

Doi: 10.34120/0085-034-137-027

## **Students' Perceptions Relating to Experiencing Motion Infographics in the Teaching Process: A Phenomenological Qualitative Study**

**Dr. Fatimah A. Dashti**

College of Education  
Kuwait University

**Ahmad J. Al-Haddad**

MOE

State of Kuwait

### **ABSTRACT**

This study investigates students' perceptions after experiencing motion infographics as an instructional media. Examining students' perceptions of the experience can help educators choose the proper instructional media and teaching method that suit "Generation Z" to which the participants belong. Qualitative approach was used. 20 sixth grade male students participated in the study. They were taught a social studies topic using motion infographics that was designed by the researchers. Eventually, the students were interviewed using semi-structured interviews to seek their opinions towards the motion infographics. Results showed that the participants enjoyed the motion infographics as an instructional media in learning. It acted, they claimed, as a summary of the textbook. They expressed a desire to have motion infographic to be accessible via the World Wide Web, so they watch it even in the home domain. Their feedback on some motion infographics features such as speed, duration, visuals, text, colors, and narration were extremely invaluable. Most of the participants showed preference to teachers' explanation and the use of motion infographics as an instructional media.

**Key Words:** Generation Z, Motion Infographics, Sixth grade, Social studies, Instructional media.

### **Introduction**

Motivating students to learn has always been a challenge for educators. Technology and its applications are used in teaching to

motivate learning for Generation Z students who have started using technology at a very early age. It is important to explore students preferences toward using technology and its applications as instructional media, since this will help educators choose the best motivational tool in teaching. Many school districts are making changes according to Generation Z preferences (Genota, 2018). Students preferences constitute an important guide in developing methodologies for teaching Digital Natives; (Prensky 2001a). They learn through multimedia. Therefore, we should better use tools that would suit them; (Nicholas, 2008).

### **Theoretical framework and literature review**

Carter (2018) classifies those who were born in the late 1990s to mid-2010 as “Generation Z” (Gen Z). Prensky (2001a) referred to them as the “Digital Natives” generation who are accustomed to receiving information fast (part II: 4), who have a short attention span when taught the traditional way (part II: 5), and prefer graphics over text (part I: 2). Gen Z consider technology as a normal and an essential part of life (The Harris Poll, 2018). They have widespread use of wireless technology and non-verbal, symbolic communication, (Carter, 2018). Research has shown that Gen Z spend up to three hours per day on YouTube, making it their most preferred channel for learning, and 43% of their average weekly online usage in watching movies (The Harris Poll, 2018). Gen Z are not limited to classroom learning because they are able to receive instructional learning from free websites including YouTube and prefer learning through video clips related to in-class material (Moore, Jones & Frazier, 2017).

It is adamant that Gen Z educators think of using technology when designing a pedagogy (Onye & Du, 2016), since Gen Z are accustomed to using mobile phones and tablets as the primary tools for accessing and interacting with information via the Internet. Students like to use social media on the Smartphone in learning; this can help them study independently anywhere and at any time (Apriyanti et al., 2020). Statcounter (2016) notes that mobile and tablet formats outpaced desktop formats in worldwide usage of the Internet for the first time in

2016. Gen Z is interested in multimedia usage in the classroom (Nicholas, 2008); therefore, it is best to use tools they prefer and are familiar with.

Infographic, i.e. (“information” and “graphic”) is defined as the use of visual objects like graphics, pictures, symbols, maps, and charts to simplify information and deliver it in a fast and clear manner (Naparín & Saad, 2017). They differ from data visualizations in that the former shows a relationship between the information presented, while data visualization presentations do not necessarily do so (Vital, 2018). Infographics may be a visual summary of a topic. Al-Haddads study (2018) revealed different types of infographics:

- “Static Infographics” include a print version, and three types of digital versions. “Zooming Infographics”, where parts of it may be enlarged or minimized as needed. “Clickable Infographics”, where clicking produces a picture, text, or link to a web site, and “Animated Infographics”, which involves animation as GIF format (p 36-38).
- “Motion Infographics” or “Motion Infographics Videos”, hereafter (MI), involve moving visuals and graphics. The motion of the content helps simplify complex information, allowing faster and easier understanding by the viewer. This type of Infographics is characterized by features including music and sound effects (p. 38-39). The information presented in MI flows in a logical sequence of events similar to storytelling.

Therefore, the MI can be defined as a video presenting summarized information using simple drawings or graphics, short text, and audio. The summary is presented as a story showing the relationship between different parts of the targeted information. The MI should be very short; its better not to exceed one minute. Krum (2018) explained some terms that can be assumed analogous with MI like animated info graphic and animated graphics.

