

DEVELOPING SUPPLEMENTARY MATERIAL for STUDENTS' VISUAL LEARNING STYLE at VOCATIONAL HIGH SCHOOL SUNGAI PINANG

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Abstract

This research has purpose which aims to develop a product in the field of education. The researcher conducted some steps to evolve an appropriate supplementary book. This research is Research and Development (R&D) that is developing a supplementary book. For information, researchers use two instruments specifically, a questionnaire for students and an interview with an English teacher.

For gained the data researcher used questionnaire for need analysis. Researcher conduct the research on students of Vocational High School Sungai Pinang conveyed that they need the material according to their learning style that is a visual learning style. To manage with this problem, the researcher developed supplementary books based on their need. The result of tryouts the result showed that, the supplementary book is suitable for the visual learner style.

From the findings of the researchers, the data in which can indicate that the material in the materials is in accordance with what students need. The product achieves students' needs in overall. Based on the results of the tryouts that can be tested by researchers, the material developed can make students more interested in learning English, and have motivation in English.

Keywords: Visual learning style, Augmented Reality, Supplementary book

INTRODUCTION

In education, there are many things to keep in mind in order for students to be interested and focus on the material provided by the teacher. Therefore, the importance of teachers is to look at some of these things, such as learning strategies, the selection of books taught, the use of interesting media, and also the significance of knowing the learning style of students. Students at Vocational High School Sungai of course they have different learning styles, so it takes a teaching strategy that fits the needs of their study based on their learning style. Learning styles affect teaching many courses and learning achievements (Biçer, 2014).

Identified on the observation and dissemination of the questionnaire on students of the grade XI Vocational High School Sungai Pinang, researchers get the data that most of the students have a visual learning style. Based on the questionnaire that spread by researcher, researcher obtained data on analysis data about what they need. From twenty four students, Student data generated by eighteen students have a visual learning style, and the rest have a style of audio visual and kinesthetic learning style. And on the need analysis students need Illustrations on books, striking material objects and stimulating eyes as well as material that has a lot of color variations. Visual learning moreover makes a difference under studies to create visual considering, which could be a learning fashion whereby the learner comes way better to get it and retain information superior by partner thoughts, words and ideas with images. Visual data is displayed through different intuitively visual instruments, such as data and communication innovations (e.g., web administrations), and 2- and 3-D visual situations. This considers centers on interactive 2-D recreations, such as Turtle, at distinctive levels for age's between 10 and 12. The obligation of this research deceptions in its evaluation of visual considering abilities (Raiyn, 2016).

Based on interview with the English teacher he said that the books used are too difficult and the material presented is limited, so students are struggling to use the book. In addition the book used also has a limited example, so students are quite difficult in understanding the material given. The limitations of book design also make students ' interest downhill, so teachers feel the need for additional books that contain material that is easy for students to understand, has an attractive design that makes students love the book, as well as many examples or illustrations used in the supplementary book that fit the needs of the student. In addition, at this time of pandemic, which requires students and teachers to perform teaching and learning activities at home, additional books are easily accessible and also contain media that can be accessed by teachers and students. Therefore, according to English teachers, the additional books in question are at least integrated with E-Learning. E-learning is potential to cultivate students' autonomous learning through this virtual enactment. Through this online interaction, both teachers and students are engaged collaboratively to negotiate their meaning in a given tasks (Mustofa et al., 2020). So that, the teaching process that is implemented during the pandemic is still effective and efficient by using E-learning.

To found what teachers and student's needs, based on the observation results performed researcher, researcher analyze several things. Nowadays, education system has evolved from traditional system to modern or technology-based system. Many modern methods utilize advanced tools such as electronic books, mobile apps, and so on. In such pandemic which require students and teachers to perform in-house learning activities, there is a need for material that is easily accessible to teachers and students, and the book also involves easy-to-use and enjoyable media to improve students ' learning motivation. In this study, researchers developed supplementary books in PDF form and integrated augmented reality media as a learning medium, which augmented reality itself is

an accessible medium and used by students and teachers, and can be accessed anywhere and anytime. Augmented reality conferencing system, which uses the connection of virtual images on the concrete world and permits users to collaboratively view and network with virtual objects using a common virtual whiteboard (Dunleavy, Dede, & Mitchell, 2009).

