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# Developing Elementary School Teacher's Professional Competence in Composing Traditional Songs: An Action Research in Indonesia

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**Abstract.** The prevalence of international music engineering is undermining the significance of traditional songs in character building for elementary school students in Indonesia. Consequently, it is necessary to restore the role and function of traditional songs in elementary school learning. One approach to achieving this is by creating new songs that resonate with today's context. However, not all elementary school teachers have the competence to compose songs, hence the need for training in this aspect of teacher professional competence so that they can develop and use music learning materials. The objective of this study is to enhance the creativity and innovation of elementary school teachers in composing traditional songs. Action research as the research design involved quantitative and qualitative approaches. The participants consisted of 15 elementary school teachers who were honorary teachers and civil servants. Quantitative data were collected through surveys, and qualitative data were collected through interviews and observations. The findings indicate that teachers can develop their ability to compose traditional songs and can use technology in the process. Therefore, it can be concluded that elementary school teachers can develop and innovate themselves in creating traditional songs and teaching materials that are tailored to their needs with structured and controlled training. This research needs to be followed up by evaluating teachers in conveying their songs to students and suggesting that teachers be given regular training by the government to increase competence in the field of music, because only a small number participated.

**Keywords:** composing songs; teacher's creativity; traditional song; action research; elementary school teacher

## 1. Introduction

Traditional songs play an important role in elementary school education in Indonesia as they help in the development of children. These songs tend to have

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a cheerful nuance that is interspersed with certain intentions, making them the right means to aid children's learning process (Herdiati & Saputra, 2022; Kristanto, 2020). Furthermore, traditional songs can also shape the character of children by cultivating an attitude of affection and care between them (Sinaga, 2022; Susilowati et al., 2021). However, the majority of elementary school teachers as the foundational pillars of basic education, as observed, lack training in teaching traditional songs, including how to make simple traditional songs. In fact, making traditional songs and teaching them to students are more appropriate than taking non-traditional songs which values do not necessarily fulfill students' needs in their environments and cultures. In other words, creating new songs that are more in line with today's context is one way to address this issue. However, not all elementary school teachers have the competence to compose songs as evidenced by the difficulty in finding new songs created by elementary school teachers that can be used widely. The majority of elementary school teachers do not compose new songs but prefer to use old songs and change the lyrics to suit their needs. Elementary school teachers usually teach all subjects, including music, with a specialty in a particular subject (Julia, Supriyadi, et al., 2020). Therefore, there is a need for training programs that can enhance the ability of elementary school teachers to create traditional songs.

Previous research has proved the influence of music training on the ability of elementary school teachers to compose thematic songs. For instance, Julia et al. (2022) conducted research that aimed to improve teachers' ability to compose thematic songs. The results showed that with structured and controlled training, elementary school teachers can develop themselves and innovate well. Another study conducted by Parmini (2020) analyzed the effect of integrating traditional Balinese children's song lyrics in learning Indonesian for the inculcation of moral education in elementary school students in Ubud. The results revealed that traditional Balinese songs can be integrated into learning Indonesian, significantly affecting the moral attitudes of elementary school students in Ubud. A related study was also conducted by Karsono (2016), which examined the creative process of a songwriter, A.T. Mahmud, in composing children's songs. The results showed that A.T. Mahmud's creative process in composing children's songs is a research-based process that goes through several stages, such as the preparation stage for creating, the stage for depositing ideas, the stage for compiling material for song works, and the stage for evaluating song works.

Apart from the large amount of literature that discusses teacher competence and songs, works that specifically solve the problem of learning Sundanese traditional songs involving the creativity of elementary school teachers have not been found. In other words, no research has yet explored the competency of elementary school teachers in creating Sundanese traditional songs. Hence, the need for competency development studies in composing Sundanese songs has been identified, as this field has not received much attention from other researchers. The main objective of this study is to help elementary school teachers become more competent in composing Sundanese songs. The following research questions were used in this study to explore the problem:

1. Can elementary school teachers improve their ability to understand Sundanese karawitan notation?

2. Can elementary school teachers improve their ability to compose Sundanese songs?
3. Can the six-steps action change the paradigm of elementary school teachers to be more active in composing Sundanese songs?

## **2. Theoretical Framework**

### **2.1. Teacher competence**

Until now, the term “competence” is still subject to debate. Chouhan and Srivastava (2014) believe that competence is an important representation of how someone performs or reasons in different conditions and acclimatizes to changes over time. According to Murphy et al. (1993), competence is something that one does, and its outcomes are visible. On the other hand, Spencer and Spencer (2008) argue that competence is not directly noticeable but is instead established in a presentation in specific circumstances. The competencies of individuals comprise a combination of action abilities that are made up of groups of knowledge structures, mental, communicative, expressive, and, where necessary, psychomotor abilities, attitudes and values that are required for performing tasks, solving problems, and, more generally, the ability to function in a specific profession, organization, location and role (Biemans et al., 2004).

In early 1986, teacher competence is categorized into three parts: content awareness, educational awareness, and educational content awareness (Çetin & Doğan, 2018). In line with this, the Dutch Foundation for Professional Teaching Competence established a set of first-ability requirements for educators in primary and secondary teaching based on seven comprehensive areas of competence, including relational competence, educational competence, subject matter and moralistic competence, organizational competence, competence in collaborating with associates, competence in collaborating with the school environment, and competence in consideration and improvement (Roelofs & Sanders, 2007). Capable teachers are those who help their pupils, and they are not only present in the classroom but also involved in the application of co-curricular events (Sulaiman & Ismail, 2020). Thus, in this context, teacher competence can be concluded as the teachers’ ability to behave, act and solve problems according to their profession in educational institutions.

