

# Student Performance Application in the Practice of Teaching Deaf Students Based on Reflective Maternal Method (RMM)

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## ABSTRAK

Keterampilan mengajar merupakan keterampilan utama yang dibutuhkan setiap guru untuk menghasilkan generasi guru yang berkualitas. Namun faktanya penilaian kinerja yang berlangsung selama ini menggunakan penilaian kinerja secara manual dengan rubrik. Hal ini menimbulkan permasalahan yaitu evaluasi menjadi rumit dan tidak efisien. Penelitian bertujuan untuk mengembangkan aplikasi kinerja siswa dalam pembelajaran siswa tunarungu, dengan melakukan analisis kebutuhan terkait keterampilan siswa saat ini dan menganalisis materi dan konten yang dibutuhkan. Desain penelitian menggunakan metode survei deskriptif kuantitatif terhadap 120 mahasiswa program studi Pendidikan Luar Biasa. Survei berisi pertanyaan-pertanyaan terkait mata pelajaran yang dibagikan kepada 120 siswa. Teknik analisis data menggunakan analisis deskriptif kualitatif. Hasil penelitian menunjukkan bahwa tingkat keterampilan siswa dalam praktik mengajar siswa tuna rungu berada pada kategori cukup yaitu sebanyak 99 responden (82,5%). Data hasil analisis materi menunjukkan 75 responden (62,5%) sangat setuju, 31 responden (25,8%) setuju, dan 2 responden (1,7%) tidak setuju. Data hasil analisis isi menunjukkan 79 responden (65,8%) sangat setuju, 24 responden (20%) setuju dan 3 responden (2,5%) tidak setuju. Pengembangan aplikasi kinerja didasarkan pada hasil analisis kebutuhan berbasis teknologi digital untuk menilai kemampuan siswa dalam mengajar siswa tunarungu.

## ABSTRACT

Teaching skills are the main skills every teacher needs to produce a generation of quality teachers. But the fact is that the performance appraisal that has been going on so far has used manual performance appraisal with a rubric. It raises a problem, namely, the evaluation becomes complicated and inefficient. The research aims to develop student performance applications in deaf student learning by conducting a needs analysis of current student skills and the material and content needed. The research design used a quantitative descriptive survey method of 120 Special Education study program students. The survey contains subject-related questions, which were distributed to 120 students. The data analysis technique uses descriptive qualitative analysis. The results showed that the level of students' skills in the teaching practice of deaf students was in the sufficient category, namely 99 respondents (82.5%). Data from material analysis showed that 75 respondents (62.5%) strongly agreed, 31 respondents (25.8%) agreed, and 2 respondents (1.7%) disagreed. Data from the content analysis showed that 79 respondents (65.8%) strongly agreed, 24 respondents (20%) agreed, and 3 respondents (2.5%) disagreed. The development of performance applications is based on the results of a needs analysis based on digital technology to assess students' abilities in teaching deaf students.

## 1. INTRODUCTION

Being a teacher is not an easy thing. There are many challenges faced by a teacher, especially teachers for students with special needs. The challenge faced is in the form of providing the right learning strategy and choosing an evaluation method that suits the needs of students (Fajriana & Aliyah, 2019; Surahman et al., 2020). Teachers for deaf students often face problems related to the teacher's skills in communicating with students (Ahmad & Triastuti, 2021; Husain & Kaharu, 2021). This problem becomes meaningful because communication is the main key in the interactions that occur in the classroom, so that the learning process goes according to the main goals of subjects the teacher must be able to convey the

material well to students. Therefore, to create teachers for deaf students who are in accordance with the characteristics of students, a teacher needs communication and language skills (Dahlan et al., 2020; Fernández et al., 2020; Tanang & Abu, 2014). Relating to the social competence of a teacher, where is the essence of competence that is how his skills communicate and socialize effectively especially with students, of course the teacher is expected to be someone who can directly motivate students to learn or become a figure that is always anticipated every face-to-face meeting in class (Ahmad, 2019; Aimah et al., 2017; Indrianto & Fatmawati, 2020). Based on the opinion above it can be seen that communication is important in building a smooth and effective learning process for students in the classroom. Communication and language skills for teachers of deaf students are studied at Departement of Special Education, Faculty of Education, State University of Jakarta and applied to practical teaching skills (PKM) as a form of preparation for scholars to become good teachers.

