



Contents lists available at [Journal Redwhitepress](http://Journal.Redwhitepress)  
**Journal of Educational and Learning Studies**  
ISSN: 2655-2760 (Print) ISSN: 2655-2779 (Electronic)  
Journal homepage: <http://journal.redwhitepress.com/index.php/jles>



## Using infographics as a technology-based tool to develop 21<sup>st</sup> century skills in an ESL context

Fetylyana Nor Pazilah<sup>1</sup>, Harwati Hashim<sup>2</sup>

<sup>1</sup>Universiti Kebangsaan Malaysia

### Article Info

#### Article history:

Received Dec 7<sup>th</sup>, 2018  
Revised Dec 22<sup>th</sup>, 2018  
Accepted Dec 25<sup>th</sup>, 2018

#### Keyword:

Infographics  
Visual aids  
Technology-based tool  
Digital Natives  
21<sup>st</sup> century skills

### ABSTRACT

Technology is advancing every day and there is no stopping to it. It plays a vital role in our daily lives which includes in education field. The use of technology is massively implemented in classrooms as teaching strategies. Old teaching strategies such as visual aids are often improvised to match with the students' interest. Teachers would usually find it difficult to teach students who are digital natives and demand a much more familiar and casual learning environment. It is also significant for teachers to equip the students with all 21<sup>st</sup> century skills in an ESL classroom. The students would prefer if the teachers could teach using any technological tools. Infographics is one of the visual aids that integrates the use of technology. Online application such as Easel.ly can be used to strengthen teaching and learning sessions. Hence, this paper reviewed on the effectiveness of using infographics in developing 21<sup>st</sup> century skills in an ESL context.



© 2018 The Authors. Published by Redwhitepress.  
This is an open access article under the CC BY-NC-SA license  
(<https://creativecommons.org/licenses/by-nc-sa/4.0/>)

### Corresponding Author:

Harwati Hashim,  
Universiti Kebangsaan Malaysia  
Email: [harwati@ukm.edu.my](mailto:harwati@ukm.edu.my)

## Introduction

Innovation begins with people and advancing faster every single day, (Laar, Van Deursen, Van Dijk & Haan, 2017). Among the innovations that people have created, technology becomes the main debate in all fields. Current waves of technology are taking the world by storm including education field. Harwati (2018) stated that "technology plays a vital role in the digital era than it did for previous generations and has made today's generation a much more technology competence" (p. 1). "Technology has become an entire way to survive 21<sup>st</sup> century" (Prensky, 2004 as cited by Romero, Ott & Usart, 2014 p. 149). The students who are much familiar with technology, found its way into language learning as it attracts the younger generation as they are digital native (Krystalli, Arvanitis & Panagiotidis, 2014). The integration of technology in classrooms is no longer a new occurrence (John & Melor, 2018). John and Melor (2018) also stated that the usage of technology proves its effectiveness in improving the students' language and 21<sup>st</sup> century skills.

One of the 21st century skills is communication skills. There is a need to develop 21st century skills to face future challenges and to prepare the students for new jobs which involves technologies (Fisch & McLeod, 2009). Hence, an effective teaching strategy is required to address this problem (DeWitt & Alias, n.d). Among the technology-based tool that can be used in a classroom would be visualization tools or visual aids. According to Macwan (2015), the use of visual tools is able to provide a more authentic learning environment. They added that authentic materials such as visual aids that are used in class enable real communication to

take place. Kos & Sims (2014) claimed that visual aids such as infographics confirm popularity among students. Undeniably, infographics is a technology-based tool that can give positive impact and enhance the quality of learning. Thus, the aims of this paper are (i) to review the effectiveness of using infographics as a part of technology-based tool in developing 21<sup>st</sup> century skills and, (ii) how it motivates students in learning English as a Second Language (ESL).

## **The Use of Technology in Teaching and Learning**

According to Romero et al (2014), “Prensky detects that youth nowadays communicate, buy and sell, searching for information and even socialize differently” (p. 149). Everything seems to happen at a click. As stated by Chun, Kern and Smith (2016), technology always viewed as a medium to enhance intellectual and creativity. They added that teachers nowadays are at a pressure of trying to maximize the use of technology in a classroom. However, many researchers have proven of the effectiveness of technology in class. “The usage of technology shapes how people use language in particular instances, ability to think critically and argue logically” (Chun, Kern & Smith, 2016, p. 2). Furthermore, students nowadays are categorised as millennial or as often described as digital natives. They have higher competencies in technology in which leading to expansion of technological based materials to use in classrooms. Technology often relates with internet-based application. Among the internet-based applications that the earth citizens frequently used would be Facebook, Google, Twitter and LinkedIn (Raunair, Rawski, Yang & Johnson, 2013). Another internet-based application that can be used in a teaching and learning process would be Easel.ly. Easel.ly is an infographics application that can be used in teaching and learning process.