This research is done as one of the solutions where the learning process is conducted online or through E-Learning. Innovation in education is indispensable to support the motivation to learn students by using learning methods, as well as media that can attract students' learning. There are many electronic books that can be downloaded on the Internet, but still need to be augmented with interesting media as it is linked to Augmented Reality. Research is performed online or online due to the obstacle of pandemic epidemics requiring students to study at home. Research is conducted through a group of WhatsApp, where researchers send material through video, and students learn and work on assignments through the direction of a video created by the researcher. In addition, in books developed using technology that makes students interested in learning by using the book. During the research process, students follow the process of learning to teach enthusiastically. Classes are conducted from 15 April to 16 June, followed by eighteen students who have a visual learning style. Samples were taken based on the student learning style in which the researchers used the poll to find out their learning style. In the Student online class given a PDF book that makes it easy for students to access the book through both smart phones and laptops. Based on the results of a two-month study, data obtained that material developed according to the needs of students who have a learning style. In addition, students easily understand the material in the book, as well as the exercises provided can be done easily by students. Book design is also a major concern for students' visual learning style. As for the media the authors used to link using Augmented Reality to make students more enthusiastic in the process of learning to teach. The Media used are QR code, Power Point, and HP Reveal. The book was developed based on the experience of teachers who felt difficulties in teaching online during pandemic. Teacher Handbook still has limitations, especially the lack of motivation from some students who have visual learning style. This book be able used by students' audio-visual and kinesthetic learning style. The book comes with learning media that can be used easily by students and teachers so that learning becomes enjoyable. Therefore, this is supplementary material is suitable for them.

The result of the tryouts based on the questionnaire is that fifteen students (83.33%) think that book design can enhance students' motivation. Fourteen students (77.77%) think that the materials are appropriate with learning outcome. Fourteen students (77.77.33%) students agree that the materials are served interestingly, and four students disagree that the materials serve not interestingly. Twelve students (66.66%) agree that the material is appropriate with their needs, and six students (33.33%) disagree that the material is appropriate with their needs. Thirteen students (66.66%) claim that the materials be able to help students to developing their speaking, writing, reading and listening skills, five students (27.77%) claim that the materials cannot help them to develop speaking skills.

Besides, the eleven students (61.11%) admit that the materials can increase their knowledge, eight students (38.88) admit that a part of materials can increase their knowledge, no students admit that the materials can increase their knowledge.

In addition, fifteen students (83.33%) think that the materials are easy to understand and, three students (16.66%) think that the materials are difficult. Thirteen students (66.66%) learning is fun by using Augmented Reality and five students (27.77%) say that learning is still hard to using Augmented Reality. Fifteen students (83.33%) claim that the instructional materials can develop their understanding in English subjects, and three students (16.66%) claim that the instructional materials cannot develop their understanding in English subject. Twelve students (66.66%) agree that the evaluation by using Augmented Reality in every unit can help them to comprehend the text.

The objective of this study is to advance the material needed by learners' visual learning style. The study emphases on developing instructional materials for students' visual learning style. Subject of this research is students grade XI at Vocational High School Sungai Pinang. This research and development bring some significance for the teacher and students in English subject. Giving new materials as the references for the teacher. Giving the new materials for learning practical English, and motivating students to be more active in practical learning.

Based on needs analysis researcher got a few valuable information about what will be developed within the instructional materials, the researcher concluded the criteria which is be able to be put within the textbooks, centering on visual learning style. The criteria are textbook related to Senior High School material by using augmented reality. The materials are established for one semester in 16 meeting. The materials focuses in visual learning style include speaking, listening, reading, and writing skills. For separately topic on the text correlated to Senior High School material such as, reading comprehension, materials, writing, listening and speaking skills.

METHOD

Regarding the purpose of the study for developing visual learning style materials, the researcher decides that the appropriate research design used is Research and Development (R&D). This research and development study was conducted for developing an English visual supplementary material. Borg and Gail (as cited in Latief, 2016) educational research and development is one of the research design aimed in developing and validating educational product.

The procedure of this research refers to the system approach model proposed by Dick and Carey (Gall & Borg, n.d.) They are: (1) need analysis, (2) material development, (3) validation, (4) revision, (5) tryout, (6) revision to produce.

Needs analysis obtained in two techniques, that are questionnaire and interview. The questionnaire was done to students' visual learning style of Vocational High School Sungai Pinang. The design of the needs analysis was a survey by spreading a questionnaire to the students and teachers of English subjects. And need analysis is needed to expose what the need would be met by students, and then the effect of need analysis is developed into a supplementary book. The product of supplementary book is conveyed to experts for their judgment for revision. After existence revised, the result of the materials is tried out.