The ability of students to provide learning will certainly have a big impact on deaf students (Alshawabkeh et al., 2021; Smith-Warshaw et al., 2020). In other words, the ability of special education students in providing learning has a straight comparison with the ability of deaf students in the learning process. So that the bigger and more reliable the Special Education students are in teaching, the greater the increase in students' abilities obtained (Anjasari et al., 2020; Bariroh, 2018; Weiss et al., 2018). In this case it is known that the teacher's ability is closely related to teaching and learning activities and student learning outcomes, because the teaching and learning process and learning outcomes obtained by students are not only determined by the school, pattern structure and content of the curriculum, but in part largely determined by the competence of the teacher teach and guide them (Douglas et al., 2016; Hatta, 2018).

Students in the Departement of Special Education study several subjects related to preparation to become teachers for deaf students, these subjects are learning for deaf students, communication systems and language acquisition. In subject of learning for deaf students, Students learn about the concepts, theories, and application of the reflective maternal method (RMM) as a form of learning strategy and communication to build interaction between teachers and deaf students, the application of RMM in the form of daily conversation is expected to be able to complete the missing period of language acquisition's period for deaf students. After pass from a subject on learning for deaf students and communication systems and language acquisition, students can take practical teaching skills (PKM) subject which are conducted in the fourth year. In the PKM activities, students will be assessed for their performance in practicing the reflective maternal method (RMM) in a class of deaf students. Student assessment includes students' abilities in selecting conversation topics, building a comfortable conversation atmosphere with students, sign language skills, and bringing conversations into other learning such as mathematics, sciences, cultural arts, etc (Alruwais et al., 2018; Tempelaar, 2019; Yang et al., 2022). The final assessment of PKM is outlined in the form of a performance assessment carried out by lecturers and supervising teachers at school.

Improving the quality of student teaching competence is carried out by assessing student performance in teaching practice. Quality improvement is carried out by developing an IT application-based assessment (Alruwais et al., 2018; Khlifi & El-Sabagh, 2017; Sorensen, 2013). Assessment of student performance is carried out by providing direct assessments during teaching practice, therefore an assessment instrument is needed that can identify the quality of student abilities, and can provide feedback to students regarding the performance shown in teaching practice. Performance assessment seeks and collects information about students' abilities to understand and apply knowledge and process skills in real situations (Kilpatrick & Wolbers, 2020; Maison et al., 2020). Based on this opinion, it can be seen that performance appraisal is carried out to determine the extent to which students can apply their knowledge and skills.

Performance assessment involves the demonstration and application of knowledge, skills, and work habits through what is known as a performance task (Thiagraj et al., 2021; Widiana & Jampel, 2016). Performance appraisal as a systematic review of individual performance to evaluate work effectiveness (Dağhan & Akkoyunlu, 2014; Sassanelli et al., 2019; Tahirsylaj, 2019). Based on this opinion, it can be seen that performance appraisal is carried out to determine the extent to which students can apply their knowledge and skills. Performance appraisal is a system used to assess and find out how far an employee has been carry out the work as a whole. The development of a performance assessment consists of three important components, namely (a) defining goals, (b) selecting activities, and (c) developing scoring criteria (Schratz et al., 2019; Widiana & Jampel, 2016). Based on the research above, it can be seen that the development of performance sheets was carried out as a guide in the practical activities carried out. The development was carried out for several reasons such as the absence of a performance sheet guideline that was suitable for learning needs. In practice in the teaching skills practice (PKM) subject for hearing impairment, the performance sheet does not yet exist and is still manual.

