The Incorporation of Digital Citizenship Competency in e-Learning Materials for Junior High School Students: A Content Analysis

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Abstract

This study aims at investigating the way Digital Citizenship Competencies (DCC) are incorporated into digital learning materials (DLM) in a web-based learning platform called myenglishstep.com. By compiling 115 DLM of 7th up to 9th Grade and utilizing the content analysis method, the finding shows skills dimension is found to be the highest incorporation, followed by the knowledge dimension. In contrast, the attitudes and values dimension showed low occurrences compared to the previous dimension. Knowledge, skills, and attitudes dimensions of DCC are mostly incorporated in all DLM categories through tasks, contents, and visuals, while values dimensions are incorporated through contents for the most part and tasks. Therefore, these findings are expected to raise people's awareness of digital citizenship competencies and aid teachers and stakeholders in providing reliable and varied digital learning materials.

Keywords:
Digital Citizenship Competency; Digital Learning Material; Global Citizenship.

INTRODUCTION

In response to the digitalized way of life post-pandemic era, the Ministry of Education and Culture of the Republic of Indonesia (Kemendikbud) has formulated Merdeka Belajar 2021 as one of their priorities for the digitalizing school and the learning medium to achieve the recovery in education and G20 Presidency Agenda of Indonesia 2022 (Kemendikbud, 2021; Oudri, 2022). Consequently, the immense growth of technology in Education has reshaped teaching and learning activities. Numerous research on digital learning materials showed positive impacts on students' behavior and learning outcomes, stating that digital learning materials helped students understand and comprehend materials. Digital learning materials and activities, some of which are digital comics (İlhan, Kaba, & Sin, 2021), digital paraphrasing tools (Inayah & Sulistyaningrum, 2021), digital...
greeting cards (Angelina, Mayuni, & Agustina, 2022), podcast (Ardani & Agustina, 2022), and YouTube (Shopia, Sabila, & Purnawati, 2022), brought authentic sources into classroom learning and resulted in positive behaviors toward the student's learning experience. Further, Maulidiana, Cahyaningtyas, & Ismiyanti (2021), Joyo, Putro, & Herwanto (2020), and Riady (2020) proved the feasibility of the utilization of digital-based learning materials, such as electronic modules for poetry, digital simulation materials, and android-based learning materials. Therefore, to enhance students’ digital literacy skills, Mayuni, Leiliyanti, Palupi, & Agustina (2021) developed an interactive and self-assisted learning website, namely My English Step (hereafter called MES), which can be accessed on www.myenglishstep.com, that provides various multimodal English language learning materials and tasks for Indonesian Junior High School (JHS) students.

Yet, despite the improved digital literacy, which becomes one of the required knowledge and skills to promote sustainable development goals (SDGs) in education, UNESCO has been persistently voicing and declaring citizenship education as one of the SDGs of Education by 2030. The Target 4.7 of the SDGs 2030 Agenda addresses the following:

“Ensure, by 2030, that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and culture’s contribution to sustainable development.” (UNESCO, 2020, p.14)

Thus, it is vividly seen that learning materials are expected to foster not only digital literacy skills but also other skills and knowledge that are in line with global citizenship. Despite the importance of understanding global citizenship, many people have not got sufficient exposure to the idea in any formal education at the local level or global level (Fang, 2019). In fact, when someone learns a foreign language, he/she comes across the culture, which later helps him/her to learn the new language better without ignoring their own local culture.

Grounded in core conceptual dimensions of global competence that have been conducted by UNESCO (2015), citizenship competency comprises three learning processes: cognitive process, socio-emotional process, and behavioral process. In line with that, OECD (2018) referred to the global competencies as multidimensional and life-long learning goals that consist of four dimensions, which are supported by four inseparable building blocks; knowledge, skills, attitudes, and values. This shows that global competencies by UNESCO and OECD focus on enhancing students’ understanding of the world and empowering them to express their views and participate in society.

