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KEYWORDS	ABSTRACT
Bowed String Instrument, Performing Arts Education, Music Education Textbook, Development of Textbook, String Instrument	The use of textbooks has become an urgent need for performing art students at FKIP Untan. Therefore, this research was conducted with the aim of developing a <i>Basic Bowed String Instrument</i> textbook to serve as a guide for students and lecturers, in order to achieve good learning outcomes in accordance with the curriculum objectives. The research uses the Borg and Gall model of Research and Development (R&D) method through seven stages: (1) needs analysis, (2) planning, (3) initial product development, (4) expert validation (two media experts and two music learning experts), (5) small group trials (eight students), (6) large group trials (seventeen students), and (7) product revisions. Data were collected through questionnaires and observations, then analyzed descriptively and quantitatively. Expert validation showed a high level of validity (87.65% on average), with details of 87% (media experts) and 88.3% (music learning experts). Field trials obtained an average validity of 75.82% (81.3% for small groups and 70.335% for large groups). The textbook is considered feasible with minor revisions such as layout improvements, addition of exercise materials, and design improvements. The textbooks developed meet valid and practical criteria for use in learning. The implications of this research include: (1) for educators, this textbook can be a structured teaching guide; (2) for students, increasing learning independence; and (3) for institutions, supporting the standardization of teaching materials. Future research can test the effectiveness of textbooks in improving students' practical competence.

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INTRODUCTION

The effectiveness of the course learning process in the classroom requires the role of the lecturer. According to Pujiastutik (2019), the effectiveness of the learning process means the level of success of the lecturer in teaching a certain group of students using specific methods to achieve certain instructional goals. This can be done by the lecturer by preparing learning materials. A lecturer or course instructor must certainly prepare learning materials to ensure a good learning process. In addition to lesson planning preparation, the presence of textbooks that can serve as a guide for students and lecturers is very much needed to achieve good learning outcomes. This is in accordance with Kosasih (2021), who states that teaching materials should be prepared before entering the classroom so that the learning process can be utilized for more important and meaningful activities. With the availability of teaching materials, teachers can become more involved in the learning process and focus more on sparking students' interest or helping slow learners. In line with Abusyairi (2013), who states that teaching materials play a role for teachers in saving teaching time, transforming the teacher's role from an instructor to a facilitator, and making the learning process more effective and interactive. The role of the lecturer as a facilitator can accompany students in the learning

process, which can help develop students' learning independence (Sari et al., 2021). A facilitator, according to Kurnia, U. U., & Novita, R. (2023), is someone who facilitates the learning process, becoming a learning partner who accompanies students. With the availability of teaching materials, students can learn without the presence of a teacher; students can learn at their own pace; students can learn in the order they choose, increasing the potential to become independent learners; and students can learn anytime and anywhere as desired by Abusyairi (2013). If students can learn anywhere and anytime, it can be said that learning time becomes more flexible and is a positive aspect of the learning process, as mentioned by Lestari (2021). Thus, the existence of textbooks as an alternative learning guide needs to be created and arranged in such a way that it can help students develop abilities in accordance with the educational unit curriculum learning objectives.

The quality of *textbook* is very important for the effectiveness of course learning for students (Cutler, 2019). Therefore, the development of *textbook* is important for students who are taking the course as well as for the lecturers. Therefore, the *textbook* needs to be organized in such a way that the learning material intended to be conveyed can be delivered effectively. The presentation of learning materials that is well-executed will help achieve the learning objectives that were determined at the beginning of the lesson.

The development of teaching materials, according to Magdalena, et al., (2020), can make learning more enjoyable, effective, efficient, and aligned with learning objectives. The presentation of learning materials that is well-organized will help achieve the learning objectives that have been set at the beginning of the learning process. *Textbooks* as an alternative learning guideline need to be made and arranged in such a way as to be able to help students in having the ability in accordance with the learning objectives of the curriculum education unit. This is in accordance with previous research findings which also revealed that there are four objectives in making teaching materials (Paputungan et al., 2024). These four objectives are summarized as follows: (1) to provide teaching materials that are in accordance with the needs of the curriculum and pay attention to the needs of students, and teaching materials that are in accordance with the characteristics and environment of students; (2) helping students get alternative teaching materials other than *textbooks* that are usually difficult to find and give students the choice of other teaching materials; (3) facilitate the teacher to learn; and (4) assess the material given to students through the selection of effective teaching materials and adaptation to the needs of the times. The lecturer acts as an observer during the learning process (Kusuma & Siadi, 2010).