The development of RMM-based student performance applications that will be developed refers to previous research related to developing applications to assess teacher performance so that there are

improvements in the implementation of learning in schools (Khatami Akib Muhammad et al., 2022). Based on the description above, supported by relevant research results, this study aims to develop an application for assessing student performance in learning subjects for deaf children based on RMM. In becoming a teacher, it is not only necessary to have a bachelor's degree, but also to have various competencies that support oneself in becoming a teacher, especially good pedagogic competencies. Competence is a person's ability to carry out their profession, the ability to be applied in thinking, behaving, and socializing consistently and continuously. pedagogic competence, a teacher can carry out learning, both in managing, implementing learning, and evaluating learning (Dilson et al., 2020; Fitria et al., 2019; Haara, 2018). Pedagogic competence is a competency that must be possessed by teachers because this competence is what distinguishes teachers from other professions. This competency includes broad and in-depth knowledge and skills regarding student characteristics and student psychology (Bhakti & Maryani, 2017; Syarifuddin, 2019). With the fulfillment of the teacher's pedagogic abilities, later they will be able to develop the potential and abilities that exist in children. Therefore, to become a teacher must be prepared since the undergraduate education period by conducting student performance assessments in practical teaching skills courses (PKM).

Previous research findings reveal that assessment is an important aspect of learning because, with assessment, students know what needs to be improved (Gaol et al., 2017; Krismony et al., 2020; Nugraha, 2016). Other findings also state that developing assessment criteria is necessary because assessment is a fact-based statement to explain the characteristics of someone or something (Astiwi et al., 2020; Sudirman et al., 2020). Based on this, this research aims to develop applications for student performance in learning for deaf students by analyzing needs related to current student skills and the material and content needed.

## 2. METHOD

This type of research is quantitative research. This research was conducted for 2 years of research. The 2 years plan is divided into two phases. First year to obtain data related to needs analysis related to teaching competency activities that have existed so far, what assessments have been carried out, whether there have been special instruments or not, how students are able to practice teaching with MMR which will form the basis of instruments in the form of performance sheets. The second year is for making evaluation tools or evaluation instruments, starting from compiling instrument items, expert validation, small group trials, large group trials and their implementation. It is hoped that the PKM course in the Department of Special Education, Faculty of Education, State University of Jakarta will be able to apply the application of performance sheets for PKM courses based on RMM. To achieve this general goal, the research it will analyze and develop the application of the PKM performance sheet for hearing impairment through preliminary research, namely an analysis of the needs that exist in the field today.

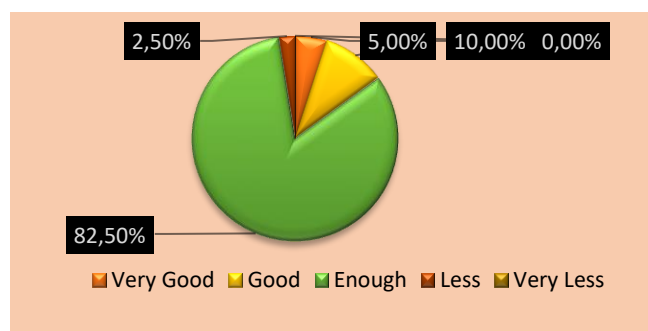
The needs analysis phase includes (1) analysis of student skills in the learning of hearing impaired students, (2) material analysis of student performance application development in the learning of hearing impaired students, and (3) content analysis of student performance application development in the learning of hearing impaired students. The following will describe the stage of analyzing the needs for developing student performance applications in RMM-based learning of hearing impairment students. The method used in this research is descriptive quantitative. Research design with a survey conducted on 120 students (respondents) in second years of Department of Special Education Jakarta State University 120 respondents. The approach is done by survey. The survey was carried out in the form of questions which were divided into 10 questions for the category of student skills in the learning of hearing impaired students, 14 questions for the category of application development material for student performance in the learning of hearing impaired students, and 11 questions for the category of student performance application development in the learning of hearing impaired students.

