

DETERMINATION OF EFFECTIVENESS OF EVALUATION RESULTS ON SCHOOL CULTURE AND CHARACTER OF JUNIOR HIGH SCHOOL STUDENTS USING CHARACTER ASSESSMENT INSTRUMENTS WITH THE LOCAL WISDOM OF BALI BASED ON MOBILE PHONE

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ABSTRACT

The aim of this study was to determine the effectiveness of the evaluation results on school's culture and character's students of junior high school using instruments of character assessment with Bali local wisdom based on mobile phone. This study was started with the development of mobile phone-based character assessment instruments with local wisdoms by adopting the research model and development of Tigarajan. Assessment instruments that had fulfilled the validity and reliability requirements were then tested for effectiveness with a one-shot case study, involving three classes of SMP Negeri 1 Singaraja. The data about school's cultures were collected through self-assessment instrument, which was filled by 44 teachers of science and 28 people (one class) at SMP Negeri 1 Singaraja who were involved as a sample. While the data about the character of students were measured by using instrument self-assessment character by involving 28 students of class VII, 28 students of class VIII, and 30 students of class IX at SMP Negeri 1 Singaraja. The measurement of the character of the students was done after they had learned the science of character education by inserting the local wisdom of Bali. The results of the research showed that 1) The mobile phone-based character assessment instruments had fulfilled the valid and reliable requirement to be used to measure the character of the school's cultures and the character of Junior High School students; 2) In general, the level of school's culture effectiveness in SMP Negeri 1 Singaraja were in good category, although negative behaviors were found but they were rare; 3) The two dimensions of the student's character; the spirituality and the responsibility with the level of effectiveness were in very good category, while the attitude of hard work, caution, and cooperation with the level of effectiveness were in a good category; and 4) The two aspects of students' character that were discipline and honesty with the level of effectiveness were still in a low category or with a qualification that was beginning to appear.

Keywords: *Effectiveness, Evaluation, Assessment of Character Education, Mobile Phone, School's Cultures, Students' Character*

1. INTRODUCTION

The efforts to develop the character of learners in the national education system of Indonesia had been mandated in Law No. 20 of 2003 about the national education system, which was in Article 3, it was stated that national education functioned to develop

the ability and to form the character and dignified nation civilization in order to educate the life of the nation, aiming to the development of the potential of learners to be human beings who believed in the Almighty God, had a noble character, healthy, knowledgeable, capable, creative, independent, and became democratic and responsible citizens. The

development of the students' character was further reinforced in Government Regulation No. 17 of 2010 about The Management of the Implementation of Education Article 17 paragraph (3), it was stated that basic education aimed to build the foundation for the development of learners' potentials to become human beings who: a) believed in the Almighty God, b) knowledgeable, competent, critical, creative, and innovative; c) healthy, independent, and confident, tolerant, socially sensitive, democratic and responsible. Both of these products of law hinted at the importance of developing character education for learners.

In response to the above legislative requirements, the Ministry of National Education of the Directorate General for Primary and Secondary Education Management of the Directorate of Junior High School Development in 2010 had issued Character Education Guidance at Junior High School. The guidelines stated that the way of character development of learners could be done through the formation of an integrated character with the learning of all subjects, integrated with school management, and integrated with student coaching activities.

Character education was a deliberate effort to develop a good character based on virtues for individuals and society [1]. Character education taught learners about basic human values that included honesty, kindness, generosity, courage, freedom, equity, and respect. The purpose of character education was to improve the quality of learners to become a morally responsible nation and to be self-disciplined citizens. In character education, the character of the learner was one form of learning outcomes [2]. In other words, the character was the result of the educational process. As a result of learning, the character development of learners as a result of the educational process needed to be measured.