According to Rokones and Krumsvik (2016), ICT helps to encourage students’ participation in class. Due to their nature as digital natives, “they have high level of technological literacy”(Harwati, 2018, p. 2). Additionally, the usage of technology such as smartphones, laptops and even online applications will increase the students’ motivation in learning. Among the online applications that teachers can use in classrooms would be info graphics-based application such as Easel.ly in which depicts technological visualizations. According to Kos and Sims (2014), people seem to be drawn with visualizations, colours, and images in which believes can attract students’ attention as well and boost their motivation in learning. Due to its colourful nature, info graphics will be able to motivate students in reading and writing (John & Melor, 2018). Moreover, Wang, Teng and Chen (2015) stated that using ICT and online applications can encouraged students’ engagement in a much more meaningful language learning activity.

## **Characteristics of Digital Natives**

According to Prensky (2001), today’s students are best known as the generations that grow up with technology. He added that, ‘they spent their entire lives surrounded using technology such as video games, cell phones, online social medias and computers’ (p.3). Helsper and Eynon (2009) stated that the young people’s brains developed differently to compare with the older generations due to their surrounding in which they grow up with technologies. Prensky (2001) stated that students nowadays are ‘native speakers’ of technology hence digital natives. Gen X are those who were born between 1961 and 1981 and for Gen Y are those who were born between 1984 and 1994. According to Best et al. as cited by Harwati (2018), ‘students who are born between 1982 and 2000 are categorised as the millennials and are known as Gen- Y and are often described as digital natives due to their high level of technology literacy’.

Due to the difference in growing environment and generations, digital natives will demand a different approach in learning, (Bennett, Maton & Kervin, 2008). Bennett et al (2008) stated that, due to their familiarity with technology, their lives are described as living in ‘immersed technology’. Due to this technology-rich era that we are living in, digital natives are said to have different influence and interests in education. They are the experts in technology and understand how to use the technological tools effectively to compare with the older generations (Helsper & Eynon, 2009). Bennet et al (2008) continued by stating that digital natives have sophisticated knowledge on technology due to their upbringing that surrounds with technologies. It has become a part of their lives and they are fluent in it.

## **Infographics in ESL Teaching and Learning**

Vanichvasin (2013) stated that students nowadays often find teaching and learning sessions as boring and not interesting. They are not as enthusiastic about learning as they should be in which contributes to poor

results achieved. The quality of teaching and learning sessions plays a very important role. Communication and visual tools are among the most powerful tools that a teacher can use in a classroom. Among the visual tools that can be used would be infographics. As stated by Kos and Sims (2014), info graphics are used everywhere as a form of information display and communication. They added, “it can be seen everywhere from newspapers to billboards”, (p. 1). However, according to DeWitt and Alias (n.d), very few studies did on info graphics. They added, learning tools such as an info graphics poster can provide a lot of information while presented in an interesting and casual manner. Mohammad and Mohammed (2016) stated that giving visual information is important as they are noticeable and provides better understanding for the students.

Kos and Sims (2014) added that info graphics not only can provide information in an interesting and casual manner, but it can also be a tool of communicating. Mohammad and Mohammed (2016) stated that infographics provide a broader opportunity to understand facts by just looking at it. Since, info graphics can be delivered in posters, it can also produce collaborative learning, as one of the 21<sup>st</sup> century skills (DeWitt & Alias, 2014). According to Ozdamli, Kocakoyun, Sahin and Akdag (2014), “learning by using infographics, provide a lot of data as a whole structure for individuals and thus, they create scheme in minds”, (p. 2). They added that, info graphics provide a much simpler and easier to understand information than having to read long texts. Students would also be more stimulated to read literary texts (John & Melor, 2018) if they are required to produce info graphics materials. Infographics focus on the excitement of displaying graphics and will be able to fascinate the learners. Learners would be encouraged to produce posters and share it with their peers (Dewitt & Alias, 2014).

## **The Development of 21<sup>st</sup> Century Skills**

“The 21st century forces the younger generation to have different competencies that goes even beyond the obvious information and communication technology (ICT) literacy such as communication, collaboration, social and cultural skills, creativity, critical thinking, problem solving, productivity in a globalized world, learning to learn skills, self-direction, planning, flexibility, risk taking, conflict management, and a sense of initiative and entrepreneurship” (Romero et al, 2014, p. 149). These are among the 21st century skills that students are taught to master.

According to Trilling and Fadel (2009), 21st century skills is defined as new sets of skills and knowledge required in order to succeed in learning, working and living. As a part of 21<sup>st</sup> century skills, collaborative learning, great communication skill and having high level of technology literacy skill is crucial for every student. Info graphics allow students to deliver information in an attention-grabbing way and with causalities to their peers at the same time learning to master in ICT as it uses online applications (DeWitt & Alias, n.d).

## **The Use of Infographics in Developing 21st Century Skills in an ESL Context**

Having different teaching strategies in an ESL classroom is significant in order to maximize the content of learning. According to Meyer (2010), teaching and learning should be ‘meaningful, authentic and challenging’. He added that challenging and meaningful learning are the main pillars when learning a language in a classroom. ‘Classroom content should be meaningful in a sense that it focuses on global problems mankind faces while connecting with the students’ lives’ (Meyer, 2010, p. 13). Having effective teaching strategies such as using video clips, flash animations, web-quests, podcasts and other interactive materials would increase students’ motivation in learning. Due to the major changes made by technology in education, more authentic teaching strategies claimed for the students (Noraïen & Normaliza, 2017). Hence, in order to achieve a more significant learning, teaching strategies involving technologies are much needed to motivate the students who are digital natives. Using infographics are among the effective teaching strategies due to the collaboration with technology and its authenticity (Kos and Sims, 2014).