Based on observations of the previous year's learning in the course *Basics of String Instruments*, it was found that students often seem mentally unprepared and lack knowledge about basic string instruments. Additionally, the previous learning that relied solely on photocopied materials made students less appreciative of these copies, resulting in some being misplaced or forgotten, and a lack of motivation to read the materials before class. Thus, this becomes a note for the researcher that in future learning of the *Basic String Instruments* course, students will be required to have the *Basic String Instruments Textbook* to provide insights before entering the lecture material, enhance their sense of responsibility, appreciation for the teaching materials, and motivation to learn more. Based on this, there is a need to develop a teaching book for the *Basic Principles of String Instruments* course for students of the Performing Arts Education Program at FKIP Untan. The researcher conducted a needs analysis for the lecturers. This is based on the results of the lecturers' needs analysis; the first finding is that the ideal teaching method to be taught in the *Basic Principles of String Instruments* course should align with the students' needs.

The implementation of the *Basic String Instruments* course in the Performing Arts Education Study Program at FKIP Untan takes place from the beginning of the semester contract until the final meeting, which is the UAS (Final Examination). In the 2023/2024 even

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semester, the students taking the *Basic String Instruments* course are sixth-semester students. This academic year, a total of 17 sixth-semester students are enrolled in the *Basic String Instruments* course, serving as subjects for the large class trial, while eight sixth-semester students from the previous academic year who took the *Basic String Instruments* course serve as subjects for the small class trial. The *Basic String Instruments* course this year is taught by one lecturer.

Based on the initial observation results of the researcher on the students of *Basic Bowed String Instruments* in class during the previous semester of the 2023 cohort, it was found that students still have difficulty obtaining learning resources. The literature available on the internet is also very limited and its information validity is not guaranteed. The unavailability of an effective *textbook* on the *Basics of String Instruments* that can be used as an instructional guide or as a reference for students thus can reduce the quality, standard, and effectiveness of the learning process. Based on this, the researcher considers it necessary to develop teaching materials as a solution to the problems in the Performing Arts Education Study Program at FKIP Untan. The offered *textbook* learning product has systematic and programmed aspects, written according to instructional principles, with the development of test item formulation considering the criteria outlined in the objectives, based on content that meets the needs of lecturers for curriculum fulfillment and the needs of students in learning the *Basics of String Instruments* in the classroom.

Related to the aforementioned issue, the researcher deems it important to conduct a study titled "Development of a *Basic of Bowed String Instrument Textbook* for Students of the Performing Arts Education Program at FKIP Untan." This systematically programmed *textbook* development contains the materials needed for lectures on the *Basics of Percussion Instruments* in the Performing Arts Education Program at FKIP Untan, including general knowledge of string instruments, various types of string instruments, playing techniques, and simple songs or *Études*, thereby preparing students as prospective teachers to have a basic understanding of string instruments before entering the school environment.

The analysis of student needs was obtained from the distributed questionnaire. From the questionnaire, the researcher found that students generally practice fingering only once a week, which is around 85%. Additionally, the researchers found that 80% of the students indicated a need for uniform *textbooks* from the lecturers, and 70% of the students did not fully understand the material presented during the teaching of *Basic String Instruments* without using a *textbook*. This is also because the lecturers in the Performing Arts Education Study Program at FKIP Untan have never used a *textbook* as a guide in delivering the material. From the survey results, it was also found that 78% of students preferred *textbooks* over other media for delivering the *Basic Principles of String Instruments* material. According to 89% of students, the easiest aspect of the *Basic Principles of String Instruments* was reading notation, while 78% found playing songs to be the most difficult. The survey results to the last question also indicated that 90% of students agreed that a *textbook* on the *Basic Principles of String Instruments* should be developed to standardize the material.

In Nuryasana & Desiningrum (2020) it is stated that the development of teaching materials by each lecturer must be done to improve the quality of lecturers' professionalism in teaching so that learning can be done very easily, interestingly, and enjoyably. Thus, the development of *textbooks* on the basics of Bowed String instruments for students of the FKIP Untan Performing Arts Education Study Program must pay attention to the characteristics of students and the needs of students according to the curriculum.

The development of the *textbook* in the Performing Arts Education Study Program at FKIP Untan is expected to provide a beneficial alternative and facilitate students in following the learning process of the ongoing *Basic String Instruments* course. The *Basic Course on String Instruments* is a mandatory pass course for students in the Performing Arts Education

Program, specifically for those concentrating in music. The course *Fundamentals of Bowed String Instruments* is taught by sixth-semester students with a weight of 2 credits. The passing criteria for this course require students to achieve a minimum grade within the C category range. Referring to the 2018 Curriculum of the Performing Arts Education Program at FKIP Untan, the *Basic Principles of String Instruments* course is a mandatory course for all students in the Performing Arts Education Program. The learning outcomes of this course aim to provide students with knowledge and experience regarding string instruments at a basic level. In terms of skill experience, students are required to be able to read notation and play basic songs, including *Études*. Therefore, materials that provide insights into string instruments, along with techniques, songs, and *études*, are needed. This is certainly to prepare students of the Performing Arts Study Program at FKIP Untan as prospective Cultural Arts teachers who can have basic skills in string instruments that can be used by students later to teach in schools. By preparing prospective Music Arts teachers who are skilled in playing string instruments, this can support cultural arts education in the schools where students will teach later when they become teachers.