### **2.2 Teacher professional competence**

In the context of teaching, professionalism refers to upholding particular educational standards connected to skill (Alhazmi et al., 2022; Goodwin, 2021). It displays a collection of jobs, responsibilities and obligations in the education sector based on knowledge gained from specialized education and training offered in the workplace (Saguni et al., 2021; Widodo et al., 2022). Professionals generally strive to significantly expand their professional capacity and actively develop their understanding to make significant decisions pertaining to their field of expertise (Grady et al., 2008; Widodo, 2021). To put it another way, professionals need to be competent (Mulder, 2014; Van der Spoel et al., 2020). Hence, to set themselves apart from other employees, individuals and occupational groups should aspire to professionalism, which can be characterized as an ideal (Kelchtermans, 1993, 2009; Pratte & Rury, 1991).

For organizations, especially instructors in the framework of a school organization, professional competence is crucial. It has been demonstrated that professionalism improves teaching performance (Jie et al., 2020; Nurhadi & Lyau, 2017), work productivity (Asmarani et al., 2021; Nisa & Saleh, 2020), work effectiveness (Liakopoulou, 2011; Yusrina, 2022), and student achievement (de Vries et al., 2022; Liepertz & Borowski, 2019). This suggests that a school organization places a high value on professional competence, with repercussions for the abilities of recent graduates and those who pursue higher education. Professional competence in the educational context, particularly in teaching, is the mastery of a wide variety of instructional resources (Epstein & Hundert, 2002; Kunter et al., 2013). In order to consistently carry out professional activities and facilitate needs-based self-development, teachers must have a range of general characteristics that enable them to effectively navigate the social contexts of pedagogical activities. These characteristics are essential for teachers to be prepared, capable and responsible in carrying out their professional duties with independence and proficiency (Julia, Subarjah, et al., 2020; Orazbayeva, 2016). Teachers' professional competency is referred to by educational researchers as teacher characteristics (Joo, 2020; Webb et al., 2004). Thus, the components of teachers that play a crucial role in students' learning, successful teaching techniques, as well as the strategies and activities used by teachers in classrooms, can all be used to define teachers' professional competence (Muijs et al., 2014; Muijs & Reynolds, 2017).

### **2.3. Creative process of song creation**

There are several reasons why a person creates a work, such as responding to environmental situations, displaying new work, educating the next generation, or expressing pure aesthetic feelings (Ruswandi, 2016). In creating songs, creativity is the most important element. A person's motivation to create a work is strongly influenced by their creativity. Therefore, when creating songs, creativity is a fundamental requirement for teachers (Cheng, 2022; Nainggolan et al., 2021). A person's creativity can be observed based on four aspects: personal, motivation, process and product (Delta et al., 1961; Said-Metwaly et al., 2017; Starko, 2017; Wechsler et al., 2018). The personal aspect of creativity shows one's knowledge, intelligence and thinking style (Gruszka & Tang, 2017). The motivational aspect shows that highly creative people are intrinsically motivated and can even achieve high feelings of enjoyment by being creative (Csikszentmihalyi, 2013). The process aspect shows that creativity can be seen as a series of phases that a person goes through, for example, the generative and exploratory phases (Finke et al., 1996). In the generative phase, an individual constructs various types of mental representations related to the problem. Meanwhile, in the exploratory phase, an individual uses cognitive and meta-cognitive processes such as evaluation to find solutions and make practical decisions (Csikszentmihalyi, 2013; Finke et al., 1996). The product aspect shows the extent to which the results of one's creativity have novelty and are useful for society (Sternberg & Lubart, 2014). Through creativity, new works can be produced that are different from previous ones (Nasution, 2018; Ruswandi, 2016).

When creating a work of art, several dimensions must be considered, including the idea, the source and the form of creation (Hadi et al., 2022; Wiradiredja, 2015).

Meanwhile, the process of creating a song typically involves writing, performing or producing (Zhao & Zeng, 2021). According to Karsono (2016), the creative process of creating songs can be divided into several stages: preparing for song creation, generating ideas, compiling materials for the song, and evaluating the song. In the process of creating songs, one can choose between two methods, namely the do-it-yourself approach or using software assistance. Nowadays, there are diverse software options available online and offline that can aid in song creation. The use of such software can enhance the creativity involved in producing high-quality songs (Julia et al., 2018).

In the creative process throughout their training, elementary school teachers are expected to increase their creativity and ability to create traditional songs. This process can be demonstrated by teachers through four aspects of creativity, namely, personal ability, motivation, process, and product. Thus, teachers who were motivated to voluntarily take part in the training activities in this research, were expected to be able to produce works that are relatively new and can be of use for teaching materials in their respective schools, or for other schools.

