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Investigating the role of YouTube tutorials as an in-class supporting material in teaching and learning research methodology:

The case of third EFL licence students at Abdelhamid Ibn Badis University, Mostaganem

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Dedication

To my family

To my friends

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Abstract

Research methodology is one of the most important modules taught in higher education, hence a considerable amount of effort is put at teaching it effectively. Yet in spite of this, students at Abdelhamid Ibn Badis University are still facing difficulties and struggling when it comes to understanding and mastering this craft. One of the attempts to make teaching and learning this module more effective is the integration of YouTube tutorials as a supporting material in teaching it. YouTube tutorials are a special type of YouTube videos in the sense that a YouTube tutorial teaches by the actual doing or use of something in action rather than with simply giving theories, definitions, or ideas about it. In other words, YouTube tutorials are to provide practical rather than theoretical information about a certain topic. Today, many researchers in the field of education claim that YouTube videos in general can enhance students' 21st century skills including; critical thinking, collaboration, active learning, communication, creativity, and so on, which as a consequence result in a better and more effective learning. Yet there has been no previous work that proves or disapproves the effectiveness of YouTube tutorials specifically in teaching research methodology. This study hence, is to investigate the role of YouTube tutorials in teaching and learning research methodology at Abdelhamid Ibn Badis University, Mostaganem. Its main objective is to unveil the effectiveness of YouTube tutorials in improving students' understanding of research methodology module. Also it seeks to determine whether or not those clips help enhance and develop the 21st century trends and skills as well as attempting to collect data about students' perceptions and feedback about the use of YouTube tutorials in teaching the craft of research methodology. For this purpose, a mixed method design was adopted to answer the questions of this investigation, including an experiment, a questionnaire, and an observation as the tools utilized in gathering the data. The results revealed the effectiveness of YouTube tutorials in teaching research methodology.

Key words: YouTube tutorials, research methodology, 21st century skills, 21st century education.

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General introduction

General introduction

One of the utmost objectives of higher education is to generate and raise competent researchers who are capable of carrying a real academic research work by their own. For this purpose, research methodology module has been given a great importance to achieve this goal. Yet, despite the importance it is given, students at Abdelhamid Ibn Badis University are still facing many difficulties and struggles when it comes to applying what they have learnt in their research methodology module in conducting their own research. One of the reasons behind this struggle could be the way the module is taught to those learners. In fact, even though the latest research in relation to education has shown that, so far, one of the most effective ways in teaching that must be adopted is the learner centered approach –which entails that teaching revolves around the learners, to make them more active, more critical, more engaged, and so on. As well as to consider their needs and nature- most of Abdelhamid Ibn Badis University students are still, most of the time, very passive in their learning, and are not always taken as the center when it comes to teaching and learning. They are likely to rely on receiving information and instruction from the teachers and memorizing them as they are instead of questioning and analyzing them before actually accepting them.

This passiveness in fact, is despite the awareness of the tutors of these trends and despite their efforts in attempting to adopting and enhancing them in students, yet with no much satisfying results so far. For this reason, as an attempt to applying these approaches effectively and to enhance them in students so as to result in a better, effective understanding and learning of the research methodology module, we have came up with the idea of utilizing YouTube tutorials as a supporting material in teaching the module to help students better understand it, through applying and enhancing the 21st century trends in a way that is more natural to the learners since YouTube tutorials are one of students' most used ways to gaining knowledge in their everyday life. The idea of utilizing YouTube educationally is in fact not a new one. For, many scholars and educators all around the globe have approved its effectiveness as a pedagogical resource to meet the nature of the 21st century learners. However, in this study we attempt to test a more specific type of YouTube videos, which are the YouTube tutorials in teaching the module of research methodology.

YouTube tutorials are a specific kind of YouTube videos which aim is to *teach by example*. That is, differing from the rest of the YouTube instructional videos which teach by simply defining and describing instructions, the tutorials rather apply the process directly

instead of simply describing it. This *teaching by example* feature in the YouTube tutorials is what made us hypothesise the effectiveness of this specific type of YouTube videos in teaching research methodology module. For, the objective of research methodology courses is to prepare and teach learners not only about *what* is research methodology but it is to train them, most importantly, on *how* to apply it in conducting their own research. This is likely to match with the nature and the aim of the YouTube tutorials in the sense that these clips do not only give information about the what, but they most importantly teach about the how.

The source of motivation for this investigation is the fact of being personally part of this struggle with research methodology and experiencing it in person, as well as noticing the rest of students dealing with the same struggle. As noticed, in this case, when students experience a lack of understanding in the classroom, they generally go to YouTube seeking a quick explanation to give them a clearer idea that is mainly merely general about the topic just so that they manage to use it to answer in the exam. The fact lead to the idea of why not bringing these YouTube videos to the classroom and even use them in a more studied effective way instead of simply letting students take information from random videos. The fact of bringing them to the classroom is likely to save students the time of opening several videos looking for the right one, and is to give them the chance to find a trust worthy, credible environment to discuss their questions and misunderstandings that immerged from watching the videos. This therefore, led to thinking about integrating the YouTube tutorials in the classroom as a supportive material to teaching research methodology. From this, we have hence raised three main issues to be examined during this study. They are as follows:

1- To what extent can YouTube tutorials help develop students' understanding of research methodology?
2- How do students learn research methodology through YouTube tutorials?
3- What are students' perceptions of integrating YouTube tutorials as a supporting material in research methodology lessons?

As an attempt to answer the questions above, we hypothesize the following:

1. YouTube tutorials may help students develop a better understanding of research methodology, to the extent where they will be able to make sense of the knowledge, better memorize and remember them for the long term because it is they who extracted and constructed them from the videos by themselves.

Also, Students tend to not only have a better understanding of the lessons but they even may develop an ability and readiness to apply them when conducting their own research.

2. Learning through YouTube tutorials is likely to lead students to develop the 21st century skills, they become more active, more autonomous, more communicative, collaborative, creative, and critical.

3. Students will probably appreciate the use of YouTube tutorials because it suits their life style, for they are used to gain information mostly from videos in their daily life.

The aim of this study is to investigate the role of YouTube tutorials in teaching and learning research methodology. It is to check the extent to which this type of videos can help develop students' understanding of the module, as well as the extent to which they enhance and develop the 21st century trends and skills in the learner. Also it aims at collecting students' feedback vis à vis their experience with the utilization of these clips.

To conduct this investigation, a mixed method paradigm is adopted to collect both quantitative and qualitative data. Different data collection tools are used including an experiment, a classroom observation, and a questionnaire to collect data about students' perception and feedback regarding the use of such clips. The population of this study is third year EFL license students of Abdelhamid Ibn Badis University at the department of English.

The present work is divided into three chapters. The first chapter provides an in-depth overview of the effectiveness of YouTube videos in the 21st century education. It hence describes the nature of 21st century education, its trends and characteristics. Then moves to providing literature in relation to the use of YouTube videos, including their definition, their effectiveness educationally, their shortcomings, and finally reviewing some of the approaches to a more effective use of the clips. The second chapter is for describing the research methodology followed in conducting this investigation, the methods and techniques, and the data collection tools used to either prove or disapprove the hypotheses of our work. The third and last chapter is to analyze and discuss the results gathered.

Chapter One : Overview

1. Introduction

This chapter is to review the literature on the usefulness of YouTube as a teaching material for the 21st century education. Therefore, it is divided into two parts. The first part gives insight on the 21st century education, its trends and characteristics, the nature of its learners and their main features. Then it sheds light on technology as an important part of the 21st century learners' lifestyle and the importance of making it part of their education. The second part is about YouTube videos specifically as one technological means that serves the objectives of 21st century education. It starts by giving an in-depth idea about YouTube and its use. Then, it provides a more specific definition of YouTube videos. After that, it digs into more details about the effectiveness of utilizing those clips educationally as well as shedding light on their shortcomings, and hence reviewing some of the approaches and ways for the effective use of YouTube videos.