Students who later become teachers and have skills in playing musical instruments will be a plus, as they can train their school students to participate in music competitions. As is known, schools will compete to achieve success by sending their students to participate in music competitions, whether local, national, or international. By having the skill to play string instruments, students can later become trainers for students who will participate in music competitions, especially those related to string instruments. Generally, string instruments used in a band will add a unique appeal, so it is not uncommon for bands that feature bowed string instruments to have the potential to win competitions. In addition, the researchers found that several schools in Pontianak have bowed string instrument facilities, but these instruments have been neglected because there are no teachers with knowledge of how to play them. Students who have skills in playing bowed string instruments can support their own economy by conducting extracurricular activities at schools or in music tutoring institutions. The course material in the *Basics of Bowed String Instruments* in the Performing Arts Education Study Program at FKIP Untan includes general knowledge of bowed string instruments, various types of bowed string instruments, playing techniques, and simple songs, thereby preparing students as prospective teachers to have basic skills in bowed string instruments before entering the school world.

In the naming of the term string instruments, it refers to the categorization of musical instruments based on how they are played. This is because, when viewed from the type of instrument and the way it is played, musical instruments can be categorized into several groups: bowed string instruments, plucked instruments, wind instruments, and percussion instruments (Muhari et al., 2022). *Bowed String instruments* are musical instruments played by being bowed. Examples of well-known Western bowed string instruments, according to Muhari et al. (2022), include the violin, viola, alto viola, viola pomposa, cello, contrabass, etc., while Eastern bowed string instruments include the *rebab*, *kokiu*, *ravanstron*, and *sarungi*. In the category of bowed string instruments originating from the East, the *rebab* is one of the most well-known bowed string instruments in Indonesia, although various literature mentions that the *rebab* or *arbab* is an instrument that originated from Arabia or Persia (Wardizal & Mawan, 2024). The *Arbab* is one of the traditional string instruments that is also played with a bow, similar to the modern violin (Sugiyanto, 2022). Besides the *rebab*, which is commonly known to originate from Arabia, it is also mentioned that in West Java, within the Sundanese gamelan, there is a musical instrument called the *waditra rebab* that has very distinctive characteristics and functions in its performance concept. The *rebab* has a role as a cue giver for *mangkatan*, *merean*, *nungguan*, *nganteur*, *marengan*, and *mapaes* (Az-Zahir et al., 2023).

Due to the many types of bowed string instruments, students actually have a lot of options to choose from when it comes to the basic course on bowed string instruments, allowing them to select one bowed string instrument according to their preference. However, there is currently no *textbook* that summarizes the entire knowledge of various bowed string instruments in one book. This results in limited choices that can only be made based on each student's individual knowledge. Usually, the musical instrument chosen by students is mostly just the violin, because the knowledge about this bowed string instrument in various literature is more abundant. The scales played on the violin have also been extensively documented in various literature, and there is no *textbook* that presents various scales or fingerboard charts for several string instruments in one *textbook*. Thus, the creation of a *textbook* on the *Basics of Bowed String Instruments*, which presents various scales for several bowed string instruments, is quite necessary for students.

In Sihotang et al. (2015), it is mentioned that *textbooks* are instructional handbooks for students that serve as learning media at certain educational levels related to specific fields of study. The development of teaching materials goes through a systematic, effective, and efficient process in creating an instructional system to solve learning problems or enhance students' competencies through a series of activities including problem identification, development, and evaluation (Suparman, 2012).

A *textbook* has good compilation criteria. This is because the quality of teaching materials determines outcomes, such as making students more qualified or more proficient. In Parahita (2017), it is explained that violin learning needs to be well-designed to achieve the learning objectives, which are for students to be able to play the violin instrument. Unlike other instruments, the violin is one that is difficult to master immediately, as it requires adjustment to placing the fingers and to feel whether the intonation is correct or not.

In Kristina's (2019) research, a study was conducted on the Violin Learning Process for Violin Major Students in the 6th Semester of the Even Semester, which outlines the violin lecture process that has been previously designed by the lecturer so that violin learning can be understood and played by students effectively due to the high difficulty level of playing the violin. From the research, it is explained that the initial steps taken by the violin course instructor include preparing the course materials in their entirety. Second, the course instructor provides materials on scales, techniques, and song materials. Third, the instructor asks students to practice the scales, techniques, and songs that have been taught until the students are truly able to play the provided materials. In the process of teaching bowed string instruments, the lecturer presents the learning materials in a well-prepared, systematic, and complete manner, and carries out their duties in planning the lessons, conducting the lessons, evaluating the lessons, and providing feedback. Based on the research, it can be concluded that it is important for the lecturer to plan the teaching of the Bowed String Instrument course as well as possible, including the preparation of well-organized teaching materials.

