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The Use of Local Context Learning Material in Integrated Teaching and Learning Instruction at Junior Secondary School (JSS): A Case Study in Pekanbaru District, Riau Province, Indonesia

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Abstract
Teaching material plays an important role in teaching and learning instruction. Local context learning material experiences students to grasp and understand their potential culture and social as well as their local natural resources. However, not many teachers particularly Junior Secondary School (JSS) teachers use the local context learning material for their subject of study. Therefore, it is useful to use the natural local context material for integrated teaching and learning instruction for certain subject of study. This study aims to develop an integrated teaching and learning instruction model with a combination of five teaching subjects (Science, Indonesian Language, Social Science, Art Culture, and Craft) in JSS using local context as a theme of subject learning material. Need analysis is based on the results of the questionnaire, FGD, and interview to get the data before setting up a model, then tried out with JSS teachers. This model has proved and changed the method and technique of instructional learning which affects the improvement of students competence and understanding their environment.

Keywords: Learning Material, Integrated Learning, Local Context, Subject Study, Students Competence

Introduction
Learning material plays a very important role in teaching and learning instruction. There are some learning materials that a teacher can use in teaching and learning process, however, most teachers especially Junior Secondary School (JSS) teachers rarely use learning material developed based on the local context. Only a few teachers, particularly social science teachers who use local context as a learning material resource as (Firdaus, Djatmika, and Amirudin 2017) found out that local context as a source of learning material particularly for social science instructional learning is more meaningful and contextual for the learners. Most resource materials are from textbooks, printed newspapers, magazines, or the internet. However, these learning materials rarely talk about the specific natural resource of the local context of each province. As a result, JSS students do not care about their own potential natural resources as well as their culture.

At the present time, most JSS teachers still use the segregated method, not integrated teaching and learning for not the only the context of the material but also the subject study. Teachers only teach learning the material of
their own subject study and do not integrate with other subject studies. This kind of teaching and learning methods do not experience students to understand their own potential natural resource.

In order to experience the JSS students with their natural resource, it needs a model of integrated teaching and learning instruction for the subject of studies (Science, Indonesian Language, Social Science, Art Culture, and Craft) so that the learning will be meaningful for the students. Based on the reality of teaching and learning methods using the segregated technique of teaching of each subject study, it is needed to develop integrated learning based on the potential natural resource for learning material as a theme of several subjects to produce globally competent and skilled graduates.

This model will hopefully inspire teachers to conduct teaching and learning instruction in the class and help school principals and supervisors in conducting academic supervision to help teachers develop and improve their competence and skill of teaching. By implementing the integrated model of teaching and learning based on specific and unique local context as a theme of subject learning material, the students will be taught how to understand their potential natural resources as a whole and become care and love of their own culture, social, environment useful for their national development (Ministry of Education No 7 of 2014).

This teaching and learning model arise their attention and interest in how to maintain their natural resource and use it as a resource life. The intention and motivation of gaining knowledge and skill to make students have a characteristic of maintaining the natural resource using critical thinking, creative, and collaborative in the learning instruction reflects the form of 21st century learning characteristic, as Nichols (2013) states that learning is based on the students centre, collaborative learning, contextual learning, and endeavor to make students understand their society. This four learning principle is now still being taught separately in teaching and learning instruction in the class using different learning materials.

This model of teaching is contradicted with the natural ideas of children's learning in which they start to learning by understanding the whole aspect of their life. Children learn their environment as a unity of all aspect of life. This information and data were gained from the insights observation of the situation in JSS public schools 10 and 13 in Pekanbaru. The researchers were able to talk and discuss with the teachers in these schools so as to ascertain their views of the teaching and learning in general, and especially the use of local context for their teaching material. These meetings contributed valuable insights into methodology, training, materials and books, tests and testing, and all other aspects of the subject study programmes in their schools, as well as their views on how the programmes could and might develop in the coming years.

