Developing a physics textbook based on the local wisdom of Hulu Sungai Selatan regency to train *rakat mufakat* characters

L Fitriah¹, E Ma’rifah² and M Misbah³

¹Department of Physics Education, Faculty of Education and Teacher Training, UIN Antasari Banjarmasin, Jl. A. Yani Km. 4,5 Banjarmasin, Kalimantan Selatan, Indonesia
²STAI Al-Ma’arif Buntok, Jl. Barito Raya Street Kec. Dusun Selatan Kab. Barito Selatan, Kalimantan Tengah, Indonesia
³Universitas Lambung Mangkurat, Jl. Brigjen H. Hasan Basri No.3, RW.02, Pangeran, Banjarmasin Utara, Kota Banjarmasin, Kalimantan Selatan 70124, Indonesia

*Correspondent author : lutfiyanti@uin-antasari.ac.id*

**Abstract.** This research was conducted due to the unavailability of textbook in Basic Physics 1 course especially in heat and temperature topic containing the South Kalimantan local wisdom so that students did not understand their culture well. Furthermore, students’ learning outcome were still not good. Therefore, this study aimed at producing physics textbook that contained heat and temperature topic based on the local wisdom of Hulu Sungai Selatan (HSS) Regency in South Borneo Province which was feasible based on the validity, the effectiveness, and the attainment of *rakat mufakat* characters. This study was a research and development using the ADDIE model. The instruments used were validation sheet, questionnaire, and achievement test. The results showed that the validity of the textbook was in highly valid category, the effectiveness was in medium category, and the attainment of *rakat mufakat* character was in very good category. Therefore, it could be concluded based on this research that the physics textbook based on local wisdom of HSS Regency is feasible to use in Basic Physics 1 course to train *rakat mufakat* characters.

**Keywords:** Local Wisdom, Rakat Mufakat, Textbook

1. Introduction

Heat and temperature is one of the topics that is learnt by the college students of prospective physics teacher on Basic Physics 1 course. The topic is important to learn. The college students should master it well because this topic is the basis in comprehending concept and principle of Thermodynamics [1]. Furthermore, a good material mastery on this topic is required due to this topic is widely used in everyday life, for example in weather forecast, cooking process, and measuring body temperature when fever [2].

Unfortunately, students have not be able yet to master the topic of temperature and heat well. It could be proved from students learning outcomes average that had learnt the topic and even had followed Thermodynamics course only for 38.10. This is also in line with the result of research [3] which shows how low students learning outcomes on this topic. In addition, students still experience misconceptions, such as object’s temperature rises while changing form, final temperature of the mixture of two different objects temperature is the average temperature of the initial temperature of two objects, and temperature
can be absorbed and released by objects. This is in line the other research that showed that only 22.9% of 12 college students had true scientific knowledge on that topic [4]. Then, the misconception on heat and temperature topic is difficult to remove [5]. Besides that, students haven’t be able to explain the relationship between the concept of heat and temperature with daily events and they also have not solved the calculation problem correctly. This is in line with the results of the study of [6] which shows that students can not explain the phenomenon of heat and temperature in everyday life correctly.

One way for students to easily understand the concepts and principles of physics is to link it with the local wisdom that is often encountered. Physics learning that makes local wisdom as a source of learning will make students motivated to learn so that the mastery of student concepts becomes better [5, 7, 8]. Then, local wisdom taught in harmony with modern science will strengthen student’s thinking about their surroundings so that the inculturation process occurs [9]. In addition, local characters can also be trained to students through the application of learning based on local wisdom [5, 7, 8]. This is in accordance with the education purpose which is not only to improve one’s intelligence but also to build his character [10, 11]. Thus, learning becomes a process of transfer knowledge and cultural inheritance to students [12].