The implementation of character education in school would work optimally if the implementation of character education referred to the eleven principles of character education that were 1) character education should develop "core character values" as a foothold for good characters. Character education should begin with philosophical principles that objectively viewed ethical values as caring, honesty, openness, responsibility, and respect for oneself and others as the basis of good characters; 2) In character education programs that generally touched the affective domain, characters contained a broader meaning that included cognitive, emotional, and behavioral aspects of

moral life. Good characters consisted of understanding, concern of basic ethical values, and actions based on ethical values; 3) Effective character education demanded a genuine, proactive intention, and used a comprehensive approach that could stimulate ethical values at every stage of life in school; 4) Schools had to be "a caring society" Schools had to show themselves as educational institutions that had good characters; 5) To develop the character of learners, learners should be given the opportunity to behave morally, to apply values, such as responsibility, honesty, caring, openness and thus on through interactions and discussions; 6) Effective character education should involve a challenging and meaningful academic curriculum; 7) Character education should strive to develop the intrinsic motivation of learners; 8) Learners as human beings who were developing good characters, should be given the opportunity to develop and arouse strong would from within themselves to do what they think was good and right with guidance of conscience; 9) All school communities had to be a learning and moral society in which all units were responsible for character education; 10) Learners should be brought into moral leadership roles through student organizations, they should also be included in mediation programs of moral conflicts in peer groups, cross-age tutorials, and thus on; and 11) Schools should include parents and society members as partners in character building and development [3].

Education took place in three educational institutions, namely family, school, and society, known as the education center. Similarly, character education, the three educational institutions, namely family, school, and society should play a synergistic role in building the character of the students thus that they became citizens of the character as mandated in Law No. 20 of 2003 about National Education System.

Family members could make a huge contribution to the success of character education. Students' behavior that included 1) respect to others and themselves, 2) responsibility, 3) honesty, 4) openness, 5) tolerance, 6) prudence, 7) self-discipline, 8) sincere help, 9) Compassion, 10) cooperation, 11) determination, 12) democracy, 13) intelligence, and 14) creativity and innovation had to be grown in the family[4]. The strategy was through exemplary parenting, reinforcement given by all family members towards character behaviors, and built a conducive communication among family members. All family members needed to had the

same perception, attitude, and pattern of action in developing character education. In the early time families had to uphold the order and etiquette and character.

Schools could be a conducive vehicle for building and developing character-rich generations, thus they were ready to look forward to a future full of challenges in the era of globalization. Character behaviors could be built through intracurricular, cocurricular, or extracurricular activities. The strategy could be pursued through the integration of character education into teaching and learning activities (KBM) in each subject. Each subject teacher had to integrate character education into the KBM in the class, which began with the preparation of the syllabus, and the preparation of learning implementation plans (RPP) which were characterized by character education.

In addition, school also had to be conditioned as “a caring society” [3]. Schools had to present themselves as educational institutions with good characters. Schools should do thus by making the school a moral society that could help learners build a sense of affection and respect to others (parents, teachers, staff, students, school residents). Teachers should give students the opportunity to behave morally because they required many varied opportunities to apply values such as responsibility, honesty, caring, openness and thus on through interactions and discussions. The disciplines of headmasters, teachers, and all employees would contribute greatly to the development of character education in school.

Society as the third pillar were equally important in developing character education. Outside the family environment and outside the school environment, students would be parts of the society and always interacted with other society members. Therefore, the role of society also became very important in building the character of students. Exemplary figures in the society would be a very big contribution to the formation of a student's personal character. Norms and social ethics in society needed to be socialized and enforced in an effort to building the character of the nation. The strengthening of the character behavior had to be done by all citizens. Thus, the three educational institutions known as the three of the educational centers had to synergize in building a generation of character.

The assessment or measurement of character education should measure the character of the school, the functioning of the school staff as

educators in character education, and be expanded on the appearance of good characters in learners. Effective character education should seek to measure the effect of school programs on the moral development of learners. Measurements can be done through the evaluation process. Basically evaluation is an activity for collecting, analyzing, and presenting, information about a particular object to be used for a consideration in making an appropriate and accurate decision [5]. Evaluation is an activity for collecting, analyzing, and explaining comprehensively information about a particular object/program/policy being studied and the results of an evaluation can be used for the consideration in making a decision to continue or to stop the object/program/policy [6]. Evaluation is an activity to collect, analyze, and present information about an object to be evaluated, where the results of these evaluations are used for consideration in making a decision that is precise, accurate, and reliable [7].

Evaluation is an activity for collecting, understanding, and reporting the result of analysis of a particular program/object in such a way that the result can be used as the consideration in making a decision as to whether the program will be continued or stopped [8]. Evaluation is an activity for data collecting, data analyzing and data presenting into information about a particular object under study so that the results can be used to take a decision [9]. Evaluation is an activity that consists of the process of gathering, describing, and explaining various pieces of information about the effectiveness of something that can be used later as the consideration for making a decision and a recommendation [10].