### **3. Methods**

#### **3.1. Research design**

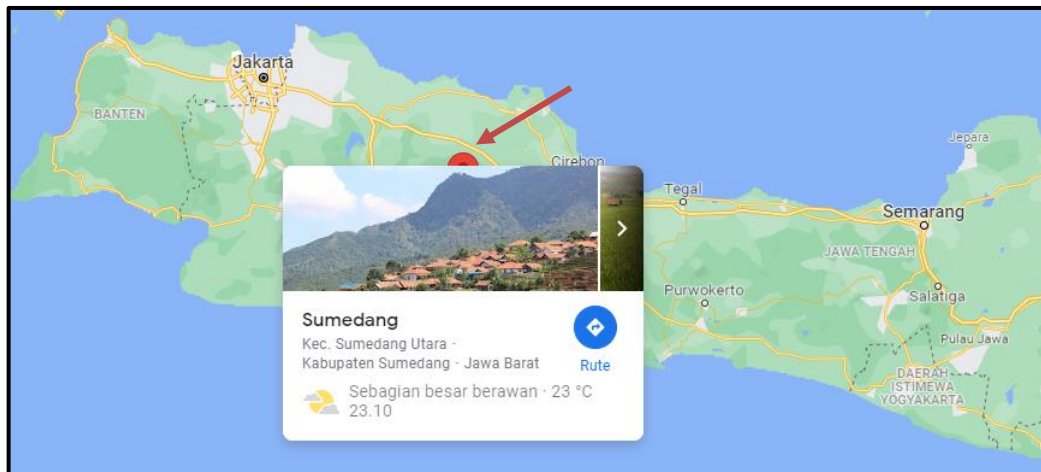
The research design employed in this study was action research. This approach involves gathering information and increasing the capacity of research subjects (Creswell & Guetterman, 2019). Action research was chosen for this study because the data were collected through self-reflection questions, which help to increase understanding of practice (McTaggart, 1994). The objective of this research was to determine important steps that can be taken to enhance teachers' understanding of the creative process. This is consistent with Creswell and Guetterman's (2019) view that action research is aimed at addressing practical problems and providing solutions to them. Additionally, through action research, teachers can improve their morale and self-confidence (Crawford & Jenkins, 2018; Pelton, 2011).

#### **3.2. Collaboration aspect**

In the context of action research, collaboration is an essential component (Creswell & Guetterman, 2019; Heil, 2005; McTaggart, 1994). Collaboration in this research is the involvement of colleagues to help analyze the findings and determine the actions needed during the activity. Therefore, in this study, colleagues were involved to assist with the coordination of training participants, conducting tests and assessments, and providing the necessary facilities and infrastructure. Through the collaboration process, useful feedback for action improvements were obtained.

#### **3.3. Participants**

This study was conducted in Sumedang Regency, West Java Province, and involved participants from various schools within the region. Sumedang Regency is categorized into three regions based on their level of development, namely urban, transitional, and rural areas. To facilitate coordination, the research was centralized in the central city of Sumedang, as shown in Figure 1. The study was carried out on location.



**Figure 1. Research site**

The participants involved in this research were 15 elementary school teachers. We sent out invitations to 50 elementary school teachers from various regions to take part in this training activity free of charge. However, only 15 teachers confirmed and were willing to take part in the entire series of activities. The data for the 15 teachers is presented in Table 1.

**Table 1. Participant**

Participant Demographics	Frequency	Percent
Gender		
Male	7	47
Female	8	53
Age (Year)		
21-30	8	53
31-40	4	27
41-50	0	0
51-60	3	20
Job Status		
Civil Servant	14	93
Contract Teacher	1	7
Teaching Experience (Year)		
01-10	9	60
11-20	5	33
21-30	0	0
31-40	1	7

Based on Table 1, it can be seen that this study involved 15 teachers, comprising seven (46.7%) male and eight (53.3%) female participants. Of the total, 14 (93.3%) were civil servant teachers, while one person (6.7%) was an honorary teacher. In terms of teaching experience, four (26.7%) had 1-5 years, five (33.3%) had 6-7 years, three (20%) had 11-15 years, two (13.3%) had 16-20 years, and one (6.7%) had 36-40 years of experience. Based on age, the participants included two (13.3%) individuals aged between 21-25 years, six (40%) individuals aged between 26-30 years, one (6.7%) individual aged between 31-35 years, three (20%) individuals aged between 36-40 years, one (6.7%) individual aged between 51-55 years, and two (13.3%) individuals aged between 56-60 years.

### 3.4. Instruments

This research used quantitative and qualitative approaches. The quantitative data were collected using a survey instrument with two types of scales, namely the Guttman scale with Yes and No choices, and the Likert scale with five choices, namely Strongly Disagree – Disagree – Somewhat Disagree – Agree – Strongly Agree. Meanwhile, for collecting qualitative data, open interview and observation instruments were used during the training activities. The survey instrument was tested for validity and reliability beforehand. The Guttman scale instrument was stated to be valid and reliable with the results of the Cronbach's alpha reliability test of 0.717. Meanwhile, the Likert scale instrument was stated to be valid and reliable with the results of the Cronbach's alpha reliability test of 0.727.

### 3.5. Research procedure

This research comprised three main stages: the pre-action stage, the action stage, and the post-action stage. Table 2 illustrates the activities involved in each stage.

**Table 2. Activity Stages**

Stage	Activities
Pre-Action	- Preliminary survey - Preliminary data analysis
Action	- Action - Observation - Reflection
Post-Action	- Evaluation - Final survey

In the first stage (pre-action), survey activities and initial data analysis were conducted. The survey was distributed to the participants before the intervention was implemented to obtain the participants' initial data. The second stage (action stage) involved providing training on Sundanese musical notation and song composition. This stage consisted of six critical-reflective steps designed to enhance the teachers' competency in composing Sundanese songs. These steps were exploration and motivation, introduction to Sundanese musical notation, techniques for composing Sundanese songs, exploration of creativity in composing Sundanese songs, revision, and evaluation. The last stage (post-action stage) involved assessment and a post-action survey. After the completion of the training series, the participants were given a post-action survey to determine the extent of their understanding of musical notation and Sundanese song composition. The survey comprised open-ended questions, a Likert scale, and a Guttman scale.