However, based on observation made at the Physics Education Department at one of the Islamic universities in South Kalimantan it was known that the lecturer has been teaching without connecting the topic of heat and temperature with local wisdom. Besides that, the lecturer also did not have textbook containing local wisdom. Based on a questionnaire filled out by 33 students, it was known that only 21.21% were familiar with local wisdom in South Kalimantan, specifically from Hulu Sungai Selatan regency, namely the character of rakat mufakat. All of them know about the typical traditional cuisine of Hulu Sungai Selatan regency, that is katupat Kandangan [13, 14]. However, they did not know the concepts and principles of physics involved in the proces of making and serving this dish. Whereas, the process of making and serving is very closely related to the concepts and principles of heat and temperature. Character of rakat mufakat itself is also reflected in the process of making and serving this dish. Rakat mufakat is a slogan of HSS regency [15]. The word of rakat means union and mufakat means deliberation [16]. The character values of rakat mufakat with the indicators of the spirit of togetherness, love for peace, democratic, and cooperative can be trained in lecturing activities.

One of the printed teaching materials is a textbook. Textbook are teaching materials that support the implementation of lectures so that learning can run effectively [11]. Textbook becomes standard reference and basic reference on certain subjects that is the source of teaching material, arranged systematically and simply, and accompanied by learning instructions [17]. This textbook acts as a bridge in connecting local wisdom with the physics topics discussed [15]. Based on research result of [18] it is known that textbook containing local wisdom can improve student learning outcomes. In addition, research of [19] proves that teaching material that is loaded with local wisdom is able to develop noble character in students. According to the explanation above, the researchers aimed to conduct research and development of physics textbook containing heat and temperature topic based on the local wisdom of HSS regency to train rakat mufakat characters. This research was richer and wider than researches before because most of the previous researches developed modules while this research developed textbook that has International Standard Book Number (ISBN). Then, the textbook developed was arranged in such a way as to contain the relevance of physics and local wisdom of making and serving of katupat Kandangan. In addition, this textbook persuaded students to practice rakat mufakat character which was reflected in the making and serving of katupat Kandangan. Futhermore, the textbook explained concepts of heat and temperature in the process of making and serving katupat Kandangan accompanied by illustrations of images contained in books and videos that can be downloaded by students through the website address listed in the textbook. This study aimed at producing physics textbook of heat and temperature topic based on the local wisdom of Hulu Sungai Selatan (HSS) Regency in South Kalimantan Province which was feasible based on the validity, the effectiveness, and the achievement of rakat mufakat characters.
2. Research Method
This research was a research and development using ADDIE model [20, 21] that consisted of five steps. This research did all steps because the development of teaching materials carried out by following all of these steps were proven to produce quality teaching materials [5, 7]. This research was conducted in June 2019 to February 2020. The research subjects were 18 students of prospective physics teacher coming from Physics Education Department at one of the islamic universities in South Kalimantan who taking Basic Physics 1 course on the topic of heat and temperature in the academic year 2019/2020. They were selected using a purposive sampling technique. The steps of this research and development can be seen in figure 1.

The product developed in this research was the physics textbook containing heat and temperature topic. Data collection techniques were observation, tests, and questionnaire distribution [19]. As for the instruments in the form of validation sheets, achievement test, and questionnaires [19]. The textbook validity was taken from the validation results of two experts. Textbook validation consisted of content, presentation, and language aspects [18]. Each aspects was divided into several subcomponents which were adapted from [22]. Validation results were further categorized based on criteria [23]. As for the use effectiveness of textbook obtained from the results of pre-test and post-test. The tests were validated by two experts and categorized based on criteria [23]. Furthermore, the textbook effectiveness was determined by using Average Normalized Gain (N-Gain) and criteria from [24], paired samples t-test, and effect size (d) based on the equation and criteria of [25]. Achievement of the rakat mufakat character was obtained from the results of a questionnaire in the form of peer assessments. The questionnaire were validated by two experts and categorized based on criteria [23]. Furthermore, the achievement of rakat mufakat criteria was determined based on the average questionnaire score [19] and categorized based on criteria [23].

