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Preface

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The 7th South East Asia Design Research International Conference (SEADRIC 2019)

Yosep Dwi Kristanto

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Faculty of Teacher Training and Education, Universitas Sanata Dharma, has become the host of the 7th South East Asia Design Research International Conference (SEADRIC 2019) from 25 to 27 July 2019. The conference has served as a forum to bring together researchers from the field of education in studying learning from the design research perspective. The forum emerged in the early 2010s with the first three SEADRIC held in 2013, 2014, and 2015 at Universitas Sriwijaya, Palembang. Subsequent SEADRIC events were held at Universitas Negeri Padang (2016), Universitas Lambung Mangkurat, Banjarmasin (2017) and Universitas Syiah Kuala, Banda Aceh (2018). The SEADRIC 2019 has the first SEADRIC which was supported by the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia.

In bringing SEADRIC 2019 into reality, we have envisioned four core values; rigor, impact, prestige, and service, as the building bricks of the foundation of our effort and hard work. We have accomplished these core values through different aspects of the conference.

In terms of *rigor*, we have ensured that all submitted abstracts have undergone double-blind peer review and had clear criteria for abstract acceptance. These criteria filtered two hundred and thirty unique abstracts into two hundred and twenty-one, whose full paper were further selected by 41 outstanding reviewers from different institutions. This thorough selection process has made this conference the best venue to discuss various topics in education, among others are design research, PMRI, problem-based learning, ethnomathematics and problem-solving.

We have strived for *impact* by collaborating with many high-quality national and international journals, ensuring impactful studies to be included in the conference by funding selected participants to accommodate the geographic diversity of our authors. The journals partnering with us are Journal of Physics: Conference Series, Jurnal Pendidikan IPA Indonesia, Journal on Mathematics Education (JME), Jurnal Pendidikan Matematika, REiD (Research and Evaluation in Education), Infinity Journal, International Journal on Emerging Mathematics Education (IJEME) and LLT Journal: A Journal on Language and Language Teaching, which evidently belong to diverse fields and in turn, wider readership. Furthermore, the impact of our conference has also been ensured through the spread of our authors, who do not only come from different parts of Indonesia, but also from other countries.

We have strived for *prestige* by inviting distinguished speakers who are experts in their fields and have obtained an acknowledgement from the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia. We have five keynote speakers from five different countries, i.e. Prof. Toh Tin Lam (National Institute of Education, Singapore), Dr. Wanty Widjaja (Deakin University, Australia), Dr. Maarten Ludovicus Antonius Marie Dolk (Utrecht University, Netherlands), Dr.

Hongki Julie, M.Si. (Universitas Sanata Dharma, Yogyakarta, Indonesia), and Prof. Dr. Masami Isoda (University of Tsukuba, Japan). Furthermore, we have nine invited speakers along with three workshop instructors. The presentations of those speakers can be accessed from the conference website (https://usd.ac.id/seadr).

In terms of for *service*, we have delivered our best through the committee who have taken the participants' best interests at heart; facilitated all the participants throughout the conference; as well as appreciated and recognized outstanding papers by giving the best paper and best student paper awards. Congratulations to the following papers that have won SEADRIC 2019 best paper and best student paper awards, respectively.

1. Reflective Thinking Skills of Engineering Students in Learning Statistics by R. A. Funny (published at J. Math. Educ. **10** 445–458).
2. The Learning Trajectory of Pattern Number Learning Using Uno Stacko Game by I. Risdiyanti and R. C. I. Prahmana (published at J. Math. Educ. **11** 157–166).

The conference theme of SEADRIC 2019 was "Improving Professionalism and Reflective Thinking through Design Research." It has invited us to reflect on the current educational challenges, e.g. globalization and industrial revolution 4.0 and transform them into opportunities through design research. It has acknowledged the need to develop our professionalism so that we can proactively contribute to the advancement of educational science and praxis. It has challenged us to re-think the design research as a method to make learning and teaching innovation possible, but also as a paradigm in building our capacity for innovation.

