Need analysis of interactive karaoke multimedia to improve early childhood's verbal communication ability

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***Abstract**: This study was aimed at determining 1) the relationship between the family culture and the children interactive karaoke multimedia product development needs, and 2) the needs level of the multimedia interactive karaoke for early childhood to improve their language skills. This study was a survey involving early childhood teachers and parents in Bantul Regency, Kulon Progo Regency, and Yogyakarta City using purposive sampling to obtain the respondents. Data were collected by means of questionnaires, observation sheets, and interview sheets. The data were analyzed using descriptive quantitative and qualitative techniques. The results showed that 88% of early childhood teachers and 79% of early chilhood parents agreed to the need of the development of multimedia computers to improve early childhood's language skills. Children's language abilities are influenced by their habits in listening, speaking, singing, and also drawing. The facilities and infrastructure availability also affect the children's language abilities. Family culture is not only a structure, but also an interaction and communication pattern between a family component, especially the children-parent relationship. The most influencing factor that affects a family culure is the family socio-economic factors. A good-enough economic families are likely to have a good literate culture which will affect the children's language ability, because it is supported by a good access to the facilities.*

***Keywords**: family culture, multimedia development needs, interactive karaoke, language skills, early childhood education*

1. Introduction

Children are a beacon of hope for the next generation. Children have a variety of potentials that must be developed in accordance with their talents, interests, and levels of development. One of the child potential that needs to be developed is the ability to communicate through verbal language. The child's ability to communicate verbally is also part of linguistic intelligence. This capability is especially important for early-age children as a basic ability to develop the potentials and capabilities of the other matters.

The importance of mastery of language ability in children has received attention from so many early childhood providers who

have put it as part of the school curriculum. However, the facts in the community show how many schools and parents directly or indirectly "impose" language lessons either reading or writing to the child regardless of the level of skills and development. This results in a separate mental burden for young children who still rely on the ability to think concretely rather than the ability to think abstractly. For example, graphic symbols such as texts, letters, numbers, or punctuation is an abstraction of verbal language that is foreign to the world of early childhood.

It is necessary to develop a strategy that is capable of bridging learning to read the level of concrete thinking to abstract thinking level in early childhood. This strategy must necessarily remain optimizing the role of the golden age in accepting any form of stimulation to the brain. Learning strategies developed should also be able to motivate young children to want to learn, to be able to master the subject matter, and read without removing his world: playing and having fun.

Karaoke is one of the media to sing at the same time have fun. With its function and character, karaoke can be used as an early childhood learning media in accordance with their capabilities and level of development of the child. Not just for learning to sing, karaoke media can also be developed as a learning resource materials on verbal communication, including reading for young children beginning with how to use and modify the text that appears on a monitor clip. Facts and orientation is what underlies this development research.

Multimedia is initially interpreted as a medium that utilizes more than one medium covering voice, music, photos, slides, film and video. Suyanto (2005: 20) cites the definition of several experts, among others: (a) multimedia is a combination of computer and video (Rosch, 1996); (b) multimedia in general is a combination of three elements, namely sound, image and text (Mc Cormick, 1996 in Suyanto, 2005); (c) multimedia is a tool that can create dimamis and interactive presentation that combines text, graphics, animation, audio and video images, (Robin & Linda, 2001); (d) multimedia is a combination of at least two media input or output of the data, this media can be audio (sound of music), animations, video, text, graphics, and images (Turban, Rainer, & Potter, 2005); (e) Multimedia is the use of computers to create and use text, graphics, audio, moving images (videos and animations) by combining links and tools that allow users to navigate, interact, and communicate (Hofstetter, 2001). Rob Philip, quoted as saying by Miyarso (2009: 24), states:

> "The term 'multimedia' is a catch-all phrase to describe the new wave of computer software that primarily deals with the provisions of information. The 'multimedia' component is caracterized by the presence of text, picture, sound, animation and video; some or all of wich are organized into some coherence program. The 'interactive' component refers to the proses of empowering the user to control the environment usualy by a computer".

