Developing Learning Tools That Apply An Inquiry Learning Model That Is Integrated With MBKM (Independent Learning - Independent Campus) To Improve Student Competence

Syamsidah[1], Nurwahidah[2],Wiwik Wahyuni[3], Syarah Syam Amir[4]

[1,2,3]Universitas Negeri Makassar, Makassar, Indonesia,
[4]Universitas Muhammadiyah Makassar, Makassar, Indonesia

Abstract

Learning devices apply various models and the one that is considered potential to support the objectives of (Independent Learning - Independent Campus Program) MBKM is the inquiry learning model. It activates students, improves critical and creative thinking skills, and creates a collaborative and supportive learning environment. Learning by applying the inquiry model emphasizes the inquiry and discovery process because learning materials are not directly presented to students. Students are required to find their own learning materials to be criticized and analyzed, while teachers act as facilitators and guides. Strategies to improve student competence through the inquiry learning model need to receive serious attention due to its potential to support MBKM. It does not only develop intellectual and emotional intelligence but also improves student competence. MBKM is thus also in accordance with one of the objectives of the inquiry learning model.This is Development Research (R&D), adopted from the Thiagarajan, Semmel, and Semmel models. This research was conducted in four stages: definition, design, development, and dissemination. We identified the stages to develop a learning device that integrates MBKM inquiry model that is valid, practical, and effective to improve student competence.The research successfully created a valid, practical, and effective MBKM integrated inquiry learning Model and Device. Validity is shown by the five design components that obtained a very high average validity value. The Clarity value of Instructions for Using the Lesson Plan is 81.25 (good), Competency Achievement and Learning Objectives = 90.63 (very good), Student Response = 95.83 (very good), Difficulty Implementation Levels 95.83 (very good), and Time Sufficiency is 4.00 categorized as very good. Furthermore, the practicality of this model is shown by the positive perception of students = 96.50% and lecturers = 95.57%.The data above proves that in terms of user perception, the inquiry learning device is practical to implement in Family Sociology lectures to improve student competence. Furthermore, the model's effectiveness is shown by the scores obtained by 20 students who are considered to have passed the standard. All in all, the Inquiry Learning Device can improve student competence effectively.

Keywords: Development, Inquiry Learning Model; Student Competence; MBKM

I. INTRODUCTION

Indonesian universities are currently facing great challenges in preparing graduates with competencies to face an increasingly complex and dynamic world of work. One of the strategies implemented by the government to face these challenges is the Independent Learning Independent Campus (MBKM) program initiated by the Ministry of Education, Culture, Research, and Technology. The MBKM program aims to improve the competencies of graduates, including soft skills and hard skills, so that they are better prepared to face the demands of life (Directorate General of Higher Education, 2020)[1]. However, the MBKM program still faces various obstacles, especially in developing effective learning tools that integrate the concept of MBKM. Devices are important in learning, not inferior to other elements such as school infrastructure (such as buildings and laboratories), and high-quality human resources. Thus, to improve the quality of the learning process and output, learning tools must receive serious attention. Every given period, they must be updated to

adapt to changes and developments in society, industry, and development needs. Learning tools support the government by improving the quality of human resources to continue to develop.

Learning tools according to[2] are a collection of resources that support learning. For an educator, learning tools are guidelines for carrying out learning and evaluation systematically and successfully achieving targets. Learning tools including syllabus and lesson plans must refer to Content Standards consisting of learning media and resources, assessment tools, and learning scenarios [3]. Thus, a learning tool is a collection of learning resources that are systematically arranged, to be applied by teachers and students to guide their learning activities. Learning tools including Lessson Plan, modules, and worksheets.

Learning tools have a variety of models, and one of them that is considered to have the potential to support the goals of MBKM is the inquiry learning model. This model can activate students, improve critical and creative thinking skills, and create a collaborative and supportive learning environment. Learning with an inquiry model emphasizes exploration and discovery, and students must find their own learning materials to critique and analyze, while educators act as facilitators and guides for students to learn Bell et al (2010).Considering the benefits of Inquiry Learning presented above, it can be concluded that this model can increase students' creativity and ultimately improve their competence.