According to Furqon and Daryanto (in Nurdyansyah & Mutala'iah, 2018), well-structured teaching materials meet the first criterion: the substance discussed must encompass the core competencies or sub-competencies relevant to the graduate's ability profile. Second, the substance discussed must be correct, complete, and up-to-date, including concepts, facts, procedures, terms, and notations, and must be organized based on a hierarchy or step of competency mastery. Third, the level of readability, both in terms of language difficulty and substance, must be appropriate to the learning ability level. Fourth, the systematic arrangement of teaching materials must be clear, orderly, complete, and easy to understand.

In the preparation of this *Basic Bowed String Instruments Textbook*, it will be structured according to the curriculum. Based on this, the *Basic Bowed String Instruments Textbook* must be compiled according to the competencies relevant to the Course Learning Outcomes of the *Basic Bowed String Instruments* course in the Performing Arts Education Study Program at

FKIP Untan. The preparation of the *textbook* also includes terms and song notations relevant to the skills of *Basic Bowed String Instruments*. The preparation of the language and other systematic elements in the *textbook* is adjusted to the psychology and competence of sixth-semester students. After compiling the *textbook* according to good criteria, only then can the *textbook* be beneficial in the entire lecture process. The benefits of *textbooks* for students, according to Nurdyansyah & Mutala'iah (2018), include making learning activities more engaging, providing opportunities for independent learning, reducing dependence on the presence of instructors, and facilitating the mastery of each competency that needs to be acquired. Related to this research, the *textbook* to be developed is in the form of a *Basic Bowed String Instruments Textbook* to serve as a learning resource for the *Basic Bowed String Instruments* course to support student competencies.

Competence is the ability expected in learning something. Competence is categorized from simple or basic levels to more difficult or complex levels and ultimately will also relate to the process of material preparation or learning experience (Ramayulis, in Ahmad, 2023). In this *textbook* development research, the competency achievement of graduates from the basic bowed string instrument course is that students have the ability to play bowed string instruments. In this regard, the creation of this *Basic Bowed String Instrument Textbook* must include practice materials for students. The practice materials in this *Basic Bowed String Instrument Textbook* consist of the scores of songs and simple *études* that are appropriate for the competency of playing bowed string instruments at the basic level. This is in accordance with the statement by Susilo et al. (2022), who also prepare for playing bowed string instruments by preparing supporting materials such as books related to *études*.

The main objective of this research is to develop a *Basics of Bowed String Instruments* textbook that is valid, practical, and easy to use. The benefits include: (1) for students, this *textbook* is expected to increase understanding and motivation to learn; (2) for lecturers, this book can be a structured teaching tool; (3) for institutions, this book supports the improvement of the quality of learning; and (4) for the development of science, this book is a new reference in the field of music education. Thus, this research is expected to provide solutions to existing problems while contributing to the advancement of music education.

METHOD

The type of research used in this study was development research or Research and Development (R&D) using the Borg and Gall development model. Effendi and Hendriyani (2018) outlined ten steps in the Borg & Gall model for developing a model or product: (1) conducting preliminary research/surveys, (2) planning the research, (3) developing the initial model/product, (4) expert testing and initial field trials, (5) revising the results of initial/limited field trials, (6) conducting main field trials, (7) revising the results of the main field trials, (8) feasibility testing/operational field trials, (9) final revision of feasibility test results, and (10) dissemination and implementation of the final product.

Based on this model, the research for developing the Teaching Book product was carried out in stages, starting with needs analysis, product development, and product testing conducted twice, namely small group testing in the first phase and large group testing. The first step involved observing learning activities and gathering information from sixth-semester students in the Performing Arts Education Program at FKIP Untan. The second step involved compiling the initial draft of the textbook. The third step involved developing the initial draft and evaluating it with four experts: two music education experts and two media experts. The fourth step involved a small group trial with eight sixth-semester students majoring in Music in the Performing Arts Education Program at FKIP Untan, selected randomly using random sampling. The fifth step involved revising the textbook based on the small group trial results.

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The sixth step involved a large group trial with 17 sixth-semester students majoring in Music in the Performing Arts Education Program at FKIP Untan. The seventh step involved final revisions to perfect the Teaching Book on the Basics of Bowed String Instruments.

The subjects in this study consisted of two music learning experts, two media experts, and 25 sixth-semester students majoring in Music at the Performing Arts Education Program, FKIP Untan. Data collection instruments included analysis of faculty needs and student needs in the form of questionnaires and student observation sheets. Qualitative data were obtained from expert and student evaluations as suggestions and input about the product design. Quantitative data were gathered from questionnaires distributed during small group and large group trials. The data analysis technique used in this development research was quantitative descriptive analysis with percentages, applied to analyze the quantitative data obtained from evaluation questionnaires distributed to experts and students.