## 3. RESULT AND DISCUSSION

### Result

This research was conducted using quantitative and qualitative survey methods. Researchers distributed a survey to 120 students of special education, Jakarta state university. This survey consists of several questions consisting of 3 categories. This is done to find out how much the student's ability is related to teaching practices to the views of students related to the development of this performance application. Based on the data from the research findings on the analysis of the needs of developing student performance applications in the learning of hearing impaired students through the the Reflective Maternal Method (RMM), It is presented in 3 stages, namely, First, the result of the analysis of student skills in the learning of hearing impaired students. Based on the results of field tests given to 120 respondents related to student

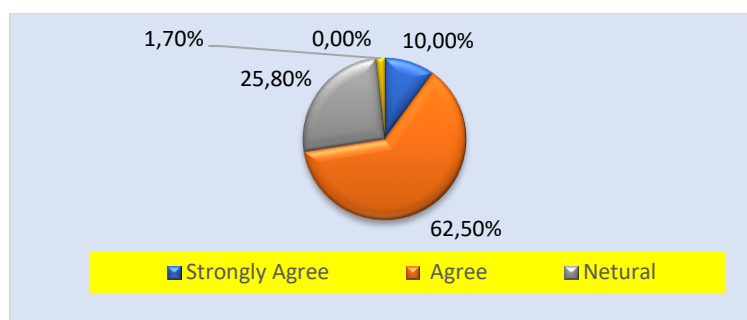
skills in learning hearing impaired students which include recognizing the need for teaching practice for hearing impaired students consisting of 10 questions, an empirical picture of the current skill level is obtained as shown figure. [Figure 1](#).



**Figure 1. Student Skills in Learning Hearing Impaired Students**

The data in [Figure 1](#). illustrates that the majority of student's skills in the teaching practice of hearing impaired students. Student's skills include the ability to master concepts, theories, and principles of language acquisition and reflective maternal method (RMM) for teaching of hearing-impaired students. The results are in the sufficient category, as many as 99 respondents, or 82.5% have knowledge of hearing impaired students' learning. While as many as 12 respondents or 10% of students have a good skill level. A total of 6 respondents or 5% of students have a very good skill level. Only 3 respondents or 2.5% had the level of knowledge about hearing impaired students' learning in the less category. Based on these results it can be seen that the ability of students as much as 82.5% is good in terms of understanding the teaching practices of deaf students. When students already know the concept to how to teach it can make it easier for students to provide teaching for deaf students. If you already understand the concept, students only need to continue to hone their skills in dealing directly with deaf students in accordance with the theoretical concepts they have understood.

Second, the result of the analysis of student performance application development materials in the learning of hearing impaired students. Based on the results of field tests given to 120 respondents related to material analysis in the development of student performance applications in the learning of hearing impaired students consisting of 14 questions, an empirical picture of material analysis that should exist in the development of student performance applications is presented which is presentend show iin [Figure 2](#).