Moreover, to support the training implementation, a WhatsApp group was used as a means of communicating information related to the training. This platform was chosen as all participants were already using it for daily communication, making it a more familiar and user-friendly option. In addition, to facilitate the research survey, Google Forms were used. This medium was selected for several reasons, including its usefulness, familiarity among educators, and comprehensive survey capabilities (Laskowski, 2016).

### 3.6. Data Analysis

The quantitative data collected by survey were processed using SPSS 26 software. The analysis used was descriptive analysis. Meanwhile, qualitative data collected through interview and observation were processed by means of content analysis at each stage of the activity. Song products created by the participants were assessed and processed using a song product assessment instrument which consisted of five assessment aspects (see Table 3) and five value categories, namely Very Poor – Poor – Rather Poor– Good – Very Good. Table 3 shows the indicators for each assessment.

**Table 3. Indicators and Categories of Song Product Value**

Assessment aspects	Category				
	Very Poor	Poor	Rather Poor	Good	Very Good
The number of notes in each bar	If the number of notes in all bars is less or more than the allotted beats	If the number of notes in most bars is less or more than the allotted beats	If the number of notes in a few bars is not less or more than the allotted beats	If the number of notes in most bars is not less or more than the allotted beats	If the total number of notes in all bars is not less or more than the allotted beats
The final match of the notes to the position of the song	If all final notes do not match the final notes of the <i>catrik</i> (2-5) or <i>sinyur</i> song positions (1-3-1-4)	If most final notes do not match the final notes of the <i>catrik</i> (2-5) or <i>sinyur</i> song positions (1-3-1-4)	If a few final notes match the final notes of the <i>catrik</i> (2-5) or <i>sinyur</i> song positions (1-3-1-4)	If most final notes match the final notes of the <i>catrik</i> (2-5) or <i>sinyur</i> song positions (1-3-1-4)	If all the final notes match the final notes of the <i>catrik</i> (2-5) or <i>sinyur</i> song positions (1-3-1-4)
The logic of the song melody	If the melody in all bars is difficult to sing in terms pitch and the melodic pattern	If the melody in most bars is difficult to sing in terms pitch and the melodic pattern	If the melody in a few bars is easy to sing in terms pitch and the melodic pattern	If the melody in a most bars is easy to sing in terms pitch and the melodic pattern	If the melody in all bars is easy to sing in terms pitch and the melodic pattern
The accuracy of the number of syllables in the lyrics of the song	If all syllables of the song lyrics do not match the number of notes	If most syllables of the song lyrics do not match the number of notes	If a few syllables of the song lyrics match the number of notes	If most syllables of the song lyrics match the number of notes	If all syllables of the song lyrics match the number of notes
The meaning of song lyrics	If all parts of the song lyrics do not contain meanings that are	If most parts of the song lyrics do not contain meanings	If a few parts of the song lyrics contain meanings that are	If most parts of the song lyrics contain meanings that are	If all parts of the song lyrics contain meanings that are



Assessment aspects	Category				
	Very Poor	Poor	Rather Poor	Good	Very Good
	easy to understand and that are suitable with the character of elementary school students	that are easy to understand and that are suitable with the character of elementary school students	easy to understand and that are suitable with the character of elementary school students	easy to understand and that are suitable with the character of elementary school students	easy to understand and that are suitable with the character of elementary school students

### 3.7. Data validity

For the quantitative data, validity was maintained through instruments that had been tested beforehand with valid and reliable results. Meanwhile, for qualitative data, validity was maintained through methodological triangulation involving data from interviews, observations, and product performance tests to draw interim conclusions and final conclusions.

## 4. Results

The primary principles of this study were critical and evaluative thinking, which were developed through a structured and planned process to enhance teacher competence in understanding musical notation and composing Sundanese songs. This process comprises four main components, namely data collection, pre-action analysis, six-step action, and post-action analysis. The following sections provide a detailed description of each of these components.

### 4.1. Pre-action analysis

Prior to the implementation of any action, a survey was conducted to assess the participants' initial knowledge and skills in understanding notation and composing Sundanese songs. The survey was divided into two sections. The first section aimed to examine the participants' prior knowledge, as presented in Table 4, and the second section aimed to assess their perspectives on karawitan and Sundanese songs, which can be found in Table 5.

**Table 4. Participants' knowledge of karawitan notation and composing Sundanese songs**

Questions	Frequency	Percent
Have you ever taught karawitan?	9	60
I can read Sundanese karawitan notation	12	80
I can write Sundanese karawitan notation	11	73
I have been trained in writing Sundanese musical notation	1	7
I have the experience of composing Sundanese song(s)	1	7
I have been trained in composing Sundanese song(s)	0	0

According to Table 4, out of the 15 participants, nine (60%) had previous experience teaching karawitan, while the remaining six (40%) had not. Among the participants, 12 (80%) were able to read Sundanese karawitan notation, whereas three (20%) could not. Additionally, 11 (73%) participants were capable of writing Sundanese karawitan notation, while four (27%) were not. Only one (7%)

participant had been trained in writing Sundanese musical notation, while 14 (93%) had not. When asked about their experience in making Sundanese songs, only one (7%) participant claimed to have done so. Upon further investigation, it was found that none of the participants had ever received any training in composing Sundanese songs. These findings demonstrate the participants' current knowledge and highlight the need for further training in this area.