As the digital transformation also occurred in citizenship education, the Council of Europe has worked over the past years to maximize the opportunity of the digital environment by protecting children's rights and fostering education and its culture (Richardson & Milovidov, 2019). In 2016, the Council of Europe conducted a set of ten digital domains and divided them into three areas; being online, well-being online, and rights online, that underpinned the overall concepts and the twenty competencies for democratic culture, which also covered four areas of competencies: (1) values, (2) attitudes, (3) skills, and (4) knowledge and critical understanding. Moreover, the Council of Europe claimed that the term Digital Citizenship is drawn upon these related synonyms or concepts, including “Global Citizenship” (UNESCO, 2015) and “Global Competence” (OECD, 2016b) (Council of
Europe, n.d.). The term ‘digital citizenship competency,’ thus, referred to four dimensions that comprehend knowledge, skills, attitudes, and values as the building blocks to engage and act as a responsible citizen in digital spaces that own rich and critical understanding of not only local but also a national and global issue.

The previous research conducted by Luthfi, Muchtar, Bestari, Waldi, & Prasetiyo (2020) revealed that the national curriculum had included global competencies in the aspect of knowledge of citizenship, covering legal protection, diversity, and human rights as the topics. On the other hand, citizenship skills are studied in each topic, including empathy, namely the principle of mutual respect and respect for diversity in ethnicity, religion, race, culture, and gender. A study conducted by Maida and Dewanti (2021) has pointed to citizenship competencies in EFL learning materials for senior high school students in East Jakarta, indicating the incorporation of citizenship skills (34.2%), citizenship knowledge (33.6%), and attitudes and values (32.2%) in variety of forms of learning materials. Nevertheless, none of the studies have examined the incorporation of citizenship competency in the digital environment and digital learning materials. Therefore, this present study intends to find the incorporation of digital citizenship competencies in digital learning materials in MES.

RESEARCH METHOD

As this study was expected to provide an in-depth understanding and description of the incorporation of DCC in the DLM of MES, the content analysis method was utilized to gather multiple sources of data (Creswell, 2014) and provide a careful, detailed, and systemic examination and interpretation to identify meanings (Lune & Berg, 2016). The data of this research included texts and image data such as words, phrases, sentences, utterances (transcribed from audio and video), and visual materials (such as images or motion pictures that indicate digital citizenship competencies). A total of 115 digitalized learning materials were collected from all grades in MES, comprising 44 data from eight units of 7th grade, 42 data from 13 units of 8th grade, and 29 data from 11 units of 9th grade.

Each data was then given a code (for example, data from Unit 1 Learning Section 1 is coded as U1 L1) and classified according to its categories that reflect the meanings and expectations inherent in the theoretical framework for citizenship competency derived from competencies for democratic culture conducted by Council of Europe and Barrett (2016), Global Competence by OECD (2018) and Global Citizenship Education by UNESCO (2015) (Cohen, Manion, & Morrison, 2018; Lune & Berg, 2016). Analysis was then done to help draw a careful, detailed, and systemic conclusion.

RESULTS AND DISCUSSION

A. Results

A1. The Occurrences of Digital Citizenship Competencies in MES

Despite the varied distribution, the results indicated that four areas of dimensions of DCC, which are (1) knowledge, (2) skills, (3) attitudes, and (4) values, were incorporated into digital learning material in MES. Analysis revealed that 59 DCC indicators were incorporated in the DLM of Grade 7, 104 DCC indicators were incorporated in the DLM of Grade 8, and 62 DCC indicators were incorporated in the DLM of Grade 9. See the table below for more detailed information.
By referring to Table 4 above, the skills dimension of DCC appeared to be the highest incorporation in all DLM categories, specifically in indicators 2. b and 2. c, where the DLM predominantly offered tasks or activities that allowed learners to work collaboratively and participated as well as communicated their perspectives and ideas in a discussion. The following picture illustrates those findings.

![Image](image-url)
The pictures above indicated that the DLM required the learners to engage in a group discussion by comparing the form, content, and language used in two provided posters (U12 L2, Grade 8th) and analyzing the provided advert and presenting it to the class (U10 L1, Grade 9th), which referred to indicator 2. b and 2. c. Additionally, the findings also showed that one DLM could incorporate more than one dimension of DCC, as appeared in the following pictures that incorporated not only indicators 2. b and 2. c but also indicator 1.d, where learners were developing their critical and analytical thinking by evaluating information from divers form of resource (See picture A3).