Family Sociology is better presented through the Inquiry learning model because it aims to equip prospective teachers with fun and relevant teaching methods to improve their life skills, both as individuals and social beings. Family sociology includes the competence of relationships between individuals, and individuals with society. Family sociology is a compulsory course that has been taught using conventional methods that require teachers to play a bigger role and limit student involvement in the learning process. As a result, students' creativity and innovation are not trained and relatively dependent on lecturers. In addition, lecturers rarely use media in teaching. As a result, students tend to be static, while subjects demand dynamic output and more intense social interaction.

One of the studies that proves that learning with the Inquiry learning model contributes to improving the quality of student output [5]. That the application of the inquiry learning model increases students' activeness in learning because they are directly involved in experiments, trained to solve problems and think critically, and improve students' cognitive abilities. more dynamic learning methods, such as Inquiry-Based Learning (IBL), one of the active learning approaches that is often discussed in the educational literature as a positive influence on the student learning process. Inquiry-Based Learning (IBL) is an approach to improving and transforming the quality and effectiveness of learning experiences by adopting a learner-centered, learner-directed, and inquiry-oriented learning approach that puts more control over learner-driven learning[6]. To take advantage of this opportunity and facilitate the adoption of digital technologies, it is necessary to have a clear understanding of how to use them for IBL implementation[7]. The inquiry learning model offers many benefits to students and educators as it supports students in facing educational challenges that require them to be active and independent. The Inquiry learning model can improve students' skills to discover new knowledge and facilitate their memory. The Inquiry learning model can also increase students' creativity in learning.

Specifically, the construction of traditional Bugis houses in South Sulawesi also considers social and environmental aspects. This method can save lecture time and help students understand the lesson because this strategy allows them to work and directly evaluate their understanding of the material by comparing the work of their peers. A total of 50 fifth-grade students from two elementary school classes in New Taipei City, Taiwan, took part in the course "Assessment and Evaluation of Internet Information." 25 students in one class used the WILM-CDRASS method (experimental group), and the other 25 students used the WILM-GDBS method (control group). The study compared the effectiveness of learning and technology acceptance among the two groups, paying attention to their level of knowledge and cognitive style. As a result, the experimental group using WILM-CDRASS showed better learning outcomes and technology acceptance than the control group [8]. This study, employing an online survey with 183 U.S. teachers, explored the relationship between teachers' professional identity and their inclination towards adopting inquiry-based learning activities to instruct social studies. Within our conceptualization, constructivist beliefs and teacher efficacy were positively associated with their adoption of inquiry. However, teacher autonomy showed a negative relationship, implying the role of curriculum responsibilities in decision-making. The positive relationship between respect and inquiry adoption was mediated by teachers' department chair/head positions. The study also covered subject matter domain, teaching experience, and educational attainment. The findings provide

valuable insights for promoting inquiry-based practices in social studies [9]. Therefore, this study aims to collect new data and information about the Inquiry learning model in order to improve student competence in the Family Sociology Course at the Department of Family Welfare Education, Faculty of Engineering, State University of Makassar".

II. LITERATURE REVIEW

Learning tools including syllabus, learning media, lesson plans, learning resources, assessment tools, and learning scenarios[2] must be prepared by teachers before starting class. They guide the teaching and learning process so that both educators and students can focus on what they have to achieve and not deviate from the learning objectives. Learning tools are an important part of the learning process. Therefore, before entering the classroom, teachers must be ready with learning tools in their hands. Teachers' readiness in the classroom is determined by the learning tools they have prepared such as lesson plans, modules, and worksheets.

The learning model is specially designed by teachers to organize activities from start to finish. In other words, the learning model frames the application of an approach, method, and learning technique[10]. It is a learning design that systematically describes the steps to help students build information, and ideas, and build strategies to achieve learning goals. The learning model serves as a broad guideline in designing and implementing learning steps from inception to evaluation[11].