In this proceedings, you will find a wide variety of perspectives and research findings with regard to educational design research and other topics in the field of education, and we hope that you will have insightful and fruitful conversations during and after the conference.

Finally, we want to thank Sanata Dharma University; Ministry of Research, Technology, and Higher Education of the Republic of Indonesia; Sogang University and SEAMEO QITEP in Mathematics for their contribution to fund the SEADRIC 2019. We also express our deepest gratitude to the many people who have made the conference possible, i.e. the organizing committee, the steering committee, reviewers, student volunteers, and all conference presenters and participants. Your contributions make educational design research a thriving and sustainable field.

Message from Sanata Dharma University Rector

On behalf of Sanata Dharma University, I feel honored to welcome all speakers and participants of the 7th South East Asia Design Research International Conference (SEADRIC 2019). I also would like to extend my warmest regards to all of you. Let us first thank the Almighty God for the grace we have received in attending this conference. I do hope this conference functions as an effective way to strengthen our role and improve our knowledge contribution as lecturers and researchers. I also wish that the 7th SEA-DR 2019 facilitates a fruitful sharing and exchange of ideas related to the conference's theme on "Improving Professionalism and Reflective Thinking through Design Research."

As a Jesuit University, Sanata Dharma is fully aware of the complexity and dynamics of learning because it is highly connected with identity, culture, and its less structured outcome that is difficult to measure. Moreover, learning in general is not merely about technical endeavor but more mental and spiritual one. The success of learning is much affected by the quality of enthusiasm, curiosity, self-esteem, and mode of dialog enjoyed by both students and lectures. Through such understanding, Sanata Dharma University commits to embrace and implement authentic and contextual learning by adopting unique learning paradigm called Ignatian Pedagogy. Employing Ignatian Pedagogy, learning outcome is directed to fully recognize that students are unique but expected to be a whole person having high *competence* in their field of study, capable of having *conscience* in their feeling and mind, and commit to develop their *compassion* to others. It is 3C in short.

To achieve such learning outcomes, Ignatian pedagogy needs a unique learning dynamic. It should provide enough time, space and attention to facilitate students' multi-sensory experiences from head, heart, and hand. Only through such dynamic, learning would be personalized, authentic, and far from being formalistic. In practice, Ignatian pedagogy requires learning activity that follows a 5 steps cycle: start from understanding context, intensively using and recognizing real past experiences, doing some real related actions, employing comprehensive evaluation, and facilitating in depth reflection. Therefore, I position this conference as a highly relevant response to the recent call to all of us in improving our leaning quality while we are witnessing the rapid change of modern learning that is much influenced by sophisticated smart technology.

I do hope that the conference becomes a good avenue not only to discuss our research findings but also to facilitate a fruitful dialogue in which sharing of knowledge, values and awareness that take place with joy and respect to each other. It is through such an orientation that we can proactively contribute to shape up our new generation for the betterment of our society. May the conference be successful and enjoyable. Thank you.

Johanes Eka Priyatma, PhD
Rector of Sanata Dharma University

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Conference Photos


Given a percentage, you divide by 100 to obtain the fraction. So 39% means ____, 77% means ____
So 40% means ____
Express it to the simplest you obtain ____


1982
Lulus Doctor of Philosophy (Ph.D.)
in Mathematics Education,
SEA-DR 2019


30 : 6
Quotative division: how many times goes 6 into 30
How many groups of 6 can we create?


Dr Wanty Widjaja
DEAKIN UNIVERSITY
REDI
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Peer review statement

All papers published in this volume of *Journal of Physics: Conference Series* have been peer reviewed through processes administered by the proceedings Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.