Evaluation is an activity in collecting, analyzing, and presenting information about a research object and its results can be used to make a decision [11]. Evaluation is an activity for collecting, analyzing, and presenting information about a particular object being evaluated to be used as the consideration in making a decision [12]. Evaluation is an activity to collect, analyze, and present information about the quality level of a particular object under study based on predetermined criteria or goals and the results can be used for consideration in making a decision [13]. Evaluation is an activity conducted by an evaluator in collecting, analyzing, and presenting information related to the program/object/policy that the results can be used to take a decision [14].

Evaluation is an activity conducted by the evaluator to collect, analyze, and present complete and accurate information about a particular

object/program/service/policy being studied, thus the results could be used as a recommendation in making a decision [15]. Evaluation is an activity of data collection, data processing, data analysis, presentation of data into information that used as a recommendation in taking a right decision [16]. Evaluation is an activity that collects, analyzes, and presents data into useful information in making decisions based on recommendations obtained from these activities [17]. Evaluation is an activity undertaken by the evaluators to collect, analyze, and present the analyzed data into a useful information as the basis for taking a decision to continue or stop a program/object [18].

Based on several definitions, then evaluation is one of the measurement activities conducted through the process of data collection, data analysis, and interpret it into an information so that the results can be used as recommendations for decision making.

There were three things that serve as a reference in measurement or evaluation of moral development of learners, those are: 1) The character of the school. How intense the school had functioned as a “caring society”; 2) School staff as character educators. How intense the school staff (teachers, administrators, and other personnel) had developed concepts of what they could do in terms of character development; 3) Character of learners. How intense learners had displayed understanding, commitment, and deeds or actions based on core ethical values [3].

To be able to measure the character development of learners correctly, it required a valid and reliable assessment instrument. In this connection, the identification of character values developed in character education needed to be done. This identification effort should then be followed with the selection of assessment models and followed with the development of assessment instruments in accordance with the values of the characters to be measured. In the implementation of education in Indonesia, school had now integrated character education into learning programs from every subject. However, the development of the learner's character values as a learning effect was never measured on an ongoing basis. Teachers simply included the values of characters developed in the lesson plan, and assumed through the learning they did, the character of learners who wanted to develop would develop naturally. The development of the character of the learners was seen more as the effect of accompaniment of the learning process. In this regard, it was necessary to develop character

assessment instruments to measure the character or culture of the school and the character of the learners.

However, the problems is not all instruments used to measure of school culture and the character of junior high school students in Bali can be used quickly, whenever and wherever the evaluator needs the instrument, so that accurate of measurement results can't be obtained quickly to be able to describe the effectiveness of evaluation results.

From these problems then needed a breakthrough that could be a solution to problem solving. The breakthrough that can be done is to develop a character assessment instruments with the local wisdom of Bali based on mobile phone.

Based on the problem and the idea of problem solving, then the main formulation in this research, among others: 1) How validity and reliability of the instruments of character assessment with local wisdom of Bali based on mobile phone?; 2) How the effectiveness of evaluation results of school culture and the character of junior high school students in Bali (especially in this case as the sample of this research is SMP Negeri 1 Singaraja)?

The purpose of this study is to find out about: 1) the validity and reliability of instruments of character assessment with local wisdom of Bali based on mobile phone; 2) the effectiveness of evaluation results on the school culture and the character of the junior high school students in Bali (especially in this case as the research sample is SMP Negeri 1 Singaraja).

Researches related to the character education assessment had been conducted by *Strange* in 2012 [19], which showed that there were positive result from the implementation of character education at school. *Strange* had conducted a study entitled “*Measuring Up: Defining Your Assessing Outcomes of Character Education*”; Cole on “*Character Development and an Outcome of the Ohio Northern University Educational Experience*”[2]. However, in Indonesia, there had not been many studies, publications, and sources on various aspects of character education, especially in the assessment of character education. Therefore, the study of character education in various aspects including the aspect of character education assessment was still a very relevant issue to be undertaken.