*“Animated infographics create some motion or change to the design as the reader watches. .... These are differentiated from the video infographics as these are not video files. These are animated with HTML code or an image file format to create the animation but can exist as an object on the web page”* (Krum, 2018: 42).

Thus, animated infographic is similar to animated graphics or

animated drawings. However, they differ from MI. Infographics are appropriate tools for presenting complex data (Vital, 2018) and transferring knowledge faster (Naparín & Saad, 2107). They make learning more interesting, rendering them a powerful method to be used in lectures (Ozdaml et al., 2016; Sudakov et al., 2016; Yildirim, 2016). While visualizations facilitate learning, information presented via infographics is more easily retained in the memory, making it permanent, and therefore, very helpful for use in books (Yildirim, 2016). Using colored graphics and images with description in infographics help stimulating students' motivation (Apriyanti et al., 2020).

Shafipoor, Sarayloo & Shafipoor, (2016) mentioned that 65% of people are visual learners and infographics help students grasp information better than the written text. Infographics help shorten teaching time, allow ease of learning, memorizing and retrieving information, and enhance the teaching-learning process (Shafipoor et al., 2016; Sudakov et al., 2014) found that students (more than 80%) have a positive attitude towards infographics because of the wealth, brevity and readability of information, in addition to the ability of infographics to show a relationship between different phenomena. Students achievement scores improved when infographics were used (Al-Mohammadi, 2017; Aljeraiwi, 2014; Alotaibi, 2018; Alqudah, Bidin & Hussin, 2019; Omar, 2016), and infographics may be effective in teaching students with special needs (Ibrahim, 2017; Khalil, 2016).

Al-Haddad (2018) observed that students enjoyed using MI in teaching because the information was presented within a short time and the visuals exemplified the information very well. Also, the MI helped students retain and recall the information longer. Ozdaml et al. (2016) found that students had positive feedback about infographics because they better understood the content in comparison with other visual aids. Similarly, (Alqudah, Bidin & Hussin, 2019) claim that making use of visual presentations helps students perceive the information. Abu Aldahab (2018) used Infographics as a training media that consequently had a progressive effect on students achievements.

Prensky (2001b) raised the questions: "Should Digital Native students learn the old ways, or should their Digital Immigrant educators learn the new ways?" (part I: 3). Not all digital native populations are the same since they come from different cultures, live in

diverse regions, and belong to different “tribes” (Watson, 2013). In other words, in order to construct a successful teaching relationship with students, it is imperative to understand their perspectives toward emerging learning tools such as MI. Apriyanti et al. (2020) highly recommended exploiting new innovations in teaching and learning to motivate students when learning intricate themes.

### **Significance of the problem**

Literature shows that studies conducted on the use of MI as instructional media are scarce, as most of the previous studies have focused only on static infographics. Therefore, it is worth looking for the digital generations preferences in more detail to help educators choose the proper instructional media and pedagogy for this generation. Such perceptions are indicators of the level of acceptance, utility, and modification included in SWOT analysis.

### **Research Questions**

The research attempts to answer the following questions:

- 1 - How do sixth grade students perceive motion infographics?
- 2 - How are their perceptions reflected in functioning motion infographics (MI) for teaching them?

### **Methodology**

The “phenomenological design” of qualitative research model was used to answer the research questions. An Interview with semi-structured questions was used to gather information about students experiences, feelings, and responses to the MI that was used as an instructional media in teaching a social studies topic in class.

### **Context and participants**

A sixth-grade class was chosen to participate in the study because one of the researchers teaches social studies to sixth graders, and the MI was designed to display a social studies-related topic. The Ministry of Education had assigned three lessons for the social studies topic picked for the study.

The participants belong to the Gen Z according to Carter (2018) classification. The class had 26 students and, since schools are segre-

gated according to gender from the first grade onwards in Kuwait, all of them were males. Out of the 26 students, four were absent the day the study was conducted, and two refused to be interviewed. Therefore, 22 students participated in watching the MI, and 20 were interviewed for feedback.

## **Data collection**

### **\* Designing the MI**

In order for the MI to serve the purpose of the study, the following criteria were stressed: 1) Visuals and information must relate appropriately to the content (Yildirm, 2016; Kibar & Akkoyunlu, 2014). 2) The logical sequence of events was made akin to storytelling (Niebaum et al., 2015). 3) Ensure that the recipient would understand and grasp the information easily and rapidly (Krum, 2014). Therefore, complicated visuals were avoided, and appropriate colors, numbers, texts and images were chosen to fit the age group. 4) Pleasant and high-quality images only to be used in the MI (Yildirm, 2016). 5) No unnecessary information is added (Harrison, Reinecke & Chang, 2015; Yildirm, 2016). 6) The information is presented in the form of a summary (Kibar & Akkoyunlu, 2014; Niebaum et al., 2015; Yildirm, 2016). A storyboard was designed under the supervision and revision of several social studies teachers and supervisors. The MI itself was expertly produced by specialists in the field, under the constant and close surveillance of the research team. The final product was reviewed again by social studies teachers and supervisors, and accordingly, additional changes were made. The MI was then tested on seven students from sixth grade, tweaked for the last time, then applied to this study. The MI tackled a topic from Kuwait history that covered two lessons and lasted for four minutes and nine seconds.