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Developing teaching materials two-dimensional figure-based on Palembang local cultural context

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Abstract. Developing teaching materials is important to help students in learning mathematics especially for two-dimensional figure by using Palembang local cultural context. The purpose of the research was to develop whether the teaching materials two-dimensional figure-based on Palembang local cultural context are valid, practical, and have potential effect. The research method used research and development (R&D). The research consists of two stages, namely the preliminary stage and the formative evaluation stage. In one-to-one evaluation involved three students. Then, small group evaluation involved 9 (nine) students in the research. Meanwhile, in field test stage involved 29 students. Data collection techniques employed interviews, tests and documentation. The research was conducted in seventh graders at one of junior high school in Indonesia. The results of this study were the developed teaching materials were categorized as valid, practical and have potential effect. The average score of validity content, construct and product design were 3.65 which was very highly valid level. The practicality of one-to-one was 3.47 and small group evaluation was 3.61 which was at very highly practical level. The teaching materials were categorized as effective. It showed that there were 24 students (82.75%) out of 29 students (17.24%).

1. Introduction

Curriculum in Indonesia continuously changes result in mathematics learning encountering a few improvements as well as. Mathematics which is initially abstract is created in such a way that it gets to be something concrete. The Curriculum 2013 required that in the teaching and learning activities for all graders and topics accomplish attitude competency, knowledge, and skills, in all learning process [1]. In order to implement the Curriculum 2013, it would require an innovation in the planning learning process and learning approaches especially in learning mathematics. Mathematics is exceptional fundamental subjects to be well understood by students.

The specified situation has relevance to mathematics; since mathematics is abstraction of the real life. Therefore, it is important for students to connect something abstract to be concrete with real life in mathematics courses [2], [3]. Learning mathematics is very important for solving many problems in human life because learning mathematics is very attractive to improve students' ability dealing with mathematics [4]. One of the abstract concepts in learning mathematics is two-dimensional figure. Two dimensional figure was arranged by a collection of points, lines and fields. The two-dimensional figure is divided into two, namely quadrilateral and triangle. This study specifically discusses on quadrilaterals. The sorts of quadrilaterals such as parallelogram, rectangle, square, rhombus, kite and trapezoid are illustrations of concepts, whereas "parallelogram could be a quadrilateral that has two sets of parallel opposite sides," is an illustration of a definition [5].

Teaching materials plays a critical part in improving student learning outcomes. Subsequently, to improve the quality of learning, it is necessary to develop valid, practical, effective and innovative

teaching materials. However, based on the results of interviews with educators related to the teaching and learning process, educators use teaching materials that are already available that is electronic school books (BSE) as a learning assets without any exertion to arrange and prepare their teaching materials [6].

Numerous educators are still using customary teaching materials, which is teaching materials to understand the materials without any endeavour to compose their own. In this way, it is conceivable on the off chance that the teaching materials used are not relevant, unattractive, repetitive, and not in accordance with the needs, both educators and pupils [7]. Teaching materials make students are more curious in the classes, ended up more dynamic, do more exercise in accordance with their individual qualities, become more successful, encounter real learning, get the chance to collaborate, think critically and improve their issue understanding and imaginative skills [8].

Concrete materials include concrete instantiations of mathematical concepts and mathematical medium such as pictures to serve this point and real objects [9]. These touchable and movable concrete materials are accepted to help in form a clear understanding of mathematical concepts [10]. Therefore, in mathematics learning a teacher should be able to make mathematics into something real.

One of the instruments or learning approaches that can be developed for mathematics is the teaching materials by using local cultural context. There are many local potentials that can be used as investment potentials such as mining and energy, agriculture, plantations, geothermal, forestry, tourist attraction, livestock and ground water. The excellences of South Sumatra Province not only comes from natural factors such as natural resources but also from many local potentials that come from cultural aspects including custom homes, traditional clothing, traditions, dances, special foods and even historical places in South Sumatra [11].