Figure 1. The steps of research and development of ADDIE model.

| Analyse | Design | Development | Implementation | Evaluation |
|---------|--------|-------------|---------------|------------|
| Needs analysis, problem clarification, solution proposal to solve the problem, and setting goals for developing textbook | Determination of course learning outcomes and expected final abilities, determination of lecture indicators, and selection of learning strategies and assessment instruments | Development of teaching materials, development of assessment instruments, and expert validation instruments | Use of teaching materials in Basic Physics 1 lectures. This application consists of four face-to-face meetings with time allocation for 150 minutes for each meeting | Formative evaluation, summative evaluation, and textbook revisions |
3. Result and discussion
The product developed in this research was a physics textbook on the topic of heat and temperature based on the local wisdom of the Hulu Sungai Selatan regency, namely the process of making and serving the *katupat Kandangan* and character of *rakat mufakat*. Books developed based on criteria [22]. Physics textbook generally consisted of covers, table of contents, chapter of contents, bibliography, and appendix. The contents chapter consisted of 5 chapters, namely introduction (description, instructions for using the book, attitudes that reflected the character of *rakat mufakat* that must be applied by students during lecture, maps of book sections, and indicators of success, learning 1: temperature and expansion, learning 2: relationship between heat and changes in temperature and object form, learning 3: Black’s principle, and learning 4: heat transfer. Learning 1 to 4 contained a description of physical material and there were also subsections of *Telaah Soal* (question example), *Aku Seorang Fisikawan* (practicum procedure), *Khazanah Banua* (local wisdom information of South Kalimantan, especially those related to the *Katupat Kandangan* and *rakat mufakat* character), *Wawasan Nusantara* (local wisdom information of Indonesia, especially various traditions related to *ketupat*), *Menggali Cakrawala Hikmah Rakat Mufakat* (explanation of the character meaning of *rakat mufakat* and its relation to the process of making and serving *ketupat Kandangan* and the verses of the Qur’an), *Menggali Cakrawala Hikmah Ilmu Fisika* (explanation of physics material relationship with the verses of the Qur’an), *Fokus Katupat* (a concept explanation of heat and temperature contained in each process of making and serving the *katupat Kandangan*), *Arena Latih* (question exercises done in groups to train the *rakat mufakat* character and make a concept map), *Ruang Kuis* (chapter evaluation), conclusions, and *Sang Ilmuan* (information about physics scientists who have contributed to the development of heat and temperature concept). The physics textbook section that contained local wisdom were every explanation of physical material about heat and temperature in each chapter, *Khazanah Banua* (local wisdom information of South Kalimantan), *Menggali Cakrawala Hikmah Rakat Mufakat* (explanation of the character meaning of *rakat mufakat*), *Fokus Katupat* (explanation of heat and temperature contained in each process of making and serving the *katupat Kandangan*), and *Arena Latih* (question exercises). The cover and the example of physics textbook part that contains local wisdom is can be seen in figure 2.

![Figure 2](image-url)

**Figure 2.** The cover and textbook section that linked local wisdom from HSS Regency, that was the process of making and serving *katupat Kandangan* and *rakat mufakat* character with the topic of heat and temperature [26].

3.1 Textbook validity
Based on the validation result of the content, presentation, and book linguistic aspects it was known that the textbook validity was very valid. Thus, there was a compatibility between the content, presentation, and linguistic of book with guidelines for the content development, presentation, and linguistic of books.
This validity also signified a textbook developed according to student’s needs and conditions [28] as well as feasible and could be actually used in lecture [29]. The high validity showed physics textbook could be used in lectures because they had a strong theoretical basis and internal consistency [30]. This statement was in line with [31] which stated the validation result showed that in theory the textbook was appropriate to use in lectures so that it could be used by lecturer and students [32]. Furthermore, the book would support the lecture effectiveness [33]. The validation result of the physics textbook can be seen in table 1, table 2, and table 3.