1.1. A brief introduction to the major trends of 21st century education

EFL (English as a Foreign Language henceforth) teaching, and since it first started, has always been dynamic and in a continuous development of competing language teaching ideologies. The 21st century language teaching hence, has its own characteristics that make it noticeably different from the previous ones. To fulfill the demands and objectives of this century such as developing the four C's skills (Critical thinking, Creativity , Collaboration , and Communication) in the learner, applied linguists of the century have developed new trends of teaching and learning such as those just mentioned, learner centeredness, active learning, the reduction of teacher-speaking time, the co-construction of knowledge through debates, and many others that fall under the umbrella of learner centeredness which is the main trend of 21st century education.

1.1.1 Learner centeredness

The notion of learner centeredness or learner-centered education refers to the act of teachers considering the learners when teaching rather than neglecting them and just focusing on the information to be taught, taking into consideration aspects such as their needs, their cognitive level, interests, and their psychology. According to Jones (2007), student-centered classroom as he refers to it, broadly entails shifting the focus to the learners and their needs and encouraging them to be much more dependent on themselves in learning rather than

relying totally on the teacher. This, however, does not mean that the teacher has to be completely absent, he rather is, in King's (1993) words, the "guide on the side" instead of the "sage on the stage". This means that the teacher is only a guide leaving a healthy dose of control for the students over their learning, what Weimer (2002) described as "the balance of power" between teachers' and learners' roles.

1.1.2. Active learning

In addition to learner centeredness, active learning is one of the significant traits that characterise education of the 21st century. It is an educational strategy that falls under the umbrella of learner-centered education since it paves the way for its application. In Prince's (2004) words, "active learning requires students to do meaningful learning activities and think about what they are doing" this is to say that students have to be reflecting and doing a mental activity when learning rather than simply receiving information in a passive way. Hence, not any learning is inherently an active learning, Bonwell and Eison (1991) state that active learning goes beyond students just listening to formal instructions; it rather entails learners to be actively involved in the learning process by engaging in what he calls "higher-order thinking tasks" such as analysis, synthesis, and evaluation to ensure a benefit from the knowledge.

1.1.3. The teacher talking time (TTT)

Another important characteristic is the notion of the teacher talking time. Teacher talking time (TTT) is the time that teachers spend talking in class, rather than learners, it can be compared with student-talking time (British council). It is natural for teachers to want to help students understand, so they tend to talk too much aiming to provide learners with the maximum of information possible, when in fact they should be rather giving more chance to learners to speak their minds than preventing them from speaking unless they are asked to (Chaudron, 1988). For, as cited in British council website, one key element of many modern approaches is to reduce the amount of TTT as much as possible, to allow learners opportunities to speak, and learn from speaking. Hence, the fact of giving students enough time to speak their ideas is an opportunity for them to notice their own mistakes, learn from each other's questions and viewpoints, and for teachers to spot and correct misunderstandings (Ahmed, 2019).

Chapter One : Overview

All in all, the 21st century education characteristics are mainly based on the constructivist learning theory, which entails leading learners to be more active and pushing them to construct knowledge by themselves using their prior knowledge and critical thinking (Nola, Robert; Irzik, and Gürol, 2006). Therefore, as time goes by, considering more approaches and activities that encourage learners to be more active when learning is crucial to designing the effective educational programme for them in order to achieve the goal of successful effective learning.

1.2. Digital learners

1.2.1. Brief introduction

Since 21st century teaching-learning process is characterized by focusing on the learners including their needs and their nature, studies have shown that the majority of 21st century learners are digital (Prensky, 2001). Maclean & Elwood (2009) therefore states "the existence of this group then would necessitate a thorough reconsideration of pedagogy to meet their radically different learning needs" indeed, for the traditional educational system was designed for a different kind of learners, whereas this digital natives as Prensky (2001) refers to them, would need a special pedagogy that fits their nature.

1.2.2. What is a digital learner?

Digital learners, also known as technology-savvy or the net generation (N-Gen) are "the population of about 90 million young people who have grown up immersed in technology or are growing up in constant contact with digital media" says Tapscott (1998), and whose way of learning is shaped by it (Khosrow, 2009). Some scholars such as Dr. Bruce claim that these learners have even different brains from the previous generation, which is referred to by Prensky (2001) as digital emigrants[1], in Dr. Bruce's words "different kinds of experiences lead to different brain structures," (Dr, Bruce D. Perry of Baylor College of Medicine as cited by Prensky, 2001). Regardless of the degree of validity of this claim, Prensky (2001) believes that this century's learners thinking patterns have noticeably changed. In this respect, after thorough interviews, Tapscott (1998) has identified that there is a number of changes on how these students work and think. It is important, therefore, to consider these shifts and changes in these learners educational programmes.

Digital learners hence, expect their learning to be different, in the sense that it should be including technology, as shown in Chen's (2002) anecdote when students he encountered

told him how they expect technology to accompany them considering it as part of their brains. In the same follow of thought, McCombs & Vakili (2005) state "these digital learners who have grown up in a technology-saturated world that has defined and shaped their way of learning find school irrelevant and boring" (p. 4) that is it does not meet their interests and expectations. Therefore, a reconsideration of the educational system to make it more adapted to these digital learners is required.

For these reasons, the integration of technology in 21st century digital learners' education is crucial. It is also important to note that instructors themselves as well are required to adapt not only their teaching tools or methods, but also and most importantly to adapt themselves, including their "learning tools, content and assessment criteria, and the activities" (Roodt & Pierre, 2011, p. 8) and make their teaching style more adapted with technology to meet the nature of their 21st century digital learners.

1.3. Technology and education

As it has been shown previously, technology occupies a major part of 21st century learners' lives, an introduction to scholarly uses of technology and integrating it in their educational programmes is therefore required to achieve more positive education outcomes. Despite the fact that there have been many teachers resisting the use of technology because they believe it is inadequate and that this will make both teachers and learners uncomfortable (Nurdyansyah, Rais, and Aini 2017), It has been argued that technology integration have a strong impact on teaching and learning. According to Umar, Basheer, Isa, and Watsella(2017) "Integrating technology in learning, especially in higher education, can empower both instructors and learners to improve the quality of education and also to achieve the anticipated learning objectives". (p. 10). In the same line of thought, Lea, Clayton, Draude, and Barlow, (2001) emphasize that teachers strongly believe that technologies can be used as tool to generate knowledge and learn with understanding.

1.3.1. Definition of educational technology

Learning Technology or educational technology (EdTech henceforth) is called upon the use of technology both hardware and software such as computer-based learning, multimedia materials and the use of networks and communications systems to support learning in education (Rist and Hewer, 1999). According to the Association for Educational Communications and Technology (AECT), "Educational technology is the study and ethical

practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources"(as cited in Richey et al., 2008, p 52). According to Rist and Hewer (1999), "learning Technology is defined as the application of technology for the enhancement of teaching, learning and assessment." (p. 5)

1.3.2. The effectiveness of educational technology

Many studies have shown the positive effect the integration of technology has on education. According to Hamiti and Reka (2012), the importance of technology in education is continuously increasing, they further argue that technology can enhance the education process in several ways, such as influencing research, presentation, communication, collaboration, problem-solving and creativity. In the same flow of thought, Raja & Nagasubramani (2018) argue that the use of technology increases students' interaction and makes them more active as they find it comforting since it represents a huge part of their lifestyle. They further argue that this is because "the transfer of knowledge becomes very easy and convenient, as well as effective with the use of technology" (Raja & Nagasubramani, 2018, p. 33). Indeed, for using technology makes learning varied as it is not the same way repeated every time like in the case with teachers. This fact of variation makes the human brain active and constantly working to construct knowledge rather than relying on simply memorizing dictated information, for according to Cotton et al. (1997) "technologies when used regularly in class, they bring positive effects on students' cognitive and attitudinal outcomes" (as cited in Handal, 2004, p 2).

