Development of podcasts as educational media based on local wisdom

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Abstract. One form of digital technology that has developed in the millennial generation is Podcast. Podcasting/Podcast is etymologically derived from the words iPod and Broadcasting, while the definition of Podcast is literally, a recorded audio file in MP3 format which is distributed over the internet. Podcasts can be a driving force for societal change, where there are themes that can change people's mindsets to be more open and advanced. In accordance with the theory of technological determination, society is not only influenced by the content but also by the media. The method used in this study is a descriptive method with research instruments using structured interviews in the form of a questionnaire. Data are also obtained from literature reviews related to the object of the study through library research, namely literature review. The results showed a positive response from the respondents. Besides that, the development of Podcast media was also proven to be able to produce better knowledge due to repetition of information related to the material in question. Learning about culture/wisdom through Podcasts is considered feasible and effective, especially with the waning conditions of cultural values, a result of the era of globalization and the development of information technology.

1. Introduction
The current technological development is no longer increasing linearly, but increasing exponentially. This increase is very fast and drastic; it tends to be unpredictable and nearly limitless. Information technology that is rapidly developing has an impact on the fields of education and science. According to Husaini [1] this technological development changes the paradigm of society to seek information. Searching is no longer limited to conventional media but also through the internet.

Based on research by Juwita, Budimansyah, & Nurbayani [2], the majority of the use of internet media is accessed by teenagers. This is in line with a survey from the Indonesian Internet Service Providers Association (APJII) that in 2018 internet users reached 171.17 million people out of a total population of 264.16 million Indonesians, most of whom are high school of 70, 54% and students of 83,73%. Internet users mostly access the internet via smartphones as much as 50.08% compared to access via computers or laptops with 25.72%. In addition, the duration of internet use is more than seven hours per day. The recapitulation of statistical data describes that Indonesians, especially teenagers, are thirsty for information with easy, fast and by hand access. That is, the development of Information and Communication Technology (ICT) is very visible and has become a major human need today.

One form of digital technology that has developed in the millennial generation is Podcast. Podcasting/ Podcast is etymologically derived from the words iPod and Broadcasting, while the definition of Podcast is literally, is a recorded audio file in MP3 format which is distributed over the internet [3]. The use of podcasts today has touched the world of education. Daily Social reports on
Podcast users in Indonesia, of which 68% are familiar with Podcasts, 43% are very interested, and 50.63% are quite interested in Podcasts. According to these data, Podcasts have the potential to become an educational medium that not only reaches out to teenagers but also for all groups. Accessibility of Podcast media is considered very easy, effective, informative, and cheap. Podcasts have sprung up a lot because of the ease with which they can be produced and distributed with services that accommodate the podcast content. Podcasts can be a driving force for societal change, where there are themes that can change people's mindsets to be more open and advanced. In accordance with the theory of technological determination that society is not only influenced by the content but also by the media [4].

Apart from the large number of digital technology media used as learning media today, the insertion of character education in an educational media is very important to be taught and applied. Character education is not just teaching what is right and wrong but character education also instills habits (habitation) about good things so that an individual understands what is right and wrong [5]. In addition, it is also important to teach the insertion of local wisdom. The importance of local wisdom in education is a part of efforts to increase national resilience as a nation [6]. Moreover, in the current era of globalization of information, the existence of this globalization has become a very powerful force in influencing the human mindset [7].

As globalization progresses, the love for culture decreases, and this greatly affects the existence of local culture and for indigenous Indonesians. Seeing the fact that Indonesian people today prefer foreign cultures which they consider more interesting or more unique and practical. Therefore, many local cultures are faded due to the lack of future generations who have an interest in learning and inheriting it. Public awareness to maintain local culture is currently still very minimal, the lack of cultural learning is one of the causes of the waning of local culture for the younger generation [7]. The application of local wisdom in the learning process can improve the process and improve the quality of education. Learning that utilizes the character and characteristics of each region in studying various natural and social phenomena makes learning more meaningful [8]. In addition, learning that is integrated with habituation and learning experiences in their environment makes it easier for students to internalize and master the concepts of the material being taught [9].

Based on the above background, the authors are interested in discussing how students respond to Podcasts and the influence of the development of Podcast media as educational media based on local wisdom. Podcasts developed with local wisdom in the future have the potential to promote various information about Indonesian ethnicity and culture. Besides that, the Podcast that will be developed also has the potential to increase the Human Development Index, literacy, and build quality human resources (HR).