Using infographics in teaching and learning has the potential to contribute in increasing students’ 21<sup>st</sup> century skills. According to Romero (2014), students should be able to master all the skills required in 21<sup>st</sup> century. Among the skills centralized would be collaboration, communication, critical thinking, and ICT skills. Dewitt and Alias (2014) stated that infographics can be used in a form of a poster. Students then would require to share it with their friends in which would boost their communication skills. Collaborative learning is also among the main skills that is projected with the implementation of infographics in ESL classroom (Dewitt & Alias, 2014). Collaborative learning would occur when the students are required to work in a group. They would have to show amazing teamwork skill to be able to achieve meaningful learning.

## Conclusion

In a nutshell, having to incorporate technology as a part of visual aids in an ESL classroom can pledge for a boost of motivation among students who are digital natives. Their interest in learning would also increase as they are learning using technology that they are familiar with. The implementation of technology will not only boost their motivation but it will also develop their 21<sup>st</sup> century skills. 21<sup>st</sup> century skills are the skills that are much demanded. Infographics allows students to be highly equipped with the skills as well as being ICT literate. Hence, the use of infographics for teaching and learning would definitely bring a much more impacts and meaningful learning.

## References

- Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology*, 39(5), 775-786. doi: 10.1111/j.1467-8535.2007.00793.x
- Chun, D., Kern, R., & Smith, B. (2016). Technology in Language Use, Language Teaching, and Language Learning. *The Modern Language Journal*, 100(S1), 64-80. doi: 10.1111/modl.12302
- Dewitt, D. Alias, N.(n.d). Infographic posters for enhancing 21st century communication skills.
- Fisch, K., & McLeod, S. (2009). Did You Know? Shift Happens.
- Harwati, H. (2018). Application of Technology in the Digital Era Education. *International Journal of Research In Counseling And Education*, 1(2), 1. doi: 10.24036/002za0002
- Helsper, E. & Eynon, R. (2009) Digital natives: where is the evidence? *British educational research journal*. pp. 1-18.
- John, D.S. & Melor, M.Y. (2018). The Potential of Using Visual Aids in Reading Literary Texts. *The Asian EFL Journal* 20(4): 215-226
- Kos, B.A. Sims, E. (2014). Infographics: The New 5-page Paragraph Essay.
- Krystalli, P., Arvanitis, P., & Panagiotidis, P. (2014). Evaluating Serious Games for Foreign Language Learning: An Online Grading and Visualization Tool. *International Journal for Cross-Disciplinary Subjects In Education*, 5(1), 1564-1570. doi: 10.20533/ijcdse.2042.6364.2014.0219
- Macwan, H. J. (2015). Using visual aids as authentic material in ESL classrooms. *Research Journal of English Language and Literature (RJELAL)*, 3(1), 91-96.
- Meyer, O. (2010). Towards quality-CLIL: successful planning and teaching strategies. *Basic Issues in EFL-Teaching and Learning*. 11-29
- Mohammad, A. & Mohammed, E. (2016). The Effectiveness of Using Interactive Infographic at Teaching Mathematics in Elementary School. *British Journal of Education*. Vol.4, No.3, pp.1-8.
- Ozdamli, F. Kocakoyun, S. Sahin, T. & Akdag, S. (2016). Statistical Reasoning impact of infographics on education.
- Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon*, 9(5), 1-6. doi: 10.1108/10748120110424816
- Røkenes, F., & Krumsvik, R. (2016). Prepared to teach ESL with ICT? A study of digital competence in Norwegian teacher education. *Computers & Education*, 97, 1-20. doi: 10.1016/j.compedu.2016.02.014
- Romero, M., Usart, M., & Ott, M. (2014). Can Serious Games Contribute to Developing and Sustaining 21st Century Skills? *Games and Culture*, 10(2), 148-177. doi: 10.1177/1555412014548919
- Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: an empirical study on Facebook. *Journal of Enterprise Information Management*, 27(1), 6-30. doi: 10.1108/jeim-04-2012-0011
- Trilling, B., & Fadel, C. (2009). 21st century skills: Learning for life in our times. John Wiley & Sons.
- Van Laar, E., van Deursen, A., van Dijk, J., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers In Human Behavior*, 72, 577-588. doi: 10.1016/j.chb.2017.03.010
- Vanichvasin, P. (2013). Enhancing the Quality of Learning Through the Use of Infographics as Visual Communication Tool and Learning Tool. *International Conference on QA Culture: Cooperation or Competition*.
- Wang, B., Teng, C., & Chen, H. (2015). Using iPad to Facilitate English Vocabulary Learning. *International Journal of Information and Education Technology*, 5(2), 100-104. doi: 10.7763/ijiet.2015.v5.484