Several other researches underlying the development of the character assessment instrument

with the local wisdom of Bali based on mobile phone are as follows: 1) the research conducted by Setiawati on the development of character evaluation instrument of senior high school students in Bantul District in 2007 [20], still has a weakness, that is not yet found the character assessment aspects based on local wisdom that used to measure the students' character; 2) research conducted by Gaol on the development of character assessment instrument on mathematics program at junior high school in 2014 [21], still found weakness, that is not yet explaining specifically about the assessment aspects based on local wisdom to measure the character of students; 3) research conducted by Sutijan, Makhfud, Lestari, and Chumdari on the development of integrated character education assessment instrument in 2015 [22], has a weakness that is still using a manual questionnaire in assessing the character of students so that the calculation process becomes slow in determining the effectiveness level of students character assessment and the integrated character education assessment instrument that formed in these research has not shown assessment aspects based on local wisdom to measure the character of students.

Based on the problems, related research, and the weaknesses found in previous research, so it is very appropriate to develop the character assessment instruments with the local wisdom of Bali based on mobile phone as solution of problems solving.

2. RESEARCH METHODOLOGY

The effectiveness of Balinese local character (local genius) character assessment instruments in improving the school's cultures and character of junior high school students, began with research and development with reference to the model developed by Thiagarajan [23] with the following research stages: 1) *Phase I*: The preparation and development of mobile-phone-based character assessment instruments with local wisdoms which included the preparation and development of: 1) indicator of school's cultures, 2) students' character indicator, 3) Learning implementation plans (RPP=Rencana Pelaksanaan Pembelajaran) with character education, 4) Student worksheets (LKS=Lembar Kerja Siswa) with character values, 5) school's cultures assessment instrument with self-assessment format, and 6) students' character assessment instruments with self-assessment format; 2) *Phase II*: The validation of school's cultures assessment and character of students was done through focus group discussion (FGD) involving 5 experts and 10 science education

practitioners and followed with the validation through desk evaluation by 18 senior teachers who were experienced in developing the assessment device; 3) *Phase III*: The validation of practicality and implementation of school's cultures assessment instruments and character of students was done by science senior teachers through desk evaluations; 4) *Phase IV*: The testing the effectiveness of school's cultures assessment instruments done through self-assessment and testing of student character assessment instruments done through one shot case study that involved one class 28 students of class VII, one class (28 people) students of class VIII, and one class (30 people) students IX class SMP Negeri 1 Singaraja by applying science programs containing character education and local wisdom.

The data on school's cultures were collected through a self-assessment instrument filled by 44 science teachers of Junior High School and 28 students of SMP Negeri 1 Singaraja (one class) who were involved as samples. While the data about the character of students was measured by using character self-assessment instrument by involving 28 students of class VII, 28 students of class VIII, and 30 students of class IX SMP Negeri 1 Singaraja. The measurement towards the character of students was done after they got a science education with character education, which was inserted with the local wisdom of Bali. The values of local Balinese wisdom inserted in character education to develop the school's cultures and character of the students were: 1) tri hita karana (*religious*), 2) satya (*honest*), 3) tat-tvam-asi (*tolerance*), 4) kerta (*discipline*), 5) swadarma (*responsibility*), 6) ulik (*creative*), 7) andel (*independent*), 8) sengeh (*curiosity*), 9) nindihin gumi (*nationalism*), 10) nyinggihang prasidan (*appreciating achievement*), 11) menyama braya (*friendly*), 12) shanti (*peace-loving*), 13) literature (*fond of reading*), 14) mulat sarira (*self-reflection*), 15) palemahan (*caring for the natural environment*), 16) Jengah (*determined to achieve*), de ngaden awak bisa depang anake ngadanin (*humble and polite*), and 18) anteng (*hard work*).

The data on the validity of assessment instruments were analyzed descriptively and given qualitative meaning by using the qualification conversion guidelines as in Table 1 below [24].

Table 1: Conversion Guidance for the Qualification of Validity of Learning Device

No.	Score (X)	Qualification of Validity
1.	$4.00 \geq X \geq 3.50$	Very Valid
2.	$3.50 > X \geq 2.50$	Valid
3.	$2.50 > X \geq 1.50$	Invalid
4.	$1.50 > X \geq 1.00$	Very Invalid

The data on the formation and development of students' characters were collected through the self assessment with scoring rubrics as follows: [4].

Score 1 (not shown), if learners exhibit character traits as stated in indicator <25%; Score 2 (started to appear), if learners exhibit character traits as stated in indicators between 25% - 50%; Score 3 (started to grow), if learners exhibit character traits as stated in indicators between 50% - 75%; Score 4 (cultured), if learners exhibit character traits as stated in indicator $\geq 75\%$.