However, the integration of technology has not always been appreciated. Many teachers have been resisting the use of technology in educational programs for so many reasons. According to Raja (2018), teachers tend to resist technology because of the barriers that might be faced when using it. She mentions "the most common barriers are lack of time, lack of access, lack of resources, lack of expertise and lack of support". Another common reason is the negative impact it might have on students. An excessive use of technology is likely to make the learners do lots of grammar and spelling mistakes Terry (2015) states. He continues that some teachers argue that it is a source of noise and distraction in the classroom. Also, it is rejected by some because of the extra effort they have to put in using it, for they do not see that the new way is worth the investment (Terry, 2015).

Inspite of this, Boris and Handal (2004) claim that these shortcomings are mainly because of what they called "teachers instructional beliefs". According to them, some teachers

have prior intuitive beliefs that technology cannot be effective in teaching, because it will be a source of distraction to students and for many other reasons. Thus, it is those beliefs that impact the EdTech integration as well as its effectiveness. Similarly, Gressard and Loyd (1985) further argue that teacher's attitudes toward computers are a key factor in the successful implementation of ICT in education. They pointed out that teachers do not always have positive attitudes towards computers, and their poor attitudes may lead to a failure of the computer-based projects or technology implementation in general. That is why, it is therefore important to keep the negative prejudgments about the EdTech to ensure the effectiveness of its integration.

All in all, based on the literature despite the drawbacks of using technology and hesitations of many, the positive effect of using technology cannot be ignored, for "technology is like a blessing for students" (Raja & Nagasubramani, 2018, p 34). Using technology in teaching therefore, is crucial nowadays to make the link between the real world and the classroom harmonized (Collins and Halverson, 2009). According to neuroscience, it has been proved that the human brain is likely to easily retain, remember and relate to what is seen and heard via moving pictures or videos. "It has also been found that visuals, apart from holding the attention of the student, are also retained by the brain for longer periods. Various sectors, including agriculture, medicine, education, services, business, and government setups are adapting to the concept of E-learning which helps in the progress of a nation" (The Wide Class, 2020). Therefore, Raja & Nagasubramani (2018) emphasize the importance of integrating technology in the 21st century curriculum with a focus on training teachers on how to use technology effectively so as to ensure positive outcomes from it, avoid the drawbacks and so that both teachers and students can take the good advantage of it.

1.4. YouTube tutorials as a teaching material

1.4.1. A introduction to YouTube as an educational material

Utilizing YouTube as a supportive material in or outside the classroom is one of the attempts to integrating technology in educational programmes in the 21st century to meet the nature and expectations of its digital learners (Duffy, 2008; Roodt & De Villiers, 2011). The integration of YouTube as a pedagogic resource has been popularized soon after the YouTube platform first existed (Terantino, 2011). After it caught interest in several non-educational domains, YouTube has increasingly being used for teaching purposes in many educational

fields (Duffy 2008), like serving in foreign language teaching purposes such as providing content and information, encouraging collaboration, and depicting culture (Terantino 2011).

1.4.2. Definition of YouTube videos

YouTube is a social media platform that allows billions of individuals to discover, watch and share original user created videos (YouTube, 2020). This is to say that, users from across the globe can create any kind of video by their own with any content be it educative, comic, scientific, or others, and share it on this platform so that users from all over the world who are interested in the content can watch it. In addition to this, according to YouTube fact sheet "everyday, millions of people come to YouTube to be informed, inspired, or just plain delighted" (YouTube, 2020). Also, it is a platform where "52 percent of 18 to 34 year-olds often share videos with other people" (Terantino, 2011, p 10), this means that more than the half of its users are youth who are still at their schooling level. According to Prensky (2009), YouTube videos are short clips that provide "information only in video form" (p. 2).

1.4.3. The effectiveness of utilizing YouTube videos educationally

This attempt of integrating YouTube in education has been practically and theoretically proved effective by many researches. From a theoretical perspective, Prensky (2002) argues that YouTube videos are effective because of the excitement he observed on learners when they are talking about and suggesting what they see fascinating YouTube videos to each other. He states that "digital natives" tend to use sentences such as "Have you seen this video?" or "you have to see this video" which shows their excitement and interest about YouTube videos and how they motivate them for sharing, discussing, exchanging and most importantly criticizing and debating information. These learners are, hence, likely to be as motivated and interested for discussing and learning if those videos were brought to the classroom to support the lessons content. In the same flow of thought, neuroscientifically speaking, Berk (2009) explains this by discussing the effect of learning through videos on the brain. He states that videos stimulate the connection between the two brain's hemispheres, hence leading it to be more active when dealing with knowledge. He also adds that "ideas that are presented as pictures are more likely to be remembered than when presented with words only", which he refers to as "the picture superiority effect." That is why learners are likely to be more active in classes supported by YouTube.

Additionally, Terantino (2005) states that learners tend to absorb information brought from YouTube more quickly and effectively because they are used to and acquainted with this way of gaining knowledge in their real lives. Similarly, in a study conducted by Almurashi (2016), he states that using YouTube as supplementary material provides learners with good understanding and knowledge of their lectures, because in his words according to Maness (2004) "learners can gain positive indicators when they watch authentic and real-life clips" (p. 32). Indeed, for the use of authentic material is crucial and highly beneficial for "in-class teaching" as Wolgast (2006) states.

In the same flow of thought, from a practical perspective, in a study by Terantino (2009), despite the fact that YouTube video clips may be "temporarily a destruction" he states, the results of his study show that the use of YouTube led students to "learn without initially realizing that they were learning" (p. 11). He explains by arguing that this is because "the students are more likely to remember the lesson after the" (p. 12), this is to say that the process of learning in this case is subconscious, which in Ordahl's (1911) words is the fact of "learning unnoticeably or in an unattended way". He further emphasizes the effectiveness of this kind of learning stating that the majority of the things that we master the most effectively in life are learned subconsciously (Ordahl, 1911). This is what, according to Terantino (2015), therefore, led YouTube videos to result in a better understanding and effective learning of the lessons.

Another investigation, by Berk (2009), based on a thorough study of the theoretical and research evidence on videos and the brain, as well as a personal investigation of the use of video clips in improving learning in college courses, Berk (2009) emphasizes the effectiveness of these YouTube clips in teaching. As a result of his studies, he states "the verbal and visual components of a video potentially provide a best fit to the characteristics of this *Net Generation* of students and a valid approach to tap their multiple *intelligences* and *learning styles*" (p. 1). Indeed, for that is what a net generation would expect learning to be like (Prensky, 2012). Furthermore, he develops "20 specific learning outcomes" of these videos on education. Similarly, Seilstad (2012) also investigated the effectiveness of utilizing YouTube educationally yet from another angle. He points on the fact that several organizations across the globe are already using online teaching and supporting their courses with recorded conferences from YouTube. He further argues that this fact of availability of courses online puts more pressure on teachers to make the classroom teaching more interesting. He therefore, in an attempt to make the classroom learning more interesting,

investigates "the use of teacher-made and annotated *YouTube* videos to preteach class-specific course content for English language learners". The results of his study showed positive outcomes of using YouTube as a strategy to create relevant and specific teaching material.

Almurashi (2016), based on the results of his study on investigating the role of YouTube videos for teaching English inside the classrooms as supplementary material, he concludes that YouTube and YouTube multimedia texts can play an important role in "helping pupils understand their English lessons, improve their performance, and advance their understanding of English" (p. 32). He also emphasized that these clips can even be more successful in EFL teaching than the "textbook-based English courses". Within the same line of thought, Roodt & Piere's (2013) study on "the use of YouTube in the classroom for the Net Generation students" conclude that YouTube has a remarkable positive effect on engaging students. Also, their research investigated the students' feelings about the use of these videos and the results of the survey showed a remarkable satisfaction of the students about these clips (Roodt & Piere, 2013). In another investigation by Sherman (2003), he investigates the role of using authentic videos in foreign language teaching. In addition to pointing the positive effect of utilizing YouTube videos, the results of his study emphasize the importance of using the authentic kind of these videos.

