test results data attached.

Instrument testing was carried out on 36 junior high school mathematics teachers in the city of Mataram which showed that the results of the validity test on 64 statements (items) could be concluded that all research instrument items were stated *valid*.

Determination of reliability *coefficient* between instrument items using a formula, *Alpha Cronbach*. Coefficient calculation results *reliability* used to determine the level of reliability of 36 teachers with a reliability coefficient acceptance limit of

$r_{\text{table}} \geq 0.329$. Calculating the reliability of the instrument for 64 statements (items) uses a formula *alpha Cronbach* carried out with the help of the SPSS window 16 program. Basis for decision making in the test *reliability* i.e. If the value *alpha Cronbach* ≥ 0.70 then the questionnaire can be declared reliable or consistent and if the value *alpha Cronbach* < 0.70 then the questionnaire can be declared unreliable. Reliability calculation results using the formula *Alpha Cronbach* can be seen in table 4.14 below:

Table 15 Reliability test results of instrument trials

Number of Items	Mark <i>Alpha Cronbach</i>	Information
64	0,915	Reliable

Based on the results of reliability calculations with a total of 64 items using SPSS window 16, an alpha value of 0.915 was obtained. This value is compared with the criteria for a higher correlation coefficient value ($0.915 > 0.70$), so that the instrument can be declared *reliable*.

Discussion

Study of the APIPA model program evaluation concept (*Assessment, Planning, Implementation, Product, Appreciation*) is a modification of the ALKIN model program evaluation and CIPP model program evaluation which combines the potential and weaknesses of the two program evaluation models to become the latest APIPA model program evaluation. The potential and weaknesses of the ALKIN and CIPP model program evaluations become the strengths and strengths of the APIPA model program evaluation. The most important object for combining is the syntax/stages of each program evaluation. Evaluation of the APIPA model program stage *Assessment* is a combination of Assessment, Context, and Input syntax; stage *Planning* combined planning and input syntax; stage *implementation* combination of syntax *process, implementation*; The product stage is modified from the syntax *product*; level *Appreciation* combination of syntax *improvement* and *certification*. A framework that is widely used in various fields such as education, environmental health, and coaching programs (Aldapit & Suharjana, 2019);

(Darma, 2019); (Healy, 2000). The CIPP model's emphasis on context, input, process, and product aligns with the APIPA model's focus on product assessment, planning, implementation, and evaluation. CIPP model. (Ho et al., 2011), explains the context, input, process and product in program assessment. The Alkin model emphasizes the syntax and indicators of the program evaluation model, in order to provide a comprehensive and methodical assessment process (Attkisson et al., 1974).

Development of website-based APIPA model program evaluation for junior high school mathematics teacher performance programs using development research (R&D) with 4D design (*Four D*) with research stages, namely *Define, Design, Development, And Dissemination*. **Level Define, namely** the development of a study of the APIPA model program evaluation concept (*Assessment, Planning, Implementation, Product, Appreciation*) namely a literature relevance test from 1967 to 2023. The results of the concept study are topology, operational definitions of each syntax/stage, success checklist, mathematics teacher performance program instruments. **Design stage** namely the initial design of the APIPA-based model program evaluation *website* on junior high school mathematics teacher performance programs. The result of this design is the formation **work procedures** APIPA model-based program

evaluation *website* on junior high school mathematics teacher performance programs, and **evaluation book program** APIPA based model *website* on junior high school mathematics teacher performance programs. This design is designed for users from *websites* that are *user-friendly*, making it easier for mathematics teachers to access the assessments provided. **Development stage, namely** conducting a feasibility test for evaluating the website-based APIPA model program on the junior high school mathematics teacher performance program through 2 actions, namely *Expert Judgment* and *Focus Group Discussion* (FGD). The results of this development stated that it was suitable for use by junior high school mathematics teachers in West Nusa Tenggara. **Dissemination Stage** namely conducting limited trials and extensive tests on research subjects.

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The knot

Based on the results of the research and discussion, it can be concluded that the development of the APIPA model program evaluation is based on *website* the junior high school mathematics teacher performance program was declared suitable for use based on the research development stages, namely *literature study* through *Concept Analysis* as *logic model* APIPA model program evaluation, designing program evaluation model designs in the form of program evaluation model books, *Content Validity* namely the results of expert and practitioner validation which explains that it is suitable for use as well as limited trial analysis stating that it is valid and reliable and testing the effectiveness of the program evaluation model implemented on junior high school mathematics teachers in West Nusa Tenggara.

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