RESULT AND DISCUSSION

The results of the Borg and Gall development model conducted in developing the Basic Bowed String Instrument Textbook for students of the Performing Arts Education Study Program at FKIP UNTAN are as follows. First, a needs analysis was conducted to determine the level of need for the textbook to be developed. To determine the level of need for the development of the Basic Bowed Instruments textbook, a needs analysis was carried out for the lecturers teaching the Basic Bowed Instruments course, and a needs analysis for students was conducted through questionnaires and observations. From the lecturers' needs analysis, it was concluded that the ideal teaching of the Basic Bowed Instruments course requires a guidebook for lectures, the need to compile the most important Basic Bowed Instruments materials to be taught, the need to source Basic Bowed Instruments learning materials, and to consider the most difficult materials to teach in Basic Bowed Instruments. From the students' needs analysis, it was concluded that students need the Basic Bowed Instruments textbook because the materials provided during the Basic Bowed Instruments course were given without using a textbook, while students need general knowledge about various types of bowed instruments, knowledge about playing techniques for different bowed instruments, scales, simple songs, and etudes to practice basic bowed instrument skills according to recommendations for each bowed instrument. Next, the researcher conducted an analysis of the course curriculum and the Course Learning Outcomes (CPL) of the Basic Bowed Instruments course to determine the material to be compiled into the textbook, aligning it with the needs analysis results obtained from the lecturers and students.

Secondly, the design stage was carried out. At this stage, the Basic Bowed String Instrument Textbook for students of the Performing Arts Education Program at FKIP UNTAN is being designed. The material compiled in this textbook reviews various types of Bowed string instruments in the section on Introduction to Bowed String Instruments, such as the Violin, Viola, Violincello/Cello, Contrabass, Arbab, Rebab, Rabab, Tarawangsa, Tehyan, Arababu, Haegeum, and Erhu, which are also accompanied by playing techniques. In addition, there are also materials on scales, fingerboard charts, song materials, and etudes. The song and etude materials presented in this textbook for this research are specified for violin, viola, cello, and double bass according to the basic level.

Third, the development stage was carried out. After the preparation and selection of materials, the next step is to develop the Basic Principles of Bowed String Instruments Teaching Book for students of the Performing Arts Education Study Program at FKIP UNTAN. The Basic Principles of Bowed String Instruments Teaching Book for students of the Performing Arts Education Study Program at FKIP UNTAN consists of a cover, preface, table of contents, Chapter I: Perspective of the Basic Principles of Bowed String Instruments Teaching Book, Chapter II: Introduction to Bowed String Instruments, Chapter III: Scales,

Chapter IV: Playing Etudes and Songs, bibliography, and author biography. Chapter I contains the Background, Description of the Bowed String Instruments Teaching Book, and the Benefits of the Teaching Book. Next, Chapters II to IV, each chapter consists of an introduction, presentation of material, summary, and exercises or evaluation.

Fourth, the Basic Textbook of Bowed String Instruments that was developed was then tested for validity by 4 experts and trialed on a small group of 8 students. The results of the media expert assessment obtained a percentage score of 87%, thus qualifying as valid. The results of the music learning expert assessment obtained a percentage score of 88.3%, thus qualifying as valid. The validity test results conducted by the validators are presented in Table 1.

Table 1. Overall E-Module Validation Results

No.	Rated Aspect	Total Assessment Score	Percentage	Category
1	Media	1000	87%	Valid
2	Music Learning	1000	88,3%	Valid
Average			87,65 %	Valid

Source: Data processed from the results of validation of media experts and music learning experts (2024)

Based on the validation results from four experts, the Textbook on the Basics of Bowed String Instruments is valid and can be used for students of the Arts Education Study Program in Pontianak City, although revisions are still needed to make it more perfect. Thus, the developed textbook was revised according to the input provided by 2 media experts and 2 music education experts.

The Fifth Stage involved the first revision after receiving input and suggestions from experts and was used as a basis for a small group test with 8 students. The validator provided suggestions for the designed textbook to correct several typographical errors, numbering mistakes, use a more attractive font, make the cover more appealing, improve the summary to be more concise, clear, and straightforward, add more material, rearrange the fingerboard images so they are not too close to the edge, and replace the difficult etude with an easier one. The percentage result of the data analysis from the small group trial students is 81.3%, thus the development of the Basic Bowed String Instrument textbook is valid and can be used.

Next, in the Sixth stage, the second or final revision is carried out after conducting a large group trial. The researcher conducted a large group trial by taking a sample of 17 students. The data obtained from the large group trial were used as the basis for revising the teaching materials on the Basics of Bowed String Instruments for the Performing Arts Education Study Program. Based on the results of the large group trial, the percentage of data analysis results is 70.335%, indicating that the development of the Basic of Bowed String Instruments textbook is quite valid and can be used with minor revisions. The revisions obtained from student suggestions are as follows: the book cover should be made as attractive as possible according to the level, add etudes, increase the number of easy songs, and enlarge the size of the score. The results of the large group and small group trials can be seen in the following table 2.