In the era of *Independent Learning*, the learning model focuses on empowering students as active learning subjects and is responsible for the learning process. The learning model in this era aims to increase student engagement and motivation, develop critical and creative thinking skills, and provide learning experiences that are relevant to real life. In this context, teachers must focus more on being facilitators, guides, and motivators for students, so that they can be independent and responsible for their own learning process[12].

The criteria for a good learning model are as follows: First, it must be valid. The validity aspect concerns two things: the model is developed on strong theoretical reasons and is internally consistent. Second, practical. Practicality can only be achieved if experts and practitioners agree that the developed model is applicable, and based on reality, the model is applicable. The third is its effectiveness. Effectiveness includes the following aspects: based on the experience of experts and practitioners, the model is effective; and operationally, the model leads to the expected results[13]. Inquiry-based learning instructional methods are rooted in the belief that students of all ages can learn from conducting research. One of the indisputable requirements is that students must be adequately guided during the investigation to be able to learn from the activity. As classrooms become increasingly diverse, these guidelines must be differentiated to optimally meet the needs of each student. What exactly such a differentiated guide is and how and by whom it should be delivered is an important question for future research.

Studies investigating inquiry learning models have been carried out massively by experts and researchers, but generally only look at general aspects and have not focused on specific things such as improving student competencies integrated with MBKM. For example, [14] a study entitled "*Implementation of the Inquiry Learning Model with Science Literacy to Improve Students' Critical Thinking Skills*", highlights the application of the inquiry learning model to improve students' critical thinking skills to support science learning. Furthermore, the research [15] entitled "*Enchanced Conceptual Understanding, 21st Century Skills and Learning Attitudes Through an Open Inquiry Learning Model in Physics*" discusses the improvement of conceptual understanding, 21st century skills and learning attitudes through an inquiry learning model. Then, the research [16] is titled "*Analysis of Classroom Action Research Studies: The Effectiveness of Inquiry Learning Models on Biology Education Undergraduate Students Problem Solving Ability*". The information contained in the application version history was analyzed and the four aspects of IBL education supported by nine functional features were identified as: motivation, conceptualization, exploration, and conclusion. We further compare the evolution of the functional features of the app with the educational aspects of inquiry-based pedagogy identified from different versions of the app. The findings of this study show the trend of updated functional features that support IBL and inform practitioners who want to increase the use of mobile apps to support student learning in science. We conclude by proposing future research areas in this area[17].

This paper presents a study conducted in the author's institution to evaluate the potential and shortcomings of inquiry-based practicum models in post-Bologna early teacher education master's programs. Data was collected through survey questionnaires to practicum participants and analysis of student teacher practicum reports. The results showed that the participants' views (perceived quality) and evidence from the practicum

report (inferred quality) were globally aligned with the model's rationale (intended quality). This model promotes inquiry competence, diverse professional knowledge, and a transformative vision of education. Shortcomings and constraints for the investigation are discussed, and future directions to improve them are presented[18]. This study highlights the implementation of the inquiry learning model in improving students' problem-solving skills.

Some of the studies presented above show that inquiry learning is a new model. In this case, student competencies that are integrated with MBKM are the central point and are considered to support flexibility in independent learning. The independent curriculum emphasizes that learning must be relevant to the world of work and future challenges. Therefore, inquiry learning is believed to help students develop skills needed in the workplace such as problem-solving, critical thinking, and collaboration. Although the inquiry learning model has been widely applied, limited research has investigated its impact on improving student competence, especially in the context of Independent Learning, Independent Campus.

Inquiry learning stimulates students' critical thinking skills in solving problems by collecting information independently[14]. Inquiry learning also stimulates students' ability to think critically in solving problems given by teachers by collecting information independently[19].