According to this saying, multimedia is a media program that contains a blend of two or more components of information such as text, images, sound, animation and video. The presentation can be through a computer device or not and the operating system can be interactive (nonlinear) and is not interactive (linear). In another work,

according to Hofstetter cited by Suyanto (2005: 52-238), there are four important components of multimedia: (a) there must be a computer that coordinates what is seen and heard, that interacts with us; (b) there must be a link that connects us with information; (c) there must be a navigation tool that guides us, surf the information networks; (d) multimedia provides a place for us to collect, process, and communicate information and ideas of our own.

Computer-based multimedia devices can be divided into hardware and software. Multimedia hardware system consists of four main elements and one additional element. consists of four main elements: (a) Input Unit; (b) Central Processing Unit (CPU); (c) strotage/memory; (d) output unit, and the additional element is the Communications Link. Input unit is the part that receives and entering data and instructions. Centeral Processing Unit (CPU) is the part that implementing and governing instructions, including counting and comparing. Srotage/Memory is the part that serves weeks to release the results of the process. Comunication link is part of communicating with the outside world.

Multimedia software are components in the data processing system, such as programs to control the operation of a multimedia computer system. (Suyanto, 2005: 103). Multimedia software functions include identifying and preparing multimedia program multimedia program applications that work procedures of entire multimedia computer equipment so controlled.

Implicit in terms of multimedia, Philip (Miyarso, 2009: 26) argues that the nature of computer-based multimedia consists of interactive multimedia and interactive. Interactive means that the user can control the operation of the program in accordance pleases (nonlinear) and interactive multimedia means no users can not control operations until Program is a program that has finished playing (linear).

Furthermore, interactive multimedia can be classified into interactive multimedia offline (without connected) to the Internet. And multimedia interactife on line that operation must be connected to the Internet. Based on the level of interactivity, multimedia is also divided into interactive multimedia and interactive multimedia operator level level or better known as the creator of the software application. In multimedia interactions that occur at the operator level, the user can simply select or specify menus or commands available. Meanwhile, the interactions that occur at the level of multimedia creators, users can use it to create the appropriate program materials as well.

Based on the model of learning content, interactive multimedia forms can be divided into: (a) models of drill and practice; (b) tutoria; (c) simulation; (d) education games (edutainment); and (e) problem solving (Sunaryo, 2010: 6-7). The type of multimedia that is developed in this study is an interactive multimedia for operator-level learning model in the form of tutorials via CD room basis of line.

Meanwhile, *karaoke* is derived from the Japanese word *kara* ie, voids, *ok* + empty (sutora), (from the orchestra). The term karaoke can be interpreted as an entertainment system that provides musical accompaniment of recorded popular songs in which a player can sing it directly, usually by following the text on the screen or video. Karaoke can also be interpreted as the performance of music (from http://www.dbkaraoke.com, 2010).

The karaoke broader sense is the process of singing a song that has been prepared,

where one can replace the original lead singer or singers. Karaoke song lyrics are reproduced as original songs, but without the sound of the vocalist. Lyrics for singers usually are presented through the screen (video), and the words that will be sung are underlined (marked) so that one can follow without having to memorize the song lyrics.

Karaoke became known in a small bar in Japan. Initially, Production House (PH) recorded music (instrument) to the cassette when the singer was not in place. Karaoke is able to make people who wish to be a star when singing really becomes like a star or artist. Karaoke songs are rarely produced directly by a maker of songs (artist). Karaoke usually is created by independent producers. Most manufacturers use professional musicians and singers to produce a semblance of the original version of the song. Karaoke allows to contain some vocals. If the original song contains any background vocals (ie chorus, harmony, back-up singers, etc.), then the karaoke version will usually contain that too.

Currently, there are 6 types of formats of karaoke products commonly available on the market. Each format has the characteristics of both the capabilities and limitations of their own. All these formats currently exists in the form of media compact disc (CD).

Having the above descriptions as the background of the research, the main purposes of this study are to produce interactive multimedia karaoke for early-age children to improve verbal communication skills in early childhood education and to know the effectiveness of the karaoke interactive multimedia in improving verbal communication skills in early childhood education. The more specific objectives of the study are (a) to provide data on the needs of school children and the importance of the development of karaoke interactive multimedia, (b) to create a product design of the karaoke interactive multimedia, (c) to construct a learning design model using the karaoke interactive multimedia, (d) to generate the validity of the assessment instruments/airworthiness of the product, and (e) to find out the improvement of the verbal communications capabilities of the children using the product.