### **\* Lesson Presentation**

In class the teacher began preparing the students for the topic, then told them that a video will be played to present the topic, rather than the teachers explanation method they were used to. The term” video” was used instead of MI to simplify things for the students. After the MI presentation had ended, almost all the students asked the teacher to

repeat it, and when the teacher asked them why? Many of them claimed that it was a novel experience and wanted to make sure they understood all the information in the video. The MI was then played a second time.

During the class presentation of the MI, the students seemed completely focused on the MI throughout, and only a few of them showed signs of boredom. When students were asked whether or not they had enjoyed the video, almost all of them said they did enjoy it. One student said he wished all of his lessons would be explained using these types of videos, and while some students agreed with him, a few rejected this idea. The teacher proceeded to ask the students if they had properly understood the information in the MI after viewing it for the first time, and almost all of them replied that they did, which led the teacher to inquire as to why they had requested to play it again. The majority said that the method was new to them. Few students said they wanted to correctly answer the worksheet questions, and others said that it helped them find important information they needed for their upcoming exam. This, in fact emphasizes the idea that passing examinations comes as students first priority.

#### \* Interview

Since class duration does not permit a thorough discussion about the MI with all the participants, semi-structured interviews addressing students perceptions of the MI were conducted. The interviews focused on the following questions:

- a - What do you like most about the MI?
- b - What do you not like most about the MI?
- c - Would you like an accessible copy of the MI to be available to you?
- d - When do you prefer watching the MI?
- e - Where do you prefer watching the MI?
- f - Do you prefer the MI over traditional teaching?
- g - Would you like the MI to be available for other topics or subjects?

The school participating in the study allowed the researchers 30 minutes to interview each student. The interviews were conducted during recess. Each interview lasted 20 to 30 minutes, depending on the

students speed in responding to the questions. Only one researcher interviewed the students, and each students answers were written on a separate paper by the interviewer using students exact wording.

### **Data preparation**

The translation of students responses was done in order to provide the corresponding English meaning of the Arabic original response. Henceforth, the translation was reviewed by an English language Kuwaiti academic to ensure that the translation is consistent with the students Kuwaiti statements.

### **Data analysis**

The researchers revised students answers and statements collected from the interview sheets following the analysis suggested by Groenewald (2004) who called it “explicitation of the data”. First, to understand and fully comprehend the students responses, the researchers read their responses several times and then, grouped the words which show either similar meaning or those that are pretty close. Having taught this grade level for six years, one of the researchers had no difficulty in understanding the participants dialog. In addition, a Kuwaiti socio-linguist reviewed the responses with the researchers to confirm the students’ meaning of their response. Should there had been any doubt about students responses, the researchers went back to the participants and asked them for more explanation. Then, each response that relates to the MI experience and the number of occurrences of each response were identified. Then the data were coded, and the related codes were put together in the form of categories that aided in interpreting the data.

### **Results and discussion**

Research question 1: “How do sixth grade students perceive motion infographics?” The interview showed that all students enjoyed the MI, a finding similar to that of Sudakov et al., (2014), who also found that students showed a positive attitude toward the MI. Samples of students statements: “the video was nice and good” and “the video presented the information in an acceptable way.” The students were asked to specify features of the MI which they liked or disliked, and they pinpointed the following features:

- MI speed for presenting the information: Most students (70%) claimed that the MI speed was appropriate for them. Few (15%) said it was too fast, and few (15%) stated that it was rather slow. Samples of students statements: “*the speed is fine*”, “*normal speed*”, “*appropriate speed*”, “*a little bit fast*”, “*too fast*”, “*little slow*”, and “*too slow*.” Consequently, students comments show that MI may be appropriate for some Gen Z who are accustomed to receiving information rapidly, as Prensky (2001a) had equally observed.
- MI duration: Most students (75%) stated that the MI duration was acceptable, while some (15%) were not satisfied with the duration, as they described it as too long. This may explain why some students seemed bored while watching it. Few students (10%) stated that it was short. (Here is a sample of students statements: “*good*”, “*usual, suits me*”, “*I prefer it shorter*”, “*video duration was fine*”, “*somehow too long*”, and “*a little long*”).
- Visuals (pictures/ drawings/ symbols): All the students (100%) enjoyed the visuals used in the MI. (Here is a sample of the students statements: “*the pictures represent the events*”, “*the pictures in the background represent the textbook*”, “*nice pictures students can understand*” “*clear pictures, appropriate for the topic and student*”, “*appropriate picture and explained the spoken words in the video*” and “*represent the past*”) as the subject was about Kuwait history. The students noticed that the visuals related well to the text, a feature they enjoyed and approved. This relates to (Ozdaml et al., 2016) findings that students understand issues better with Infographics compared to other visuals. Additionally, students prefer graphics (Prensky, 2001a), since they are used to non-verbal communication (Carter, 2018). They are interested in multimedia during class (Nicholas, 2008), and, as Al-Haddad’s study (2018) showed, they enjoy the use of MI in teaching because the information were well explained through the use of the visual effects.
- Text: All students (100%) liked the text. A sample of students statements: “*readable*”, “*big and clear*”, “*appropriate and readable*”, and “*clear, comprehensible*”. Two of them said “*some of the text disappeared quickly*”. The MI presented only important dates, names, and terms, and this explains why many students said that the MI is a

summary of the textbook and would be suitable to use for revision. This is related to research finding; (Kibar & Akkoyunlu, 2014, Niebaum et al., 2015, and Yildirm, 2016). These studies found that the success of infographics is related to the simplification and summarization of information.

- Colors: Almost all students (95%) except one (5%) said the colors were fine and helped them capture and retain the information. Samples of their statements: *“presenting the information in different colors was nice”*, *“appropriate colors”*, *“the colors were beautiful for each picture”*, *“excellent colors”*, and *“I liked the colors, they helped me remember the information”*. One student commented that *“many colors distracted me; I prefer it if they were reduced”*. Therefore, the MI colors were appropriate, and other researchers (like Harrison, Reinecke & Chang, 2015 and Yildirm, 2016) had emphasized choosing the right colors for the infographics.
- Narration: Most of the students (95%) liked the narration. A sample of students statements: *“it was in Arabic”*, *“understandable”*, *“it was very clear”*, *“good, marvelous”*, *“it was comprehensible”*, and *“the narrators phonetics were very clear”*. One student (5%) was not pleased with the sound level saying, *“Sometimes it was too high, and other times it was too low”*. Therefore, it is important for the narration to choose a person who speaks clearly and can control his voice level according to the importance of the information. Therefore, choosing a teacher who is familiar with the content of the MI for narration can be a good choice.

The features mentioned above are similar to the criteria that were stated by (Harrison, Reinecke & Chang, 2015; Yildirm, 2016).

Question 2: How are their perceptions are reflected in functioning motion infographic (MI) for teaching them? The answers to this question were categorized to the following:

**\* Summarizing content**

Several students mentioned that they like the MI because it is a summary of the book. A sample of students statements: *“the book presents information in detail while the video gives less details”*, *“if I need detailed information I will use the book, and use the video as a summary”*,

*“the video summarized the content”, “the video summarized the information and that’s why I like it better than the instructions”, and “We can study from the book then use the video for revision because it is a summary of the book”.*

#### **\* Substitute teachers instruction**

Most of the students preferred to be instructed by both the teacher and the MI (65%). A sample of students statements: *“teacher and video so that I understand the lesson”, “the teacher may skip some details, and the video my skip details, therefore, they complement each other”, and “both so that we can grasp the lesson faster and better”.* Many of these students mentioned the video first then the teacher and mentioned that the teacher can explain what they missed in the video. A sample of students statements: *“Some may not understand the video then the teacher will explain more to help them understand” and “if I didnt understand the video the teacher helps me to understand”.* This may suggest that they assume they will watch the MI first, followed by the teacher explaining or discussing the topic with them. This already happens when the teachers use educational videos with them in class. Some students (25%) preferred the MI over traditional teaching, explaining that it was shorter and more concise, *“the teacher takes too long to explain and keeps repeating the lesson, while the video uses less time”, and “the video summarizes the information”.* Two students (10%) said they prefer the teachers explanation, and when asked why, they responded that the teachers explanation was more detailed that help them understand better, *“the teachers explanation makes us understand, and the teacher can answer our questions”.*

The results show that most students like teachers instruction supported by the MI. This finding differs from (Prenskys, 2001) who saw that the digital natives have “short attention spans—for the old ways of learning” (part II: 5).