**Table 1. Validity of book content.**

| Assessment aspect                                      | Average score | Category     |
|--------------------------------------------------------|---------------|--------------|
| Dimension of spiritual attitude                        | 5.00          | Highly valid |
| Dimension of social attitude                           | 5.00          | Highly valid |
| Material scope                                         | 4.50          | Highly valid |
| Material accuracy                                      | 4.13          | Valid        |
| Update and contextual                                  | 4.75          | Highly valid |
| Obedience to law and legislation                       | 5.00          | Highly valid |
| Science integration                                    | 5.00          | Highly valid |
| Material suitability                                   | 4.50          | Highly valid |
| Skill dimension                                        | 4.25          | Highly valid |
| Average validity                                       | 4.77          | Highly valid |

**Table 2. Validity of book presentation**

| Assessment aspect                                      | Average score | Category     |
|--------------------------------------------------------|---------------|--------------|
| Presentation technique                                 | 4.63          | Highly valid |
| Supporting presentation of material                    | 4.17          | Valid        |
| Learning presentation                                  | 4.70          | Highly valid |
| Presentation completeness                              | 4.90          | Highly valid |
| Format                                                 | 4.50          | Highly valid |
| Organization                                           | 4.83          | Highly valid |
| Attractiveness                                         | 4.25          | Highly valid |
| Font’s shape and size                                  | 4.83          | Highly valid |
| Average validity                                       | 4.70          | Highly valid |

**Table 3. Validity of book linguistic.**

| Assessment aspect                                      | Average score | Category     |
|--------------------------------------------------------|---------------|--------------|
| In accordance with student development                 | 4.50          | Highly valid |
| Communicative                                          | 4.50          | Highly valid |
| Dialogic and interactive                               | 4.50          | Highly valid |
| Coherence and mindset compatibility                     | 4.75          | Highly valid |
| Conformity with Indonesian rules                       | 4.50          | Highly valid |
| Using technical term and symbol/sign                    | 5.00          | Highly valid |
| Straight forward                                       | 4.67          | Highly valid |
| Average validity                                       | 4.64          | Highly valid |

3.2 **Textbook effectiveness**

Student learning outcomes can be seen in table 4.

**Table 4. Student learning outcomes.**

| Pretest average score | Posttest average score | N-Gain | Effect size | t_calculate | t_table | Sig. (2-tailed) |
|-----------------------|------------------------|--------|-------------|-------------|---------|----------------|
| 9.09                  | 70.02                  | 0.67   | 4.45        | -17.447     | 2.11    | 0.000          |
These results indicated that the N-gain was in the medium category. Similar results were obtained in the study [11]. Based on this matter, it was known that the physics textbook is quite effective to be used to improve student learning outcomes [33] and could help students in achieving their lecture objectives [11]. This result also showed that student activities during lectures going well, student responses to physics textbook were positive, lecturers had good abilities in managing the learning process, and students could master the material well too [19]. In addition, in terms of the effect size calculation it was known that the use of textbook in lectures had a strong enough effect to improve learning outcomes [34]. Improved learning outcomes were also seen based on paired t-test which showed a significant difference between pretest and posttest. This means there was an increase in student learning outcomes after using textbook that were developed [11] because students understood the book contents [35].

The increase in learning outcomes was due to several things. First, through physics textbook developed, students could more easily understand the topic of heat and temperature [11, 18]. This was caused by the local wisdom contained in the textbook rooted in student’s life as a form of direct experience that was contextual, concrete, and relevant to the culture in their environment so that they accepted the lessons and applied them more easily, helped to understand the concept contextually and correctly, and made them to get meaningful learning [33, 36] because the object learned could be found in the environment [37]. Secondly, examples of the application of heat and temperature topic could be seen in everyday life, that was in the process of making and serving *katupat Kandangan* through the pictures and information contained in the textbook so that it helped students master the concept [11]. Thirdly, pictures and information about the process of making and serving *katupat Kandangan* could motivate students to learn the book [11, 18, 33]. Fourth, the textbook developed were colorful so they could attract the students’ attention to learn them (38). Fifth, learning based on local wisdom attracted and made students enthusiastic so they were happy to learn which further made students actively involved in the learning process so that their understanding became better [39].