Inquiry learning aims to provide meaningful learning experiences, strengthen critical thinking, research, and problem-solving skills, and increase students' independence and interest in learning. The inquiry learning model is useful for 1) developing questioning, research, and communication skills; 2) increase collaboration and cooperation between students or groups for better learning outcomes; 3) help students solve problems, provide solutions, and overcome real-life problems; 4) develop talents and critical thinking skills; and 5) increasing participation in the development and enhancement of science[14], [20].The inquiry cycle proposed by White and Frederiksen (1998) also identifies five phases of inquiry, but labels them as Question, Predict, Experiment, Model, and Apply [21]. The learning tool model includes syllabus, lesson plans, teaching materials, ICT-based learning media, and learning evaluation instruments. In this model, students have the opportunity to get more actual information and upload their work creatively and independently. This model can be used effectively because teachers can check students' work and provide feedback via email and then students can upload their work on the school blog [22].

Competence describes what a person should be able to do in a job, including behavior, and the results that must be displayed. In other words, competence is a set of knowledge and skills that support a person in carrying out their duties (Hidayati, 2021). Competence is a basic character that indicates behavior or how to handle a situation with a wider scope so that it can last for a long time. Competence is a basic behavior that describes the motives, personal characteristics, and knowledge or skills of a person with high performance in his or her workplace [24].

The more competent a person is, the easier it will be for him to complete work with high-quality outputs, including planning, implementation, and evaluation. Thus, competence is related to managerial and technical abilities which are absolute prerequisites for a leader. In addition, competence is relevant to a person's life skills, both as an individual and as a social being. As individual beings, humans have a relatively stable, wise, mature, and authoritative personality, and are capable of being moral role models. As social beings, humans must be able to communicate and establish relationships with others.

III. Research Method

This research employed a development approach (R&D), adopted from the Thiagarajan, Semmel, and Semmel model, which includes four stages: defining, designing, developing, and disseminating [25].

A. Research Development

1. Defining Stage

a. Front and Analysis

The first step in the define stage is the front-end analysis. The researchers discussed with the lecturer regarding how the Family Sociology course was conducted in the PKK Department, Faculty of Engineering, Makassar State University. This is to obtain information about the fundamental problems that need to be solved.

b. Students Analysis

Students were analyzed to examine their characteristics including background knowledge, especially about family sociology, the language they speak, and their cognitive development. The results of the analysis underlie the development of constructivism-oriented learning tools.

c. Concept Analysis

At this stage, we identified and systematically organized the core materials and arranged them hierarchically. The learning materials taught in this study included the basic concepts of Family Sociology, family forms, family functions, and theories related to family and gender.

d. TaskAnalysis

Tasks were analyzed to identify the material to be taught so that we could identify which ones had been completed by students, both through individual and group assignments. This stage also eased teachers to specify goals to be achieved.

2. Defining Stage

This stage aims to prepare a prototype of the learning device, and consists of 3 steps:

1)Developing the Lesson Plan and Module development concept. This is the initial step that connects the define stage and the design stage. The outlines of the learning material and the practical steps are arranged based on specific learning objectives.

2)Selecting references and media that are appropriate for the purpose, to convey the learning material.

3)Selecting a new format by reviewing older formats that had previously been developed in other more advanced countries

3. Development Stage

This stage aims to draft revised learning tools based on expert suggestions and data from the readability tests and trials.

B. Research Subjects and Location

The subjects of the study included relevant parties who were considered able to provide information and responses and assess the development of learning devices. They consisted of:

1) Informant subjects (all students participating in the Family Sociology course and lecturers teaching the course); and
2) Expert judgments, refer to the assessors (content validators) of the learning device prototype.

The location of this study was the Department of Family Welfare Education, Faculty of Engineering, Makassar State University.

C. Data Sources and Collection Techniques

To collect information from various sources, we implemented various methods and tools as follows:

1. Focus Group Discussion (FGD)

The FGD method was carried out to collect information from the Head of the Family Welfare Program as the supervisors of family sociology course. The information that was explored through this method included: a) understanding and responses to the concept of learning devices development with the Inquiry learning model, b) experiences and habits of subjects related to the development of learning devices based on the Inquiry learning model, c) responses, readiness, needs, and ideas of subjects related to the development of learning devices based on the Inquiry learning model.

