The content validity of the assessment instrument on the characters of wasaka in wetland environment physics learning

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Abstract. Wasaka (waja sampai kaputing) is a philosophy widely known by the Banjar tribe. This philosophical value needs to be strengthened and maintained amongst students as part of character education. Therefore, an assessment instrument of the character wasaka was developed to help teachers measure the values of religious, sincere, hard work, resilience, honesty, and persistence in students. This article aims to describe the validation of the contents of wasaka character through assessment instrument as carried out using expert judgment method. There are 35 statement items assessed by 13 validators. Each statement item is examined by five assessment categories included in the expert validation sheets. The results of the assessments were analyzed using Aiken’s V equation to determine the level of validity of each statement item. With a validity standard of 0.75, there are 29 valid items and six invalid items. Furthermore, valid statements will be tested on students to determine the reliability of their measurements.

1. Introduction

The world of education is one of the forums which play a critical role in humanizing humans. Globalization is the relationship and dependence between nations and people around the world through trades, investments, travels, popular cultures, and other forms of interaction which narrow down the boundaries between countries [1]. The era of globalization is marked by the rapid development of technology and information, which undoubtedly brings two inevitable impacts on life, namely, positive and negative impacts. The positive impact of globalization refers to the creation of opportunities to access various kinds of knowledge, technology, social values, as well as norms of behaviour. These developments can be applied at various levels, ranging from individuals, organizations, communities, even societies in various countries and cultures. Additionally, various social movements have been initiated against the threat of globalization, especially in developing countries, including in Indonesia. The negative impacts of globalization that is felt among developing countries are political colonization and cultural colonization impacted by developed countries on developing countries which indirectly threatens local cultural development [2].

According to Astuti, young people today cannot be separated from the immensely strong influence of globalization. Most of the youths now have lost their identity as Indonesians, where this can be observed from the changes in culture. A set of behavioural changes are carried out in everyday life, including the way of speaking/communicating, dressing, and eating. It causes youths today to seemingly forget their own culture and prefer to apply foreign cultures in their daily lives [3].
Education as a forum should be able to minimize the negative impact of globalization, one of which is by re-instilling cultural values (especially local culture) in the learning process. Several studies have been carried out by integrating materials of local culture within the learning and teaching activities, such as the research conducted by incorporating the use of comics and local wisdom in Jember as an integrated science of learning materials at the junior high school level [4]. Similar research was carried out by Anggraini and Kusniarti, [5] who inserted the local wisdom of several regions in Indonesian language teaching materials which were not only able to equip students with extensive knowledge but also teaches strong character values.

Based on several studies that have been conducted above, it can be understood that the integration of local culture is mostly applied only to teaching materials for each subject separately. In contrast, research related to the incorporation of local cultural values more specifically is still rarely done. The success or failures of the achievement in teaching local cultural values within the learning process cannot be separated from the use of the appropriate instruments in the process of measuring these local cultural values. Besides, the local culture integration that will be carried out on the learning instrument also applies the characteristics of Banjarmasin by inserting a wetland environment theme. According to Selvia, Arifuddin, and Mahardika [6], wetland environments can be integrated into the learning process, such as floating markets, lanting houses, and much more. Also, one of the learning materials taught about physics is on the subject of fluids. Integrating this wetland environment can improve learning outcomes and is declared effective in the learning process [7–13].

Therefore, it is highly necessary to develop instruments which integrate the teaching of local cultural values with the teaching of character education in schools as well the unique characteristics of the surrounding environment. The cultural values that are tried to be applied are wasaka which is the Banjar tribe’s philosophy of life, which is none other than the motto used by Prince Antasari in describing the process of working to achieve goals, never to give up, giving the best effort, dalas hangit. In simple terms, waja sampai keputing means an unyielding attitude; in other sense, it means that when one starts a job, it must be carried out earnestly until the job is finished. Thus, it can be understood that wasaka’s motto demands people always to complete some tasks with sincerity, taking care of one’s responsibility, and to be consistent with the goals to be achieved, not to stop halfway. A strong and tough determination like steel (waja) from the starting point (ujung) to the endpoint (kaputing) and not stopping in the middle of the road (haram manyarah) is needed in underpinning this motto [14].

The researcher researched the development of an assessment instrument on Wasaka values in the teaching of physics with the main topic being the wetland environment. The assessment instrument developed was a non-test instrument in the form of a questionnaire. In this article, the topic discussed is experts’ validation of the assessment instrument of Wasaka values as part of the development of an instrument for assessing the characters of the “Waja Sampai Kaputing”.