One of the largest cities in South Sumatra is Palembang with the local excellences. The local excellences of Palembang city from the natural aspect consist of the Musi River, the tourism forest of Punti Kayu, Kemaro Island, Kambang Iwak Besak and Kerto Island. Relating to the artificial aspect, the excellences consist of the Carving Center of 19 Ilir, the Woven Handicraft Songket Center of 32 Ilir, OPI Lake, Jakabaring Sport City, OPI Water Fun, Kuto Besak Fortress Plaza, Amanzi Water Park, Palembang Bird Park, Ceng Ho Mosque, Nusa Indah Park, Al Qur'an Al-Akbar, Fantasy Island. Viewed from the historical aspect, Palembang city has a lot of history like Ampera Bridge, Great Mosque, Mayor's Office, Monpera Monument, Kuto Besak Fortress, Siguntang Fort, Balaputra Dewa Museum, Textile Museum, Tomb of Kentik Gravel Grave, Lawang Kidul Mosque, Tengkurep Crater Tomb, Boom Baru, Tomb of Ki Gede Ing Suro, The Archaeological Park of Sriwijaya Kingdom, Kapitan Village, Pertamina Plaju and Gerong River, Silk Air Monument, Sabokingking Tomb, Museum of Sultan Mahmud Badarudin II, Ice Assegaf Factory, Mud River Mosque, Ki Merogan Mosque, Syeh M. Azhari Thousand Island Mosque, Al Mahmudiyah/Saro Mosque, 10 Ulu Temple, Kelenteng Pulang Kemaro, Tomb of Cinde Welang, Makam Bagus Kuning, Kebon Gede Cemetery, Sriwijaya Fertilizer Area, Firma Village, Potato Tuna Area Goa Japan Ario Kemuning, Goa Japan Jalan Joko, Kawasan Sekanak, Kuto Besak Theater, Kertapati Station, Tomb of Ariodila, and AK. Gani Museum [12].

In this research, the researcher chooses limas house, museum, mall, tourist attractions in learning about two-dimensional figure, as illustrated in figure 1. The use of local cultural context is in line with the approach of Indonesian Realistic Mathematics Education. Realistic Mathematics Education (RME) is an interesting hypothesis used in mathematics education, which was put forward by Hans Freudenthal to relate mathematics with real life. In this hypothesis, it is worked on the circumstances in real life, or conceivable happening in real life conditions [13].