Moreover, according to a study by Roodt & Viliers (2011) the results revealed that YouTube also plays an important role in increasing students' collaboration. The same scholars state that an overwhelming majority of students showed appreciation regarding the use of these clips (Roodt & De Viliers, 2011). Within the same flow of thought, Duffy (2008), asserts that the 'incorporation of user-created videos' is highly important in education, for it motivates learners to be more collaborative, creative, and competent in peer assessment (Duffy, 2008). Last but not least, Prensky (2009) strongly emphasizes the importance of considering integrating YouTube in educational programmes. After thorough investigation and observation of the 'digital learners', he asserts that "YouTube is the new words" (p. 2), this is to say that what texts used to represent for the previous generation is now done by YouTube and the text can no longer do it as before, for now "more and more truly important information is available only in video form" (Prensky, 2009, p. 2).

1.4.4. Short comings of using YouTube videos educationally

In addition to the benefits of integrating YouTube videos in educational programmes, researchers have also shed light on the shortcomings that are likely to be faced or occur when applying this method. Terantino (2011), states that YouTube videos might be a distraction when used in the classroom. For learners who have not being used to it in the classroom, they might be focusing on other features on the video rather than paying attention to its content and information to be explained. Another weakness, according to Brainscape (2017), video learning may represent a struggle because of the fact that it requires special equipments. For with this YouTube learning method, learning does no longer require "only minds" but also specific equipments will always be needed.

In the same line of thought, William (2016) stated some specific shortcomings such us the lack of high quality educational videos for the time being, which is because of the relatively high expense that developing such videos of a quality may take. In addition to the fact that students will need a special designed activity that suit the video in order to ensure a maximum benefit from the clip. Next, videos are likely to require some analysis and interpretation from students, which may make these learners reject them since they are only used to ready offered information and direct instruction, these learners William states, have to be trained for this new method so that they become used to it too and therefore welcoming and even adopting it (William, 2016).

1.5. Approaches to utilizing YouTube videos

To avoid the shortcomings and ensure an effective successful use of these YouTube videos and hence an effective learning, scholars have suggested several guidelines and approaches to utilizing these clips. Berk (2009) developed three main guidelines to make video clips used in an effective way to improve learning in college courses. The first guideline is, that the classroom has to be equipped with the needed technology tools that are useful for the students –which means not too complicated for example or too old fashioned, rather they should be what students are used to-, and at the same time have the potential for classroom use (Berk, 2009).

Then, YouTube videos have to be carefully selected. For this, Berk (2009) suggested three main steps to follow in the selection. The first step is *the criteria for the selection*. Each teacher has to set his own standards for what is appropriate and acceptable according to his

context of teaching. He, as an example suggested three sets of criteria, first, to take into consideration "the students' characteristics" (Berk, 2009, p7) such as age, grade level, gender, ethnicity, and language dominance. Second, "the offensiveness of the video". Which means that in addition to what have been mentioned in the first criteria, instructors have to pay attention to any irrelevant content, such as drugs use, physical or mental abuse, and any other thing of the sort, for "the video is being used to facilitate learning, not impede it" (Berk, 2009, p7). Third, "the structure of the video". It is important to select the appropriate structure for instructional use, such as the effective length, the authentic context, the direct actions/visual cues, and the exact number of characters if any. The second step, *the types of videos to be selected*. The choice of the type depends mainly on "the instructional purpose or outcome and the characteristics of the students and their interests" (Berk, 2009, p7). The last step is *deciding upon the sources for selecting videos.* Each source has a different purpose from the other in terms of content, the audience, the level, and so on, for example, videos selected for college courses are not like the ones for courses for digital media studies. Therefore, sources have to be carefully selected based on the courses' objectives.

Finally, as a last guideline, Berk (2009) suggested twelve techniques for utilizing videos in teaching. The techniques included, introducing information within a content -such as an interesting movie, a document, and so on-. Linking the classroom with the real world, for videos can illustrate and depict many aspects. stimulating learners for learning activities. pushing students to reflect and encouraging their critical thinking, for, in Berk's words "One of the best techniques to generate student interest and hone critical thinking skills is to present a video clip of a Hollywood interpretation of a real-world application," (Berk, 2009, p12). Emphasizing important aspects -for there are endless clips that provide unforgettable illustrations of certain points that instructors want to conve-. Attract learners' attention. And finally, encouraging collaborative learning. These techniques can be used as they are, or the instructor can always broaden his applications for beyond these steps (Berk, 2009).

In the same line of thought, Duffy (2008) stated that "video can be a powerful educational and motivational tool. However, a great deal of the medium's power lies not in itself but in how it is used." (Duffy, 2008, p. 124). Therefore, he developed some "strategies" to utilizing YouTube videos educationally. The strategies included, playing the video for learners in segments. Pausing the clip from time to time to allow learners to reflect on what they are receiving from the video instead of leaving it nonstop from its beginning to its end. Requiring students to take notes while watching to develop their note-taking skills. Turn the

video's sound off and let the students guess what is been said just through the visioning. Integrate the YouTube videos with other activities such as introducing the topic. Identifying some keywords or new vocabulary that help understanding the content of the video. Provide background information, and so on in order to reinforce the lesson. And at the end when learners finish watching the whole video, individual or group debates are to be opened with the instructor and the students among each other as well (Duffy, 2008).

In addition to the strategies, Duffy (2008) also summarized some "specific examples of approaches to incorporating YouTube into the teaching and learning experience" such as, utilizing YouTube to encourage group work and collaboration between learners by creating their own special content on this platform and working together on developing it. Changing the traditional way of assessment to a more creative one through requiring learners to make a short video instead of writing an essay. Taking learning beyond the classroom by making students record a video of a guest presenter then uploading it on YouTube and using the comments section to open debates with audience from all over the world. As part of language learning, ask students to bring videos related to the vocabulary learned for more practice. Creating a special YouTube channel for interaction of learners not only with their instructors but also with the industry and community.

Shermen (2003) also emphasized the importance of paying attention to the way in which YouTube videos are used. Thus, he on his turn suggested some examples for each type of YouTube videos a specific way to using it. The examples included; drama videos, documentaries, game shows educational films, TV commercials, talk shows, and others. Each of these videos, he states, can be used in multiple ways, for example for culture, for comprehension, as input or stimulus, for pictures, and so on.

The mentioned guidelines are only some examples from the literature about how to use YouTube videos effectively, many other ways can be developed by different teachers according to their teaching context and the nature of their students (Berk,, 2009). This is to say that in addition to the mentioned suggestions, teachers are always capable to create their own approaches, guidelines, or techniques to utilizing these clips in an effective way (Duffy, 2008).

1.6. Conclusion

This chapter provided an overview about the use of YouTube as a teaching material in the 21st century. In the first section, it started by giving an idea about the nature of the 21st century education, it developed some of its most trendy characteristics and objectives. Then moved in the second section to giving insight about the effectiveness of YouTube as a pedagogic resource that suit the nature and serves the needs and objectives of the 21st century education that were illustrated in the first section. It ended by reviewing some of the approaches for an effective utilization of the YouTube clips in education.

Chapter Two : Research Methodology

2. Introduction

The purpose of any academic research work is to provide credible and reliable conclusions at the end of it. For this purpose, every academic investigation has to follow a set of scientific systematic steps when conducted in order to reach the reliable results. This research work therefore, followed a specific methodology to guarantee the credibility of this study. This chapter hence will provide a detailed description of the research methodology followed in this investigation. More specifically, it will describe the research methods adopted, as well as the procedure, the context, and the population. It also covers the data collection tools which include a questionnaire, a classroom observation and an experiment.

2.1. Research method

To fulfil the goal of this study, which is; investigating the role of YouTube tutorials in teaching research methodology. And to answer its questions, which are;

- To what extent can YouTube tutorials help develop students' understanding of research methodology?
- How do students learn research methodology through YouTube tutorials?
- What are students' perceptions of integrating YouTube tutorials as a supporting material in research methodology lessons?

A mixed method design of research has been adopted to gather the necessary data that will either prove or disapprove the hypotheses suggested in this study.