2. Method
This research is a part of research and development that aims to develop an instrument for assessing the Wasaka values. The development model used is the ADDIE model which has five stages: analysis, design, development, implementation and evaluation. This article will specifically discuss some of the development stages, namely, expert validation. The description of the value of Wasaka and its relationship to the affective domains in Bloom’s Taxonomy in Figure 1 was further developed into 35 questionnaire items. The details of the Wasaka assessment instrument developed can be seen in Table 1.
Table 1. *Wasaka* instrument blueprint

| Wasaka Values | Affective Domains | Question Numbers in the Questionnaires |
|---------------|------------------|----------------------------------------|
|               | Bloom’s Taxonomy | (+) (-)                                |
| Religious     | Receiving (A1)   | 1,2 3                                  |
|               | Characterizing (A5) | 4 5                                |
| Sincerity     | Responding (A2)  | 6,7 8                                  |
|               | Characterizing (A5) | 9,10 11,12                         |
| Hard Work     | Receiving (A1)   | 13 14                                  |
|               | Responding (A2)  | 15 16                                  |
|               | Valuing (A3)     | 17,18 19                               |
|               | Organizing       | 20 21,22                               |
|               | Characterizing (A5) | 23 24,25                           |
| Resilience    | Valuing (A3)     | 26 27                                  |
|               | Organizing (A4)  | 28 29                                  |
|               | Characterizing (A5) | 30 31                               |
| Honesty       | Responding (A2)  | 32 33                                  |
|               | Characterizing (A5) | 34 35                               |

The above statements were assessed by the validators using validation questionnaires. The blueprint of the validation questionnaire filled out by the validators is shown in the following Table 2.

Table 2. Validation instrument blueprint

| Aspects         | Indicators                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------|
| Substance       | 1. Statement items developed must be in accordance with the specified *Wasaka* attitude component indicators determined |
|                 | 2. Statement items developed must be in accordance with the predetermined *Wasaka* attitudes |
|                 | 3. Statement items of the Wasaka attitude component assessed can be observed                  |
|                 | 4. Statement items are in accordance with the predetermined criteria                           |
| Construction    | 5. Statement items and assessment criteria are easy to comprehend                              |
|                 | 6. Statement items are formulated briefly                                                     |
| Language        | 7. Statement items are arranged in an appropriate and correct sentence                         |
|                 | 8. Instructions for use are organized correctly                                                |
|                 | 9. Statement items use communicative sentences                                                 |
|                 | 10. The use of language in the statement items does not lead to double interpretation          |

Each validator will give each item of statements elaborated in Table 1 assessed by the indicators in Table 2 a conclusion. The conclusion consists of five levels of scores, which range from a score of 5 for very essential items, 4 for essential items, 3 for moderately essential items, 2 for less essential items, and 1 for non-essential items. The results of the validation questionnaires as submitted by the validator were then analyzed using Aiken’s V formula to calculate the coefficients of the content validity. The equation used, according to Aiken [15]. The number of validators who submitted the assessment was 13 people. According to Aiken [15], the threshold value of the validity coefficient obtained by the 13 validators and the 5-level assessment category is 0.75. A statement item for the *Wasaka* value will be considered valid if the calculated V value obtained is greater than 0.75.
3. Results and Discussion
There are several targeted values which become the target of wasaka character education, namely: religious, sincerity, hard work, resilience, honesty, and perseverance. Some of these values are described in Table 3 below [14].

| Wasaka Values | Description |
|---------------|-------------|
| Religious     | Compliance in carrying out or implementing religious teachings. |
| Sincerity     | • Commencing tasks in the name of God Almighty,  
|               | • Believing that fortune, grace, and mercy exist by God’s permission  
|               | • Performing duties and obligations as well as possible and leave the results to God Almighty |
| Hard work     | • Seriousness in facing difficulties both in learning situations and in completing tasks.  
|               | • Finishing assignments as well as possible to the optimal limit (both in terms of working time and the quality of the tasks performed) |
| Resilience    | Shows genuine effort in overcoming difficulties in studying or completing assignments. |
| Honesty       | Make oneself a person who can be trusted both in word, action, and tasks |
| Perseverance  | Shows perseverance and cooperation, both during learning situations and when doing tasks |

These indicators should be possessed by a student, especially those originated from South Kalimantan region as part of their cultural identity. In terms of studying science, a positive attitude is needed for a scientist as a way of thinking and personal control. The Wasaka values in Table 1 are then classified into several Bloom’s Taxonomy affective domains, which consist of receiving (A1), responding (A2), valuing (A3), organizing (A4), and characterizing (A5). The relationship between Wasaka values and the affective domains of Bloom’s taxonomy can be seen in Figure 1 below.

