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# NEED ANALYSIS OF CHARACTER-BASED INTERACTIVE MULTIMEDIA DESIGN

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## ABSTRACT

Since designing an ICT-Based Media is a challenge for a teacher, this study investigates the needs of character-based interactive multimedia for teaching English. By conducting questionnaire and interview survey with 36 students and a teacher, the characteristic of character-based interactive multimedia is identified. It is found that character-based interactive multimedia should cover 4 main characteristics; (1) integrating skills, (2) supporting student's learning styles, (3) containing character values, and (4) integrating game, picture, audio, and animation. These characteristics support the students' needs and gain their interest and motivation in learning English. Furthermore, the development of character-based interactive multimedia is needed to fulfill the needs of technology integration and character building in teaching and learning process.

**Keywords:** *Character-based interactive multimedia, character education, technology integration*

## INTRODUCTION

The presence of the technology development in the world makes a change in the way of people living, working, and learning, since the people need to manage themselves and to adapt with the new era of using technology (Verccio, 2014; Hronová & Kniňová, 2012). The technology development also impacts the teaching and learning process in the classroom which is integrated with elsewhere learning (Verccio, 2014) by finding any source of knowledge which can be found in the internet easily and it creates a challenge to the students to gain any information which could support their learning process.

However, Qais found that designing technology-based media in teaching and learning activity is a very challenging task for teacher who has no skill of creating technology-Media (in Faryadi, 2012). Most of teachers have limited skill in creating a technology-based media and prefer to take any technology-based media which is served from the internet and showed it in the classroom. Unfortunately, common technology-based media served in the internet only provides cognitive and psychomotor aspects in the learning material and put aside the third aspect of learning, affective aspect, which is being the main focus of Indonesia Education System.

Based on the explanation above, this study aimed to investigate the appropriate design of technology-based media which can be integrated in teaching and learning activity and also insert character education as one of the main activities.

## LITERATURE REVIEW

### Character Education

The need of affective aspect is being the main concern on education nowadays. Affective aspect is established because there is a strong indication of the loss of the character values in the society and educational institutions are given the duty and responsibility to conduct character education for the students to develop their moral (Kamaruddin, 2012). Therefore, the teaching and learning activity inserts character education which could give positive impact to the students' moral development in society (Aisyah, 2014) to construct the behavior of learners who have knowledge, skills, attitudes, and have a competitive in facing globalization era (Hidayati, Zaim, Rukun, & Darmansyah, 2014). Aisyah (2014) found implementing character education make the students: 1) showing respect to their friends and practicing the teachings of the religious affiliation, 2) showing a confidence, 3) being able to communicate and interact effectively and politely, 4) showing cooperation, 5) showing concern for others in life, 6) implementing a clean, healthy, and safe fit, 7) applying shared values in the society, nation and state, and 8) demonstrating the ability to think logically, critically, creatively and innovative.

### Interactive Multimedia

Interactive Multimedia is one kind of technology-based media which can be provided in teaching and learning process to fulfill the need of technology integration in teaching and learning process. It consists of the combinations of audio, video, text graphics, and animations that are used to deliver the e-learning (Baggio, 2010). The use of multi-sensing perception could motivate the students in learning (Nusir, Alsmadi, Al-Kabi, & Sharadgah, 2012) and also make the process of learning and remembering more effective (Hronová & Kniňová, 2012). Besides, Interactive Multimedia is one of the solutions in dealing with students who have differences in learning styles since it integrates media elements that can engage combination learning through visual, auditory, and kinesthetic (Noordin, Ahmad, & Hooi, 2011). Related research found that students who are treated with interactive multimedia got score slightly above in learning (e.g. Nusir, Alsmadi, Al-Kabi, & Sharadgah, 2012; Ussher, Damoah, Ansong, Quarshie, Adjetey, & Poakwah, 2014). Since interactive multimedia gives a beneficial effect in teaching and learning, there is a need to design a good interactive multimedia to enhance students' new knowledge and assist them in learning and applying the lesson.

## METHOD

The researcher used mixed method approach with sequential exploratory design. The data were collected and analyzed quantitatively and qualitatively. The quantitative method was used to collect the data related on students' language skills' problems and learning style through questionnaire survey. The questionnaire survey was distributed to junior high school students and it was chosen 36 students as the sample (19 male and 17 female). The qualitative method was used to collect the data related to the English teacher's point of view on the students' English background, character values needed and appropriate media used in teaching English through interview. Then, the findings of qualitative and quantitative data will be integrated

during the interpretation phase to investigate the core characteristics of character-based interactive multimedia needed.