Not only did the task allow learners to engage in a group discussion and work collaboratively, but it also let the learners know about personal and social responsibilities in offline spaces by asking for rules in certain places to each other, which fulfilled indicator 1. b in the knowledge dimension. Thus, the knowledge dimension showed a small gap with the skills dimension, as indicator 1.d had a high occurrence number (14 in Grade 7, 20 in Grade 8, and 15 in Grade 9). Indicator 1.d revealed how topics, tasks, and activities in all DLM categories allowed learners to develop their critical and analytical thinking by evaluating the diverse form of information, as can be seen in pictures A4 and A5.

Both DLMs had different forms of learning materials; one appeared in audio-visual, and the other one was available only in audio. Learners are required to work on the following worksheets by critically and analytically evaluating the information provided in audio-visual information and information that appears in utterances (the audio).

In contrast, the DLM that showed a small number of occurrences of DCC appeared in values dimensions, where only a few DLMs incorporated indicators 4a, 4b, and 4c. For example, indicator 4a occurred only once, where learners were given a music video to get them exposed to song lyrics on the topic of human dignity and/or equality. The song lyrics encouraged learners to recognize the message and the concept the song promoted - being more considerate of others’ lives, stopping discrimination, and focusing on spreading love and not hate.

“*Heal the world*  
Make it a better place  
For you and me, and the entire human race  
There are people dying  
If you care enough for the living  
Make a better place for you and me.”

Moreover, the task in Picture A7 below offered topic discussion and dialogue theme options that encourage learners to be more aware with their communities and helping them with various activities such as helping parents at home (Membantu orangtua), doing charity for those who are in needs (Mengumpulkan sumbangan buat yang sedang ISOMAN di sekitar rumah, Kegiatan mengerjakan bakti sosial bagi teman yang sakit/mengalami bencana alam), and work together with others for cleaning up neighborhood or classroom (Kegiatan kerja bakti membersihkan lingkungan sekitar rumah, kelas, atau lingkungan sekolah). Thus, in this DLM, the learners unconsciously developed their awareness of solidarity towards others with diverse social and cultural backgrounds.

A2. The incorporation of Digital Citizenship Competencies in MES

The results revealed that knowledge, skills, and attitudes dimensions of DCC were mostly incorporated through tasks (198 occurrences) and followed by a significant amount of gap by contents (11 occurrences), questions (four occurrences), and visual (five occurrences), while the values dimension was incorporated in the DLM for all categories through contents (five occurrences) and task (two occurrences), as illustrated in the following graph.

Knowledge dimension appeared to be incorporated in varied ways. They integrated local, national, and global themes through tasks with eight occurrences, contents with four occurrences, and visual materials with five occurrences. On the other hand, socioeconomics, environment, health and

wellness issues, and the factor that occurs incorporated through tasks and contents showed the same number of occurrences, which were only two for each. Similarly, in incorporating the critical understanding of personal and social responsibilities, there were only two ways, which were tasks with four occurrences and contents with one occurrence. In contrast, DLM, which incorporated critical and analytical thinking development by evaluating various sources of information, occurred 45 times through tasks and once through content.

In line with the previous dimension, the highest occurrences of the way DCC was incorporated in the skills dimension were also through tasks, with 122 occurrences out of the total DLM for all categories: three occurrences in incorporating analytical thinking of a problem, 62 occurrences in incorporating collaborative work among peers, and 57 occurrences in incorporating learners’ participation and communication within the group discussion.

In the same manner, incorporation of DCC through tasks also appeared as the highest in attitudes dimension with 17 occurrences: none in incorporating tasks that allow learners to discover diverse cultures and values of others, four in incorporating tasks that allow learners to develop their feeling of tolerance and respect to other learners that own diverse perspective, belief, social background, and culture, and four in incorporating tasks that allow learners to develop their empathy. DCC incorporated through contents appeared three times.

In contrast, the values dimension of DCC was incorporated in the DLM mostly through contents with five occurrences: one in incorporating topics related to human dignity and equality, one in incorporating topics related to social justice and human rights in on-/offline places, and three in incorporating solidarity development. Additionally, only two appeared to incorporate DCC through tasks.