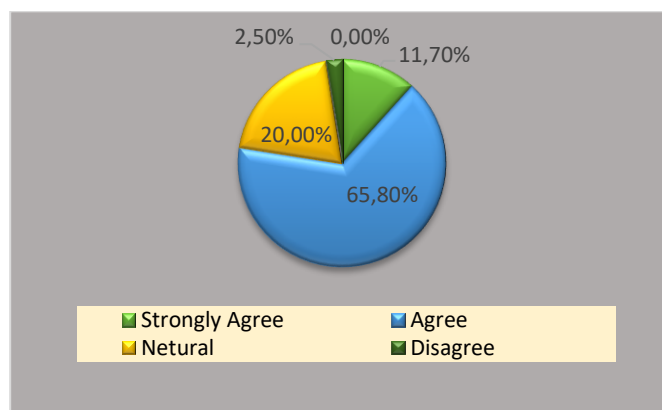


**Figure 2. Material Analysis Data in the Development of Performance Applications**

The data in [Figure 2](#) illustrates that most students strongly agree with the development of performance applications in the practice of teaching students with hearing impairments. The material analysis contains detailed steps in carrying out the practice of teaching hearing-impaired students, where as many as 75 respondents or 62.5% stated strongly agree, 31 respondents or 25.8% agreed, and as many as 12 respondents, or 10% stated strongly agree. if the analysis of the material developed contains the stages in detail in carrying out the practice of teaching hearing-impaired students based on RMM. Meanwhile, only 2 respondents or 1.7% of respondents stated that they did not agree if the analysis of the material developed contained detailed stages in the practice of teaching hearing-impaired students based on RMM. Based on these data, it can be seen that a large population of students strongly agree if the development of this application is carried out, moreover the development of the application that is developed contains detailed stages in the implementation of teaching practice. Students find it helpful if this

application is developed, considering that this application will later assist the learning process and help determine the ideal stages of teaching for deaf students.

Third, the result of the analysis of student performance application development in the learning of hearing-impaired students. Based on the results of field tests given to 120 respondents related to content analysis in the development of student performance applications in the learning of hearing impaired students consisting of 11 questions, an empirical picture of content analysis should be obtained in the development of student performance applications, which is as presented in [Figure 3](#).



**Figure 3.** Agreement with the Development of Performance Applications in the Practice of Teaching Students with Hearing Impairments

The data in [Figure 3](#) illustrates that most students strongly agree with the development of performance applications in the practice of teaching students with hearing impairments. Content analysis of performance application development using digital technology adapted to material analysis in the teaching practice of hearing impaired students, where as many as 79 respondents or 65.8% stated strongly agree, 24 respondents, or 20% agreed, and as many as 14 respondents or 11.7 % stated that they strongly agree if the content analysis developed uses digital technology that is adapted to material analysis in carrying out RMM-based teaching practice of hearing impaired students. Meanwhile, only 3 respondents or 2.5% of respondents stated that they disagreed if the content analysis developed using digital technology was adapted to material analysis in teaching RMM-based hearing-impaired students. Based on this data, 65.8% agree that this development uses digital technology. This is because the use of technology is not only more up to date but also makes it easier for users, in this case students, to access. Seeing if using a manual or taking notes, these assessments tend to slip or even disappear. If you use digital technology, of course you can suppress this and make it easier for users, in this case students.

## Discussion

Needs analysis in the process of developing is needed to facilitate learning and the design development steps needed to produce the necessary resources and teaching systems ([Thammasaeng et al., 2016](#); [Yamin & Karmila, 2020](#)). Based on this explanation, the data from the needs analysis is needed to guide determining the material, delivery method, and appropriate assessment format for the learning model to be developed. The research show that the needs analysis step can provide useful information to identify factors that might hinder the learning process and provide useful information for determining learning methods and strategies that are suitable for student characteristics ([Hasanah, et al, 2023](#); [Sakiah & Effendi, 2021](#)). The results of the needs analysis in this study found that the 120 students who were respondents in this study and who represented the population of Department of Special Education at the State University of Jakarta, in general, were a generation that had been born digital and made digital tools into their daily lives.

Based on the survey results that have been conducted, it consists of 3 different categories. Based on these three categories, the results can be seen in the form of: First, students' skills in this category include the ability to master concepts, theories, and principles of language acquisition and maternal reflective methods (RMM) for teaching deaf students. The results are in the sufficient category, as many as 99 respondents or 82.5% have knowledge about the learning of deaf students. While as many as 12 respondents or 10% of students have a good level of skills. As many as 6 respondents or 5% of students have very good skill level. Only 3 respondents or 2.5% had a level of knowledge about deaf students' learning in the less category. So that it can be seen that almost all of the students already understand the concepts, theories and principles of teaching deaf students using MMR. In the Material category of data



analysis in the development of application performance. The material analysis contains detailed steps in carrying out teaching practices for deaf students, where as many as 75 respondents or 62.5% stated that they strongly agreed, 31 respondents or 25.8% agreed, and as many as 12 respondents or 10% stated that they were very strong. agree. if the material analysis developed contains detailed stages in carrying out teaching practices for deaf students based on RMM. Meanwhile, only 2 respondents or 1.7% of respondents stated that they did not agree if the material analysis developed contained detailed stages in the practice of teaching deaf students based on RMM. So it can be seen that students agree with the development of this performance application, besides helping lectures but also being able to develop their own abilities as prospective teachers.