![Figure 1. Relationship of wasaka values and bloom’s affective domains](image_url)

The indicators of Wasaka’s value and Bloom’s affective domains in Table 2 are classified into 35 statements which are then assessed by the validators. Details of all the statements can be seen in the following Table 4.
Table 4. Statement items of the *wasaka* instrument

| No | Item |
|----|------|
| 1  | I listen to religious lectures carefully in accordance with my religion. |
| 2  | I try to comply with all of the obligations in my religion in order to be obedient. |
| 3  | I will not listen to advice from friends of mine who belong in different religions |
| 4  | When I am doing group work with my friends, and the praying time comes, I will put myself first to pray. |
| 5  | I don’t really enjoy participating in religious activities, either in school or in the neighbourhood where I live |
| 6  | I agree that before starting each lesson, every teacher should guide the students to recite the prayers first |
| 7  | When I am more familiar with certain subject matters, I will help friends who have difficulty understanding the material |
| 8  | I will report any good deeds that I have done to my friends |
| 9  | Not only physics lessons, I start all school subjects by praying first |
| 10 | When studying physics seriously, I am sure that I will get results or grades according to my hard work. |
| 11 | Not all subjects I start with prayer, especially physics subjects. |
| 12 | I do not believe that every physics score that I get shows the effort that I have been doing. |
| 13 | I study physics earnestly. |
| 14 | I’m not interested in physics. |
| 15 | I like asking questions related to physics material that I don’t understand. |
| 16 | I didn’t report on a physics assignment that I didn’t do |
| 17 | I like to contribute ideas during group work or class discussions, especially during physics lessons |
| 18 | In studying physics, I like to combine various explanations from several books and then try to understand. |
| 19 | I never contribute suggestions or answers during the discussion session in physics lesson. |
| 20 | I can manage information related to physics material studied in class. |
| 21 | I do not negotiate constructive opinions or input from friends during the discussion of physics material in class. |
| 22 | I cannot manage the opinions or input that many of my friends shared during physics. |
| 23 | I easily solve or find out the solution to the physics problems given by the teacher. |
| 24 | I don’t like proving to my friends that I can solve most of the physics problems given by the teacher in class. |
| 25 | I listened carefully to every physics material presented by the teacher. |
| 26 | During the discussion, I helped a friend who had difficulty understanding the physics material. |
| 27 | I don’t have full confidence in the physics tasks I work on. |
| 28 | During the discussion of physics, I defend my opinion which is in accordance with the facts on the material. |
| 29 | At the time of discussion in physics class, I cannot classify which suggestions or answers from friends are appropriate based on the existing scientific facts. |
| 30 | When discussing during physics lessons, I like to prove the answer to each question by referring to existing reading books. |
| 31 | It is difficult for me to solve physics problems given by the teacher. |
I prefer to do physics assignments in class when other lessons are taking place rather than doing them at home.

I never tell my parents if I get low physics scores.

I solve every physics problem or assignments as adjusted to my own ability, even though sometimes the results I do are incorrect.

I seem to always listen to the teacher’s explanation regarding the physics material given, even though I don’t understand the explanation at all.

The results of the expert validation questionnaires on all of the above statements analyzed using Aiken’s V are shown in Figure 2.

The minimum V value on this instrument, so that the item is said to be valid, is 0.75. The results of the calculation show that six items do not meet these requirements, namely items 8, 19, 22, 24, 27, and 33. Validators stated that these six items contained statements that are ambiguous and difficult to measure. For example, in question item 8, the word “any good” can confuse in understanding the sentence. Then, in point 19, the contribution of suggestions during group discussions will be more difficult for one observer to observe.

Furthermore, item 22 deals with the management of information by students. If students record information, it is easy to observe. Nevertheless, if students manage information in memory, then, of course, the observers will not know it. Then, items 24 and 27 relate to students’ enjoyment and confidence in the learning process. These two items are also difficult to observe as they are related to one’s internal processes. Finally, item 33 is also difficult to observe as this activity can take place from home. These six items were then removed from the instrument so that only valid items remained.

Validators also provide inputs related to grammar to make the sentences more effective and easier to understand. For point 4, the validator considers that the word “self-actualizing” should be deleted because not all students can understand the phrase. In point 6, the validators consider this item to use more words than necessary. The validator suggests that the word “start each lesson” be changed to “learn” only. Then, in item 16, a validator suggests correcting the sentence because the item contains two words “no”. It makes sentences more difficult to understand and results in the opposite meaning of what negative statements should be. This item was later corrected by deleting the second “no” word. Other improvements relate to typing errors such as “following” to “following”, “careful” to “thorough”, “believe” to “believe”, “break” to “solve”. The valid items totalled 29 items and then tested on students.

Based on expert validation, the instruments developed were declared valid and reliable. The assessment of the expert has a role as an expert judgment, meaning that the assessment of the expert is very influential.
on the instrument being developed [16]. Through valid character instruments it can help educators to carry out the character assessment process of students to support the realization of national education [17–20]. Character assessment can be done using observation and student self-assessment (questionnaires) as confirmation for the teacher [21,22]. The final result of instrument development is made in the form of a guidebook. This guidebook serves to use the character instruments of students [23].

4. Conclusion

The instrument assessment for Wakasa was assessed with expert judgment sheets. The results were analyzed using Aiken’V to obtain the V value of each item. Of the 35 questionnaire items, there are 29 valid items and six invalid items. For future research, it is suggested that the valid items need to be tested on students to determine the level of reliability of their measurements.

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