#### **\* Contribution to a different learning style**

Many students (90%) mentioned that they would like to have a copy of the MI accessible to them, and when they were asked “why?”, most responded that they would like a copy to watch before class, as this would help them participate in the class discussion, answer teachers questions correctly, and understand the lesson. Some students men-

tioned that they wanted a copy to watch after class for revision. A sample of students statements: *“I like to watch it before class to prepare for the lesson, and later for revision”*, *“before class in order to be able to answer the teachers questions in class”*, *“before class-time; it will help me understand the lesson”*, *“before class, to be prepared for the teachers explanation”*. Other students stated that they would like to watch the MI during class time with the teacher to help them understand the lesson better. A sample of students statements: *“in class in order for the teacher to answer our questions”*, *“beginning of class, then the teacher can discuss the lesson with students”*, and *“end of class in order not to lose interest of the teachers explanation”*.

When the students were asked *“How many times would you like to view the MI in class?”*, the most popular answer was twice (40%). The reason they gave was that the first time around they might not understand the MI fully, and the second time would help them understand it completely. A sample of students statements: *“the first time is to prepare, the second is to understand”*, unclear *“just twice, in order to understand the video when repeated, “twice to understand the lesson better, the information received, stay, do not leave”*, and *“I like playing the video twice, if I miss something the first time, I can catch it the second time”*. This explains why they asked the teacher in class to repeat the MI more than once.

**\* The settings they like to watch the MI: Place, Time, and with whom.**

Students were asked *“Where do you prefer to watch the video?”*, and many (65%) mentioned at home as the place where they preferred watching the MI at. A sample of their statements: *“the students who didnt understand the lesson can watch it at home”*, *“at home to prepare for the class discussion”*, *“at home, its more comfortable and I can repeat it more than once”*, and *“at home it is more quiet”*. Some students prefer watching the MI in class and most of them prefer it at the beginning of class before the teachers explanation in order for them to understand the lesson better", *“At the beginning of the class, this helps the teacher for in-class discussions”*. Some students (30%) mentioned both in class and at home: *“I like to watch at the beginning of class to prepare us for the lesson and at home for revision”*.

Then the students were asked *“When do you prefer to watch the*

video?” many of them said, “*I like to see it in my spare time*” and “*before the exam*”. Others said before the class to prepare for the lesson as it was mentioned in the previous point.

Since the students mentioned that they would like to have a copy of the MI to watch it at home, this led to another question, “*Would you prefer to watch the video alone or share it with others?*” Many of them (55%) said they would like to watch MI with friends so they could help each other better to understand its contents. Sample of students statements: “*with my friends its better and nicer*”, “*with my friends, in order for me to benefit from them and they benefit from me*”, “*with friends, because if didnt understand a word one of them will explain it to me*”, and “*with friends, in order to revise together and share answers with each other*”. Other students (40%) said that they prefer to watch it alone in order to focus more. “*I like to see it alone, to focus more*”, “*alone, cause when I am alone, I focus more*”, “*alone I benefit better*”, and “*alone to focus more and write down questions for the teacher*”. Other students mentioned the context in which they would watch the MI, which included “*while we study*”, “*to help us better understand the lesson*”, “*to prepare for class*”, and “*whenever its convenient for us*”. One student said, “*It depends on my friends, if they are quiet, I will watch it with them, but if they are noisy, I prefer watching it alone*”. Students responses show that understanding the lesson is more important than the setting.

#### \* **Outside school availability**

Most of the students (90%) claimed that they would like to have a copy of the MI available for them. Therefore, they were asked “*how they wanted it to be available for them?*”, and many (60%) answered that they would like a copy of the MI to be uploaded on YouTube. When asked why, they responded that it is easy to use, they use it all the time, and it is free. A sample of students statements: “*I prefer YouTube because it is easy to use*”, “*I like a copy on YouTube because I use it a lot*”, “*YouTube is available for everybody for free*”, “*I can tell my friend about the video on YouTube so they can watch it too*”, “*YouTube is public and for everybody*”, and “*everybody knows how to use YouTube but the ministry of education site is only for students and not*

*everybody is familiar with it*". Other ideas students gave about MI viewing include: *"I would like to download the MI and keep a copy with me to view on my mobile phone"*.

Some students (25%) prefer to have a copy on the Ministry of Educations website, since the ministry can regularly update the MI, and the students are not distracted by other videos on the website, *"it's better on the Ministry of Education site so we will not be distracted by other videos as in YouTube"* and *"I prefer the Ministry of Education site because they can update the video"*. Few students (15%) mentioned that they prefer to have copies available on both the Ministry of Educations website and YouTube, so that they have the option to view it on whichever website they prefer.

These results are similar to those of Global Research & Insights (2018) which revealed that Gen Z's most preferred method for learning is via YouTube. Gen Z are not limited to classroom learning; they are able to learn using free internet sites like YouTube and prefer learning via video clips related to class material (Moore et al., 2017). The results support students learning styles as they like to see the MI before class for preparation and after class for revision and to study for the exam. Also, the students like to watch the MI at home and at their convenient time.