2. Method

This study was a survey involving teachers and parents of the early childhood eduation. A total of 113 kindergarten teachers belonging to the Kindergarten Teachers; Association participated in the study: 5 from the Province, 20 from Sleman Regency, 23 from Kulon Progo Regency, 25 from Bantul Regency, 21 from Yogyakarta City, and 24 from Gunungkidul Regency. A total of 97 parents participated in the study. The sampling technique used was purposive sampling. Data were obtained by questionnaires, observations, and Focus Group Discussions (FGD). Data were analyzed using descriptive quantitative and qualitative techniques.

3. Findings and Discussion

The majority of early childhood teachers fathers and mothers welcomed the plan for the karaoke interactive multimedia product development conducted by the researchers. They voiced their expectation that this study be realized and implemented as an alternative medium of learning in early childhood, especially kindergarten B. This expectation can be gathered from the Table 1.

Table 1
Need Analysis of Multimedia Development of Children's Language Skills

No	Description	Teacher (%)		Parents (%)	
1	Need development of multimedia computers to improve children's language skills in early childhood	88	12	79	21
2	The need to implement a multimedia in classroom/at home	86	14	53	47
3	Parents' opinion about the multimedia implementation	78	22	40	60

From the Table 1, it is known that a large number of teachers and parents (88% and 79% respectively) expressed the need for the development of computer-based multimedia to enhance the ability of language or verbal communication of the early-age children. From the table, there were 86% of teachers and 54% of parents who agreed to implement multimedia as a medium of learning in the classroom and at home. However, only 40% of the parents were willing to apply it at home, compared to 78% of teachers (still high) who were willing to apply it at school.

Several factors are the reasons for why teachers and parents agree with or see the needs for the development of this interactive karaoke multimedia product. In general, teachers and parents know the potential and development of verbal communication skills to children; they are always trying to provide the material on the development of verbal communication, facilities, and infrastructure for development of verbal communication or language in children both at school and at home. Knowledge of teachers and parents on the potential and development of the child's ability to communicate is shown with basic skills assessment about auditory, visual, and non-verbal children. This is as shown in the Table 2.

Based on the table, it can be seen that, according to the teachers, the children in schools already have basic skills in speaking both passively and actively. The auditive

Table 2
Basic Auditory Abilities of Children in Language Development According to the Teachers and Parents

No	Description	Teacher (%)		Parents (%)	
1	Children have been able to hear well	74	26	69	31
2	Children are already capable of listening to the explanation of others	70	30	51	49
3	Children are already able to speak fluently	78	22	71	29
4	Children are able to sing	87	13	68	32

basic ability to speak in this passive form of the ability to hear well 74%, the ability of listening to the explanation of others 70%. Similarly, assessment of parents towards their children in terms of basic capabilities passively is quite high; 69% have been able to hear well although only 51% of children are already capable of listening to the explanation of others. The basic skills of active auditive communication can be seen from the child's ability to speak fluently already as high as 78% by the teacher and 71% according to their parents. In terms of the singing ability, 87% of children assessed by teachers have been able to do it, but only 68% are able to perform according to their parents.

For the basic ability to communicate visually by teachers and parents can be seen in the Table 3.

Based on the table above, the majority of children (72%), according to the teachers. have been able to recognize letters and 70% are familiar figures in school. As for the parents, the basic skills of visual communication is at a lower percentage, 54%. The child is considered to be familiar with the letters, while, in terms of the ability to know, the percentage is slightly lower, 50%.

The child's visual basic ability to communicate nonverbally looks almost the same between teachers and parents in their appraisala. This can be seen from the data in Table 4.

From the above table, it is known that the basic nonverbal visual skills that children have mostly been high. This can be seen from the percentages of children's ability to recognize assessment of color: (89%) by the teacher and (81%) by the parents. The assessment in the child's ability to recognize an image is 80% according to the parents and 87% or according to the teachers.

The second factor for the teachers and parents tp see the needs for the development of the interactive karaoke multimedia

Table 3
Visual Basic Skills of Children in the Language According to the Teachers and Parents

No	Description	Teacher (%)		Parents (%)	
1	Children are already able to recognize letters	72	28	54	46
2	Children are already able to recognize numbers	70	30	50	50

Table 4
Visual Basic Non-verbal Abilities in Children

No	Description	Teacher (%)		Parents (%)	
1	Children are already able to recognize color	89	11	81	19
2	Children are already capable of processing image	80	20	87	23

product is that during this time the teachers and parents also have made an attempt to help with the verbal communication skills of the children. Detailed information related to these efforts can be seen in the following Table 5.