B. Discussion

The findings of this study indicated that the skills dimension of DCC appeared to be the highest incorporation in all DLM categories on the MES learning website, specifically in indicators 2. b and 2. c, where the DLM predominantly offered tasks or activities that allowed learners to work collaboratively and participate as well as communicate their diverse perspectives, beliefs, and ideas in a discussion. This result is in line with key learner attributes conducted by UNESCO (2015) and the competencies for the democratic culture model conducted by the Council of Europe (2016), where communication, cooperation, appreciation, and respect for differences become required skills in citizenship. Moreover, communicating and collaborating effectively and respectfully by taking multiple perspectives become one of the building blocks of global competence (OECD, 2018). Thus, it signifies how MES tries to promote collaborative activities in most of their tasks and integrates the required not only skills but also knowledge, attitudes, and values to achieve SDGs 2030.

In accordance, by showing the small gap, many DLM categories incorporate topics, tasks, and activities that allow learners to develop their critical and analytical thinking by evaluating the diverse form of information; these findings contribute a clearer understanding of how MES tries to enhance learners’ critical thinking skills. This, then, is in line with the cognitive domains of learning framework of global citizenship by UNESCO (2015) and building blocks of global competence by OECD (2018) which is nurturing the fundamental knowledge and skills to understand the world and its complexity and the ability to comprehensively elicit and reason diverse and rapid information.

However, there is a significant gap in occurrences in which attitudes and values dimensions are significantly low compared to the skills and knowledge dimensions. In fact, OECD (2018) has mentioned that attitudes and values are two of the building blocks of global competencies which are essential to empower an individual to engage in both offline and online communities actively, positively, and responsibly. Moreover, UNESCO (2015) also conveyed that one of the learning processes, which is the socio-emotional process, requires the development of a sense of belonging to common humanity by recognizing the values and responsibility as well as possessing empathy, solidarity, and respect for diversity which are parts of the attitudes.

Comparing this study to the previous research conducted by Maida and Dewanti (2021), there is a similarity in the highest number of occurrences. Both studies revealed the highest incorporation of citizenship competence was skills, reaching the amount of 34.2% in Maida and Dewanti (2021) and an average of 54.76% in this study. However, there are significant differences between the other dimensions. Maida and Dewanti (2021) pointed out that the three other dimensions of citizenship competencies were well distributed, showing a small gap with the highest dimension: 33.6% for knowledge and 32.2% for attitudes and values, while in this study, incorporation of knowledge (33.33%), attitudes (8.87%), and values (3.02%) dimension showed significant gaps compared to skills dimension. Secondly, Maida and Dewanti’s study revealed that knowledge of citizenship competency was majorly incorporated through explanation (116 occurrences) and tasks (65 occurrences), skills of citizenship competency were mostly found in instructions (183 occurrences) and tasks (90 occurrences), and citizenship attitudes and values were mostly incorporated through instructions (178 occurrences) and tasks (36 occurrences). In contrast, this study revealed that the knowledge, skills, and attitudes dimensions of DCC were incorporated in tasks (198 occurrences), contents (11 occurrences), questions (4 occurrences), and visual (5 occurrences), while the values dimension was incorporated in the contents (five occurrences) and tasks (two occurrences).

**CONCLUSION AND RECOMMENDATION**

Despite the uneven distribution, the e-learning materials offered by www.myenglishstep.com has provided the learners with the required Digital Citizenship Competencies in skills, knowledge, attitudes, and values dimensions through various tasks, content, questions, and visual. To some extent, the users of MES are empowered to engage in both offline and online communities actively, positively, and responsibly and to implement their understanding by utilizing diverse types of learning materials and forms of information. As the whole world unites and becomes interconnected altogether with the technology transformation, developing and enhancing citizenship competencies in off-online spaces is significantly vital for all people, including students. It is recommended for education stakeholders, including teachers and students, to have awareness and incorporate these competencies into their learning and for the materials developers to narrower the gaps between dimensions while trying to fit them into the priority. The scope of this study is limited to see the number of occurrences in each dimension of Digital Citizenship Competencies (DCC) on digital learning material (DLM) provided on the MES learning website and describe the ways they are incorporated. Therefore, it is recommended that future researchers examine different DLMs with a deeper analysis of each dimension of DCC and investigate its implementation.

REFERENCES