Besides, subjects of the needs analysis were students' visual learning style of Vocational High School Sungai Pinang. There were twenty four students in one class.

For collecting the data, researcher spread the questionnaire for the students. Those were the questionnaire to analyze the students learning style, the needs analysis questionnaire. The researcher used spss for got reability data.

RESULT AND DISCUSSION

There are two varieties of information that the researcher obtained in raising data of information. The information is so fundamental efficient in conducting the materials. The first is the data from student and the second is the data from the teacher, which are questionnaire and interview. Questionnaire had done to students Vocational High School Sungai Pinang. And need analysis was survey by interview the English teacher.

The first step, as the needs analysis got a few valuable information about what will be developed within the instructional materials, the researcher concluded the criteria which is be able to be put within the textbooks, centering on visual learning style. Students need some criteria for the supplementary book, such as the need the illustration, they said that the material must be completed with picture and various colors. And they easy-to-understand material, in addition they also require examples relating to their daily lives, so that they can more easily understand. In addition they also need material which can facilitate them in developing English language skills such as speaking, listening, writing and reading. The materials are set for one semester in 16 meetings. The materials were divided into six topics concerned in visual learning style include speaking, listening, reading, and writing skills. Each topic on the text related to Senior High School material such as, reading comprehension, materials, writing, listening and speaking skills.

The second step of this research is material development. The researcher produced supplementary material based on the information gained from the study of needs. In addition, the researcher also adapted some of the teacher's sources and some online and textbook sources. The researcher also fit the syllabus with the additional materials. The additional materials provided to experts for confirmation and validation after the product has been produced.

The third steps of this research is validation and revision. On this stage, the researcher authenticated the product to the expert whose expertise is needed to improve the quality of the product. It can be experienced teachers, those knowledgeable about the related curriculum, or those who are good in instructional assessment, etc.

The expert are taken some criteria. The first criteria is, he should be proceeded from appropriate discipline major of post graduate degree. The data of the validation were from the lecturer who is keen in English and has lots of experience in teaching English in English Department, Antasari State Islamic University. Experts provide criticism and suggestion as feedback from product valuation. Furthermore, the next step is to validate experts on the topic developed, and the material can be used after obtaining the validation from the expert. The validation by experts is about the suitability of the topic, content, as well as the suitability of photographs used in the theme of topics related to the theme. The activities and tasks were engaging in the book's exercises and activities and could encourage the students to use new vocabulary to communicate. In addition, he believed that the visual media provided helps students understand the material, and also help the teacher to teach them.

The further step was tryouts. The tryout is conducted to see the suitability with the students' needs and the appeal to the studied materials. The tryouts are seen how effective the material. So the tryouts is needed to see how the supplementary book suitable for the students.

Second expert validator is validated design of the book. The criteria is that he should already reliable in the design field. Expert provides evaluation of color selection, animation, use of spacing and use of layouts. He said that the cover of the book was attractive and had visual imagery of high aesthetic quality. The illustrations is good and related to the topic, so that the students would enjoy it.

All of instigations are presented by expert in the preceding phase of development were very useful. All of features containing with weakness of the developed instructional materials had been rewritten based on the encouragements. Then materials are improved well than before and ready to try out.

This tryout had done by the students who learns English in the first class by learning the development material by the researcher to know the beneficial of the product. And the researcher measures the ability of students after learning using books that have been made—whether really help or not. The result of the tryout used as the basis of final revision of the product—which consist of supplementary English materials for students at the second class of Vocational High School Sungai Pinang. In making questionnaire researcher use reability test, to bring data to reliable. Reability test is used on all three questionnaire tryout. On the first reability test data is obtained data from the output table there is known N of items (many items or poll questions) there are ten items with Cronbach's Alpha value of 0.979. Since the rate of Cronbach's Alpha $0.979 > 0.60$, it can be concluded that all the item questions on the survey results tryout 1 is reliable or consistent. And the second reability test, researcher obtained from the output table there is known N of items (many items or poll questions) there are ten items with Cronbach's Alpha value of 0.970. Since the value of Cronbach's Alpha $0.970 > 0.60$, it can be concluded that all the item questions on the survey results tryout 1 is reliable or consistent. And the third reability test, researcher obtained data from the output table there is known N of items (many items or poll questions) there are ten items with Cronbach's Alpha value of 0.757. Since the value of Cronbach's Alpha $0.757 > 0.60$, it can be concluded that all the item questions on the survey results tryout 1 is reliable or consistent.