## FINDINGS

### Questionnaire Survey

Questionnaire used to collect the data contained of 32 statements using 4-Likert scale, *Strongly Agree (SA)*, *Agree (A)*, *Disagree (D)*, and *Strongly Disagree (SD)*, which were divided into two sections; Students' Language Skill's Problems and Students' Learning Styles. The total of 36 questionnaires were collected and used for analysis.

### Students' Language Skill's Problems

The result of students' language skill's problems is displayed through four different tables representing the four skills of language; speaking, listening, reading, and writing.

**Table 1. Students' Speaking Problems**

No	Statements	SA (%)	A (%)	D (%)	SD (%)
1.	I feel difficult to speak in English.	8.33	52.78	33.33	5.56
2.	I feel nervous when I talk using English.	11.11	66.67	19.44	2.78
3.	I feel my pronunciation is wrong since my teacher does not understand my utterance.	5.56	33.33	47.22	13.89
4.	My teacher often asks me to repeat what I say.	16.67	41.67	33.33	8.33
5.	Many of my friends feel difficult to understand what I say.	5.56	38.89	52.78	2.78

Related to speaking skill problem (Table 1), it infers that the students are having low confidence in speaking in English since other people cannot catch the message they uttered in English.

**Table 2. Students' Listening Problems**

No	Statements	SA (%)	A (%)	D (%)	SD (%)
9.	I do not understand what my teacher says.	2.78	33.33	55.56	8.33
10.	I often ask my friends to repeat what they say.	19.44	50	27.78	2.78
11.	I hear buzz when I listen to my friends speaking in English.	0	30.56	41.67	27.78
12.	I need time to understand what my friend or my teacher says.	25	61.11	11.11	2.78
13.	I understand English easily if I heard it word by word.	16.67	58.33	25	0

Related to listening skill problem (Table 2), it reveals that the students need longer time to understand what they listen to by listening to it word by word and often ask their peer to repeat their utterance to enhance better understanding.

**Table 3. Students' Reading Problems**

No	Statements	SA (%)	A (%)	D (%)	SD (%)
17.	I feel difficult to understand topic of text.	5.56	50	41.67	2.78
18.	I need dictionary when I read English text.	36.11	55.56	8.33	0
19.	I understand English text by translating it word by word.	22.22	63.89	11.11	2.78
20.	I ask my friend if I find any new words in English I read.	25	47.22	25	2.78
21.	I ask my teacher about any new words.	30.56	50	11.11	8.33

Related to reading skill problem (Table 3), the findings infer that the students face some problems in reading English text since they have limited English words background, lack of vocabulary. The students need to enrich their vocabulary in reading to understand the text easier to understand the topic of the text read.

**Table 4. Students' Writing Problems**

No.	Statements	SA (%)	A (%)	D (%)	SD (%)
25.	I am lack of English vocabulary.	19.44	58.34	11.11	11.11
26.	I feel difficult to understand the English structure.	2.78	25	63.89	8.33
27.	I feel difficult in constructing sentences.	5.56	47.22	38.89	8.33
28.	My friends do not understand my writing.	8.33	25	52.78	13.89
29.	My teacher does not understand my writing tasks.	2.78	13.89	50	33.33

Related to writing skill problem (Table 4), the findings reveal that the students are confident with their writing. They face problem in constructing sentences since they have lack of vocabulary. They need more writing practice to improve their skill in constructing sentence.

### Students' Learning Styles

Investigation on students' learning style is related to their language skill problems. Learning styles investigated focused on three learning styles provided by Reid (1987): visual, auditory, and kinesthetic.

From the findings (Table 5), it shows that mostly the students are visual and auditory learner and the kinesthetic learners are in moderate number.