**Table 5. Participants' views on Sundanese karawitan notation**

Questions	Strongly Disagree	Disagree	Somewhat Disagree	Agree	Strongly Agree
Karawitan lessons need to be given to students	0	1	1	5	8
The ability to read and write Sundanese musical notation needs to be mastered by the teacher	0	0	0	6	9
The ability to compose Sundanese songs needs to be mastered by the teacher	0	0	1	8	6
There are many training programs on Sundanese musical notation	6	5	4	0	0

The results in Table 5 indicate that the majority of participants agreed (33%) or strongly agreed (53%) that teaching karawitan is necessary for students, while one person disagreed (7%) and another somewhat disagreed (7%). The majority of the participants believed that offering music lessons is essential in preserving traditional culture and developing students' musical abilities. These findings suggest that karawitan education holds a significant role in Indonesian culture, and teachers must possess a proficient understanding of reading and writing Sundanese musical notation to teach it effectively. Participants emphasized that teachers' competencies play a crucial role in students' learning outcomes. Thus, based on the findings in Table 5, it was concluded that the teachers needed to increase their competence in Sundanese karawitan practice, especially the practice of making songs, because there were not many training programs in this field.

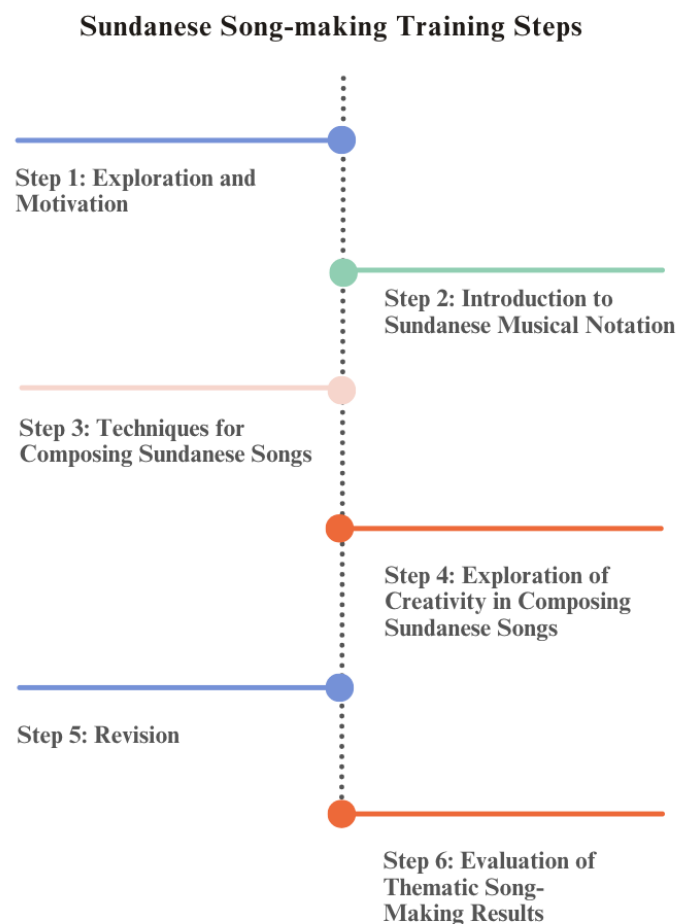
In addition to having the ability to read and write musical notation, it is crucial for teachers to be competent in composing Sundanese songs. This statement was endorsed by all the participants. According to one participant, aside from being a means of cultural preservation, this skill also allows teachers to be more innovative in their teaching approach. Another participant added that if teachers were able to compose Sundanese songs, they could use this ability as an educational tool for their students. For instance, lyrics that convey virtuous messages could be incorporated into the songs. Therefore, one effective way to instill positive values in children is by introducing them to songs with moral themes.

Despite the importance of the teacher's ability to master musical notation and compose Sundanese songs, the availability of learning resources does not seem to be in line with this need. According to the survey, the majority of participants

strongly disagreed (40%) and disagreed (35%) that there were many training opportunities available to improve these skills.

#### 4.2. Action: Sundanese song-making training

Referring to the fundamental aspects that elementary school teachers must know and understand, this study implemented a structured process consisting of six main steps to address their needs. Throughout the action process, structured activities were carried out to meet the needs of the participants who mostly started the training at the basic level, including making observations and reflections at every stage. The following six steps were taken to enhance teacher competence in understanding Sundanese musical notation and composing Sundanese songs. The six stages of action were taken based on action planning as a prerequisite for action research, which were refined or changed based on the results of reflection in each stage. Figure 2 shows the sequence of actions.



**Figure 2. The six stages of action**

##### *Step 1: Exploration and Motivation*

The pre-action survey findings revealed the significance of Sundanese songs in learning, as they help students to enhance their vocabulary and improve emotional intelligence, memory, and concentration. Research has shown that children who are exposed to music from an early age tend to have more developed emotional intelligence (Campayo-Muñoz & Cabedo-Mas, 2017). However, the

teacher's ability to understand musical notation and compose Sundanese songs was inadequate, as indicated by the results of the pre-survey indicating that they did not have sufficient experience and knowledge in composing traditional songs. Moreover, no serious efforts had been made to address this issue. Therefore, in this stage, the instructor assessed the participants' knowledge and provided motivation for the importance of teachers' abilities in understanding musical notation and composing Sundanese songs.