A mixed method design is a research paradigm that combines both quantitative paradigm -which is "information about quantities, and therefore numbers, it gathers data in a numerical form which can be put into categories, or in rank order, or measured in units of measurement. This type of data can be used to construct graphs and tables of raw data" (McLeod, 2019)- and qualitative paradigm –which is "concerned with understanding human behaviour from the informant's perspective. It is descriptive, and regards phenomenon which can be observed but not measured, such as language." (McLeod, 2019)- in one third paradigm.

More specifically, "mixed methods research covers the large set of points in the middle area. If one prefers to think categorically, mixed methods research sits in a new third chair, with qualitative research sitting on the left side and quantitative research sitting on the

right side" (Burke and Anthony, 2004, P. 15). Even more specifically, mixed methods research combines between the two mentioned paradigms in the sense that "it draws from the strengths and minimizes the weaknesses of both in single research studies and across studies" (Burke and Anthony, 2004, P. 14). This combination in the mixed method design makes it more variable which gives it more credibility since it will be covering the issue from different angles.

In this vein of thought, an observation is conducted before and during the utilization of YouTube tutorials in the L3 research methodology session to see whether the hypothesized 21st century skills have developed in the learners after using those clips or not. Also, the observation is held to see whether students could extract knowledge from the tutorials by their own and build an understanding for themselves or not. Additionally, a questionnaire that consists of both open-ended and close-ended questions is handed to students after the end of the experiment to quantitatively and qualitatively note students' perceptions of integrating YouTube tutorials as a supporting material in research methodology lessons.

2.2. Procedure

Regarding the procedure, we have conducted an experiment at the department of English at Abdelhamid Ibn Badis University in Mostaganem, with our case study of third year licence students (group 04) during their four research methodology sessions in relation to integrating YouTube tutorials as a teaching material to support the module. The first two sessions were for the pre-experiment observation and the next two were for the during experiment observation, that is during the YouTube utilization. In the first two sessions, an observation was held to observe the nature of students' interaction during the module's session and the degree of availability of the 21st century skills that were mentioned in the first chapter in those learners. As well as observing students' degree of understanding of the module through noticing their interactions with the tutors and with each other during the session. So as to compare these pre-experiment observations with the next two sessions' observation which is held during the YouTube tutorials utilization to remark any changes in the degree of students' understanding of the module as well as to note whether there was a development in their 21st century skills. In addition to this, a questionnaire was given to the students after the end of the sessions that were supported with YouTube to quantitatively note their perceptions about supporting their research methodology lessons with these YouTube tutorials.

Chapter Two : Research Methodology

2.3. Context of the study

The study took place at the department of English at Abdelhamid Ibn Badis University in Mostaganem during the academic year 2019-2020, with third year licence students, group four. For the pre-experiment observation the whole group was included, while only a sample of eight students from the same group was selected for the during and after-experiment observation. This setting was chosen because of the readiness of the teacher and the students to collaborate, as well as the availability of the equipped classroom with the necessary materials such as the projector which is very necessary for the projection of our YouTube tutorials. For more details about this integration of YouTube tutorials, the next title will be to provide a detailed description about those videos.

2.3.1. The YouTube tutorials

Research methodology is one of the most important modules to be taught in the tertiary level since one of the utmost objectives of this level is to raise competent researchers. Yet, tutors still see that students are likely to still face some struggles when learning this craft of research methodology. Therefore, new methods and techniques are mostly required in such situations to help students develop better understanding of the module. For this reason, teaching research methodology through YouTube tutorials is an attempt to test a new technique in teaching the module. We have hence brought this specific kind of YouTube videos to test their effectiveness in supporting research methodology lessons.

2.3.1.1. Definition of YouTube tutorials

YouTube platform consists of different types of videos, as Anderson (2020) mentions there are comedy/skit videos, gaming videos, memes/tags, educational videos, vlogs, haul videos and so on. And there is a specific type which is the concern of our study, which is called “The how-to videos” or in other words the tutorial videos or the YouTube tutorials.

The how-to videos or the YouTube tutorials are a type of YouTube videos which are for the purpose of providing “step-by-step details of how to accomplish a task” (Anderson, 2020), this is to say that, differing from the rest of YouTube videos, these tutorials do not only seek to giving information or knowledge about something but they, more specifically, aim to *teach by example* and describe the instructions to completing a certain task, for example, if

one wants to learn how to put a full-party-make up, they will go to watch a YouTube tutorial to visually show them how.

This specific teaching-by-example feature in the YouTube tutorials is what made us hypothesise the effectiveness of those clips specifically in teaching the research methodology module, given its nature and objectives which are not only to providing knowledge or lecturing students about what is research methodology and its concepts, but mainly to train them and give them instructions on how to apply knowledge when conducting their own research. And this is what YouTube tutorials are about, that is, not only to explain the WHAT but most importantly to give instructions on the HOW, to give tips and guide through doing something new. Which seems to match the nature of the research methodology module.

2.3.1.2. The objectives of YouTube tutorials

The integration of YouTube tutorials as a teaching material to support research methodology lessons aims at many goals. First and most importantly, it aims at targeting the 21st century education objectives, which are; fostering learner centeredness and active learning, minimizing the teacher talking time and maximizing the student talking time, and developing autonomous learning, and as a consequence boosting the 21st century skills in the learners such as critical thinking, communication, collaboration, and creativity as another main objective as well. This can be explained by the fact that the utilization of such clips requires students to work their brains to extract the necessary information from the video to build an understanding for their own, which makes them more independent and relying on themselves to gain knowledge more than on the teacher, or in other words, it develops their autonomous learning.

This autonomy in learning is likely to push those learners to look for knowledge and saturate their thirst through communicating and collaborating with each other to exchange opinions so as to build a convincing idea about the topic and find answers to questions that raged from watching the clips. This construction, deconstruction, and reconstruction of knowledge gained from the clips as well as comparing them with the existing and each others' knowledge, in addition to the questionings, are what is called the process of critical thinking. The fact hence, makes students more active in their learning than just being passive recipients, which consequently, minimizes the teacher talking time and maximizes the student talking time. And consequently resulting in a more learner centred education.

Other objectives of utilizing YouTube tutorials are:

- Increases students' involvement, engagement and participation levels.
- Offers students more personalised and hence more meaningful learning experiences.
- Gives students the freedom to have control of their own learning processes.
- Creates more memorable learning experiences, and facilitates autonomy outside the classroom.

2.3.1.3. The process of utilizing the tutorials

The utilization of YouTube tutorials goes through three phases, the pre-projection of the video phase, the during-projection, and the after projection phase. The pre-projection phase, that is, before the video is projected for students, is for preparing the learners for the clip(s) and familiarizing them with its topic in general as well as clarifying for them what is required from them when watching the video, such as; the points that they should focus/pay attention to, the questions they should be answering, the information they should extract from it, and so on. After this preparation, comes the second phase, which is the during projection phase. In this phase, as its name indicates, the video is projected. Students are given time to visualize, with pausing the video when necessary. Also, if needed, the clip can be repeated again as much as necessary. After the visualisation, comes the last phase, the phase of discussions, debating, raising questions, making sense of the concepts, and eventually building a final idea about the topic. In this phase students are given some time first for thinking about what they have visualised and for discussing and organizing their thoughts, they are likely to find themselves communicating and discussing with each other to exchange ideas and find answers through collaborating with each other. After that given period of time, the discussion is to start with the teacher and the whole class, students may raise any questions or share anything that was still unclear or not making sense with the teacher for more clarifications, and eventually build a final idea about the topic.

2.3.1.4. The selection of the videos

As emphasized in the previous chapter, the videos should not be brought randomly, they rather have to be very carefully selected taking the several mentioned criteria into consideration. For this reason, the selection of our YouTube tutorials for this study went by several considerations, such as the following.