Table 2. Small and Large Group Trial Validation Results

No.	Rated Aspect	Total Assessment Score	Percentage	Category
1	ll Group Trial	800	81,3 %	Valid
2	Large Group Test	1700	70,335%	Quite Valid
Average			75,82 %	Quite Valid

Source: Data processed from the results of small group (n=8) and large group (n=17) trials in this research (2024)

Based on Table 2, it can be seen that the average percentage of data analysis results from small and large group trial students is 75.82%, so it can be concluded that the development of the Basic Bowed String Instruments textbook is quite valid and can be used with minor revisions.

Based on the textbook writing guidelines by Degeng as explained in Nurdyansyah, N., & Lestari, R., (2020), it must contain the Principle of Relevance (relatedness), Principle of Consistency, Principle of Sufficiency, and Systematics. Based on this, the Textbook on the Basics of Bowed String Instruments for Students of the Performing Arts Education Program at FKIP Untan has consistency in chapter writing, with the principle of material sufficiency, and an organized systematics. The structure consists of a Cover, Table of Contents, Preface, Chapter 1, Chapter 2, Chapter 3, Chapter 4, Bibliography, and Author Biography. Chapter 1 contains the Background, Description of the textbook, and the benefits of the textbook. Chapters 2 to 4 maintain consistency in the table of contents with the same structure for each chapter, which includes an introduction, presentation of material, summary, and exercises in Chapters 2 and 3, while in Chapter 4, exercises are replaced with an evaluation.

The results of the data analysis show that the Basic Textbook on Bowed Instruments has valid and highly practical qualifications. This is due to several factors, namely as follows. First, the teaching materials provide knowledge and information systematically and programmatically based on the interests of the learners and deliver the material programmatically in accordance with the curriculum requirements based on the interests of the teachers (Kosasih, 2021). The teaching materials consist of main topics and sub-topics listed in the learning program according to the syllabus (Magdalena, et al., 2020). This Basic Principles of Bowed String Instruments textbook is developed according to the basic competency curriculum for the Bowed String Instruments Course, in line with Sanjaya (2010), who states that the learning materials must be related to the curriculum content that corresponds to the basic competencies that learners must master so that the competency standards in a particular educational unit can be achieved.

Second, this Basic Textbook of Bowed String Instruments is designed to include learning materials, teaching methods, techniques, limitations, and evaluation methods that are systematically and attractively designed. (Widodo & jasmadi dalam Magdalena, Sundari, Nurkamilah, Nasrullah, Amalia, et al., 2020). The preparation of the engaging Basic Principles of Bowed String Instruments textbook takes into account suggestions and improvements from media and learning experts, as well as feedback from trial students as qualitative data. Qualitative data consists of assessments from experts or validators in the form of critiques and suggestions, as well as feedback from correspondents. (Surahman, 2019). As the validators are tasked with determining the feasibility of the designed and developed module/teaching materials (Wilujeng et al., 2021). If the validator finds the teaching materials to be adequate but still needing improvement, then revisions must be made. Revisions can also be based on suggestions and input from the subject matter expert validators mentioned in the data presentation section, as well as verbal suggestions during discussions with the subject matter experts. (Surahman, 2019).

The three textbooks are written in accordance with instructional principles. (Magdalena, et al., 2020). This is similar to preparing teaching (instructional design) with the guidelines of the chosen learning model as per Hrp et al., (2022). This textbook contains instructional guidelines written as Learning Instructions in Chapter 1 of the Basic Principles of Bowed Instruments textbook. According to Hrp et al., (2022), in instructional design, instructors must

create specific instructional objectives or learning goals. With the presence of instructional guidelines, students are required to pay attention to the essential parts, focus on relevant information, and form mental images of that information.

Fourth, the writing of textbooks develops the preparation of test items by considering the criteria formulated in the objectives, based on the appropriate content. (Abusyairi, 2013). A test is a systematic and objective tool or procedure to obtain the desired data or information about an individual, in an accurate and timely manner. (Hrp et al., 2022: 119). Rapono et al (2019) provide three other definitions regarding the term test. First, a test is a measurement and assessment procedure in the field of education, which provides tasks so that a score can be produced that reflects the behavior or achievements of the students. The second definition, a test is a tool to measure a sample of knowledge or abilities that someone has. Third, a test is the interpretation of the obtained numbers to determine whether a learner is sufficiently good or not in achieving a certain goal. This test serves as an official data collection tool because it is filled with limitations to assess and measure learning outcomes related to mastery of the material. From the perspective of its form, tests can be administered orally, in writing, as performance tests (requiring answers in the form of actions), objective tests, or essay tests. (Hrp et al., 2022). In this textbook, the test items provided in the practice and evaluation questions are in written form and action or practical tests, such as playing a song or etude. This is in accordance with Suryani, et al., (2015) who state that a written test is a test that requires students to provide written answers, whereas an observation test or performance/practical test is a test that requires students to respond in the form of behavior, actions, or deeds. Instructors must be equipped with effective methods for evaluating learning that align with the established objectives. (Hrp et al., 2022). The preparation of test items in the Basic Bowed String Instrument Textbook includes practice questions from Chapters 2 to 4, formulated according to the Course Learning Outcomes (CLO) of the subject, tailored to the needs of basic or beginner levels who wish to learn string musical instruments. According to Gronlund in Hrp et al. (2022), evaluation is a systematic process of collecting, analyzing, and interpreting information to determine the level of participants' mastery of learning objectives.