**Table 5. Students' Learning Styles**

No	Statements	SA (%)	A (%)	D (%)	SD (%)
6.	I can speak well if I can listen to its pronunciation first.	25	61.11	11.11	2.78
7.	I like doing role play to improve my speaking.	25	41.67	27.78	5.56
8.	I can speak in English easily if I look at pictures or notes.	36.11	55.56	5.56	2.78
14.	I understand what I listened easily with picture.	25	55.56	5.56	13.89
15.	I understand what I listened easily if I can act it out.	27.78	47.22	22.22	2.78
16.	I like listening to song or story in English to understand the meaning easier.	47.22	44.44	2.78	5.56
22.	Pictures in English book help me to understand my reading easier.	30.56	55.56	8.33	5.56
23.	Role play helps me to understand the story I read easier.	8.33	55.56	30.56	5.56
24.	Listening to music helps me to understand my reading easier.	30.56	33.33	30.56	5.56
30.	I write easier when picture is provided.	22.22	38.89	25	13.89
31.	I need to act out before I write it to enhance the meaning.	13.89	36.11	44.44	5.56
32.	Music improves my focus in writing.	25	19.44	41.67	13.89

### Teacher's Interview

In general, the teacher stated that "the students have average quality in English". The teacher added that the students were lack of vocabulary in English and it influences teacher's technique in teaching English in the classroom by providing translating method.

On character education insertion, the teacher emphasized on four character values to be inserted in teaching and learning activity; honesty, discipline, cooperative, and responsibility. The teacher believed that these character values are necessary for the students "to build their moral" especially in learning.

Related with media used, the teacher still used conventional teaching in classroom. The teacher only provided pictures, audio, and texts in teaching. From the media implemented in classroom, the students show positive attitude and showing interest in learning, especially pictures and audio. Teacher also sometimes provides game to raise students' interest to be involved in teaching and learning activity.

From the result of questionnaire and interview, the character-based interactive multimedia should cover 4 main characteristics. First, it integrates four language skills; speaking, listening, reading, and writing. Second, it supports three learning styles; visual, auditory, and kines-

thetic. Third, it inserts four character values; honesty, discipline, cooperative, and responsibility. Fourth, it consists of game, audio, picture, and animation.

## DISCUSSION

Integrating the four skills help the students to improve their skill development. Learning to communicate in a foreign language is a very complex process which involves the development of the four language skills (Kaçauni, 2014). These skills problems are faced by the students since they have limited time and space to practice their English in the society, and the only input and language use is in classroom (Suryati, 2015). Therefore, there is a need to have more practice in using target language.

Supporting students' learning styles help the students to learn through their own styles and foster their learning development. The integration of three learning styles is supported by Noordin, Ahmad, & Hooi (2011) who mentioned that interactive Multimedia is one of the solutions in dealing with students who have differences in learning styles and knowledge background since it integrates media elements that can engage human information retrieval methods which are visual, auditory, and kinesthetic. With interactive multimedia, the students can learn through the combination of the visual with listening materials, and text with graphics and pictures.

Character values insertion fulfills the needs of affective aspects. 4 character values are emphasized to build students' moral development; honesty, discipline, cooperative, and responsibility. Honesty and responsibility influence the way in selecting good and right things, controlling greediness, fostering creative, performing high-quality work, and working hard (Pane & Patriana, 2016). Being discipline influences the self-control ability (Bajovic, Rizzo, & Engemann, 2009) in doing actions and reacting toward attitudes and rules conducted (Lapsley & Narvez, 2007). Cooperative influences the respect towards others which can develop solving-problem skill (Özen, 2011), democracy (Lapsley & Yeager, 2013), community engagement (Lapsley & Yeager, 2013), and help willingness (Wren, 2014). It shows these four character values maintain students' moral developments in society.

Game, audio, picture, and animation are provided to fulfill the needs of learning styles. Serving game as a media could be a preferable choice in teaching (Nusir, Alsmadi, Al-Kabi, & Sharadgah, 2012). Besides, Hronová & Knihová's study (2012) mentioned that the audio-visual media also made the process of learning and remembering more effective.

## CONCLUSION

Technology development and character education are main focus in modern education. The need of technology integration challenges the teacher to improve their skill in integrating technology-based media in classroom. Moreover, the urgency of character education requires affective aspect to be emphasized in teaching and learning to build students' moral development in society.

The result of this study reveals the characteristics of Character-Based Interactive Multimedia. They are 4 main characteristics had by Character-Based Interactive Multimedia: (1)

integrating skills including speaking, listening, reading, and writing, (2) supporting student's learning styles including visual, auditory, and kinesthetic, (3) containing character values including honesty, discipline, cooperative, and responsibility, and (4) integrating game, picture, audio, and animation.

Further research on designing and developing Character-Based Interactive Multimedia is needed fulfill the needs of technology integration and character building in teaching and learning process.

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