Teacher competence in utilizing digital media literacy in education

S Ramadhan1*, E Sukma2, V Indriyani3
1Faculty of Language and Art, Universitas Negeri Padang, Padang, Indonesia
2Faculty of Education, Universitas Negeri Padang, Padang, Indonesia
3Graduate Program Student, Faculty of Language and Art, Universitas Negeri Padang, Padang, Indonesia

*syahrul_r@fbs.unp.ac.id

Abstract. This study aims to determine the responses and competencies of teachers in digital media literacy. This research is a descriptive study using survey methods. The study sample was 112 Indonesian language teachers in West Sumatra. The instrument of this study used a questionnaire. The results of the study show that most teachers have used digital media to assist in the learning process. However, the digital media used is still limited and not yet diverse. The use of digital media in learning has positive and negative effects. In order for maximum positive effects to be obtained and negative effects to be avoided, teacher competence is needed to make it happen. Based on the results of this study it is recommended that teachers can keep up with the times by utilizing digital media in learning, both to obtain material so that the use of learning media, or support the learning methods used.

1. Introduction
Media literacy is one of the basic skills individuals must possess in the 21st century and has become a central and inseparable part of life. Media literacy can be defined as the use of mass media tools according to needs, accessing content in those tools, understanding, analyzing and evaluating messages correctly and consciously[1]. Basically, media literate people can think critically about what they see, hear, and read in the mass media, such as books, newspapers, television, radio, film, music, advertising, and the internet[2].

Media enables students to interact in the most modern, innovative but not so formal ways in their educational activities[3]. Education must reflect actual changes and consider ways that can support demand to provide quality conditions for human existence in the context of the social transformation process[4]. Education does not escape transformation because in the global world when things change, the need arises to continue education, recycle and develop it to provide answers to future challenges[5]. Digital culture changes the dual relationship between teachers and students in a three-part process involving teachers, students, and technological devices[6]. The use of technology allows new ways to connect with others and access information, having consequences in formal teaching methods[7].

Digital literacy is needed to face transformation at all levels, including the level of communication, learning, satisfaction, curiosity, entertainment and recreation[8]. In general, this literacy framework can be reflected in the use of digital technology, communication tools and networks to access, manage,
integrating, evaluating, and creating information to function in the information society. In the future, the learning process will change and students will become active agents, setting their own pace and how to learn and the amount of knowledge they get[3].

The fact that the Internet is multimedia super highway, raises the need for a shared response to the challenges of modernity technology in education[9]. Connectivity to the Internet and access to information available on the web makes literacy evolve from having the competence to access, evaluate and understand static printed text to be able to access, discover, evaluate, understand, and utilize a variety of dynamically digital texts. [10]. Many pedagogical possibilities exist for making digital texts and composing writings to balance student literacy identity[11].

Indonesia is one of the countries with the most internet users in the world. Based on a survey of the Indonesian Internet Service Providers Association (APJII), the number of internet users in Indonesia reached 143.26 million in 2017. This number increased compared to the previous year, which was recorded in 2016 at 132.7 million. Soemartono explained, the number of internet users in 2017 covered 54.68 percent of Indonesia's total population of 262 million[12].

This fact can be used to use digital media and the internet for educational purposes. Moving traditional classrooms to online computer, software, and internet forums might be possible for this period. However, this learning process can intimidate many teachers who are accustomed to face-to-face interactions from traditional classrooms [13]. Therefore, teachers must establish a more constructive approach to benefit from technology in student literacy practices [14]. Current literacy is not only in the conventional sense but in an innovative way that involves teachers using various approaches to teach students and how to build meaning from media and non-print texts [15]. Using a variety of digital media can be done in the classroom by encouraging teaching that is rich in media literacy, which can lead students to read at a higher level of understanding [16].