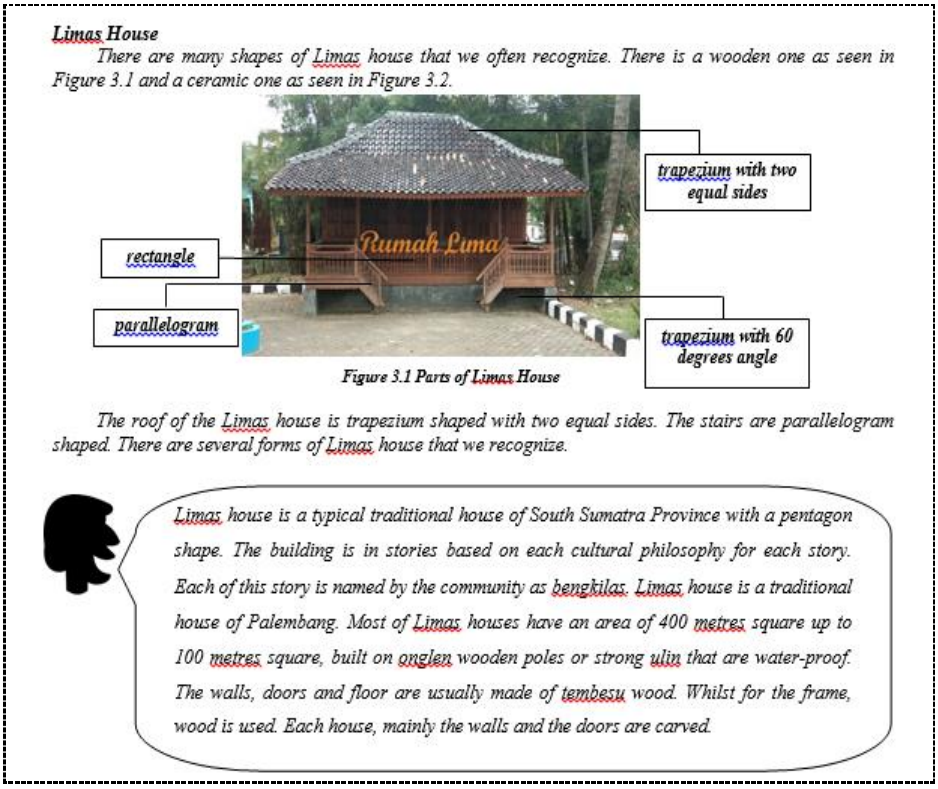

Figure 1. Teaching materials two-dimensional figure based on Palembang local cultural context

2. Experimental Method

The methodology of this research employed research and development (R&D) [14]. To develop valid, practical and have potential effect teaching materials two-dimensional figure based on Palembang local cultural context for junior high school students and to determine potential effects on students in mathematics activity. The study was conducted in two stages phases, namely the the preliminary stage (i.e. preparation and design stages) and the formative evaluation stage (i.e. expert reviews, one-to-one, small group, and field test stages) [15].

At the preparation stage, the researcher decided and dissected the place and subject of study. The researcher moreover surveyed a few of the literary on research development related to this research. Further, the researcher examined the Curriculum 2013 for junior high school associated with the characteristics of RME and teaching materials by utilizing Palembang local cultural context. The researcher also contacted the teachers in the school and inquired the procedure to do research in that school. As regards the prototyping phase, the flow used is formative evaluation, including self-evaluation, expert reviews, one-to-one, small group evaluation, and field tests. The sample of the formative evaluation in Table 1.

Table 1. The formative evaluation design flow described in Figure 2.

No	Staged by Formative Evaluation	Number of Students	Description of the Students
1	One-to-one evaluation	3	1 student for each category, i.e: low, medium, and high Mathematics proficiency
2	Small group evaluation	9	3 students for each category, i.e: low, medium,

			and high Mathematics proficiency
3	Field trial/ field test	29	All the students in a real class
	Total	**31**	**Each stage used a different class**

The formative evaluation design flow described in Figure 2.

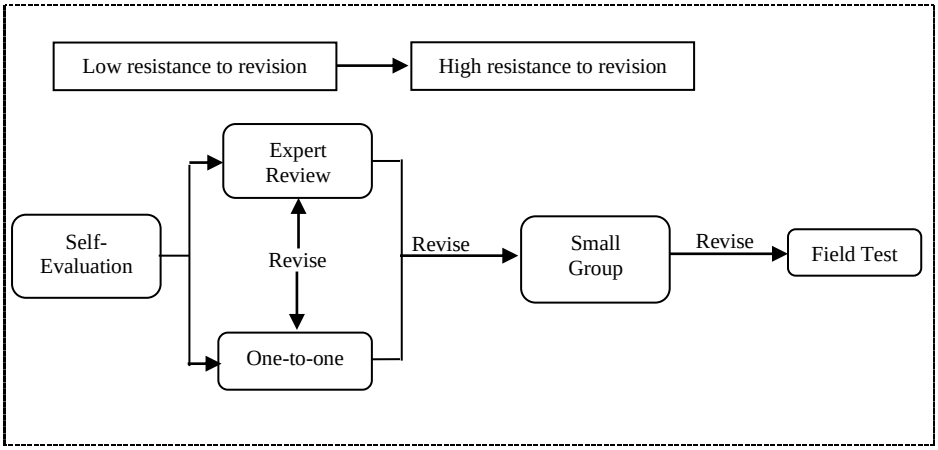

Figure 2. Formative Evaluation Flow [16]