First, the content. The content of the video was chosen based on the objectives of the lesson to be taught which was about “the data collection methods”. Hence, among all the date collection tutorials on YouTube, the ones selected were those that cover all the aimed points mentioned in the teacher’s template of the lesson. Second, the language selected was the standard English understood by our sample of students. Next, the length of the clips was around 4 minutes split into two 2 minutes clips; one for the quantitative research and the other for the qualitative research. Finally, the tone and the speed of the voice were to a certain extent unclear and somehow faster to be understood by our sample of students, we therefore have recorded the audio part by ourselves in a slower and clearer way to make it possible to be understood by our learners. Taking these criteria into consideration, we have chosen the clips very carefully and critically.

2.4. Participants

As it has already been indicated before, the chosen population for this study is group four of third year licence students of the department of English at Abdelhamid Ibn Badis University, Mostaganem. The group of 38 students agreed to take part of the study. However, the whole group was taken for pre-experiment observation, while only a sample of 8 students from the same group was taken to carry the rest of the experiment. These students are between 19 and 23 years old. They were chosen as participants to investigate the effectiveness of YouTube tutorials in teaching research module.

2.5. Data Collection Instruments

In this study, the data collection instruments utilized are an experiment conducted at different stages, a classroom observation to answer the first and second questions of this investigation, and a questionnaire to answer the third question.

2.5.1. Questionnaire

For this investigation, the data collection tool used is a questionnaire handed to our sample of students to collect both qualitative and quantitative data about their perceptions of the use of YouTube tutorials as a teaching material to support research methodology lessons. A questionnaire is “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers" (Brown, 2001, as cited in Si Larbi, 2019, p. 28). The aim of using it

in our study is to obtain feedback about students' perceptions and thoughts about their experience with this way of learning research methodology.

2.5.1.1. Description of students' questionnaire

The questionnaire is divided into two sections. The first section is for personal data; which are gender and age. The second large part is for obtaining data about students perceptions vis à vis the topic of our study. It consist of both close-ended and open-ended questions. "Close-ended questions aim at obtaining exact answers by providing the participants with yes/no questions or a set of suggested items to choose the appropriate answer(s) through ticking the right box(es)" (Si Larbi, 2019, p. 29). While the open-ended questions are those that give freedom to learners to express their opinions freely. This section consists of ten questions, six of them are close-ended questions and four are open-ended.

Question (1) of part two aims at knowing whether students have noticed any differences between their usual way of learning the module and the one supported by YouTube tutorials.

Question (2) seeks to find out whether the impact of the new way of learning the module was positive or not.

Question (3) is to give space for learners to express freely the differences they have noticed vis à vis the utilization of the new material and their traditional way of learning the module.

Question (4) looks into students' reflections and opinions with regards to the utilization of those clips in research methodology courses.

Question (5) intends to figure out whether students were pleased by the new technique of learning the module and whether they now prefer the rest of their methodology lessons to be presented in this form of YouTube tutorials or not.

Question (6) seeks to know whether students believe or not that they are ready to apply what they have gained from the tutorials in undertaking a real research of their own.

Question (7) attempts to determine the exact degree of students' appreciation towards the use of the new technique, or in other words, it seeks to knowing the extent to which students believe the YouTube tutorials were beneficial.

Question (8) is an attempt to know whether students would like to use these tutorials for their revision as well, and hence also attempts to know implicitly whether students are appreciating it to the extent were they even would like it for their revision over the traditional way.

Question (9) is an open-ended question to give space to students to express the reasons or the motives that lead them to prefer having their lessons in a YouTube tutorial form over the written one.

And at last, question (10) seeks for students' remarks and feedback about anything they have noticed that would better the use of this technique for future modifications to keep it always updated to the better.

2.5.2. Observation

Observation is a research tool that is used to gain qualitative data, it is "the systematic description of events, behaviours, and artefacts in the social setting chosen for study" (Marshall and Rossman, 1989, p. 79 as cited in Kawulich, 2005). According to McLeod (2015), there are different types of observation, in our case it is the "participant observation" one since it aims at gaining an idea about the development of students' understanding during the utilization of the tutorials. Participant observation in Kawulich's (2015) words is "the process enabling researchers to learn about the activities of the people under study in the natural setting through observing and participating in those activities. It provides the context for development of sampling guidelines and interview guides" (DeWALT & DeWALT, 2002, as cited in Kawulich, 2015). This tool is fundamental to our research to have a closer look at the situation to collect the necessary data about the development of the response variables in our subject (i.e. students).

2.5.2.1. Description of the observation

In our study the observation aims at checking for students' understanding of research methodology before and during the experiment through paying attention to the degree of their participation in the classroom to note the extent to which students' understanding of the module has developed with the utilization of the YouTube tutorials. It is also to observe the degree of development of 21st century requirements such as learner centeredness, active learning, and the reduction of teacher's talking time, as well as the development of 21st

century skills in the students, which include; critical thinking, creativity, collaboration, and communication, also in both stages; before and during the experiment.

Learner centeredness: The achievement of learner centeredness can be deduced through noticing whether students' innate desire, excitement and readiness to learn through the new material has been unleashed, because this will indicate that the students needs were considered, and hence they were thought by the way that suits, interests, satisfies them, and meet their needs.

Active learning: Paying attention to whether students are using their mental activities such as analyzing, synthesizing, and evaluating the information they gain from the videos can help us deduce whether active learning is achieved or not.

The teacher talking time: we observe if the teacher is taking less time in talking compared to the learners' talking time.

Critical thinking: Noticing learners' attitude towards the information they are gaining from the videos, whether they are constructing, deconstructing, reconstructing, and questioning them, as well as comparing them with existing knowledge can be an indicator of whether the learners are developing a critical thinking or not.

Collaboration and communication: This can be indicated through checking whether students are making attempts to talk to each other to exchange ideas and discuss knowledge to build up opinions and draw solid conclusion by collaborating with each other.

2.5.3. Experiment

The nature of our research necessitates conducting an experiment since the YouTube tutorials have not being previously utilized in the module. Therefore, testing the effectiveness of those clips by projecting them to students during the module's session and observing the changes was necessary as an empirical examination (i.e. an experiment). According to Gay (1992), the experiment "represents the most valid approach to the solution of educational problems, both practical and theoretical, and to the advancement of education as a science" (p. 298).

Our experiment is designed according to the nature of our research and its objectives. It is to test our first and second hypotheses which suggest that YouTube tutorials may help

students develop a better understanding of research methodology, and that learning through YouTube tutorials is likely to lead students to develop the 21st century skills. For this objective, the experiment is hence divided into three stages.

First, the pre-experiment stage, it is to observe the atmosphere of the classroom during the module before bringing the clips to the classroom, as well as paying attention to the way the module is learnt, the attitudes of the learners towards the knowledge including the degree of their understanding of the module as well as the availability of the 21st century trends and skills. This pre-experiment stage also played an important role in the selection and preparation of the clips to be used with these students, for it gave an idea about the criteria to be considered while preparing the videos, such as; the level of the language, its speed, the accent, and so on.

Second, the during-experiment stage, which is for observing any development in the students' understanding of the module and in the 21st century trends and skills in the learner with the utilization of the YouTube tutorials in the classroom. Finally, the post-experiment stage, this phase of the experiment is after finishing with the projection of the clips, it is to hand a questionnaire to the students to collect feedback about their perceptions of the utilization of the YouTube tutorials and their responses about the experience they had with learning the module through this way.

2.6. Conclusion

In this chapter, which is considered a very important part of any research work since it provides a detailed description of the whole methodology adopted which indicates the reliability and credibility of the work, we have covered the main objectives of our investigation as well as the research methodology followed in conducting it. We have hence started by giving a detailed elucidation of the research method adopted, then continued with providing a description of the procedure, the population, and the context. Within the context, we have exhaustively described the YouTube tutorials, their exact definition which distinguishes them from the rest of the YouTube videos, their objectives, and the process of their selection and utilization. Next, we have digged into describing the data collection tools, which included the questionnaire, the classroom observation and the experiment.