CONCLUSION

The data analysis results indicate that the *Basic Textbook of Bowed String Instruments* developed for students of the Performing Arts Education Program at FKIP UNTAN is valid and usable, with positive outcomes observed from both small and large group trials. Suggestions for improvement include correcting typing and numbering errors, using a more attractive font, designing a cover more suitable to the student level, making summaries shorter and clearer, adding more material and easier *études* alongside additional simple songs, rearranging fingerboard images to avoid crowding near edges, and enlarging the score size. Future research could focus on evaluating the textbook's effectiveness in enhancing students' practical skills and learning outcomes in the Basic Bowed String Instruments course.

REFERENCES

- Abusyairi, K. (2013). Pengembangan bahan ajar bahasa Arab. *Dinamika Ilmu*, 13(1). <https://doi.org/10.21093/di.v13i1.275>
- Ahmad, F. F. (2023). Kompetensi pembelajaran etude WOHLFART Op. 54 pada mata kuliah instrumen gesek II (violin) di Prodi Pendidikan Musik FBS UNP. *EDUMUSIKA*, 1(2), 169–180. <https://doi.org/10.24036/em.v1i2.44>
- Az-Zahir, H. U., Sutanto, T. S., & Gunawan, I. (2023). Prototype VSTI Rebab Sunda pada sampler Kontakt sebagai sarana berkreasi musik di FPSD UPI. *Swara*, 3(2), 93–104. <https://ejournal.upi.edu/index.php/antomusik/article/view/50628>

- Cuttler, C. (2019). Students' use and perceptions of the relevance and quality of open textbooks compared to traditional textbooks in online and traditional classroom environments. *Psychology Learning & Teaching*, 18(1), 65–83.
- Effendi, H., & Hendriyani, Y. (2018). Pengembangan model blended learning interaktif dengan prosedur Borg and Gall. <https://doi.org/10.31227/osf.io/zfajx>
- Kosasih, E. (2021). *Pengembangan bahan ajar*. Bumi Aksara.
- Kristina, M. (2019). Proses pembelajaran biola pada mahasiswa mayor biola VI semester genap tahun ajaran 2018/2019. <http://repository.uhn.ac.id/handle/123456789/3095>
- Kurnia, U. U., & Novita, R. (2023). Efektivitas dosen sebagai fasilitator pada metode pembelajaran student center learning. *Jurnal Pendidikan Teknologi Informasi (J-Diteksi)*, 2(1), 24–27. <https://journal.aisyahuniversity.ac.id/index.php/Diteksi/article/view/sclalfina>
- Kusuma, E., & Siadi, K. (2010). Pengembangan bahan ajar kimia berorientasi chemo-entrepreneurship untuk meningkatkan hasil belajar dan life skill mahasiswa. *Jurnal Inovasi Pendidikan Kimia*, 4(1). <https://journal.unnes.ac.id/nju/JIPK/article/download/1311/1384>
- Lestari, A. (2021). Strategi mahasiswa dalam meningkatkan minat belajar, self-efficacy, self regulated pada pembelajaran daring di masa pandemi COVID-19. *Didaktis: Jurnal Pendidikan dan Ilmu Pengetahuan*, 21(3). <https://doi.org/10.30651/didaktis.v21i3.10019>
- Magdalena, I., Prabandani, R. O., Rini, E. S., Fitriani, M. A., & Putri, A. A. (2020). Analisis pengembangan bahan ajar. *NUSANTARA*, 2(2), 180–187. <https://ejournal.stitpn.ac.id/index.php/nusantara/article/view/805>
- Magdalena, I., Sundari, T., Nurkamilah, S., Nasrullah, N., & Amalia, D. A. (2020). Analisis bahan ajar. *NUSANTARA*, 2(2), 311–326. <https://ejournal.stitpn.ac.id/index.php/nusantara/article/view/828>
- Muhari Ismar Pratama, & Rivaldi Ihsan. (2022). Alat musik Lolope dalam kajian etnomusikologi di Kecamatan Taliwang Kabupaten Sumbawa Barat. *Representasi: Jurnal Ilmu Sosial, Seni, Desain dan Media*, 1(1), 33–42. <https://ejournal.ikreasia.com/index.php/rjissdm/article/view/19>
- Nurdyansyah, N., & Lestari, R. (2020). Pembiasaan karakter Islam dalam pengembangan buku ajar Bahasa Jawa Piwulang 5 Pengalamanku kelas I MI Nurur Rohmah Jasem Sidoarjo. *MIDA: Jurnal Pendidikan Dasar Islam*, 3(2), 35–49. <https://doi.org/10.52166/mida.v3i2.986>
- Nurdyansyah, & Nahdliyah, M. (2018). *Pengembangan bahan ajar modul ilmu pengetahuan alam bagi siswa kelas IV sekolah dasar*. Universitas Muhammadiyah Sidoarjo.
- Nuryasana, E., & Desiningrum, N. (2020). Pengembangan bahan ajar strategi belajar mengajar untuk meningkatkan motivasi belajar mahasiswa. *Jurnal Inovasi Penelitian*, 1(5), 967–974. <https://doi.org/10.47492/jip.v1i5.177>
- Paputungan, D., Ondeng, S., & Arif, M. (2024). Konsep, prinsip, tujuan, dan manfaat pengembangan bahan ajar PAI. *Journal of Islamic Education Management Research*, 3(1), 35–44. <https://ejournal.iaingorontalo.ac.id/index.php/AlMinhaj/article/view/1308>
- Parahita, N. D. (2017). Peranan solfegio dalam pembelajaran biola kelas X di SMK N 2 Kasihan Bantul. *Pend. Seni Musik-SI*, 6(1), 15–22. <https://journal.student.uny.ac.id/index.php/musik/article/view/9586>
- Pujiastutik, H. (2019). Efektivitas penggunaan media pembelajaran e-learning berbasis web pada mata kuliah belajar pembelajaran I terhadap hasil belajar mahasiswa. *Jurnal Teladan: Jurnal Ilmu Pendidikan dan Pembelajaran*, 4(1), 25–36. <http://journal.unirow.ac.id/index.php/teladan/article/view/46>
- Rapono, M., Safrial, S., & Wijaya, C. (2019). Urgensi penyusunan tes hasil belajar: upaya menemukan formulasi tes yang baik dan benar. *Jupis: Jurnal Pendidikan Ilmu-Ilmu*