Figure 2 described the stages of formative evaluation: 1) The researcher assessed and examined the draft of prototype 1 in self-evaluation phase. At the stage of self-evaluation, the researcher analysed the data and the prototype of teaching materials adjusted with the standard of the Curriculum 2013; 2) In the stage of the expert review, the prototype 1 was approved by experts to be observed, assessed and evaluated. Expert Validation used in this study is in terms of content, language, constructs. The results of expert review are used to revise the product; 3) In one-to-one phase, the researcher conducted tests to students individually. The results of one-to-one are utilized to revise the first prototype. The results of expert reviews and one-to-one produced the second prototype of teaching materials; 4) In the small group evaluation phase, the researcher produced prototype 2 through revise by experts. The small group evaluation of the test was used to identify the weaknesses and strengths, effectiveness, efficiency, usability, and the interest of the prototype 2; 5) The prototype 3 was then used for the field tests. The field test was conducted in class VII at one of State Junior High Schools in Palembang. The products produced at the field test must meet the quality criteria which comprise of three criteria: validity, practicality and have a potential effect (effectiveness).

Based on the research method used in this study, methods of collecting data in this study were questionnaires, tests, documentation, and walk-through. The questionnaires to know students' need analysis dealing with the teaching materials. The documentation like videos and photos to record the teaching learning process. Walk-through was used for the revision of the first prototype combined with one-to-one to get the second prototype; interviews were conducted to students after the students finished the lesson. The test was used to determine the potential effects of this study.

The teaching materials based on Palembang local cultural context must be valid, practical and have a potential effect. The validity of the instructional materials may be determined by looking at the results of the validation expert (expert review), the interview phase during one-to-one, and the results of the quantitative analysis of items on the phase of a small group evaluation. Meanwhile, the practicality of teaching materials two-dimensional based on Palembang local cultural context can be noted from the observations and interviews in small groups and interviews on the field test with reference to the practical sense. Finally, the potential effects of teaching materials based on Palembang

local cultural context are demonstrated in the results of the field test and interview after the implementation of learning at this stage of the field test.

3. Results and Discussions

3.1. Results

Phases of formative evaluation consist of one-to-one, small group evaluation and field test. The one-to-one evaluation consists of three students: students with low, moderate, and high abilities in mathematics. Before formative evaluation, the researcher validated the teaching materials which are based on Palembang local cultural context. The validation of teaching materials related to Palembang local cultural context consists of validation of content, construct and product design by the experts, as shown in Tables 1, 2 and 3.

Table 2. Recapitulation of Expert Review of Validation Sheet of Content (Content Validity)

The appropriateness of contents with the student characteristic				**The accuracy of content**		**The presentation of content**		**Linguistic aspects of the content**			**Exercises and evaluation aspects**				**Average Score**
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	
4	3	4	3	4	3	4	4	4	4	4	4	3	4	4	3.73
3.50				**3.50**		**4**		**4**			**3.75**				**3.75**

Table 1 describes the recapitulation of content validity from questionnaires comprising fifteen questions, in which the researcher acquires the average score of content validity was 3.75 which was highly valid level.

Table 3. Recapitulation of Expert Review of Instructional Design (Construct Validity)

The appropria-teness between materials and curriculum		**Materials Presentation**						**The appropriate-ness of materials with students' characteristic**						**The appropriat eness between exercise and evaluation**	**The number exercise and evaluation**			**AS**
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	
3	4	4	3	4	4	3	4	4	3	4	4	4	4	3	4	4	3	3,67
3.50				**3.60**						**3.85**				**3**		**3.67**		**3.52**

Table 2 shows the recapitulation of construct validity from questionnaires consisting of eighteen questions and the researcher acquires the average score of construct validity was 3.52 which was highly valid level.