According to Koestoro and Basrowi [25], to know the height or low reliability using the following criteria:

0.8 - 1,000 = very high

0.6 - 0.799 = high

0.4 - 0.599 = enough

0.2 - 0.399 = low

< 0.200 = very low

The data on the development of students' characters obtained through self-assessment were analyzed descriptively and given a qualitative meaning by using the qualification conversion guidelines as in Table 2 below [4].

Table 2: Conversion Guidance of Qualification of Students' Character Score

No.	Score Interval (X)	Character Qualification
1	$X < 1.5$	Not Shown (N S)
2	$2.5 > X \geq 1.5$	Started to Appear (S A)
3	$3.5 > X \geq 2.5$	Started to grow (S G)
4	$X \geq 3.5$	Cultured (C)

3. RESULTS AND DISCUSSION

3.1 Results

The results of the research were: (1) The validity and reliability of character assessment instruments, (2) School's cultures in junior high school, (3) Junior high school students' characters

3.1.1 The Validity and Reliability Instrument Assessment of School's Cultures Character and Junior High School Students' Character

The assessment instrument of character education arranged could be classified into three groups, namely (1) instrument to measure school's cultures character, (2) instrument to measure students' character through class cultures, and (3) instrument to measure character through learning. However, the instruments for measuring class cultures, and classroom learning were so difficult to distinguish that the character cultured through the classroom culture and learning was incorporated. The results of the validity and reliability of the character education assessment instruments were as follows.

a) Character education instrument related to school's cultures and class according to teachers' perception

The character education instrument related to schools' cultures and class (instrument filled by the teacher) result was: the test result of validation of expert / practitioner showed that all items were in a good category where 66.7% had an average score of 4.0 and 33.3% had a score of 3.0. The validity test in the class, indicating from 21 item, 90.5% correlation coefficient value was above the r-table value where the r-table value was 0.2075. There were 2 items that were not valid that was the number 12 and 19. The reliability test showed that the alpha value (α) was 0.79. In addition, the test of implemmentation showed that the instrument was easy to use by both the teachers and the students.

b) The instruments of school's cultures in character education according to students' perceptions

The school's cultures instrument in character education (filled by the students) showed: the result of the expert/practitioner validation test on the school's cultures instrument in character education obtained 100% of the good category and the average score was 4.0. The test validity of 8 items, 100% of the correlation coefficient was greater than r- table. The test reliability showed the value of alpha (α) was 0.51. Its implementation test showed that the instrument was easy to do by both the students and the teachers.

c) The character instruments based on local wisdom of Bali according to students' perceptions

The local culture-based character instrument (filled out by the students) showed: the result of expert validation test/practitioner of local culture-based character instrument (filled by the students) obtained 79.4% had an average score of 4.0 and 20.6% had an average score of 3.0 and overall was a good category. From the validity test in the class, it was obtained that the results from 70 items about 98.6% correlation value was greater than r table (valid), only 1 question was not valid that was the number 3. Its implementation test showed that this instrument was easy to use by the students and the teachers.

d) The instruments of spiritual and social attitudes based on peers' assessment

The instruments of spiritual and social attitudes (peer ratings) showed: the test results of expert validation/practitioners of the instruments of spiritual and social attitudes 63.2% questions which average score was 4.0 and 36.8% had the average

score of 3.0 and overall was a good category. The validity test in the class showed the 16 items used 100% the correlation value was greater than r table. From the reliability test, it was obtained that the alpha value (α) of 0.84. The implementation test showed that the instrument was easy to use by both the students and the teachers.

e) The instruments of students' spiritual and social attitudes based on students' self-assessment

The instruments of students 'spiritual and social attitudes (self-assessment of students) showed: the validity test result from the practitioner of instrument of students' spiritual and social attitude (self-esteem) it was obtained 68.5% had an average score of 4.0 and 30.5% had an average score of 3.0 and overall was a good category. From the class validation test, it was obtained from 19 items, 84.2% of the correlation value was greater than the r-table value. Only 3 items that were the number 7, 14, and 15 which the correlation coefficient value was smaller than r table. The reliability test showed the value of alpha (α) 0.46. Its implementation test showed that the instrument was easy to use by both the students and the teachers.