The output table gives an overview of the statistic value for the ten poll question items. In the field "Cronbach Alpha if Item Deleted" in this table it is known that the Cronbach alpha value for the ten item items is > 0.60 , and it can be concluded that the ten poll question items are reliable.

The try out was conducted three times to the students of the visual learning style. There were 16 students joining the tryout, the developer only conducts tryout for 3 chapters. Tryouts are conducted in chapter 1, chapter 2, and chapter 3. Research is performed online or online due to the obstacle of pandemic epidemics requiring students to study at home. Research is conducted through a group of WhatsApp, where researchers send material through video, and students learn and work on assignments through the direction of a video created by the researcher. In addition, in books developed using technology that makes students interested in learning by using the book.

First try out discussed exposition text and researcher using QR code on the practice. It was an easy topic that discussed about Global Warming as an example text of exposition text. There is some descriptions of exposition text, including the definition of exposition text, structure of analytical exposition text, and the example of exposition text.

To conduct the tryouts, the data was collected from questionnaire, on the earliest meeting, students were questioned to read a short text about Global Warming. The reading design was using task-based instruction where students learn the text after answering the question about the text. The teacher questioned the students the kinds of the text. After that learners read the text, and answer the teacher question. And after that teacher explain about analytical the structure exposition text, feature of analytical exposition text, and give example about analytical

exposition text. In this class researcher saw that the students are quite interesting with the entire topic given. All of them have an enthusiast to join the speaking program.

The second try out discussed of an opinion and researcher using QR code on the practice. The topic is about giving opinion that is explained about the bullying on an article as an example. On the early lesson, teacher given some cases about bullying, and teacher asked the students about the case. After given the case, teacher asked the students to read a dialog on the book, and after that teacher and students discussed about the dialog. Teacher also explained some of descriptions about an opinion and though there are, structure to express opinion, personal perspective and general point of view to express an opinion, agreeing and disagreeing of opinion. On the next meeting, students were certain an example to use the expression of giving an opinion. Students are questioned to classify the items and note some crucial measures of it. To kind they are to understand, a case study was given. The teacher asked the students to analyze a dialog and answer the question. After that teacher explained about the sentences structure to express the opinion. Next, teacher asked the students to analyze the kind of the text. After that students mention the expression of expression personal point of view and general point of view. Teacher also explained agreeing and disagreeing with an opinion. Teacher asked the students to read dialog in pairs and asked the students to create a dialogue by using the expression of giving an opinion. The last teacher inquired them to do practice by using QR code, students has enthusiast when answer the question.

The third try out discussed offers and suggestions. Teacher explained some descriptions of giving offers and suggestions include the content such as, the definition of suggesting and offering, expression of suggestions and offers, examples of offers and suggestions. In the third meeting, the teacher and students using PowerPoint as a media. Researcher saw, the student are very interested when teachers use PowerPoint media, which on each slide has colors and images that are tailored to their learning style needs, so they can make students interested in learning, so the teaching and learning process becomes more enjoyable. Learners are questioned to categorize the items and note some critical parts of it. In the last assessment, students made a dialogue.

From the result of the tryouts, based on the questionnaire researcher obtained the data, many of students believe the book the book design can improve their motivation. And some of students agree that the materials served interestingly. Besides, some students admit that the materials can increase their knowledge. Students agree that the material is appropriate with their need, and claim that the materials can help them to develop speaking, writing, reading and listening. Students also think that the materials are easy to understand, and students said that the learning is fun by using Augmented Reality. And students claimed that the instructional materials can develop their understanding in English subjects. And the last students agree that the evaluation by using Augmented Reality in every unit can help them to comprehend the text.

The result of the tryouts based on the questionnaire is that fifteen students (83.33%) think that book design can enhance students' motivation. Fourteen students (77.77%) think that the materials are appropriate with learning outcome. Fourteen students (77.77.33%) students agree that the materials are served interestingly, and four students disagree that the materials serve not interestingly. Twelve students (66.66%) agree that the material is appropriate with their needs, and six students (33.33%) disagree that the material is appropriate with their needs. Thirteen students (66.66%) claim that the materials be able to help them to develop speaking, writing, reading and listening skills, five students (27.77%) claim that the materials cannot help them to develop speaking skills.