Table 4. Recapitulation of Expert Review of Product Design

Product Design					**Usability**					**Average Score**
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	
4	3	4	4	3	4	4	4	3	4	3,70
		3.60					**3.80**			**3.70**

Table 3 describes the recapitulation of product design from questionnaires consisting of ten questions and the researcher acquires the average score of construct validity was 3.70 which was highly valid level. From table 1, 2 and 3, the researcher acquires the average score of three validities were 3.65. Then, the researcher distributed the questionnaires in one-to-one and small group evaluation to discover the practicality of the teaching materials, as demonstrated in Table 4 and Table 5.

Table 5. Result of Questionnaires in One-to-One Evaluation

Student	**Number of Item**															**AS**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Student 1	3	4	4	3	4	3	3	3	4	4	3	3	4	3	3	3.40
Student 2	3	3	4	3	3	4	4	3	4	3	4	3	3	3	3	3.33
Student 3	3	4	4	3	4	4	4	3	4	4	4	4	4	3	3	3.67
AVERAGE	**3.00**	**3.67**	**4.00**	**3.00**	**3.67**	**3.67**	**3.67**	**3.00**	**4.00**	**3.67**	**3.67**	**3.33**	**3.67**	**3.00**	**3.00**	**3.47**
REMARK	**H**	**VH**	**VH**	**H**	**VH**	**VH**	**VH**	**H**	**VH**	**VH**	**VH**	**VH**	**VH**	**H**	**H**	**VH**

Table 4 demonstrates the result of questionnaires in one-to-one consisting of fifteen questions and the researcher acquires the average score of practicality was 3.47 which was highly practical level.

Table 6. Result of Questionnaire in Small Group Evaluation

Student	**Number of Item**															**AS**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Student 1	3	3	4	3	4	4	4	4	4	4	3	4	4	3	4	3.67
Student 2	3	4	3	4	4	4	4	3	3	4	4	3	4	4	4	3.67
Student 3	3	4	4	4	4	4	3	4	4	3	3	4	4	4	4	3.73
Student 4	4	3	3	3	3	3	4	3	3	3	3	4	4	3	3	3.26
Student 5	4	4	4	4	4	3	4	4	3	4	4	4	4	4	4	3.86
Student 6	3	3	4	4	4	4	4	3	3	3	4	3	4	4	4	3.60
Student 7	4	3	3	4	3	3	3	3	3	4	4	3	4	3	4	3.40
Student 8	3	4	2	4	4	3	4	4	4	4	3	4	3	4	4	3.60
Student 9	4	4	3	3	4	4	4	3	4	3	4	3	3	4	4	3.60
AVERAGE	3.44	3.55	3.33	3.67	3.77	3.55	3.78	3.44	3.44	3.56	3.56	3.56	3.78	3.67	3.89	**3.61**
REMARK	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**	**VH**

Table 5 describes the result of questionnaire in small group evaluation from questionnaires comprising fifteen questions, in which the researcher acquires the average score of practicality was 3.61 which was highly practical level.

3.2. Discussion

This research has developed teaching materials which are based on Palembang local cultural context in the form of Student Activity Sheets (LAS), namely mathematics instructional materials with the topic of two-dimensional figure. LAS begins with understanding the concepts and principles of two-dimensional figure based on Palembang local cultural context.

At the end of LAS, there are questions to practice concepts understanding. In accordance with the research objectives, the teaching materials developed have potential effects on the scientific activities of students in the learning process. Highly visible activity is the activity of observation, reasoning, ask questions, and try to do the working group in Student Activity Sheets (LAS). The following photos show the activities of students in LAS work in groups in Figure 3.

Figure 3. Students observing the stairs in a mall

Figure 3 could be seen that the students work in group solving problems in LAS. In these activities, based on the observation, the students made observations and analyzed the characteristics of parallelogram. In addition, the students conducted reasoning when she/he compose a report on the student worksheet.

Figure 4. Group representatives presenting their discussion result before the class

Figure 4 shows a group of students conducted group presentation. This activity shows that the students do communication.