3.1.2 An Overview of School's Cultures and Students' Character

This section presented the general portrait of the school's cultures and the students' character at SMP Negeri 1 Singaraja based on the views of teachers and students through self-assessment and peers ratings through mobile phones. The results were presented in Table 3 below.

Table 3: Measurement Results of Various Character Variables at SMP N 1 Singaraja

No.	Components of Character	Average Score	Category
1.	The character of school and class culture (assessed by the teachers)	4.5	Very Good
2.	The character of school's cultures (assessed by the students)	4.2	Good
3.	The spiritual and social attitudes (assessed by the students' peers)	3.0	Moderate
4.	The spiritual and social attitudes (self-assessment)	3.7	Good

The measurement results in Table 3 could be visualized through a mobile phone application that was an Android application which could be seen in Figure 1 as follows.



Figure 1: The Measurement Results of Various Character Variables at SMPN 1 Singaraja Obtained through the Use of an Android Application

3.1.3 The Character of School's Cultures at SMP N 1 Singaraja

The character of school's cultures was measured through self-assessment conducted by 28 students (one class) of class VII, 28 students (one class) of class VIII, and 30 students (one class) of class IX at SMP Negeri 1 Singaraja. This section presented specifically the character of the school's cultures related to the dimensions of violence and threats both physically and emotionally or emotionally. The character of school's cultures was described in seven dimensions: 1) physical violence 2) emotional or emotional violence 3) Threats among students to the physical matters, 4) threats among students to the emotions or feelings, 5) disrespect, 6) violent treatment of students against other students physically or emotionally, and 7) experiences as victims of violence in school. The results were presented in Table 4 below.

Table 4: The Character of School's Cultures at SMP Negeri 1 Singaraja (N = 86)

No.	School's Cultures Dimensions	Average Score	Category
1.	Physical violence	1.64	Rarely Happened
2.	Violence to the emotions or feelings	3.43	Sometimes Happened
3.	Threats among students to the physical matters	2.39	Rarely Happened
4.	Threats among students to emotions or feelings	2.96	Sometimes Happened

No.	School's Cultures Dimensions	Average Score	Category
5.	Disrespect	1.79	Rarely Happened
6.	Violent treatment of students against other students physically or emotionally	2.07	Rarely Happened
7.	Experiences as victims of violence at school	1.18	Very rarely Happened
Mean		2.21	Rarely Happened

The measurement results in Table 4 could be visualized through a mobile phone application that was an Android application which could be seen in Figure 2 below.



Figure 2: The Measurement Results of School's Cultures Characteristics at SMP Negeri 1 Singaraja through the Use of an Android Application

3.1.4 Students' Spiritual Character and Social Attitude

The results of self-assessment on the spiritual character and social attitudes of the students conducted by 86 students (three classes) of SMP Negeri 1 Singarajawere presented in Table 5 below.

Table 5: The Character of Schools' Cultures At SMP Negeri 1 Singaraja (N = 86)

No.	Students' Character Dimensions	Average Score	Category
1.	Spiritual attitude	3.65	Became a Culture/ Started to be Consistent (SC)
2.	Hard work	2.97	Started to Develop (SD)
3.	Carefulness	2.77	Started to Develop (SD)

No.	Students' Character Dimensions	Average Score	Category
4.	Cooperation	2.70	Started to Develop (SD)
5.	Discipline	2.43	Started to Appear (SA)
6.	Responsibility	3.55	Became a Culture/ Started to be Consistent (SC)
7.	Honesty	1.55	Started to Appear (SA)

The measurement results in Table 5 could be visualized through a mobile phone application that was Android that could be seen in Figure 3 below.



Figure 3: The Result of Measuring Spiritual Character and Social Attitude of the Students at SMP Negeri 1 Singaraja Using the Android Application

3.2 Discussion

Based on the results of research that has been described previously, then there are some things that need to be discussed in full as follows.

After the validation by the experts on character education instruments related to school's culture and class according to teacher perception was the result shows all the items are in good category where 66.7% average score 4.0 and 33.3% average score 3.0, so that the item is valid and does not need to be revised. Based on the reliability test results showed alpha value (α) of 0.79, this indicates that the instrument is reliable and feasible to use.

After the validation by the expert on the character education instrument according to the students' perception, the result shows that all items are in good category where 100% item is in good category with the average score of 4.0 so that the item is valid and does not need to be revised. Based

on the reliability test results showed alpha value (α) of 0.51, this indicates that the instrument is enough reliable and enough feasible to use.