Learning activities integrating some subject studies motivate students to develop a concept of learning material and think logically to understand complicated problems of their environment and improving their critical thinking such as analyticity, cognitive maturity, CT self-confidence, self-evaluation, open-mindedness, truth-seeking (Hajhosseiny, 2012). However, teachers still teach the learning material of their subject studies independently without integrating with other subject studies.

Based on the problems and issues described, it is important to develop "An Integrated Teaching and Learning Instruction Model Based on Local Context," a learning instruction model which integrates some subject studies on the basis of local context (provincial and district natural resources and culture).

Literature Review

Learning and Teaching

Learning is a process of getting knowledge so that there will be a change of habit to the learners or students (Caplin (1972), Douglas (1978), Reber (1988), Arno (1981) and Skinner in Brown (2000). While teaching is to transfer knowledge or science as well as teaching materials to students. Traditionally, teaching is a process of giving information to students done by informal teacher talk, writing on the board, and demonstrating teaching
material, while students work individually by reading, listening to the teacher's explanation, doing their tasks, solving the problems, writing report, doing activities together with teachers and other students by asking and answering questions and so on. Stern (1983) defines teaching as: "the activities which are intended to bring about language learning." In conclusion, learning refer to the teachers and students' activities on their own roles, so that they will produce an effective learning condition which makes students be able to grasp and understand well about learning material.

In real teaching, a teacher should also concern to other aspects as Gagne and Briggs (1979) suggest that teaching consider learning principles, learning process, learning condition, and memory contribution consisting of intellectual skill, cognitive strategies, verbal information, attitudes, and motor skills. From the definition and the concept of teaching defined above, it can be concluded that teaching is an activity, a way of working with students, and the relationship between teachers students know and understand teaching material well.

**Learning Material**

Learning material plays a very important role in teaching and learning activities. Without learning the material, the learning activities cannot run well even though some teachers use their traditional teaching and learning in which a teacher explains the subject study material without preparing his/her teaching material. He/she usually talks while students listen during the meetings. Learning material can be books, non printed material such as cassette, video module (Richard and Renandya, 2002, Graves, 2000) or authentic material such as fruit that can be brought in the class, or environment around the school or outside the class. Other feasible and effective teaching and learning resources can particularly for language learning material such as in explanatory text writing learning (Lubis, Solin, Saragi (2019). The most important is that the learning material that makes students understand the useful of their potential local natural resources such as 'Selais Fish' in Pekanbaru and other natural resources in some district and provinces. Picture of Selais Fish' below representing the potential local context as a source of learning material of integrated teaching and learning instruction at JSS.

![Picture of Selais Fish’ in Pekanbaru](image)

Next, learning material should stimulate and motivate students to learn (Alan, 1980:8) and easy to learn, meaningful for students, make students self-confidence (Tomlinson, 2001:7-22), and should be written in a style that suits their nature, purpose, and audience (Johnstone and Joughin 1997).

The use of local context for learning material also gives an advantage for students in which they know how to maintain the sustainability of the natural resources for the next generation. In the specific subject study such as the economic subject study, the local context for learning material has given an awareness for students that the natural resources should be maintained continuously. This maintenance using local value costs cheaper than the maintenance of the local natural resource using reforestation or cleaning water pollution (Kurniadi, 2018). By using local context for learning material, students become care and love of their own culture, social, environment useful for their national development (Ministry of Education No 7 of 2014).
Developing a model of teaching and learning instruction

The development of the instructional model, the nine steps of basic and procedure was adapted from Dick and Carrey (1978:5-6): (1) identify the objectives, (2) analyse the aims of the instructional learning, (3) identify the input, (4) write the objective of the performance, (5) develop test item, (6) develop learning instruction strategy, (7) develop and choose learning instruction, (8) design and implement formative evaluation, and (9) revise the learning instruction.

![Diagram showing the nine steps of basic and procedure](image)

Adopted from Dick and Carey. P 3-4.