2. Interview

The consultative interview technique aims to gather information and assessment from (expert judgment) regarding the validation of the content of the learning device (Lesson Plan and Module). In addition, in-depth interviews were conducted with several lecturers as key informants, especially the ones involved as subjects of small group trials and field trials to obtain detailed information regarding the learning device and their responses and assessments.

3. Documentation

This method aims to collect information from documents, such as written policies or University regulations on learning, reports of lecturer activities, formats, and instruments used in classroom learning.

4. Questionnaires, Checklists, and Scales

This instrument aims to gather information regarding the understanding of research subjects (lecturers and students) on the learning tool development concept with the constructivism model. This method also aims to assess lecturer and student's assessments on the acceptability, feasibility, and effectiveness of learning tools (Lesson Plan and Module).

IV. Result and Discussion

This study aims to identify the stages of development of the MBKM integrated Inquiry Learning learning model to improve student competence. It also aims to assess the validity, practicality, and effectiveness of the MBKM integrated inquiry learning model and learning tools. After collecting data, we identified the following information:

RESULT

1. Valid Inquiry Learning Model Devices

Material experts and media experts validated the feasibility of the Inquiry Learning Model based on: learning aspects, material aspects, and module benefits aspects. The validation resulted in the following data:

Table 1. Validation results from Material Experts and Media Experts

No	Assessment Criteria	Average	Percentage	Criteria
1	Clarity of Instructions for Using the Lessin Plan	3.25	81.25	Well implemented
2	Achievement of Competencies and Learning Objectives	3.63	90.63	Very well implemented
3	Student Responses	3.83	95.83	Very well implemented
4	Level of Implementation Difficulty	3.83	95.83	Very well implemented
5	Time Sufficiency	4.00	100.00	Very well implemented
Average		**3.71**	**92.71**	**Very well implemented**

Source: Material expert validation sheet, 2024

Based on validation of the Aspects of Clarity of Instructions for Using the Lesson Plan, Competency Achievement and Learning Objectives, Student Response, Level of Implementation Difficulties, and Time Sufficiency, as shown in Table 1, the average score is 3.71 with a percentage of 92.71% (very well implemented). Thus, it can be concluded that the Inquiry learning model device to improve student competency could be brought to the field trials.

2. Inquiry Learning Model Devices developed in this study are Effective and Practical to Use and Can Improve Student Competence

This stage aims to measure the effectiveness and practicality of the Inquiry Model Learning Device when it is implemented in teaching. The revised media and assessment instruments according to the expert validator's suggestions were tested on students. The trial stages include:

1)**Individual Trial or Small Group Trial**

Individual or small group trials were conducted by involving 5 students as targeted users of the Inquiry Learning Model Device. Data obtained from students' responses to questionnaires were collected, then analyzed and presented in Table 2. The recapitulation of student assessment results on the Inquiry Learning

Model aspect depicted in Table 2 below shows the average score of 3.48 with a percentage of 87.00% (strongly agree).

Table 2. Recapitulation of Questionnaire Aspects of Inquiry Learning Model Trial 1

No	Assessment Criteria	Average	Percentage	Criteria
1	At the beginning of the learning activities, the teacher's explanation caught my attention	3.60	90.00	Strongly agree
2	In this lesson, I mastered the material better.	3.00	75.00	Agree
3	I feel happy learning with this model	3.40	85.00	Strongly agree
4	Since the beginning, I have been motivated to learn more about the material.	3.60	90.00	Strongly agree
5	The time allocated is sufficient to complete the task.	3.80	95.00	Strongly agree
Average		**3.48**	**87.00**	**Strongly agree**

Source: Recapitulation of student response questionnaire, the first trial, 2024

The recapitulation of the results of student assessments on the Inquiry Learning Model aspect presented in Table 2 shows an average of 3.48 with a percentage of 87.00% in the Strongly Agree category.

Table 3. Recapitulation of Questionnaire of Learning Aspect in Trial 1

No	Assessment Criteria	Average	Percentage	Criteria
1	The module display does not attract my attention	3.60	90.00	Strongly Agree
2	I can easily understand the language and structure of the material in the Regional Education module	3.60	90.00	Strongly Agree
3	I can more easily understand entrepreneurship with the regional autonomy module	4.00	100.00	Strongly Agree
Average		**3.70**	**92.40**	**Strongly Agree**

Source: Recapitulation of student responses, trial 1, 2024

Recapitulation of student assessments on the Learning aspect based on Table 3 shows an average of 3.70 with a percentage of 92.40% (Strongly Agree).