After validation by experts to the local culture-based character instruments according to students' perceptions, the results show that all items are in good category, where 79.4% of the average score is 4.0 and 20.6% the average score is 3.0 so that the item is valid and no revisions are necessary. Based on the reliability test results showed alpha value (α) of 0.96, this indicates that this instrument is very reliable and very feasible to use.

After validation by experts on the instruments of spiritual and social attitudes according to peers' perceptions, the results show that all items are in good category, where 63.2% of the average score is 4.0 and 36.8% the average score is 3.0, so the item is valid and does not need to be revised. Based on the reliability test results showed alpha value (α) of 0.84, this indicates that this instrument is very reliable and very feasible to use.

After validation by the experts on the instruments of spiritual and social attitude of the students according to the students' own perceptions, the results show that all the items are in good category, where 68.5% of the average score is 4.0 and 30.5% the average score is 3.0, so the item is valid and does not need to be revised. Based on the reliability test results showed alpha value (α) of 0.46, this indicates that the instrument is enough reliable and enough feasible to use.

Based on the data in Table 3, it can be concluded that:

- 1) According to the view of teachers of SMP Negeri 1 Singaraja, the character of school's cultures was in a very good category. This condition indicated that the behavior of all school's communities (principals, teachers, students, and staff) was very positive, related to religiosity, discipline, honesty, responsibility, respect, caring, openness, empathy, cooperation and so on.
- 2) According to the view of students of SMP Negeri 1 Singaraja, the character of school's cultures was good categorized. That was, in general, the behavior of all school's communities, whether it was related to the attitude of religiosity, respect, caring, openness, cooperation, mutual help, school order, and so on was good.
- 3) The students' spiritual and social attitudes based on peer ratings were in the moderate category. This meant that there was still some dominance of students' social attitudes such as discipline,

honesty, responsibility, empathy, hard work, and respect that still needed guidance.

- 4) Based on the self assessment, spiritual attitude and social attitude of students were already in the good category. However, spiritual attitudes and social attitudes of the students still needed to be improved in order to be very good or to be a culture in their lives.

Based on the results of the data analysis as listed in Table 4, it could be concluded that in general, the school's cultures in SMP Negeri 1 Singaraja were in a good category, although there were also negative behaviors but the intensity was rare. The thing that needed attention was the violence to the emotions or feelings. What needed to be done was a more intensive character building to all school communities so that the school condition would become comfortable and conducive.

Based on the result of self-assessment on the spiritual character and social attitude of students that have been shown in table 5, it can be taken the general conclusion as follows:

- 1) The spiritual attitudes of the students were already in the category of became a culture/ started to be consistent (excellent), which meant that the moral and piety towards the Almighty God had become parts of their life.
- 2) The attitude of the students' responsibilities was already in the category of became a culture/ started to be consistent (excellent). This showed that the culture of responsibility had become a part of everyday life.
- 3) The social attitudes of hard work, carefulness, and cooperation were in the category of started to develop (good). This condition showed that the attitude of hard work, carefulness in thinking and acting, and cooperation and other school communities were good, but had not become fully a culture in everyday life.
- 4) The attitude of students' discipline was in the category of started to appear (low), meaning that students still made various violations of the rules or norms that had been established at the school. The disciplinary behavior displayed by students was still in the range 25% to 50%.
- 5) Students' honest attitude was at the category of started to appear (low), which meant that the students' honest behavior shown in their daily life was still less than 25% to 50%

The weaknesses found in previous studies by Sutijan, Makhfud, Lestari, and Chumdari in 2015, Setiawati in 2007 and Gaol in 2014, where their research has not been able to show the character assesment aspects base on local wisdom, have