The chart shows the steps of developing a model of an instructional process, starting from identification of the teaching and learning components. From the identification, then to identify the input and the implementation of the teaching and learning process, followed by deciding the objectives of teaching and learning process. Revising teaching and learning process followed by the designing test criteria, and then design objective of learning strategy, and develop learning material and finally design formative and summative evaluation.

The process of developing a model

The steps of developing a model of instructional learning use the theoretical model as shown in the following figure.

![Diagram showing the process of developing a model](image)

Chart 2: The process of developing a model

This model is developed based on the: (1) theory of instructional learning, (2) the result of need analysis, and (3) reality of teaching and learning in schools. From the combination of the three components, it was developed an integrated model of the teaching and learning instruction of several subject studies using local context.
A draft of the model was set in several activities: analyze and decide potential local context, decide the theme or topic, analyze and decide basic competence, and set up learning material and learning process. The draft was discussed with the experts and teachers of JSS. Then the draft was tried out in the class to see the reliability and acceptability of the model, and then the model was evaluated and revised based on the input of the teachers and students and the real situation in the class.

**Integrated teaching and learning instruction**

An integrated teaching and learning is an approach in learning instruction integrating context and method more than one subject studies to help students understand the context of subject studies. This allows students work individually or work in group to actively find out and analyze the principle of learning holistically and authentically to give students a complete, integrated learning experience, literate teachers and supervisors (Cooper, Orrell, and Bowden, 2010). This method is regarded as a way of normal learning technique for children (Semiawan, 2002), but meaningful learning encouraged if there is not a feeling of safety (Loughran, 2005).

The learning approach using integrated teaching can enhance the learning outcomes of the students indicated by the blue of students exam result (Meizon, 1999). The intention behind work-integrated learning is to produce graduates who are able to integrate, adapt and apply this knowledge across diverse global contexts (Cooper, Orrell, and Bowden, 2010:4).

An instruction learning places students an active learning subject that explores and develop their own potential motivation. Students are asked to contribute to solving the real problem they face by collaborative learning with their colleges. The integration of the multiple disciplines for the common concept and attitude to encourage students to see interconnectedness and interrelation hips among discipline that make students are motivated as they see these connections (Fogarty and Stoehr, 1991). Therefore, it is necessary to value the dialogue, the knowledge, the exchange of experiences and information (Gehlen and Stobäus, 2019), then the integrated teaching and learning in different subject studies make the learners understand the whole concepts of the knowledge that brought into the material of the instruction. Stringer, Christensen, Baldwin (2010) quote the idea of Howard Gardner (2006) and Elliot Eisner (1997) that acculturation enables learners to acquire the particular language, and accepted cultural expectations and norms of social groups of which they are part.

The theory of developing model is not only as a guide to design a model or to develop a learning material but also a guide to developing a learning method and learning evaluation. This theoretical approach should be adjusted to context, condition, and real situation of the teachers and students in the class (Noor, 2007).

An integrated learning instructional model is an instruction which combines subject study with skill, concepts, and attitude interrelated to each other in the several subject studies. This model uses interrelated subject studies approach adjusted to students learning experience in one theme, while other subject studies should be related to the learning material which has been previously discussed or taught from several angels views and knowledge in the planned topic. However, when putting the material in the theme, it should be easy to understand by students. Therefore, the development should be interesting so that students are interested to learn to grasp the knowledge from the learning material.
There are several characteristics of integrated instructional learning: (1) student centre, (2) direct experiences, (3) unseparated of subject studies, (4) uses some concepts of several subject studies in learning process, (5) flexible, (6) learning outcome increase on the student’s needs (Asep, et. al, 2012:1-7). Besides, in the integrated learning instruction, it needs an integrated activity to explore the real object, topic, or theme of the facts or authentic object.