Chapter Three : Data Analysis and Results

3. Introduction

After providing an in-depth overview in the first chapter about YouTube and its use in the 21st century, and giving a detailed description of the methodology followed in conducting our investigation in the second chapter, the concern of the present chapter is to analyse and interpret the data collected and discuss the results obtained from them. It is hence divided into two sections. The first section discusses the extent to which YouTube tutorials can help develop students' understanding of research methodology and the effectiveness of those clips in enhancing 21st century educational trends and developing the 21st century skills in students. The next section reveals students perceptions about the integration of YouTube tutorials in their research methodology module.

3.1. The impact of YouTube tutorials in developing students' understanding of research methodology and their effectiveness in enhancing the 21st century educational trends and developing 21st century skills in learners

In this section we analyse the data obtained from the classroom observation, we observe students' degree of understanding of the module as well as the availability of the 21st century trends and the degree of 21st century skills in the students before and during the experiment so as to note any changes or development in them after utilizing the YouTube tutorials.

3.1.1. Analysis of the pre-experiment observation

As it has been mentioned before, during this phase of pre-experiment we have attended two sessions of research methodology classes with the L3 students to observe and take an idea about the classroom atmosphere while they are having their lesson. We focused on paying attention to the learners' degree of understanding of the module as well as the availability of the 21st century trends and 21st century skills in the learners, which include; learner centeredness, active learning, the teacher talking time, critical thinking, communication, and collaboration.

In this phase we observed a noticeable lack of interaction and communication between learners and their tutor and among learners with each other as well, which indicated the lack of communication and collaboration between learners and the total control of the teacher over the talking time which on its turn indicated the passiveness of students and their little control

over the talking time. Also, teacher's questions were most of the time not completely answered when raised, and a clear confusion was noticed on the majority of the learners which revealed the poor degree of understanding of the lessons. Additionally, students were most of the time only busy noting down what the teacher is reciting without thinking or questioning those given information before noting them down which indicates the absence of the critical thinking in students. Also, the manner in which the teacher was presenting the lesson revealed a clear neglect of the student centeredness, for the tutor was only reciting information from the slide shares without giving much attention to whether those information are critically absorbed by the learner or not. From all this, we have hence deduced the lack of students understanding of the lessons as well as the absence of the 21st century trends in the classroom and skills in the learners.

3.1.2. Analysis of the during-experiment observation

In this phase we observe the learners and the classroom atmosphere when integrating the YouTube tutorials to note any changes in the response variables (i.e. students' 21st century skills and trends and their understanding of the module) thanks to the integration of those clips. The noted remarks are as follows:

Learner centeredness: a noticeable desire and enthusiasm to learn was noticed in the learners with the integration of YouTube, which shows that students' needs and interests were taken into consideration when using such a technological material that matches with the learners' digital nature.

Active learning: students seemed to be more interested in analysing, synthesizing, and evaluating the information before actually hurrying to note them down, which indicates that they are practicing some mental activities while learning.

The teacher talking time: the teacher talking time has been reduced, not completely but to a noticeable extent, for the students were taking the word most of the time by sharing their ideas and questions about what they have seen in the video.

Critical thinking: the information given in the videos awakened students' minds to even recall their existing knowledge and compare them with those of the video and hence constructing, deconstructing and reconstructing their knowledge based on comparing and questioning those information.

Collaboration and communication: on the contrary of the silence and individuality noticed during the pre-experiment level, during this level students started chit chatting a little bit with each other and exchanging thoughts and ideas to help each other build up strong sensical conclusions about the topic.

Students' understanding of the module: from their interactions with the teacher which was rich and their correct answers to the questions that were raised to check their understanding, students showed a good understanding of the lesson and readiness to applying what they have learnt in the session in conducting their own research, this will also be confirmed by students responses on the questionnaire in the next section.

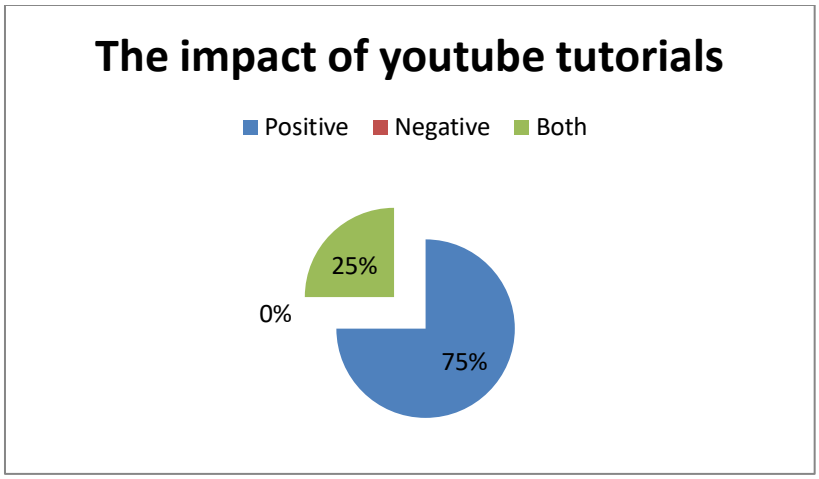
3.2. Students' perceptions of integrating YouTube tutorials as a supporting material in research methodology lessons

In this section we analyze students' responses on the questionnaire to extract their perceptions about the integration of these tutorials and to gain their feedback about their experience with the integrated material. We therefore have selected some of the most essential responses of some of the most essential questions to analyze which responses are paraphrased and illustrated in form of graphs. The chosen questions included:

- Stating the differences students have noticed between the traditional way of learning the module and the one supported by YouTube tutorials.
- Students' opinions regarding the utilization of YouTube tutorials in teaching research methodology module.
- Whether or not students would like the rest of their research methodology lessons to be presented the new way.
- Students' readiness to undertake their own research after learning the module through the YouTube tutorials.
- Students' recommendations to improving the videos.

To begin with, the following graph represents students' opinions regarding the impact of integrating YouTube tutorials, whether they see it as positive, negative, or both.

Chapter Three : Data Analysis and Results



Graph 1: students' opinion about the impact of YouTube tutorials

6 out of 8 students (75%) answered that they have noticed positive differences with the integration of the clips, they acknowledge that they could have more time to process the information, to discuss and share their questions, to develop a better understanding of the lesson, as well as that the videos made the module seem less complicated than before and more approachable. While 2 students (25%) have answered that they have noticed both positive and negative responses, for the negative they stated that the fact that there are no pauses between the ideas and that the video is continuous till its end makes them lose track on the rest of the points because they did not have time to grasp the previous ones.

For the next question, which is about students' opinions regarding the utilization of YouTube tutorials in teaching research methodology module, the whole sample's responses were with the integration of the tutorials in teaching the module. Some of their responses were as follows:

"*I encourage the integration of this material because it made the research methodology module seem less complicated and more understandable"*

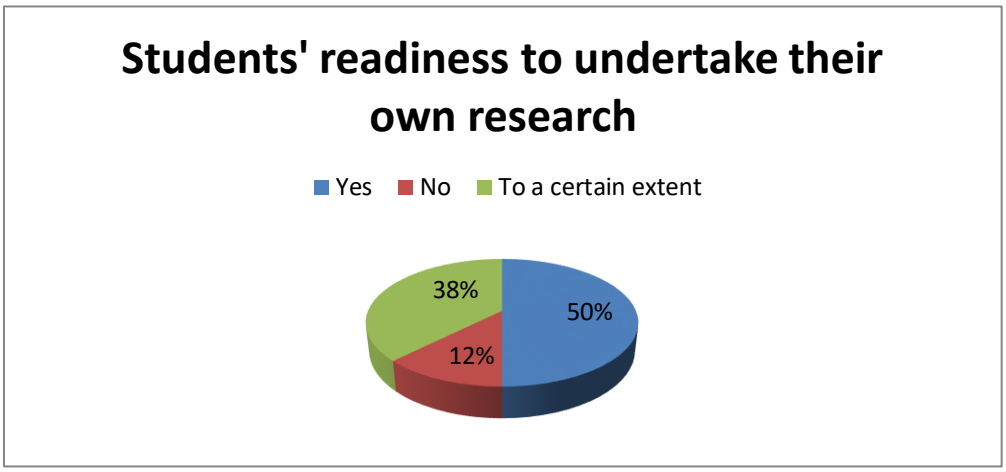
"I think it is a good idea, for it helped me better understand the lessons"

"I think integrating YouTube tutorials will make a positive impact in helping develop a better understanding of research methodology module"

The next analysis is about whether or not students would like the rest of their research methodology lessons to be introduced in the new way. The whole sample of the participants showed appreciation towards the integration of the new material in teaching the module and

answered that they would like their future lessons to be presented this way because they acknowledge that this method of utilizing YouTube tutorials makes them feel like they could cover all the necessary aspects of the lesson and hence understand it better. They also disclose that it is more motivating and interesting because it is familiar, for that is how they are used to gaining knowledge in their outside-the-classroom life.