From the Table 5, it is known that the majority of teachers (95%) said that material on language development had been given to their students. Similarly, in the case of applying a variety of learning methods, 93% of teachers said it had been done. It is a different situation compared with the efforts of parents in the home. Only 56% of the parents claimed to have provided materials on language development for their children, and only 39% stated they had given varied learning methods at home.

The same is seen on the obstacles encountered by teachers and parents in the development of children's language. Almost the same numbers of teachers (70%) and parents (69%) stated that the obstacles were in the effort to develop the ability to communicate verbally in children. However, the table also shows the different reactions among the majority of teachers and parents in response to these constraints. A number of 56% of the teachers are still willing to spend some special time for children with problems in language development while only 37% of parents want to spend some special time. In another word, many parents (63%) are reluctant to spend a special time for their children's language development.

The third factor as the reason for the teachers and the parents to agree with the plan for the karaoke interactive multimedia product development is the use of some IT devices owned by schools, teachers, and parents and the optimization of its use. This is evident from the data in the Table 6.

From the Table 6, it can be seen that 78% of the teachers say that the media in agreement with the existing school computer and other IT devices for the learning activities in the classroom. Although the ownership status of the IT devices is 59% personally by the teachers, or just 41% of the facilities belong to the school, 66% of teachers think that the media or IT devices are often used to convey the material development of the language in the classroom.

In comparison with the opinion of parents, 92% of the parents consider that their children in school have used IT devices. Meanhile, 59% of the parents stated they had no computers or IT devices at home so that only 22% of the parents stated that they often used IT devices to convey the material development of the language at

Table 5
The Efforts of Teachers and Parents to the Children's Ability to Speak

No	Description	Teacher (%)		Parents (%)	
1	Parents gave materials about the development of language	95	5	56	44
2	Parents applying a variety of learning methods	93	7	39	61
3	Parents obstacles in the development of children's language	70	30	69	31
4	Parents obstacle in spending a special time for children	56	44	37	63

Table 6
Availability and Optimizing IT Devices at School and at Home

No	Description	School (%)		Home (%)	
1	The ability of media computer/IT for learning in the classroom/at home	78	22	41	59
2	The learning media belonging to school	41	59	92	8
3	The media learned by parents	59	41	41	59
4	The media is often used to deliver the material	66	34	22	78
5	Children are able to operate their own media	36	64	28	72

home. Other data from the table also shows that 64% of the teachers and 72% of the parents stated that the children have not been able to operate its own media or the IT devices. However, based on discussions that took place in the FGD, the majority of teachers stated that children are actually very excited when the classroom activities use IT tools.

Finally, the factor that makes the teachers and parents obliged to support the need for the development of the multimedia product is the availability of supporting infrastructure of learning both in school and at home. Facilities and infrastructure in question here are related to the ability of children to sing in the forms of LCD/TV, VCD/DVD players, speakers, electricity, etc. The data in the Table 7 can become the evident.

From the Table 7, it is known that both at school and at home supporting infrastructure has been available for the childrens' learning to sing are LCD/TV, VCD/DVD players, speakers, and electricity. Although the speakers are only held by 27% of the parent respondents, but it does indicate that children are already quite familiar with the activity or experience of singing as a medium and language development methods. And it seems that the data is consistent with the previous data in the table.

Table 7
Availability of Infrastructure Supporting Learning at School and Home

No	Description	School (%)		Home (%)	
1	LCD/TV	80	20	97	3
2	VCD/DVD Player	81	19	63	37
3	Speakers	83	17	27	73
4	Electricity	95	5	90	10

4. Conclusion

Based on the results of research and discussion, the level of needs for the development of the karaoke interactive multimedia to improve verbal communication skills of the early-age children is relatively high. It is based on the percentage of teacher assessment obtained by questionnaires, interviews, and focus group discussions. This is a consideration for the implementation of the next development stage of the research procedures that the karaoke interactive multimedia product can be produced and measured in terms of feasibility and effectiveness.

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