*Step 2: Introduction to Sundanese Musical Notation*

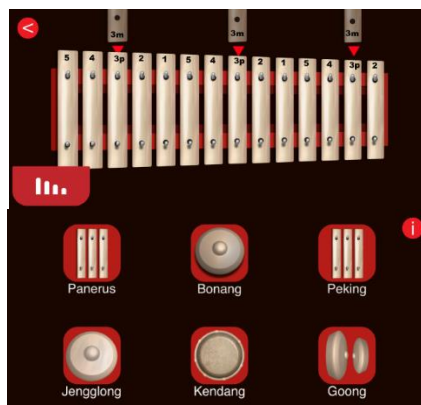
In this stage, the instructor explained Sundanese musical notation, beginning with an introduction to rhythm, musical notes and Sundanese musical scales. This stage serves as a foundation for participants to be able to compose songs. Almost all participants acknowledged that learning Sundanese musical notation was not significantly different from modern song notation, and they were thus able to comprehend it effectively. This was evidenced when they were able to create a series of notes and rhythms during the training process.

*Step 3: Techniques for Composing Sundanese Songs*

In the third stage, the participants were instructed on how to compose Sundanese songs, including rhythms, melodies and lyrics. First, the participants were provided with materials on how to create rhythmic patterns, followed by a melodic framework provided by the instructor. The framework consists of a static tone that is characteristic of Sundanese songs and is in a specific bar. After the instructor explained the theory, the participants attempted to compose their own melodies by filling in the rhythmic patterns, ending with the static tone provided. Each participant tried to create different rhythmic and melodic patterns. The instructor gave each participant an opportunity to sing the song they had composed, with assistance provided by the instructor. Some of the songs composed had good melodies, while others had a range that was too broad or had the wrong rhythm. Overall, this was a valuable experience for each participant, with one participant remarking, "I am delighted to have participated in this training. This is my first experience in composing Sundanese songs, and it turns out that composing Sundanese songs is not as difficult as I had imagined before." Another participant said, "Initially, I thought that to compose songs, we had to be good singers, but that's not the case. We can still compose songs even if we are not good at singing."

*Step 4: Exploration of Creativity in Composing Sundanese Songs*

After the technique of composing songs was explained by the instructor, all participants were directed to compose their own complete songs, from rhythm to melody and lyrics. Participants were encouraged to use their creativity to make their songs. The instructor provided guidance by defining the static tone benchmark at the end of each 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, and 8<sup>th</sup> bar so that the participants' songs became more focused. During the process, some participants used Android applications, some used laptop applications, and some used Sundanese flutes to determine the tone. The use of technology in making songs helped to overcome obstacles encountered during the song creation process (Ertmer, 1999; Julia, Iswara, et al., 2020). Examples of applications used by participants can be seen in Figure 3.



**Figure 3. Example of a *gamelan degung* application used by the participants**

At this stage, all participants were able to compose their own songs, with some trying to create the lyrics first and then the notes, while others did the opposite.

#### *Step 5: Revision*

After composing their songs, each participant presented their work in front of the class. While all participants were able to successfully compose their own songs, some needed revisions due to issues with dense rhythms, excessively long tone ranges, or syllables that did not match the rhythm. However, overall, the participants were able to successfully compose their own songs.

#### *Step 6: Evaluation of Thematic Song-Making Results*

This stage constituted the final activity of the training. Several participants were selected to present their work as representatives. An example of the Sundanese songs is presented in Figure 4. The works of the participants were evaluated, sung and reviewed. The songs that were considered to have reached their maximum potential were collected, while the ones that were still lacking were revised before being submitted.

Hayu Ulin Ka Buruan																	
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Eun deuk eun deuk -an	Lun cat lun cat -an																
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<p>Laras : Pelog Surupan: 56</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">3 2̄ 1̄ 0̄ 1̄ 2̄ 3̄</td> <td style="padding: 5px;">. 2̄ 1̄ . 0</td> </tr> <tr> <td style="padding: 5px;">Ba ru dak sok ge ra</td> <td style="padding: 5px;">nga ji</td> </tr> <tr> <td style="padding: 5px;">3 2̄ 1̄ 0̄ 1̄ 2̄ 3̄</td> <td style="padding: 5px;">. 2̄ 3̄ . 0</td> </tr> <tr> <td style="padding: 5px;">Ti ba tan nya ro ‘o</td> <td style="padding: 5px;">ha pe</td> </tr> <tr> <td style="padding: 5px;">4̄ 5̄ 4̄ 3̄ . 2̄ 1̄</td> <td style="padding: 5px;">. 2̄ 1̄ . 0</td> </tr> <tr> <td style="padding: 5px;">Hey ba ru dak ge ra</td> <td style="padding: 5px;">nga ji</td> </tr> <tr> <td style="padding: 5px;">1̄ 2̄ 3̄ 4̄ . 5̄ 4̄</td> <td style="padding: 5px;">. 3̄ 4̄ . 0</td> </tr> <tr> <td style="padding: 5px;">Sang kan u rang ca ang</td> <td style="padding: 5px;">ha te</td> </tr> </table>	3 2̄ 1̄ 0̄ 1̄ 2̄ 3̄	. 2̄ 1̄ . 0	Ba ru dak sok ge ra	nga ji	3 2̄ 1̄ 0̄ 1̄ 2̄ 3̄	. 2̄ 3̄ . 0	Ti ba tan nya ro ‘o	ha pe	4̄ 5̄ 4̄ 3̄ . 2̄ 1̄	. 2̄ 1̄ . 0	Hey ba ru dak ge ra	nga ji	1̄ 2̄ 3̄ 4̄ . 5̄ 4̄	. 3̄ 4̄ . 0	Sang kan u rang ca ang	ha te	<p>Tempo : 75 BPM</p>
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Ti ba tan nya ro ‘o	ha pe																
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Figure 4. Examples of Sundanese songs created by the participants