The need for professional development of teachers in digital media literacy is not an option but an obligation. Progress in the field of education in obtaining information using various digital media is unavoidable. Teachers must have competence in choosing and using media in learning tailored to the needs of students. In addition, teachers also need technology literacy, utilizing information and communication technology to share information, becoming a model for efficient use of technological resources [15]. The quality of one's digital literacy is reflected in the level of cognitive abilities and technology in which concrete capabilities (individual digital competencies) occur[17]. Based on this explanation, this study aims to look at teacher responses and competencies in digital media literacy.

2. Method
This research was a descriptive study using survey methods. Survey methods were defined as research methods that try to define cases as they were from research samples obtained from the study population. The study population consisted of Indonesian language teachers in West Sumatra who taught at the secondary school level. The sample of this study was 112 teachers. In this study, sampling from the population used purposive sampling. The criteria used in this collection were, for example, the final education at least a bachelor's degree; has taught for at least five years; and already know the type and use of digital media. The instrument used was a questionnaire. The instrument was used to determine the competence and correspondent opinion regarding the use of digital media in language learning.

3. Result and Discussion
The results of this study are described based on the following indicators, including the use of digital media; competence in using digital media; and competence regarding policies in using digital media. The results of these studies are described as follows.

3.1. Use of media digital
The results of this study aim to determine the use of digital media by correspondents, namely Indonesian language teachers in West Sumatra who teach at the secondary school level. The results of these studies are described as follows.
Table 1. The use of digital media by Indonesian language teachers

| No. | Statement                                                                 | Always  | Often  | Sometimes | Never  |
|-----|---------------------------------------------------------------------------|---------|--------|-----------|--------|
| 1.  | I get most of the information from the internet.                          | 26.79%  | 53.57% | 12.50%    | 7.14%  |
| 2.  | I use some information from the internet for teaching material.           | 16.97%  | 72.32% | 7.14%     | 3.57%  |
| 3.  | I usually spend 12 hours or more per week using the internet at school or outside school. | 42.86%  | 46.43% | 6.25%     | 4.47%  |
| 4.  | I share my thoughts through social media.                                 | 14.28%  | 69.65% | 14.28%    | 1.79%  |
| 5.  | I gained knowledge through scientific articles                           | 7.14%   | 21.43% | 50.89%    | 19.64% |

Based on the data obtained in table 1, the teacher has used technology as a basis for finding various kinds of information through the internet. The information is mostly used for teaching materials. The use of the internet to find information is done both at school and outside of school. The use of digital media cannot be separated from internet usage. Based on the data outlined in the introduction, Indonesia is at number 6 in internet usage. What it means to be literate has evolved from having the competence to access, evaluate, and understand static printed texts to be able to access, discover, evaluate, understand, and utilize dynamically [18]. There is a rapid growth in the use of devices that support the Internet that facilitate web browsing and allow access to social media and cross-border communication[19]. The internet allows for the development of knowledge.

In using the internet, teachers share information more through social media than getting information through scientific articles. They are part of cultural works that are representative of deeper meanings because of the frequency of their use of social media[20]. Based on research conducted by We Are Social, a British media company that works with Hootsuite, the average Indonesian person spends 3 hours 23 minutes a day accessing social media[21].

3.2. Competence in the use of digital media

The results of this study aim to determine the competence in using digital media by correspondents, namely Indonesian language teachers in West Sumatra who teach at the secondary school level. The results of these studies are described as follows.