2. Method
The method used in this research is a descriptive method, with the research instrument using structured interviews in the form of a questionnaire in the form of questions. In this study, researchers took the social situation of students of the Chemistry Education Study Program at Lambung Mangkurat University. Data were also obtained from literature review related to the object of the study through library research, namely literature review related to the discussion. Literature review was carried out by searching for literature both internationally and nationally by using databases such as ERIC, Garuda Portal, and Google Scholar. The articles found were read carefully to see whether the articles met the authors' criteria to be used as literature in writing literature review. Limited livelihoods from 2016 to 2020 which are accessed in full text in pdf format. The relevant searching result articles were nine articles with details, three international articles and six national articles.

3. Results and Discussion
The data obtained were taken from 38 (thirty eight) chemistry education students. The opinion of respondents is needed to provide a clear description of the use of podcasts so that they can be described descriptively. The responses to the questionnaire can be seen in Table 1.
Table 1. Questionnaires and percentages

| Question                                                                                   | Percentage |
|-------------------------------------------------------------------------------------------|------------|
| Do you agree that learning chemistry using Podcast media can be used as educational technology in learning chemistry | - 2.5%  76.3%  21.1% |
| I like chemistry learning which is integrated with local wisdom through Podcasts            | - 10.5%  71.1%  18.4% |
| Learning chemistry using Podcast media brings many new perspectives in understanding chemistry, culture, local wisdom, and the environment | - 2.7%  52.6%  44.7% |
| Podcast media as a learning medium can train students' listening skills as an active understanding process to obtain information | - 2.6%  73.7%  23.7% |
| The use of Podcast media in chemistry learning helps me learn more easily anytime and anywhere | - 18.4%  52.6%  28.9% |
| I am motivated to study chemistry using Podcast media                                       | - 18.4%  55.3%  26.3% |
| The content in the Podcast integrated into Chemistry Learning taught me that local culture and wisdom have the potential to be a learning resource | - 2.6%  73.7%  23.7% |
| Chemistry learning packaged using Podcast principles / styles has relevance to human life    | - 10.5%  71.1%  18.4% |
| Chemical learning integrated local wisdom in Podcast content is a very effective alternative way of showing that local wisdom is also a part of chemistry | - 2.7%  68.4%  28.9% |
| I feel that I have no difficulty adapting to the Podcast media offered in chemistry learning | 2.6%  15.8%  57.9%  23.7% |

\(^{a}\)Disagree  
\(^{b}\)Neutral  
\(^{c}\)Agree  
\(^{d}\)Strongly Agree

Podcast development as an educational media based on local wisdom has a great opportunity to be practiced/realized in educational settings such as the learning process. This is based on Table 1, where the dominant respondents agree and give a positive response to the development of local wisdom-based podcast media in chemistry learning. In addition, respondents also feel that podcasts can help them learn anytime and anywhere, and can provide new perspectives in understanding chemistry, culture, local wisdom and the environment. This data shows that podcasts have the potential to be developed into learning media, as seen from the responses that are interested in using them quite a lot. This situation is supported by the many advantages possessed by Podcast media and local wisdom itself when implemented in learning activities. Podcasts, for example, have easy access, are inexpensive and flexible, coupled with the integration of local wisdom in learning that makes someone better understand a material. This is because these two components are closely related in everyday life.

In line with the questionnaire data above, previous studies on podcasts have also shown that podcasting provides students with easier access to educational material, helps them have more control over their learning, and gives them the opportunity to review educational materials multiple times. Thus podcasting can be considered as a complement to traditional teaching methods [10].

Podcast as a medium that facilitates access to material is also shown in the research of Norhayati & Jayanti [11], where the study revealed that most college students in Palangkaraya are familiar with and are accustomed to using podcasts as one of their learning media. This is because the variety of podcast
content available online allows students to get additional information that can support their understanding of material related to their discipline.

Accessing a podcast by an individual usually has several goals/motivations. This can be seen in Chung & Kim's study [12], where the research sample was to conduct an online survey of Midwestern university students. This study found that students mainly expressed six motivations for using podcasts, which articulate the consolidation of students' interpersonal relationships, aspects of enjoying life, and for convenience and educational purposes. Unlike usefulness and satisfaction for other media, educational motivation appears to be a significant motivational factor that clearly reflects the primary function of podcasts for students compared to other motivations for using podcasts for example as a means of information, entertainment and relaxation.