#### **\* Simplifying certain subjects**

Students were asked *"Do you like to have similar videos for other subjects or topics and why?"*, and most (90%) said they would, especially for difficult topics, important lessons included in exams, and lessons with too much information. Some students specified which subjects they would like to have MI for, and these included Social Studies, Science, English, and Arabic. Few students mentioned all subjects. Sample of students statements: *"I suggest doing it for other subjects specially for difficult lessons and those that have too much information because videos make me grasp the information in social studies and English easier"*, *"I prefer the video for the difficult lessons that have too much information like science and social studies"*, *"only for subjects that have too much information, as in social studies and science"*, *"for hard lessons only, the easy lessons dont need MI, for Arabic and Islamic studies because the videos have little writing"*, *"some subjects like social studies, science, and*

*Islamic studies*”, “*for difficult subjects, Arabic, English, science, and social studies*” and “*for every lesson and subject but in addition to the teachers explanations*”.

#### **\* MI as a tool for exam revision**

Many students (65%) claimed that the MI might help them study for examinations. “*A copy of the video will help me revise before an exam*”, “*it can help me answer the questions and get good grades*”, “*the copy will help me revise for the exam*”, “*I would like to view it before exams*”, and “*I would like to see the video while I’m studying for the exam*”. Students judgments about instructional media depend on how much the instructional media would help them in obtaining high grades.

#### **Conclusion**

We may conclude from the results yielded in this study that students readily accepted the MI as a useful instructional media to be used by the teachers in class. Hence, teachers should consider MI when they design the pedagogy for their lessons. Also, making the MI available for students at home via the Internet may be a helpful and valuable educational asset for them, especially for those lessons they find more difficult. It may therefore prove beneficial for Gen Z students to be oriented to MI use in class, and even trained to use it at home as a learning media. It is important to bear in mind some criteria when designing MI that may help the learners grasp the information more easily and rapidly. It is important to choose simple visuals that represent the information suitably for the learners. The text in the MI should be brief and should present only important terms. The voice of the narrator must be clear. The duration of the MI should be short, and it is recommended not to exceed one minute as the MI is a summary of the information from the textbook. The MI is different than the instructional film (videos) which gives details. It can be called a “*Flash Motion Infographics*” as it is short, a summary of one topic, and has limited text related to important terms. It is recommended to repeat the study with female students, other grade levels and other subjects. The Ministry of Education should seek to provide MI for different subjects and different grade levels and make them available for students on their official website and YouTube. The MI can be added

to textbooks as a QR. It is most rational to train teachers to produce and use MI in teaching. MS PowerPoint and Animaker are some programs that may be used for MI design and production.

## آراء الطلبة حول تجربة استخدام الإنفوجرافيك المتحرك في العملية التعليمية: مقارنة نوعية

أحمد جاسم الحداد  
وزارة التربية والتعليم

د. فاطمة عبدالصمد دشتي  
كلية التربية - جامعة الكويت

دولة الكويت

### ملخص

تهدف هذه الدراسة النوعية إلى الوقوف على آراء الطلبة عن تجربتهم لاستخدام الإنفوجرافيك المتحرك كوسيلة تعليمية. ومثل هذه الدراسة ستعين التربويين على اختيار أفضل وأنسب الوسائل التعليمية وطرق التدريس التي تناسب جيل "Generation Z" التي ينتمي لها الطلبة المشاركون في الدراسة. اشتملت الدراسة على عدد (20) من الطلبة الذكور في الصف السادس. وتم تدريس الطلبة المشاركين في الدراسة مادة العلوم الاجتماعية باستخدام فيلم الإنفوجرافيك كوسيلة تعليمية وقد أعده الباحثان لغرض الدراسة. كما تم إجراء مقابلات مع الطلبة المشاركين بعد الانتهاء من تدريس المادة وذلك للوقوف على آرائهم تجاه استخدام فيلم الإنفوجرافيك كوسيلة تعليمية في التدريس. وأشارت النتائج أن الطلبة أبدوا سعادتهم في استخدام فيلم الإنفوجرافيك كوسيلة تعليمية في التدريس، حيث إنها كانت بمثابة تلخيص جيد للمادة العلمية الموجودة في الكتاب المدرسي. كما أبدى الطلبة رغبتهم في أن تتوفر هذه الوسيلة على الشبكة العنكبوتية العالمية (World Wide Web) ليتسنى لهم مشاهدة الفيلم وهم في منازلهم. إن التغذية الراجعة التي أقررتها الدراسة بما يتعلق ببعض خصائص فيلم الإنفوجرافيك مثل السرعة والمدة الزمنية والمحتوى المرئي والكتابة والألوان والتعليق الصوتي كانت مفيدة للغاية. كما فضل الكثير من المشاركين شرح المعلم أو أن يكون استخدام فيلم الإنفوجرافيك وسيلة مساعدة لشرحه.