Table 2. Competence in the use of digital media

| No. | Statement                                                                 | Always  | Often  | Sometimes | Never  |
|-----|---------------------------------------------------------------------------|---------|--------|-----------|--------|
| 1.  | I can adapt to changes in teaching and learning technology.               | 37.50%  | 44.65% | 10.71%    | 7.14%  |
| 2.  | I am familiar with media file formats                                     | 32.14%  | 51.79% | 10.71%    | 5.36%  |
| 3.  | I can upload my creative work to websites                                 | 32.14%  | 42.86% | 16.07%    | 8.93%  |
| 4.  | I share with my project friends, the personal media that I create such as digital art, video or music through online media sites. | 32.14%  | 38.39% | 13.39%    | 16.08% |
| 5.  | I can update my computer virus protection software.                       | 18.75%  | 51.79% | 16.07%    | 13.39% |
| 6.  | I can upload videos that I made to online sites such as youtube           | 13.39%  | 42.86% | 21.43%    | 22.32% |
| 7.  | I can download videos from various sites for the benefit of classroom learning. | 32.14%  | 50.89% | 12.50%    | 4.47%  |
| 8.  | I am able to add information to web forums.                              | 42.86%  | 32.14% | 16.07%    | 8.93%  |
| 9.  | I choose learning with online classes rather than traditional classes.    | 5.36%   | 19.64% | 42.86%    | 32.14% |
| 10. | I can choose different media devices based on their functions.            | 16.07%  | 53.57% | 25.00%    | 5.36%  |
To create an interesting, creative, efficient and innovative learning process, teachers must have the competence to choose teaching materials from various sources, using the latest learning tools; and use various media to create fun learning. Based on the data obtained, some teachers have used digital media for the learning process, even though digital media used is still limited. That digital media carries possibilities of communication that have never been thought of before in the history of mankind and their effects have been felt in all fields of society, especially in education [9].

Based on the data in table 2, some teachers are ready to use digital media which is realized in the form of online classes. If this has become a policy, the teacher must be able to carry out his duties in accordance with the times and needs of students. If this happens, digital media literacy can become a part of the curriculum for the future. This is evidenced by the current generation that has evolved from being assigned with digital Y and Z generation from X generation [21].

3.3. Competence regarding policy in the use of digital media

The results of this study aim to determine the competence of policies in using digital media by correspondents, namely Indonesian language teachers in West Sumatra who teach at the secondary school level. The results of these studies are described as follows.

| No. | Statement                                                                 | Always | Often | Sometimes | Never |
|-----|----------------------------------------------------------------------------|--------|-------|-----------|-------|
| 1.  | I can evaluate information found online for credibility.                   | 26.79% | 43.75%| 16.07%    | 13.39%|
| 2.  | I know school rules and policies or the government about downloading digital files. | 21.43% | 58.93%| 7.14%     | 12.50%|
| 3.  | I know the terms of the User Agreement for websites where I post content.  | 32.14% | 53.57%| 8.93%     | 5.36% |
| 4.  | I feel I can identify the credibility of the news.                         | 21.43% | 53.57%| 10.70%    | 14.90%|
| 5.  | I can intelligently discuss ethical considerations using social media in an academic environment. | 32.14% | 5714% | 8.93%     | 1.79% |
| 6.  | I always write the source of information that I get through any media.     | 28.57% | 36.61%| 30.36%    | 4.46% |
| 7.  | Using images from the Internet for learning media is appropriate as long as I don't make money from them | 32.14% | 62.50%| 5.36%     | 0%    |

Based on the data in table 3, most teachers already know the policies in using digital media. To overcome the problems that will arise from the use of digital media and the internet in education, teachers have an important role. Teachers can help students to use media tools efficiently in the teaching process, to identify harmless and non-intrusive content when choosing content through the internet, and to encourage students to express themselves through the media and find solutions to social problems [15]. Media literacy requires the use of effective and thoughtful media and questioning whether the information presented is true or not [22]. Therefore, developments in media culture require individuals in the new century to acquire the skills to use information efficiently, analyze information, and use media tools that enable information communication [23].