### 3.3 Rakat mufakat character achievement

*Rakat mufakat* character was divided into 4 sub-characters, there were spirit of togetherness, love for peace, democratic, and cooperative [40–42]. Then, the results of character achievement can be seen in table 5.

| Character       | Subcharacter          | Meeting | Average | Category |
|-----------------|-----------------------|---------|---------|----------|
| *Rakat*         | Spirit of togetherness| 4.50    | 4.17    | 4.19     | 4.64     | 4.37     | Very good |
|                 | Love for peace        | 4.41    | 4.29    | 4.22     | 4.61     | 4.38     | Very good |
| *Mufakat*       | Democratic            | 4.61    | 4.35    | 4.44     | 4.73     | 4.53     | Very good |
|                 | Cooperative           | 4.49    | 4.37    | 4.37     | 4.66     | 4.47     | Very good |
| Average         |                       | 4.50    | 4.29    | 4.30     | 4.66     | 4.44     | Very good |

According to table 6, it can be seen that the physics textbook developed were able to train students to have *rakat mufakat* character very well. It shows that the textbook developed could make students internalize cultural values, so they were able to develop noble characters. [7]. This was also in line with the research results which showed that local wisdom-based teaching materials were able to help students to apply noble character in learning, because these textbook formed a harmony between knowledge and attitudes that were instilled in order to foster the character values that develop in society [11]. *Rakat*
**mufakat** characters were trained by the physics textbook, especially in introduction section that gave instructions for applying rakat mufakat character during lecture. *Khazanah Banua* section that explained about *Katupat Kandangan* and rakat mufakat character, *Menggali Cakrawala Hikmah Rakat Mufakat* section that explained the character meaning of rakat mufakat and its relation to the verses of the Qur’an, and *Arena Latih* section that contained question exercises done in groups. The characters developed in students must come from local wisdom, because it will support the process of understanding to their surroundings and practice higher-order thinking skills [19]. The noble values of local wisdom that were instilled to students could strengthen their understanding about local wisdom in their region and strengthen their character so that they could respect the local wisdom and helped to preserve it [43, 44]. Inculcation of character based on local wisdom to students is in line with educational goals, which is not only to make students smart but also to make them have noble characters so that they can become good society members [45]. The characters that have been embedded in students then can be applied by them in carrying out various activities in social life [46]. In fact, noble characters which sourced from local wisdom can be used by students to protect themselves from the bad influences that come from foreign cultures, especially in this globalization era [47].

**4. Conclusions and Suggestions**

According to the results of this research it can be concluded that the physics textbook of heat and temperature topic based on local wisdom of HSS regency is feasible to be used to train rakat mufakat character of students of prospective physics teacher. This is supported by the validity of physics textbook that was categorized as highly valid, the effectiveness of the physics textbook was quite good, and the achievement of rakat mufakat character during lecture was very good. Furthermore are researchers are expected to be able to use hot topics and temperature textbooks based on local wisdom of HSS district. Academics need to pay additional attention to the learning period and educational process.

**References**

[1] Malik A, Setiawan A, Suhandi A, Permanasari A, Samsudin A, Dirgantara Y, Suhendi S Y, Sari I M and Hermita M 2019 The development of higher order thinking laboratory (hotlab) model related to heat transfer topic J. Phys. Conf. Ser. 1204 01206 1

[2] Bilgin A K 2017 The effect of fire context on the conceptual understanding of students: “the heat-temperature” Eur. J. Educ. Stud. 3 339

[3] Nottis K E K, Prince M J and Vigeant M A 2017 Undergraduate engineering students’ understanding of heat, temperature, and energy: an examination by gender and major Edu. Rev. A 7 125

[4] Sukarelawan M I, Jumaidi J and Rahman N A 2019 An analysis of graduate students’ conceptual understanding in heat and temperature (H & T) using three-tier diagnostic test Indo. Rev. Phys. 2019 2 9

[5] Wati M, Hartini S, Lestari N, An’nur S and Misbah M 2019 Developing a physics module integrated with the local wisdom of baayun maulid to build wasaka character Int. J. Recent Techno. Eng. 7 720

[6] Canlas I P 2016 Color, temperature and heat: exploring university students mental thoughts Univers. J. Edu. Res. 4 72