already answered through the merits in this study. The merits in this study is able to answer the calculating process of effectiveness level quickly and accurately using the character assessment instruments with Bali local wisdom base on mobile phone, where the existing instruments on mobile-based devices are able to assess the school's culture and students' character with local wisdom. The aspects of character assessment with local wisdom are specifically able to measure several things such as: a) *Religious attitudes*, these attitudes were taught in school and were taught to the Balinese through the value of Tri Hita Karana (the three things that caused happiness, which was, the humans' relationship with God, the humans' relationship with other human beings, the humans' relationship with nature). In this value, in addition to teaching the piety of God, it also taught humans to interact with the natural environment and social environment; b) *Honesty*, this attitude was demanded in the school's curriculum (especially curriculum of 2013) and became a character indicator. This attitude was also taught through Balinese cultures, that was Satyam value (truth). Through this value, the society was expected to always uphold the truth in their life. In addition, this truth was in accordance with Dharma value which meant that people always had to do right. One of the righteous deeds was honesty. The hope put in carrying out this attitude and behavior was that people who did so, had good karma so hopefully they would get a good reward as well; c) *Responsibility*, an indicator of this character was in accordance with the demands of the school's curriculum (especially curriculum of 2013). In Balinese cultures, the responsible attitude was Swadarma. All people were expected to always run their swadarma which meant, carrying out obligations in accordance with responsibilities. This attitude was a good attitude that trained someone to remember his/her responsibilities so that someone would be appreciated in his life; d) *Tolerance*, was an attitude that the curriculum required. In addition, this attitude was taught through Balinese cultures that was Sesana Manut Linggih, which meant that we understood the actions of a person, to the actions of a group of people, where the act was in accordance with the responsibilities, duties, and the need, although the action was not in accordance with the desire of others. Therefore, one should understand why a person committed the act or activity; e) *Care*, was the attitude that the school's curriculum (especially curriculum of 2013) expected to achieve. In Balinese cultures, this caring attitude was differentiated into caring for the

natural environment and caring for humanity. Caring attitude towards the natural environment was taught through Tri Hita Karana values. This environment caring attitude was expected to be in the students, thus they would do to keep the environment sustainable and balanced in accordance with the functions and benefits of the natural environment. The attitude to care for others was an attitude that always existed thus students were not selfish and did not want to prioritize themselves more than others.

The demerits or limitations found in this research, especially about the mobile phone utilization to measure character education was this application had not been able to provide a description of the decision about the dominant aspects that led to the increase in the character in Junior High School in terms of the cultures and the local wisdoms.

4. CONCLUSIONS AND SUGGESTIONS

Based on the problems, and the research findings, it could be taken some conclusions as follows:

- 1) Mobile phone-based character assessment instruments with local wisdom, based on desk evaluation conducted by 18 senior high school science teachers in Buleleng district had fulfilled the valid and reliable requirements so it was suitable for measuring the character of the school's cultures and the character of the Junior High School students with quick and accurate calculation results.
- 2) In general, the effectiveness level of school's cultures in SMP Negeri 1 Singarajawere in a good category, although there were also negative behaviors but the intensity was rare. Physical violence and experiences as victims of physical violence from the students in the school were very rare. However, violent behavior and threats to emotion or feeling of the students sometimes still occurred. This condition showed that bullying sometimes still occurred in the school.
- 3) The effectiveness level of two dimensions of students' character that were spiritual attitudes and responsibilities were in the category of very good, in the sense that the spiritual attitudes and responsibilities of students already became a culture in their life. While the attitude of hard work, carefulness, and cooperation were in a good category, in the sense that the three characters were already in the category of started to develop and going to the category of became a culture. These conditions indicated

that the implementation of character education that was integrated with the program of learning in the classroom and the guidance of character culture in the school had been effective.

- 4) The effectiveness level of two aspects of students' character that were discipline and honesty were still in a low category or in the category of started to appear. Discipline and honesty were two aspects of a character that were not easy to improve. These conditions indicated that the implementation of character education that was integrated with the learning program in the classroom and the guidance of character culture in the school had not been effective to improve the students' discipline and honesty.

Based on the findings and conclusions of this study, the following suggestions were proposed:

- 1) Character education at school should be implemented by integrating it into the learning program for each subject and its success should be measured by using a valid and reliable local wisdom-based character assessment.
- 2) Things that needed more attention were emotional violence was often to happen. Therefore, it was necessary to do character building more intensively to all school communities so that the school's condition would become comfortable and conducive. Schools should present themselves as caring communities in the development of character education.
- 3) It was known that the characters of discipline and honesty were still relatively low. It was necessary to design developed school programs and learning programs that could contribute significantly to fostering students' discipline and honesty.
- 4) It was necessary to develop a mobile phone application that would be able to give a description of the value of the determinants of the increase of character in Junior High Schools which would be viewed from the cultures and the local wisdoms ranging from the smallest to the highest value.

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