**Local context (province or district context)**

The context here means the atmosphere or condition of the local environment or local culture which means a potential and unique of each district or province. To maintain and use the local environment and culture wisely, there should be an effort to introduce these resources, especially to students, so that they will be able to understand the importance of their culture and environment such as natural resources for their life. This mission should be in the coordination of the provincial and district offices because keep very important role due to their principal works and task of the office. To keep and maintain the mission, therefore it is important for administrators and teachers to support each other to achieving the school’s mission (Soland, Hamilton, and Stecher, 2013).

However, the research found out that most students do not appreciate their culture (Alexon et al. 2010). To respond this research findings, the Indonesia government set up a regulation to use an instructional learning based on the local context which means a potential and unique of each district and province to equip students with attitude, knowledge, and skill needed to understand and love their environment as well as develop local wisdom (Ministry of Education No 7 of 2014). This regulation is set up and explained detail that a potential unique of a district or province could be integrated into the national subject of studies, and make it relevant to instructional learning.

For the time being, most teaching and learning instruction still use textbooks as the main learning material while the teaching and learning activities mostly use the segregated model. The implementation of the segregated learning instruction particularly art and culture subject study, sport, health science, social science, and language will affect to the ineffective learning experience. Therefore, an integrated learning approach with the context of relevant social issues is regarded to be able to prepare the student for his/her long life learning (Bindel, 2018). There are few teachers who apply an integration of several subject studies in the instructional learning process based on the local context. To implement this model, it needs a strong team teaching of different subject study teacher high competence and committed teachers to work collaboratively to set up teaching plan, decide time allocation, and develop teaching and learning material.

Based on the indicator and learning material, the steps of integrated teaching and learning on the basis of text contains the level of education, grade, subject studies, and theme/topic. The step of teaching and learning of each integrated subject study is compound into the steps of developing knowledge, modelling, working
collaboratively, and work individually.

Develop an integrated lesson plan systematically (Ministry regulation No 22 of 2016) based on the indicator and learning material chosen. Therefore, the implementation of this model is very challenging, so that it needs teachers who understand the 2013 curriculum and material context of each subject study thoroughly. Besides, it needs a high commitment of teachers due to the needed time for discussion of the planning of the instructional learning, time schedule, and teaching and learning activities.

**Research Method**

Research and development were used to develop the model consisting of two steps: First is to conduct preliminary research and the second is to develop a model. Questionnaires, observation, interview, and focus group discussion (FGD) were used to get information about the needs of students about the useful learning and teaching materials, learning and teaching methods, and learning evaluation. Secondary data consists of textbooks/learning materials, teachers’ books, teacher’s teaching preparation, student’s exercises, syllabus, and other documents. The percentage of the students and teacher’s perception was analyzed, then transferred into statements of which most or best or highest, fair or middle, and the least or the smallest.

Population and sample of the research are all students of the JSS public schools 10 and 13 in Pekanbaru. The sample was 400 students from the first, second, and third grade using sampling technique which is adopted from Lofland and Lofland in Moleong (2000:112). The teachers of science, social science, art culture, craft, Indonesian language were observed and interviewed what they need for the learning material of the local context.

The result of need analysis of teachers and students’ perception and theory have used a basis of the developing a draft of the model. The draft of the model was tried out in the class to know the acceptability and implementation of the model. The revision was done based on the input and suggestion of the teachers and students, then, some experts validate it before the implementation in schools as an innovative model for teaching and learning in the class to strengthen students’ comprehension about their potential natural resources.

**Results and Discussion**

The following integration model of teaching and learning based on the local context employs the use of local natural resource learning material. An example of local context is the “Salais Fish,” a specific high production of Maritime natural resource in Pekanbaru District. This kind of fish is arranged structurally to become one several compound fish which forms an integrated several fish. This fish is managed in several kinds of cookies before it is served as one of the main menus after rice and vegetable, and it is served for lunch or dinner.
There are several steps of developing integrated learning instruction, i.e.: (1) deciding a theme, (2) analyzing basic competence, then choosing learning material from basic competence of other subject studies that can be integrated into the subject study, (3) planning an operationally design of integrated learning instruction as a teacher’s guide to conduct his/her teaching instruction. The steps of planning an integrated learning instruction: (a) to formulate a competence or learning objectives to be achieved by students, (b) to identify a concept of interrelated subject study to be integrated in learning instruction, (c) to formulate a scenario of learning instruction, and (d) to decide evaluation tool. Therefore, in learning activities, students should actively find a concept or principle of knowledge holistically and authenticity, so that students will be able to learn to solve the real problem found in their daily life.