[7] Wati M, Rizka P M, Misbah M, Hartini S and Mahtari S 2020 The development of physics modules based on madihin culture to train kayuh baimbai character J. Phy. Conf. Ser. 1422 01200 1

[8] Misbah M, Hirani M, Annur S, Sulaeman N F and Ibrahim M A 2020 The development and validation of a local wisdom-integrated physics module to grow the students’ character of sanggup bagawi gasan masyarakat J. Ilmu Pend. Fis. 5 1

[9] Suastra I W 2017 Balinese local wisdom and their implications in science education at school Int. Res. J. Manag. IT. Soc. Sci. 4 48

[10] Oktaviana D, Hartini S and Misbah M 2017 Pengembangan modul fisika berintegrasi kearifan lokal membuat minyak lala untuk melatih karakter sanggum Berk. Ilm. Pend. Fis. 5 272
[11] Hartini S, Firdausi S, Misbah and Sulaeman N F 2018 The development of physics teaching materials based on local wisdom to train Saraba Kawa characters J. Pend. IPA Indo. 7 130
[12] Selasih N N and Sudarsana I K 2018 Education based on ethnopedagogy in maintaining and observing the local wisdom: a literature study J. Ilm. Peuradeun Int. J. Soc. Sci. 6 293
[13] Rianti A, Novenita A E, Christopher A, Lestari D and Parassih E K 2018 Ketupat as traditional food of Indonesian culture J. Etnh. Foods. 5 4
[14] Normaleni E 2017 The potentiality of tourism resources in Hulu Sungai Selatan Regency, South Kalimantan J. Indo. Tour Dev. Stud. 5 1
[15] Wati M, Hartini S, Misbah M and Resy R 2017 Pengembangan modul fisika berintegrasi kearifan lokal Hulu Sungai Selatan J. Inov. dan Pemb. Fis. 4 157
[16] Leha N 2017 Representasi pendidikan karakter pada motif kain sarisangan khas etnik Banjar di Kalimantan Selatan Prosiding SENASGABUD: Seminar Nasional Lembaga Kebudayaan (Malang) p.132
[17] Akbar S 2016 Instrumen perangkat pembelajaran (Bandung: PT Rosdakarya)
[18] Fitriah L 2019 Efektivitas buku ajar Fisika Dasar 1 berintegrasi imtak dan kearifan lokal melalui model pengajaran Berk. Ilm. Pend. Fis. 7 82
[19] Hartini S, Prahesti L, Dewantara D and Annur S 2019 Developing of physics learning material based on floating market local wisdom Int. J. Recent. Techno. Eng. 7 738
[20] Dick W, Carey L and Carey J O 2001 The systematic design of instruction The Systematic Design of Instruction 5th ed. (New York: Longman)
[21] Welty G 2007 The design phase of the ADDIE model J. GXP Compliance 11 40
[22] BSNP 2014 Instrumen penilaian buku teks pelajaran fisika Sekolah Menengah Atas/Madrasah Aliyah (Jakarta: Badan Standar Nasional Pendidikan)
[23] Widoyoeko E 2019 Evaluasi program pembelajaran: panduan praktis bagi pendidik dan calon pendidik (Yogyakarta: Pustaka Pelajar)
[24] Hake R R 1998 Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. Am. J. Phys. 1 64
[25] Cohen L, Manion L and Morrison K 2007 Research methods in education (New York: Taylor & Francis Group)
[26] Fitriah L 2020 Teladah esensi suhu dan kalor untuk perguruan tinggi: Bernuansa Islam dan kearifan lokal (Kabupaten Banjar: Alra Media)
[27] Hartini S, Misbah M, Helda H and Dewantara D 2017 The effectiveness of physics learning material based on South Kalimantan local wisdom AIP Conf. Proc. 1868 070006 1
[28] Mastuang M, Misbah M, Yahya A and Mahtari S 2019 Developing the physics module containing Quranic verses to train the local wisdom character J. Phy. IOP Conf. Ser. 1171 01201 1
[29] Zainuddin Z, Afniizar H A, Mastuang M and Misbah M 2018 Developing a teaching material oriented to science and technology and local wisdom in wetland environment Adv. Soc. Sci. Edu. Hum. Res. 274 323
[30] Hartini S, Isnanda M F, Wati M, Misbah M, An’Nur S and Mahtari S 2018 Developing a physics module based on the local wisdom of Hulu Sungai Tengah regency to train the murakata character J. Phys. Conf. Ser. 1088 012045 1
[31] Setiawan B, Innatesari D K, Sabtiawan W B and Sudarmin 2017 The development of local wisdom-based natural science module to improve science literacy of students J. Pend. IPA Indo. 6 49
[32] Ardan A S 2016 The development of biology teaching material based on the local wisdom of timorese to improve students knowledge and attitude of environment in caring the preservation of environment Int. J. High. Edu. 5 190
[33] Kurniawati A A, Wahyuni S and Putra P D A 2017 Utilizing of comic and Jember’s local wisdom as integrated science learning materials Int. J. Soc. Sci. Hum. 7 47
[34] Shabrina S and Kuswanto H 2018 Android-assisted mobile physics learning through Indonesian batik culture: improving students’ creative thinking and problem solving Int. J. Instr. 11 287
[35] Parmin P, Sajidan A, Ashadi A, Sukitno A and Maretta Y 2016 Preparing prospective teachers in
integrating science and local wisdom through practicing open inquiry J. Turkish Sci. Educ. 13