الكلمات المفتاحية: الجيل الرقمي Z، الإنفوجرافيك المتحرك، الصف السادس، مادة الاجتماعيات، الوسائل التعليمية.

## References:

- Abu Dahab, M. M. (2018). Designing a web-based learning environment based on static (vertical - horizontal) And its impact on the development of user interface design skills among students of the Department of Information Science. 24th Conference of the Association of Specialized Libraries, Gulf Arab Branch: Data and the prospects for its investment: the path towards cognitive integration – Oman. <http://search.mandumah.com/Record/870125>.
- Alhadad, A. (2018). *The effectiveness of using | Motion Infographic Video as a Learning Means and Accepted by the Learners in Social Studies*. (Unpublished Master Thesis). College of Graduate Studies / Kuwait University.
- Al-Jerawi, S. (2014). The effectiveness of a proposed training program in the development the designing skills of electronic mental maps through the technology of infographic and visuals of pre-service teachers. *Arab Studies in Education and Psychology - Saudi Arabia*, 45(4), 47-13.
- Al-Mohammadi, N. (2017). Effectiveness of Using Infographics as an Approach for Teaching Programming Fundamentals on Developing Analytical Thinking Skills for High School Students in the City of Makkah in Saudi Arabia. *Global Journal of Educational Studies*, 3(1), 22-42. c: <http://www.macrothink.org/journal/index.php/gjes/article/view/10854/8695>. DOI: <https://doi.org/10.5296/gjes.-v3i1.10854>
- Al-Otaibi, S. (2018). The Impact of using Instructional Infographic on Students' Achievement in English Language Grammar of First Intermediate Grade in Riyadh. *Journal of Educational and Psychological Sciences*, 8(2), 26-55. Retrieved from: [https://drive.google.-com/file/d/1tdcFXYEXgziWh\\_TpEPOkf7oGJJQxQ2XX/view](https://drive.google.-com/file/d/1tdcFXYEXgziWh_TpEPOkf7oGJJQxQ2XX/view).
- AlQudah, Derar; Bidin, Azman Bin & Hussin, Mohd Azizul Hakim Bin Md. (2019). The Impact of Educational Infographic on Students' Interaction and Perception in Jordanian Higher Education: Experimental Study. *International Journal of Instruction*, 12(4), 669-688. Retrieved from: <https://files.eric.ed.gov/fulltext/EJ1230044.pdf>.
- Apriyanti, Netty; Razak, Rafiza Abdul; Shaharom, Mohd Shahril Nizam; Rahim, Suzieleez Syrene Abdul & Halili, Siti Hajar (2020).

- Needs Analysis of Infographic Media Using Technology for Learning Physics. *Malaysian Online Journal of Educational Technology*, 8(1), 48-62. Retrieved from: <https://files.eric.ed.gov/fulltext/EJ1240005.pdf>.  
[DOI.org/10.17220/mojet.2020.01.004](https://doi.org/10.17220/mojet.2020.01.004)
- Carter, T. (2018). Preparing Generation Z for the Teaching Profession. *SRATE Journal*. 27(1). Retrieved from: <https://files.eric.ed.gov/fulltext/EJ1166694.pdf>
- Genota, L. (2018). Video learning outranks printed books in survey. Retrieved from: <https://www.edweek.org/ew/articles/2018/09/12/why-generation-z-learners-prefer-youtube-lessons.html>
- Groenewald, Thomas (2004). A Phenomenological Research Design Illustrated. *International Journal of Qualitative Methods*. 3(1). Retrieved from: <https://journals-sagepub-com.kulibrary.vdiscover-y.org/doi/pdf/10.1177/160940690400300104>
- Harrison, L., Reinecke, K., & Chang, R. (2015). Infographic Aesthetics: Designing for the First Impression. In *CHI '15 Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (pp. 1187-1190). Seoul, Republic of Korea: <http://chi2015.acm.org/>. doi:<https://doi.org/10.1145/2702123.2702545>.
- Ibrahim, R. (2017). The Impact of Educational Program in Science based on the Technology of Infographic on the Acquisition of Scientific Concepts, the Development of Visual Thinking Skills, and Ability of Use by Students with hearing disabilities in the primary stage. *Journal of Educational, Psychological and Social Research*, College of Education, Al - Azhar University, 175(3), 340-411.
- Khalil, A. (2016). Patterns of Educational Infographic and its Impact on the Achievement and Efficiency of Learning Mathematics in Elementary School for Students with Simple Mental Disabilities. *Journal of Educational, Psychological and Social Research*, College of Education, Al - Azhar University, 169(3), 272-321.
- Kibar, P. N., & Akkoyunlu, B. (2014). A new approach to equip students with visual literacy skills: use of infographics in education. *Springer International Publishing, Switzerland*, 456-465.