### 4.3. Post-action

The final stage of this research series involved conducting a reflection using surveys to gather participants' feedback and evaluate the songs produced. One participant stated that, "This training was enjoyable, with easy-to-understand materials starting from the basics and moving on to more complex topics." Several participants expressed their interest in participating in similar training in the future, stating, "This training was impressive, and I would like to participate in similar activities again." These testimonies suggest that participants enjoyed the training activities and gained new knowledge about Sundanese karawitan, which enabled them to compose their own songs.

In addition to completing the post-action survey, participants were instructed to submit their song assignments by uploading them to Google Drive for final assessment. Once all assignments were collected, an evaluation of the work was conducted using an assessment instrument containing several aspects of assessment, including the number of notes in each bar, the appropriateness of the final note with the song's position, the logic of the melody, the accuracy of the number of syllables in the song's lyrics, and the meaning of the lyrics. The average scores for each aspect of the song evaluation are presented in Table 6.

**Table 6. Recapitulation of the assessment results of Sundanese traditional songs**

Assessment aspects	Average score	Category
The number of notes in each bar	4.7	Very good
The final match of the notes to the position of the song	4	Good
The logic of the song melody	4.2	Good
The accuracy of the number of syllables in the lyrics of the song	4.4	Good
The meaning of song lyrics	4.5	Good

Total = 15 teachers

Based on the evaluation results (see Table 6), it is apparent that the average score for all aspects of assessment, rated on a scale of 1 to 5, is 4.4 (good). The highest score was achieved in the category of the number of notes in each line, with a score of 4.7 (very good), whereas the lowest score was awarded for the suitability of the final note with the position of the song, with a score of 4 (good). These findings suggest that the teachers have a solid understanding of how to notate songs, while also exhibiting a tendency not to be restricted by patterns and specific rules. Nonetheless, it is evident that the teachers are proficient in composing traditional Sundanese songs. Furthermore, the results of the post-action survey indicate that the majority of participants believed they had acquired good skills in composing traditional Sundanese songs, and all participants (100%) felt motivated to compose their own traditional Sundanese songs after completing the training.

The survey results revealed that one participant somewhat disagreed, 10 participants agreed, and four participants strongly agreed that they were able to read Sundanese karawitan notation well after attending the training. One participant expressed enthusiasm for the learning process, stating, "I am very enthusiastic about the learning process because I can practice reading notes and making songs directly." Another participant stated, "After participating in this activity, I feel enlightened and have gained new knowledge about Sundanese musical notation." A third participant said, "Before, I thought that understanding and creating musical notation was very difficult. However, after attending this training, I now know the knowledge and theory, and I can understand that creating karawitan notation is not difficult. I can understand it very well." This statement was supported by the survey results, with two participants disagreed, one person somewhat disagreed, three people agreed, and nine people strongly agreed with the statement, "before participating in this training I did not have any knowledge about the process of making Sundanese songs."

All participants also concurred that teachers must possess competence in composing Sundanese songs. Hence, training activities like this should be provided to teachers, particularly those in elementary schools. One of the participants stated:

"Song compositions were not taught in college, and many teachers lack the competence to do so. This is reinforced by the belief among teachers that composing songs is difficult. Training programs like this can provide a good solution. In my experience, before this training, I had no knowledge of how to make Sundanese songs.

Through this training, I learned how to compose songs and was even inspired to make Sundanese songs for educational purposes.”

One participant mentioned that "songs can serve as a means for teachers to impart moral and character education through positive lyrics." Furthermore, all participants (100%) agreed that aside from enhancing their skills as educators, training activities provided an opportunity for teachers to explore and cultivate their interests and talents, particularly in composing songs.

The above statements indicate a shift in the teacher’s thinking regarding their ability to compose songs after attending the training. This is further supported by survey results revealing that 14 out of 15 participants were motivated and intended to create Sundanese songs for instructional purposes. Upon further investigation, one participant shared that they were inspired to compose their own Sundanese songs and created a songbook. Another participant stated, “We usually only modified Indonesian and children’s songs by changing the lyrics. Now, we can create our own songs along with the notation.” Furthermore, another participant mentioned, “I am motivated because composing Sundanese songs is easy. I believe songs can be used as a teaching tool in classrooms.”