[36] Uge S and Neolaka A 2019 Development of social studies learning model based on local wisdom in improving students’ knowledge and social attitude Int. J. Instr. 12 375

[37] Susilawati S, Fikriyah F and Saefudin A 2016 Science education based on Cirebon local culinary food Umr. - Int. J. Islam Civ. Stud. 3 42

[38] Humaidi A and Adrian Y 2017 The development of kayuh baimbai cooperative learning model for elementary school students Adv. in Soc. Sci., Edu. and Hum. Res. 100 13

[39] Atmojo S E 2015 Learning which oriented on local wisdom to grow a positive appreciation of batik jumputan (ikat celup method) J. Pend. IPA Indo. 4 48

[40] Hasan S H, Wahab A A, Hamka H, Kurniawan K, Anas Z and Nurlaili L 2010 Pengembangan pendidikan budaya dan karakter bangsa (Jakarta: Kementerian Pendidikan Nasional: Badan Penerbitan dan Pengembangan Pusat Kurikulum)

[41] Samani M and Hariyanto H 2011 Konsep dan model pendidikan karakter (Bandung: PT Remaja Rosdakarya)

[42] Putry R 2018 Nilai pendidikan karakter anak di sekolah perspektif Kemendiknas Gend. Equal Int. J. Child. Gend. Stud. 4 39

[43] Ardan A S, Ardi M, Hala Y, Supu A and Dirawan G D 2015 Needs assessment to development of biology textbook for high school class X-based the local wisdom of Timor Int. Edu. Stud. 8 52

[44] Anggraini P and Kusniarti T 2017 Character and local wisdom-based instructional model of bahasa Indonesia in vocational high schools J. Edu. and Prac. 8 23

[45] Rasna I W 2017 Reconstruction of local wisdom for character education through the Indonesia language learning: an ethno-pedagogical methodology Theory Pract. Lang. Stud. 7 1229

[46] Alaz N A, Suryani N and Djono D A 2018 A needs analysis of historical learning model to reinforce student’s local character using local wisdom values of Turonggo Yakso art VNU J. Sci. Edu. Res. 34 1

[47] Sugio R and Purwastuti L A 2017 Local wisdom-based character education model in elementary school in Bantul Yogyakarta Indonesia Sino-US English Teach 14 299

Acknowledgments
The author would like to thank for Antasari State Islamic University Banjarmasin which provided fund for publish the textbook. Special thanks are given to Kerukunan Mahasiswa HSS (Unity of HSS Student), Ikatan Kerakatan Keluarga HSS (Unity of HSS Family), and Warung Kaum Katupat Kandangan (Food Stall of Kaum Katupat Kandangan) at Banjarmasin City who have supported this research.