The implementation of integrated learning follows the steps of (a) analyzing a context to get the information about the condition, characteristics, local potential, best practice of learning activities done by teachers, (b) deciding a theme of learning material, (c) deciding a theme “Selais Fish”, (d) analyzing basic competence of the chosen subject studies. (e) Deciding time allocation, and (f) deciding the sequence of subject studies to be learned. The integrated model of figure 2 shows that the integration of some subject studies in one theme. The integrated of science, social science, craft, Indonesian language, and art subject studies using the local context of Pekanbaru District ‘Selais Fish’ applies a system of the teaching-learning process of one theme, which means all these subjects use ‘Selais Fish’ as a topic of teaching-learning at all subject studies. However, each subject study still keeps the principle of teaching and learning of each specific characteristics of the subject studies.

The learning process of science subject study of “Selais Fish” theme encompasses addictive substance. This material describes natural and made the addictive substance in food and drink, the function of addictive substance towards food and drink, an addictive substance used in managing “Selais Fish”, the technique of food conservation, and the procedural work of addictive substance in a human being. In social science subject study, the theme can be inter-island, regional, province trade or international trade, the objective, activities, the example, and advantage of inter-island or regional trade. For the learning material of craft, the learning topic discussed may: observe picture and video of managing “Selais Fish”, describing the technique of safety working, designing the form of needed tool and product materials of environmentally friendly, displaying the work of students working group on the wall of the class, and others.

For Indonesian language learning material, the topic of “Selais Fish” is in the form of “exposition text” describing the social text of exposition, the structural text of exposition, and the items of language expository text. In the art culture subject study, the topic of “Selais Fish” is describing the background of fish fumigation, the objective of fumigation, basic and kinds of fumigation, designing fumigation of fresh “Selais
Fish’ using the natural additive substance, and the presentation and packaging.

Conclusion and Recommendation

Conclusion

Having discussed the model, it comes up with the conclusion that this model has aroused students to have more interest in those subjects and to realize their needs to have an understanding the importance of natural resource for their life.

This integrated teaching-learning process has the advantage to equip students to understand the general concept of natural resources in the different angel of science, social science, craft, Indonesian language, and art subject studies. The advantage of this model compared with other models of teaching and learning process is that the model is able to equip students an understanding wholly about one theme. On the other hand, the model also has a weakness, where not all teachers are able to integrate one theme in the teaching and learning process. Teachers also still do not understand the implementation of the model in their teaching activities.

This model, for specially Pekanbaru district, becomes a solution of learning instruction because this model integrates the district context/specifc natural local resource without adding subject studies in the curriculum which makes a heavy burden of the national curriculum for Junior Secondary School (JSS).

Recommendation

To make this model successful implemented, it is suggested that the curriculum designers put the model as one of the teaching learning models of all subject studies. Therefore, teachers should be trained intensively and collaboratively especially the subject study teachers (science, social science, craft, Indonesian language, and art subject studies).

Other districts can also adapt this model for their specific potential natural resources. Therefore, it is suggested to Junior Secondary School (JSS) Subject Teacher Working Group (STWG) to deliver this model to all member of STWG and uses this model as an alternative method of teaching and learning process of all subject studies of JSS. It is also addressed to district educational office to intensively coordinate the school principle, supervisors, and teachers of JSS to put this model as one subject study in a 2013 curriculum training of subject studies.

Author contributions
Noor, Idris HM and Purnamasari, N design research, performed research, and data analysed. Both authors wrote the paper, proofread it, and approved the final manuscript.

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