## 5. Discussion

The first question of this research was, “can elementary school teachers improve their ability to understand Sundanese karawitan notation?” Through the assessment and survey results, it is evident that the participants’ knowledge and abilities in musical notation and Sundanese song-making had developed after receiving training. Music training programs are known to have a significant impact on language skills, cognition, musical sensitivity, and instrument playing (Barbaroux et al., 2019; Dastgheib et al., 2013; Looi & She, 2010; Patscheke et al., 2016; Tseng, 2016). According to the survey results, all participants strongly agreed that Sundanese songs play a crucial role in learning. One participant expressed that through Sundanese songs, students were required to sing happy tunes, and with song lyrics that educated, this could contribute to character building. Other participants mentioned that Sundanese songs, in addition to preserving Sundanese culture, could also enhance students’ sensitivity in learning music. Furthermore, all participants agreed that Sundanese songs play a vital role in building students' character, which aligns with the view of Roffiq et al. (2017) that music can make learning enjoyable, leading to increased student enthusiasm for learning. Music has the potential to establish a connection between emotion and memory, and researchers also believe that music can affect character development (Critchfield, 2021; Julia, Supriatna, et al., 2020; Lee, 2016).

The second question of this research was, “can elementary school teachers improve their ability to compose Sundanese songs?” Regarding the process of composing Sundanese songs, the survey results revealed that all participants (100%) claimed that they were able to compose Sundanese songs in terms of rhythm, melody, and lyrics after attending the training. Further investigation showed that one participant did not have any prior knowledge about the process of making Sundanese songs, but after attending the training, they were able to compose their own Sundanese songs. This condition indicates that music training



programs can effectively enhance the skills of participants (Cohrdes et al., 2019; Incognito et al., 2022; Lantigua, 2020). High motivation, good technological literacy, and enjoyment in the whole series of training, enabled the participants to show their creativity and productivity in composing traditional songs. This indicates that teachers' creativity and productivity are significantly affected by their happiness and motivation (Chen et al., 2022; Gyeltshen & Beri, 2019; Moskowitz & Dewaele, 2021).

Another notable finding is that, during the songwriting process, some participants did not possess strong vocal skills. According to the survey results, seven participants reported that they were unable to sing Sundanese songs proficiently. Nevertheless, this did not impede their ability to compose Sundanese songs. Fourteen of the 15 participants agreed that one could create Sundanese songs without having excellent singing skills. Upon further exploration, one participant expressed that singing is not necessary to create a song and that a melodic instrument could be used to establish the tune. Another participant stated that, fundamentally, anyone could compose a song as long as they knew the techniques. Furthermore, some participants suggested that, even without strong vocal skills, one could still create songs as long as they had an understanding of rhythm and song notation. Results of other results also showed that composing songs and composing melodies could be done automatically through the use of machines or AI (Hong et al., 2022).

In addition to enhancing competence, an important aspect of training is a change in mindset and paradigm related to the context of the material being taught (Julia et al., 2019). Based on the survey results, it is evident that all participants (100%) agreed that Sundanese songs play a crucial role in developing student character. Music has the potential to transform the learning environment into an enjoyable experience, thereby fostering students' enthusiasm for learning. Furthermore, music has been shown to establish significant connections between the brain areas responsible for memory and emotion. Using music as a tool to maximize human potential is a valuable undertaking, as it can motivate and encourage participation in activities that facilitate the attainment of social, language and motor function goals (Maury et al., 2022; Zadnik & Smrekar, 2020).

The third question of this research was, "can the six-steps action change the paradigm of elementary school teachers to be more active in composing Sundanese songs?" Based on the six stages of action given to the participants, it was shown that in the first stage, the teachers had high motivation to improve their professional competence in the field of music. This showed that the teachers basically had a desire to develop their professionalism through a continuous development program (Zhang et al., 2021). In the second and third stages, the teachers showed that they were able to understand basic knowledge about the notation system of Sundanese karawitan music, and they were also able to understand the techniques for composing traditional songs. This proved that the teachers could increase their knowledge of the particular material they wanted to study through teacher development programs (Lara-Alecio et al., 2021). In the fourth stage, the teachers were able to develop their creativity to compose traditional songs and broaden their thinking by using technology. This indicated

that through various development programs, the teachers could be encouraged to develop their creativity (Rais et al., 2022), and they could also be directed to get closer and be familiar with the use of technology to help improve their self-sufficiency (Ergün et al., 2019). In the fifth and sixth stages, the teachers were able to improve their traditional songs, and were able to complete their songs. This showed that the teachers had multitasking abilities to complete tasks given during the development program in addition to working as teachers in their daily lives. (Eisenwine & Hadley, 2011). The traditional songs they created were also quite good as assessed from various aspects.

## 6. Conclusion

The findings of this study, which aimed to answer the research questions presented at the beginning, indicate that (1) the ability of elementary school teachers to comprehend Sundanese musical notation can be improved; (2) elementary school teachers are capable of composing Sundanese songs; and (3) a series of critical-reflective steps can alter the paradigm of elementary school teachers, making them more proactive in composing Sundanese songs. Thus, it can be concluded that elementary school teachers have good potential to improve their professional competence in the field of music. Through well-designed training programs, they are able to increase motivation, explore skills, and create simple traditional songs according to the needs of their respective school environments.

This research had limitations as it only focuses on one district in the West Java province. Hence, it is highly probable that there may be variations in character and values that are implemented in other communities, which could impact the types of songs that are produced. The study's findings highlight the need for continuous skills improvement training for teachers to create music works. Teachers have the potential to become creators of new songs that are suitable as teaching materials in their respective school environments, based on each school's specific needs. It is recommended that regular training programs be held by the relevant government authorities to improve the skills of elementary school teachers, especially in the field of music. If it is organized by the government, more teachers would probably join the program.

## Acknowledgment

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