- Krum, R. (2014). *Cool infographics effective communication with data visualization and design*. Indianapolis, Indiana: John Wiley & Sons, Inc. [www.wiley.com](http://www.wiley.com).
- Moore, K., Jones, C., & Frazier, R. S. (2017). Engineering Education for Generation Z. *American Journal of Engineering Education*. 8(2), 111-125.
- Naparin, H. & Saad, A. B. (2107). Infographics in Education: Review on Infographics Design. *The International Journal of Multimedia & Its Applications (IJMA)*, 9(4/5/6). DOI: 10.5121/ijma.2017.9602.
- Niebaum, K., Sabo, L. C., Carroll, J., & Bellows, L. (2015). Infographics: An Innovative Tool to Capture Consumers Attention. *Journal of extension*, 53(6), 1-6. [www.joe.org](http://www.joe.org).
- Nicholas, A. (2008). Preferred Learning Methods of the Millennial Generation. *Salve Regina University, Faculty and Staff - Articles & Papers*: Retrieved from: [https://digitalcommons.salve.edu/cgi/view-content.cgi?article=1017&context=fac\\_staff\\_pub](https://digitalcommons.salve.edu/cgi/view-content.cgi?article=1017&context=fac_staff_pub)
- Omar, A. (2016). Effectiveness of a Proposed Strategy Based on Infographic on the Acquisition of Scientific Concepts, Development of Visual Thinking Skills, and Enjoyment of Learning Science in Fifth grade students. *Journal of Scientific Education. Egypt*, 19(4), 268-207.
- Onye, U.U. & Du, Y. (2016). Digital Natives and Digital Divide: Analyzing Perspective for Emerging Pedagogy. *13th International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2016)*. Retrieved from <https://files.eric.ed.gov/fulltext/ED571397.pdf>
- Ozdaml, F., Kocakoyun, S., Sahin, T., & Akdag, S. (2016). Statistical Reasoning of Impact of Infographics on Education. 12th International Conference on Application of Fuzzy Systems and Soft Computing, ICAFS 2016, 29-30 August 2016, Vienna, Austria Retrieved from: [https://ac.els-cdn.com/S1877050916325947/1-s2.0-S1877050916325947-main.pdf?tid=d1032be6-98b8-47d1-8408-23eb99925e46&acdnat=1542536608\\_f7843a58b7a876e62b6c2-b34a8e978ff](https://ac.els-cdn.com/S1877050916325947/1-s2.0-S1877050916325947-main.pdf?tid=d1032be6-98b8-47d1-8408-23eb99925e46&acdnat=1542536608_f7843a58b7a876e62b6c2-b34a8e978ff)

- Prensky, M. (2001a). Digital Natives, Digital Immigrants: part I. *On The Horizon (MCB University Press)*, 9(5), 1-6. Retrieved from <http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>
- Prensky, M. (2001b) Digital Natives, Digital Immigrants, Part II: Do They Really Think Differently? (*On the Horizon MCB University Press*), 9(6),4-5. Retrieved from <http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part2.pdf>
- Shafipoor, M., Sarayloo, R., & Shafipoor, A. (2016). Infographic (Information Graphic); a Tool for Increasing the Efficiency of Teaching and Learning Processes. *International Academic Journal of Innovative Research*, 3(4), 39-45.
- Sudakov, I., Bellsky, T., Usenyuk, S., & Polyakova, V. V. (2016). Infographics and Mathematics: A Mechanism for Effective Learning in the Classroom, *PRIMUS*, 26(2), 158-167, DOI: 10.1080/10511970.2015.1072607
- The Harris Poll (2018). Beyond Millennial: The Next Generation of Learners. Global Research & Insights. New York. retrieved from: [https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/news/news-announcements/2018/The-Next-Generation-of-Learners\\_final.pdf](https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/news/news-announcements/2018/The-Next-Generation-of-Learners_final.pdf)
- Vital, A. (2018). What is an Infographic? The Secret behind the Hype. Retrieved from <https://blog.adioma.com/what-is-an-infographic/>
- Watson, I. R. (2013). Digital Natives or Digital Tribes? *Universal Journal of Educational Research*, 12),104-112. retrieved from <https://files.eric.ed.gov/fulltext/EJ1053825.pdf>, 2013. DOI: 10.13189/ujer.2013.010210
- Yildirim, S. (2016). Infographics for Educational Purposes: Their Structure, Properties and Reader Approaches. *The Turkish Online Journal of Educational Technology (TOJET)*, 15(3), 98-110. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1106376.pdf>