4. Conclusions

Based on the results of the research and discussion that has been explained that Indonesian secondary school teachers in West Sumatra, most have used digital media to assist in the learning process. However, the digital media used is still limited and not yet diverse. In addition to the diversity of digital media used, it is necessary to understand the teacher in using the media and what policies must be known in the use of digital media wisely.
5. References

[1] Hobbs R 2010 Digital and media literacy: A plan of action (Washington DC: The Aspen Institute)
[2] Filiz Y, Fisun A 2012 Social studies teacher candidates’ perceptions about media literacy Procedia: Sosial and Behavioral Sciences46 pp 4897—91
[3] Ivancic M 2014 Development of media literacy—an important aspect of modern education Procedia: Sosial and Behavioral Sciences149 pp 438—42
[4] Javorský S, Horváth R 2014 Phenomenon of digital literacy in scope of European curricular comparison Procedia: Sosial and Behavioral Sciences143 pp 769—77
[5] Goulão M F, Fombona J 2012 Digital literacy and adults learners’ perception: The case of a second change to university Procedia: Sosial and Behavioral Sciences46 pp 350—5
[6] Marfil-Carmona R, Chacón P 2017 Arts education and media literacy in the primary education teaching degree of the university of Granada Procedia: Sosial and Behavioral Sciences237 pp 1166—72
[7] Mason R, Rennie F 2008 E-learning and social networking handbook—resources for higher education (London: Routlegde)
[8] Vélez A P, Olivencia J J L, Zuasua I I 2017 The role of adult in children digital literacy Procedia: Sosial and Behavioral Sciences237 pp 887—92
[9] Goodova M, Rubotsva E, Fernandez R F F 2015 Multimedia resources as examples of polymorphic educational hypertexts in the post-literacy era Procedia: Sosial and Behavioral Sciences214 pp 952—5
[10] Shariman T P T, Razak N A, Noor N F H 2012 Digital literacy competence for academic needs: An analysis Malaysian students in three university Procedia: Sosial and Behavioral Sciences69 pp 1489—96
[11] Alvermann D 2011 Moving on, keeping pace: Youth’s literate identities and multimodal digital texts In rethinking identity and literacy education in the 21st century edited by Abrams S, Rowsell J (New York: Teachers College Press)
[12] Setiawan S R K 2018 Tahun 2017, pengguna internet di Indonesia mencapai 143,26 juta orang [online] [retrieved at 2018/12/17] kompas.com
[13] Sarkar S 2012 The role of information and communication technology (ICT) in higher education for the 21 century The Science Probe1 Number 1 pp 30—41
[14] Eksi G, Yakişik B Y 2015 An investigation of prospective english language teachers’ multimodal literacy Procedia: Sosial and Behavioral Sciences199 pp 461—71
[15] Erdem C, Erişti B 2018 Paving the way for media literacy instruction in preservice teacher education: Prospective teachers’ levels of media literacy skills International Journal of Instruction11 Number 4 pp 795—810
[16] Hobbs R, Frost R 2003 Measuring the acquisition of media-literacy skills Reading Research Quarterly38 Number 3 pp 330—355
[17] Schilder E, Lockee B, Saxon D B 2016 The challenges of assessing media literacy education Journal of Media Literacy Education8 Number 1 pp 32—48
[18] Chandler-Olcott K, Mahar D 2003 Adolescents’ anime-inspired “fanfiction”: An exploration of multiliteracies Jornal of Adolescent & Adult Literacy46 Number 7 pp 69—77
[19] Khalid M S, Petersen M J L 2016 Digital Exclusion in Higher Education Contexts: A Systematic Literature ReviewProcedia: Sosial and Behavioral Sciences288 pp 614—21
[20] Fortuna C 2015 Digital media literacy in a sports, popular culture and literature course Journal of Media Literacy Education Number 3 pp 81—9
[21] Pertiwi W K 2018 Riset Ungkap Pola Pemakaian Medsos Orang Indonesia [online] [retrieved at 2018/3/1] kompas.com
[22] Semerci N, Semerci C 2017 The effect of teacher candidates’ critical literacy levels on their media literacy levels Universal Journal of Educational Research5 pp 13—8
[23] Karaman M K, Karataş A 2009 Media Literacy Levels of the Candidate TeachersElementary Education Online8 pp 798—9