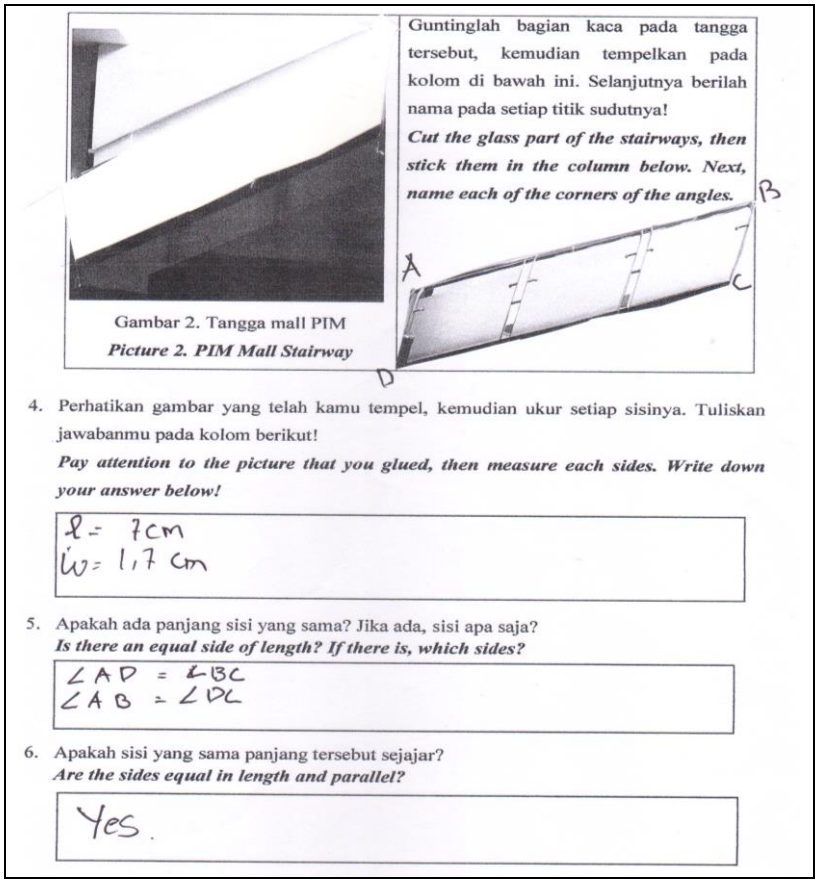

Figure 5. Students' work in mathematics worksheet

Figure 5 interpretation an example of students' work in mathematics worksheet. The student's work shows the activities of the reasoning process. This study is limited to the product development process of teaching material of two-dimensional figure. The product of this research is the teaching materials in the form of student activity sheet (LAS) which has been thought the process of developing appropriate with research methods.

The development of teaching materials is adapted to the demands of the learning in the Curriculum in 2013 based on scientific approach: in the learning process the students must do observation, reasoning, trying, asking, and communicating. This approach is in accordance with the process of oriented learning on problem solving question problems by using local cultural context with RME approach.

In conclusion, based on the experiment in seventh graders at one of junior high schools, it is shown that the RME approach by using local cultural context in developing teaching materials two-dimensional topic. The students were very active and enjoyed learning. It can be underlined that students were effectively within the learning process and developed or constructed the concept of learning through observing, trying, asking, reasoning, and communicating about two-dimensional figure particularly quadrilaterals.

4. Conclusion

Based on the results and discussions, it can be concluded that the teaching materials based on Palembang local cultural context which are developed, in the topic of two-dimensional figure, is in accordance with the characteristics of the curriculum 2013 by utilizing RME approach. Furthermore, based on the research results, it is recommended that teachers can use this teaching learning materials,

because it is in accordance with the characteristics of the Curriculum 2013 and RME approach by using local cultural context. Since this study is restricted to the usage, it is suggested that other researchers may conduct research on the students' learning outcomes.

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