It is further explained that Podcasts are a Learning Media in the Millennial Era, this can be seen from the research conducted by Mayangsari & Tiara [13]. The results of research on the development of podcast media is as information technology-based learning media to increase interest in learning. It is seen that the student response is quite high in accepting new learning media. Podcast media development is proven to be able to produce better knowledge due to repetition of information related to course material so that it has an impact on improving learning outcomes. The use of podcast media as a learning medium is considered quite effective and feasible. This can be seen in a study conducted by Asmi et al. To make students understand the material better, the occurrence of repetition of listening to material through audio to train students' memorization and memory so that the material conveyed by the audio is understood very well.

Study by Asmi et al. [14] above relates to the topic of local history in South Sumatra. This research was conducted on a sample of Sriwijaya University History Education students. Overall, the podcast-based audio media developed in the study were considered feasible and effective for use in the learning process. This can be seen based on the evaluation conducted by several experts, namely material experts 4.78, linguists 4.38 and media experts 4 with a mean acquisition of 4.38 which is categorized as very valid to be carried out at a later stage.

In line with the topic in the article above which discusses culture-based learning or local wisdom as podcast material, culture-based learning or local wisdom is an alternative that can be used in the learning process. Given the multiculturalism of Indonesian society, it should be able to be used in supporting the success of the learning process. Moreover, with the waning cultural values, a result of the era of globalization and the development of information technology, utilization of existing values in the social, cultural, customary, and natural environment in the learning process, especially in the character education process is needed [15].

Local wisdom can be integrated into various subjects, such as sociology, anthropology, chemistry, local content, cultural arts, Indonesian or other subjects. The integration of chemistry subjects with local wisdom can be seen in the article entitled "Development of Chemistry Learning Modules on the Periodic System Material of Elements Based on Papuan Local Wisdom Class X Students of SMA Negeri 4 Jayapura" in which from the results of this study it is known that the chemistry learning module on SPU material based on local wisdom of Papua is suitable to be used as a learning module according to the validation results of the material validator data with a mean of 91.3%, validation of the media validator with a mean of 94.75%, the teacher's response is 100% strongly agree and the test is limited to 84.25% [16].

In addition, the integration of culture or local wisdom in chemistry subjects can also be seen from a research article conducted by Irawati & Sofianto (2019), where the results of research conducted on class XI MIA students in MAN 1, MAN 2 and MAN 3 Banjarmasin City shows the validation results that the acid-base worksheet with the POE model based on the local potential of South Kalimantan is considered feasible with the suggested revisions. The results of the sample trial based on the results of the questionnaire stated that the acid-base worksheet developed was very good, namely the percentage of validation results by the validator was 92.09 [17].

Local wisdom in chemistry learning can also be seen from a study conducted by Priyambodo & Wulaningrum [18], based on this research, it is known that the integration of local wisdom with chemical
learning is carried out through teaching aids such as clay molymods, electrolyte testers and electroplating tools. The results showed that students were interested and motivated to use chemical teaching aids based on local wisdom as a medium for learning chemistry [18].

Based on questionnaire data and previous research studies as described above, it is known that all of them indicate that Podcasts are considered suitable as an educational/learning medium. This implies that the development of podcasts as educational media based on local wisdom can also indicate positive results/effects, although previously there were no previous articles or studies that specifically discussed the development of podcasts as a medium for education/learning based on local wisdom on chemistry materials.

4. Conclusion
The results of research and literature review show that the use of podcasts as a medium of learning/education provides a positive response from the sample/respondent. Podcasts can be used as educational or learning media that can be considered as a complement to traditional teaching methods or even become a renewal in learning. The variety of podcast content available online makes it possible to obtain additional information that can support understanding of certain material. Educational motivation appears to be a significant motivational factor that clearly reflects the primary function of podcasts. Podcast media development is proven to be able to produce better knowledge due to repetition of information related to the material in question. Learning about culture/wisdom through podcasts is considered feasible and effective, especially with the waning conditions of cultural values as the result of the globalization era and the development of technology and information.

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