Table 4. Recapitulation of Questionnaire Aspects of Inquiry Learning Model Trial 1

No	Assessment Criteria	Average	Percentage	Criteria
1	Open-ended questions motivate me to seek honest answers	3.20	80.00	Agree
2	I am more courageous in expressing my own opinions by applying communication ethics (sipakatau, sipakalebbi and sipakainga)	4.00	100.00	Strongly Agree
3	I am challenged to complete assignments independently.	3.40	85.00	Strongly Agree
4	I am more independent in completing	3.60	90.00	Strongly Agree

	tasks			
5	The allocated time is sufficient to learn the material	3.80	95.00	Strongly Agree
Average		**3.48**	**3.60**	**90.00**

Source: Recapitulation of student response questionnaire, trial 1, 2024

The recapitulation of student assessments on the character strengthening aspect presented in Table 4 shows an average of 3.60 with a percentage of 90.00 (Strongly Agree). The individual trial stage showed a positive response from students to the Inquiry Model Learning Device so this model requires minor revisions to components that received low scores based on suggestions from students to improve the Inquiry Model Learning Device.

2)**Field Trial**

This is the final stage of product implementation. Field trials aim to test the latest prototype of the product before it is massively developed. This stage involves 19 test subjects including 18 students and 1 teacher. Data obtained from this stage will determine the feasibility of the Inquiry Model Learning Device based on its effectiveness and practicality.

The practicality of using the Inquiry Model Learning Device is based on student responses and observations of teacher activities during the teaching and learning process. Data regarding the effectiveness of using the Inquiry Model Learning Device were obtained from student intelligence questionnaires.

The assessment of learning using the Inquiry Model Learning Device involved 2 respondents. They were asked to evaluate the model by observing the test subjects, both student and teacher and filling out the observation sheets that had been prepared. A recapitulation of student activity observation data from both observers in the field trial is presented in the following Table:

Table 5. Recapitulation of Questionnaire Aspects of Inquiry Learning Model Trial 2

No	Assessment Criteria	Average	Percentage	Criteria
1	At the beginning of the learning activity, the teacher's explanation caught my attention	3.80	95.00	Strongly Agree
2	In this learning, I mastered the material better	3.90	97.50	Strongly Agree
3	I was happy learning with this model	3.95	98.75	Strongly Agree
4	Since the beginning of learning, I had been motivated to learn more about the learning material	3.80	95.00	Strongly Agree
5	The time allocated was sufficient to complete the assignment	3.85	96.25	Strongly Agree
Average		**3.86**	**96.50**	**Strongly Agree**

Source: Recapitulation of student response questionnaire, trial 2, 2024

Student assessment on the Inquiry Learning Model aspect is summarized in Table 5, and shows an average of 3.86 with a percentage of 96.50 (Strongly Agree).The data from the questionnaire presented in the graph above shows that student interest in this model got the highest mean score of 3.95 (98.75%) meaning that the respondents strongly agreed.

Table 6. Recapitulation of Learning Aspects Questionnaire Trial 2

No	Assessment Criteria	Average	Percentage	Criteria
1	The module display does not attract my attention	3.55	88.75	Strongly Agree

2	I can easily understand the language and structure of the material in the Regional Education module	3.90	97.50	Strongly Agree
3	I can more easily understand entrepreneurship with the Regional Autonomy module	3.85	96.25	Strongly Agree
Average		**3.77**	**94.17**	**Strongly Agree**

Source: Recapitulation of student responsesquestionnaire for trial 2, 2024

Recapitulation of student assessments on the Learning aspect in Table 6 shows an average of 3.77 with a percentage of 94.17% (Strongly Agree).The assessment of the student response questionnaire presented in the graph above shows that the indicator of how easy it is for respondents to understand the language and structure of the material got the highest mean score = 3,90 or 97.50% (strongly agree).