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From the results of the observation, students demonstrate that they are very interested in the topic presented in the supplementary book developed by researchers. From the researcher observation and questionnaire that are distributed to students, many of them who do not show any difficulties in speaking, listening, writing, and reading. While the teacher has the role of providing feedback to students, as well as scoring and considering student mistakes. As the survey for gaining data was extent to the learners, the researcher establish that the learners need a book with an attractive design, material that is easy to understand and fun, which can help develop four skills in English. In addition, students give feedback to other students, this is done to increase the motivation of their fellow students in the teaching and learning process.

The final product was gained after tryouts to the students done. There are six topics in the supplementary book. The skills developed in the supplementary book are reading, listening, speaking skill, and writing skill. Beginning with reading text and writing text, and ending by a text related to English material discourse and practices. The first topic is students learn a description text about analytical exposition text that is related to the actual issue. The second topic is an opinion and though. The students learned about opinions and thoughts, in accordance with the context of its use and It compiles the text of transactional, verbal and written interactions, short and simple, involving the act of giving and requesting information regarding the actions and thoughts of opinions, with admiration to the social functions, text structures, and the correct and context-based elements of the linguistic. The third topic is offers and suggestions. Students learnt about compiling the text of verbal and written interaction, simple, and straightforward, involving the act of giving and requesting information relating to suggestions and bids, with concerning social functions, text buildings, and the correct and context-based elements of the linguistic. The fourth topic is party time. The students learn about Differentiate social functions, text structures, and some special texts in the form of official invitations by giving and requesting data related to school activities/workplace in accordance with the context of their use, and arrange particular text in the form of formal and verbal invitations, related to school activities/workplace, with concerning social functions, text structure, and correctly and in context. The fifth topic is about cause and effect. The students learn about implementing social functions, text structures, and the linguistic elements of verbal and written transactional interactions involving the act of giving and requesting information relating to causal relationships, following with the context of their use and compile the text of verbal and written transactional interactions involving the act of giving and requesting information relating to causal relationships, with concerning social functions, text structures, and the correct and context-based elements of the linguistic. Furthermore the last topic is about meaning through music. Students learned about interpreting social functions,

and the linguistic elements of lyrics related to the life of teenage Senior High School capture the meaning of contextually related social function and the linguistic element of songs related to the life of teenage Senior high School.

The final product was gained after three tryouts to the learners done. Here are six diverse topics in the supplementary book. The foremost abilities advanced in the supplementary book are reading, listening, speaking skill, and writing skill. The material involves of grammar or reading and writing strategies required to sustenance the learning consequence. A text of dialog have purpose to increase student's Speaking and listening involve of the dialogue. The latest, writing involve of writing a text from exposition text and create an invitation.

CONCLUSION

Innovation in education is indispensable to support the motivation to learn students by using learning methods, as well as media that can attract students' learning which, can facilitate them in the education and be able to also help to develop the four skills in English. The conclusion of this research are, the students need the supplementary book that the supplementary book contains easy material that is related with their daily life, they also need the supplementary book contain the picture and various color that is can make them interested to the supplementary book. Besides, they need that book can be useful and can access anytime, such as E-learning. Students and teacher satisfy with the materials because the materials that they need suitable on the supplementary book. And teacher be able to use the augmented reality as a media for teaching, and media is easily to be access and suitable for teacher and students. Hence, it is essential to discovery what the learners need in the future regarding to their English. Research and Development are showed to explain the problem. Besides to learning about the English language, the learners can study and know extensively about English matters as well.

Hence, it is important to find what the students need to regarding to their English. Research and Development are conducted to solve the problem. Besides to learning about the English language, the students can learn and know widely about English subjects as well. Needs analysis itself leads to several research instruments such as questionnaires for the students and interview the English teacher.

After doing three tryouts throughout this research, the sufficient result indications that this book is acceptable to use by learners normally, especially by students' visual learning style students of Vocational High School Sungai Pinang. In addition supplementary this book is not only used by students' visual learning style, but students' audio visual learning style and kinesthetic can also use this book.

The researcher considers that the supplementary book conducted with this research that is appropriate to relate in English subject because it affords with students' needs activities. This supplementary book contains English topics, and materials related to topics, and practical exercises that help helpful for the students' visual learning style to comprehend a current topic. The researcher suggest to the teacher as the instructor and facilitator of this supplementary book. Because these instructional material present more English involvement, it is better for the teacher should use various strategies. In addition, using various media is necessary to make the students more involved in learning English.

Furthermore, the researcher courage there'll be more researches and development about developing supplementary book especially material for students' visual learning styles. Finally, if English can cover all needs for students, especially students' visual learning style, the students will have a high motivation to learn English subjects.

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