In the Agreement category with the development of performance applications in the practice of teaching deaf students. Content analysis for developing performance applications using digital technology adapted to material analysis in teaching practices of deaf students, where as many as 79 respondents or 65.8% stated that they strongly agreed, 24 respondents or 20% agreed, and as many as 14 respondents or 11.7% stated strongly agree that the content analysis developed using digital technology is adapted to material analysis in carrying out the practice of teaching deaf students based on RMM. Meanwhile, only 3 respondents or 2.5% of respondents stated that they did not agree if the content analysis developed using digital technology was adjusted to the material analysis in RMM-based learning for deaf students. So it can be seen that the majority of students agree with the use of digital technology, considering the various benefits in it. One of them is easy to find and reduces the lost or tucked rate when using the manual.

Information technology products usage are in many important points in lifetime such as transportation, communication, health and security (Huda et al., 2019; Khafit et al., 2020; Korucu & Kabak, 2019). Based on this, it can be seen that there are many factors that are influenced by the use of technology in it. Likewise in the world of education there have been many developments carried out (Alshawabkeh et al., 2021; Sudarsana et al., 2019; Ying et al., 2021). Therefore, researchers want to participate in technological progress, that is the development of performance applications that will be carried out is based on digital technology that is modified according to the needs in assessing student skills in learning practices for students with hearing impairments.

The daily life of students who cannot be separated from digital tools can also be seen from the ability of students to learn on their own to operate new digital tools and students' skills in running applications commonly used in learning and accessing information, such as word processing applications, number processors, search engines., e-mail, and so on (Carpenter et al., 2020; Fleischer et al., 2020; Golos et al., 2021; Krager & Fergus, 2021). In addition, the attitude of students who feel happy and comfortable using digital tools to improve learning provides a strong reason for placing technological tools as part of learning in the Jakarta State University Special Education Study Program. By referring to UNESCO, information and media literacy skills criteria, which are a set of competencies that citizens must possess in the 21st century as a prerequisite for sustainable development, this training model is expected to encourage the empowerment of students as skilled citizens to access, retrieve, understand, evaluate and use, to create and share information and media content in all formats, using various tools, in a critical, ethical and effective manner, in order to participate and engage in personal, professional and social activities (Moilanen & Sommerseth, 2021; Moto et al., 2018).

Research at this stage has implications, namely being used as a benchmark for consideration of the development of performance appraisal applications in teaching practice. besides that, it is also used as material for lecturers' assessment regarding the extent of student knowledge related to theory to the concept of teaching practice for deaf students. In this case the limitation of the research is to conduct a needs analysis to find out the extent of students' abilities in teaching practice of deaf students. With the limitations of this research, researchers are able to focus on the results of this data analysis that researchers will use as reference material or benchmarks in developing applications in the second year. Recommendations for further research, namely the researcher hopes to further sharpen the analysis. more questions that can be used as a deeper benchmark for developing applications. In addition, problem development is needed to explore more student abilities related to abilities in teaching practice in classes for deaf students.

#### 4. CONCLUSION

Based on data from research findings and discussion of research results regarding the analysis of needs for developing student performance applications in learning hearing impaired students through the reflective maternal method (RMM), the results show that it is necessary to develop performance sheets from a manual paper model to a digital model, this is considered from the effectiveness of assessment activities and time efficiency that students and lecturers can use to carry out evaluation of practicing teaching skills (PKM) activities in schools for deaf students based on the reflective maternal method. The need to develop

a performance sheet model in the form of an application is also supported by the ability of students to run digital programs because they were born in the era of industrial technology or known as generation Z. This research will proceed to the next phase, developing student performance applications in learning hearing impaired students through the reflective maternal method (RMM).

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