Table 7. Recapitulation of Character Strengthening Questionnaire Trial 2

No	Assessment Criteria	Average	Percentage	Criteria
1	Open-ended questions motivate me to seek honest answers	3.79	94.74	Strongly Agree
2	I am more courageous in expressing my own opinions by applying communication ethics (*sipakatau, sipakalebbi and sipakainga*)	3.70	92.50	Strongly Agree
3	I am challenged to complete assignments independently.	3.90	97.50	Strongly Agree
4	I am more independent in completing tasks	3.85	96.25	Strongly Agree
5	The allocated time is sufficient to learn the material	3.90	97.50	Strongly Agree
Average		**3.83**	**95.70**	**Strongly Agree**

Source: Recapitulation of student response questionnaire for trial 2, 2024

The recapitulation of student assessments on the character strengthening aspect presented in Table 7 shows an average of 3.83 with a percentage of 95.70, (Strongly Agree).The student responses presented in the graph above show that the indicator "I am challenged to complete tasks independently and the time allocated is in accordance with the material taught" obtained the highest score (3.90) with a percentage of 87.50%, Strongly Agree.

Observation of teacher activities in the learning process using the Inquiry Learning Device involved 2 respondents. They assessed these aspects based on observations of the trial subjects, including students and teachers. Recapitulation of teacher activity data from both observers in the field trial is presented in the following Table:

Table 8. Data from the Teacher Activity Observation Questionnaire

No	Assessment Criteria	Average	Percentage	Criteria
1	Pre Actitivties	3.75	93.75	Very Good
2	Main Activities	3.88	96.88	Very Good
3	Post Activities	3.84	96.09	Very Good
Average		**3.82**	**95.57**	**Very Good**

Source: recapitulation of teacher activity observation questionnaire, 2024

Based on the recapitulation of the Observation questionnaire at the beginning, middle, and end of teaching activities, using the Inquiry Learning Model Devices presented in Table 8, the average value is 3.82 with a percentage of 95.57, which is in the very good category. It means that Inquiry Learning Model Devices are practical to be implemented to improve student competence. The questionnaire was also distributed to collect data on the effectiveness of using the Inquiry Learning Devices.The assessment results are presented in the following diagram:

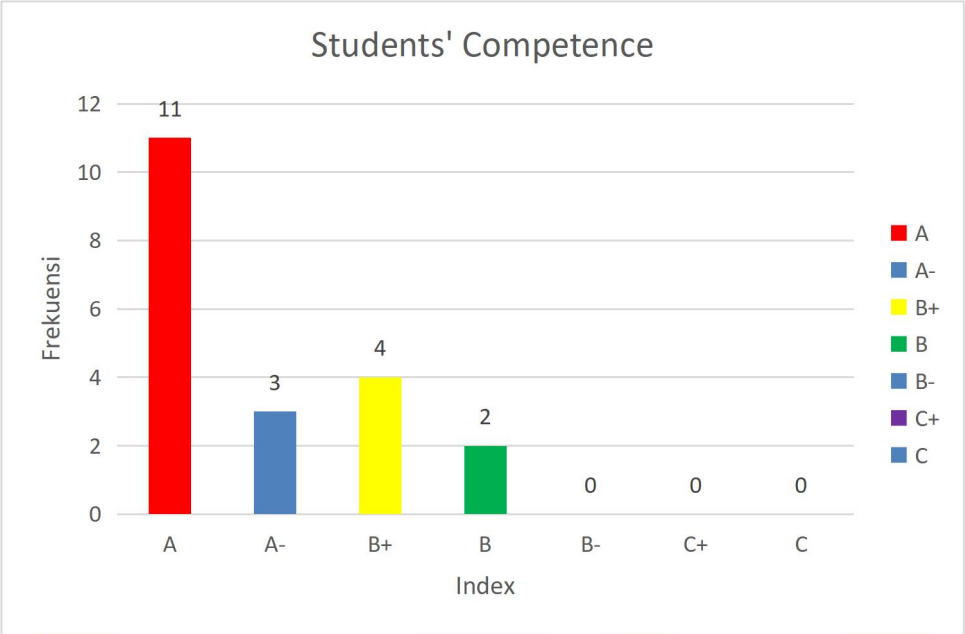

Figure 1. Student Competency Diagram

The data presented in the bar chart above shows that 11 students obtained a score of 4.00 with an A index, 3 students obtained a score of 3.75 with an A- index, 4 students obtained a score of 3.25 with a B+ index, and 2 students obtained a score of 3.00 with a B index. Based on these data, 20 students passed the standard, indicating that Inquiry Learning Model Devices that can improve student competence are Effective.

DISCUSSION

This research has created a valid, practical, and effective Inquiry Learning Model Device that is integrated with MBKM to improve student competence. Media validity is indicated by a validity score. Good learning resources can be applied by students as a strategy to facilitate active learning. Critical thinking skills are needed to build problem-solving competencies [14]. The inquiry learning model offers exercises to gather information through experiments to solve problems through critical and logical thinking. The inquiry learning model encourages student involvement in learning to explore, investigate and analyze things systematically, critically, and logically, so that they can formulate their own findings [26].

Another study that supports these findings states that the application of the inquiry learning model gives students the freedom to learn and clear rules in exploration. Learning in the 21st century requires students to be more independent in building their critical thinking skills to solve different types of problems. The inquiry learning model prioritizes participation in teaching and learning based on the basic values of scientific thinking so that students learn more on their own and develop creativity in solving problems by creating a responsive learning atmosphere [27], [28]. In addition, the application of inquiry-based learning has greater potential to improve social skills compared to conventional learning, as students get more opportunities to discuss, cooperate, help each other, and provide positive assistance in developing students' social skills. Inquiry-based learning motivates students to be actively involved in fun and more creative learning [29].

Learning in the era of Independent Learning requires students to master various competencies including cognitive, affective, and psychomotor aspects [30]. Competency improvement strategies are very important, especially for students as the successors of human resources and candidates for the National Workforce. Students must prepare themselves early on with a range of competencies including knowledge, skills, and attitudes demanded by the industry today and in the future. Learning in the era of Freedom of Learning

requires students to master various competencies ranging from cognitive, affective to psychomotor aspects [31]. Students need to improve their critical and creative thinking skills. The application of the inquiry learning model can improve students' critical thinking skills, especially those with visual and auditory learning styles. The inquiry learning model can improve student learning outcomes because of the improvement of their creative thinking skills[32], [33].

The inquiry learning model is right to apply in an independent curriculum because both are student-centered[34]. The application of the inquiry learning model in the independent learning curriculum can increase students' learning potential because it increases students' ability to independently find the right learning style [35]. Other research reveals that in the independent learning curriculum, the application of the inquiry learning model develops critical and creative thinking skills, improves learning outcomes, motivation, and student engagement, and offers meaningful and relevant learning experiences for the 21st century [36].

Based on some of the research above, the improvement of student competence through the Inquiry Learning Model Device must be promoted massively because it strongly supports MBKM in developing knowledge, attitudes, and skills. Based on the development of the Inquiry Learning Model Device, student competence is a long-term investment that will benefit students themselves, universities, and society in general.

V. Conclusion

We have found a valid, practical, and effective MBKM integrated inquiry learning model learning device to improve student competence. This media is valid because the components of the design of the inquiry learning model learning device got a very high average validity score. The aspect of clarity of instructions got a score of 3.25 (categorized as Good); competency achievement of 3.63 (very good); student response of 3.83 categorized as very good; the aspect of difficulty level of 3.83 categorized as very good; and the aspect of time adequacy = 4.00 (very good). The model was considered practical based on the positive perception of students, with a percentage of 87.50%, and of the lecturer (95.57%). This shows that based on user perception, the inquiry learning device is practical to be implemented in Family Sociology lectures to improve student competence. Lastly, this model was considered effective because based on the assessment, the 20 students passed the established competence standards.

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