- Sosial*, 11(1), 95–104. <https://doi.org/10.24114/jupiiis.v11i1.12227>
- Sanjaya, W. (2010). *Perencanaan dan desain sistem pembelajaran*. Jakarta: Kencana Prenada Media Group.
- Sari, P. A., & Oktavia, F. Z. (2021). Sumber belajar alternatif mata kuliah akuntansi bagi mahasiswa generasi Z. *Jurnal Pendidikan Akuntansi Indonesia*, 19(1), 11–26. <https://doi.org/10.21831/jpai.v19i1.37083>
- Sihotang, C., & Sibuea, A. M. (2015). Pengembangan buku ajar berbasis kontekstual dengan tema “sehat itu penting”. *Jurnal Teknologi Informasi & Komunikasi Dalam Pendidikan*, 2(2), 169–179. <https://www.academia.edu/download/100858685/2961.pdf>
- Sugiyanto, S. (2022). Inkulturasi musik etnik dalam liturgi Gereja Kalimantan Evangelis, Kalimantan Tengah. *Jurnal Teruna Bhakti*, 5(1), 136–150. <https://e-journal.stakterunabhakti.ac.id/index.php/teruna/article/view/142>
- Suparman, M. A. (2012). *Desain instruksional modern*. Jakarta: Erlangga.
- Surahman, F., & Yeni, H. O. (2019). Pengembangan buku ajar mata kuliah renang bagi mahasiswa pendidikan jasmani kesehatan dan rekreasi. *Journal Sport Area*, 4(1), 218–229. [https://doi.org/10.25299/sportarea.2019.vol4\(1\).2413](https://doi.org/10.25299/sportarea.2019.vol4(1).2413)
- Suryani, A., Siahaan, P., & Samsudin, A. (2015). Pengembangan instrumen tes untuk mengukur keterampilan proses sains siswa SMP pada materi gerak. *Prosiding Simposium Nasional Inovasi dan Pembelajaran Sains*, 2015, 217–220. https://ifory.id/proceedings/2015/z4pZjcJkq/snips_2015_ajeng_suryani_9471cb10c37438549b6ec72f59a49c2c.pdf
- Susilo, A. E., Emridawati, E., Hendri, Y., & Martarosa, M. (2022). Interpretasi dan ekspresi solis violin: Repertoar Concerto in A Minor, Zapin Kasih dan Budi, Rangkaian Melati dan Amazing Grace. *Musica: Journal of Music*, 2(1), 1–12. <http://dx.doi.org/10.26887/musica.v2i1.2320>
- Wardizal, W., & Mawan, I. G. (2024). Rebab darek Minangkabau: Kajian historis dan pertunjukannya di tengah masyarakat. *Journal of Music Science, Technology, and Industry*, 7(1), 59–76. <https://jurnal.isi-dps.ac.id/index.php/jomsti/article/view/3017>
- Wilujeng, I. W., Aji, S. D., & Yasa, A. D. (2021). Pengembangan e-modul berbasis Canva digital tentang manfaat hewan bagi manusia siswa kelas 3 sekolah dasar. *Prosiding Seminar Nasional PGSD UNIKAMA*, 5(1), 261–270. <https://conference.unikama.ac.id/artikel/index.php/pgsd/article/view/636>