The next graph illustrates students' readiness to undertake their own research after learning the module through the YouTube tutorials.



Graph 2: Students' readiness to undertake their own research after learning the module through the YouTube tutorials

As shown in the graph, 4 students (50%) answered that they are ready to undertake their own research work after learning research methodology module through the YouTube tutorials. 2 students (38%) showed hesitation and answered "to a certain extent". While 1 student (12%) answered that they do not think they are ready to undertake their own research yet.

Finally, the last question is for students' recommendations and remarks to develop the videos. For this, students recommended to accompany the material with speakers so as the sound becomes clearer. Also, for the teacher to pause the video at the end of each individual idea before moving to the next one so as to give time for students to reflect.

Students showed positive attitudes towards the integration of YouTube tutorials, they acknowledge that it helps them overcome the complexity of the module and develop a better understanding of its lessons; it gives them the chance to be more interactive with the teacher and share their thoughts and questions, learn from each other, and so on.

Chapter Three : Data Analysis and Results

3.3. Discussion of the results

The results have shown that before the integration of YouTube tutorials, the 21st century trends and skills were nearly absent in the research methodology class. For, learners most of the time used to have enough by simply accepting the information received from the teacher as they are without questioning or thinking them before taking them for granted, that is, the critical thinking skill was almost absent. Also, each student was closed to himself and simply listening to the teacher, no collaboration or communication among students was available. In addition to that, the 21st century trends were not fully taken into consideration. For example, learners were merely passive recipients of the knowledge most of the time. Their needs, preferences, and nature did not seem to be taken into consideration. And the teacher was the one speaking the majority of the time.

However, with the integration of the YouTube tutorials a positive change has been noted and a noticeable development in the 21st century skills has been marked, though the noticed change was slight, yet it was a remarkable one which is likely to continue to grow with the advancement of the sessions supported by these clips. The results obtained from the observation show that students' level of critical thinking and their activeness in learning started to increase with the utilization of the clips, for students showed connection with the information provided in the tutorials and motivation and interest towards interacting with them. This as a consequence made students have more control over the speaking time through sharing their questions and conclusions drawn from the tutorials, and therefore the teacher switched to "the guide on the side" who only guides those learners with the information they built for themselves.

Also, the findings indicate that the YouTube tutorials helped boost the communication and collaboration among students to a certain extent. Students seemed to be asking each other about the points that did not make sense to them, as well as sharing their thoughts and ideas with one another so as to build sensical conclusions about the topic. Also, they tended to help one another clarify their point or their question to the teacher when they see that he is not making his point clear enough since the videos created a sort of the same questionings in their minds which makes them understand and benefit from each other.

Additionally, the constant participation of the students and them answering mostly all the questions of the teacher indicate the that YouTube tutorials helped them develop an understanding of the lessons presented. Also, the findings from the questionnaire disclose that students themselves acknowledge that those tutorials helped them develop a better understanding. Furthermore, the results show that the clips provided learners with the confidence to indicate their readiness to apply the acquired knowledge in conducting their own research. A minority of these students however, showed hesitation in relation to indicating whether they are ready yet to apply the acquired knowledge into practice, yet this is possibly to be changed after a revision of the tutorials which is likely to reinforce these hesitating students' lack of confidence about their readiness.

Also, the results have shown a noticeable appreciation of the new method from the students. The findings indicate that in addition to students acknowledging that they actually used to manage to understand the module with the traditional method, they however, showed a preference for the new one, which is learning the module through YouTube tutorials. They state that with the new method they did not have to put much effort in trying to decipher the lesson and simplifying its knowledge for themselves, instead they invested that effort on questioning and critically thinking about those knowledge that they gained. Also it boosted the degree of their understanding of the module and made it seem simpler and approachable for more students and not only for the highly competent ones.

On the other hand however, some students have noticed some shortcomings of the videos despite their appreciation of them. They indicated that they think it would be better if the video was paused after each important point to give students a moment to grasp it before moving to the next one. Also, they suggested accompany the material with speakers so that the sound would be clearer. All in all, the pointed shortcomings were merely technical and had nothing to do with the content of the videos.

The discussed results disclose that YouTube tutorials were to a certain extent of a noticeable benefit in teaching research methodology module for so many reasons that can be noticed when comparing learners before and after the utilization of the videos in teaching the module. Before the integration of the clips, students' understanding of the module, the 21st century trends and skills were all weak and absent. For, learners were most of the time passive recipients of the knowledge. Their critical thinking was almost absent since they used to simply accept the dictated information without thinking about them. The teacher was the one

having control of the talking the majority of the time and students were merely listening and taking the maximum of notes. There was no remarkable communication or collaboration among them to exchange ideas and build knowledge. However, with the integration of YouTube tutorials in teaching the module, a remarkable change started being noticed. Their degree of understanding of the module as well as the availability of the 21st century trends and skills started increasing. Students became more interested in deconstructing and reconstructing their own knowledge instead of simply receiving ready ones from the teacher. They also became more active and involved than before and hence their speaking time increased and became the dominant one over that of the teacher. Additionally, they turned to be more collaborative and communicative with each other.

As final words, we may say from the collected and analyzed results, that YouTube tutorials add a positive value to the teaching of research methodology module. It helps students develop a better understanding of the module through enhancing the 21st century trends and developing its skills in the students. That is, it encourages students to be more critical in their learning through awakening their curiosity and thirst for finding out more about the topic. It pushes them to be more of active learners than simply passive recipients of information. It also enhances the communication and collaboration among them. And most encourages them to take the word during the class and increase their talking time.

The presented findings were developed after a series of well structured and honest investigation. Our objective is to help teachers awaken the researcher in each student through offering more effective teaching approaches and methods.

3.4. Conclusion

In this chapter, we have analyzed and discussed the collected data and revealed the final results from them. We found out that learners were mostly struggling with the module of research methodology, and that YouTube tutorials had a positive impact in helping them overcome this struggle to a certain extent. We deduced that YouTube tutorials are of a remarkable benefit in teaching research methodology. We have therefore disclosed the effectiveness of YouTube tutorials in teaching research methodology.

General Conclusion

General conclusion

This study attempted to investigate the role of YouTube tutorials in teaching and learning research methodology. In this work, YouTube tutorials are defined as the type of YouTube videos which main purpose is to teach by example, that is, to explain a certain thing by practicing it in front of the viewers. This feature of teaching by practice is what led to hypothesizing the effectiveness of this specific type of videos in teaching research methodology module given its nature and objectives which match with the nature of the tutorials type of videos. Also, it has been shown that YouTube represents one of the most visited platforms by youth when they are seeking information. The fact, makes learning more familiar and natural when supported by these clips, hence more effective. Therefore, considering using more of the tutorial type of videos when it comes to teaching modules that are more practical than theoretical, such as research methodology, is highly needed.

The main objectives of the study revolved around discovering the extent to which these clips can help develop students' understanding of research methodology and their effectiveness in enhancing the 21st century trends and skills, as well as attempting to gather data about students' perceptions about using this technique. For this sake, our investigation was organised in three chapters. The first chapter covered the literature that fundamentally revolves around YouTube and its use in the 21st century education. We have started by introducing the 21st century education then presenting its trends and characteristics, and moved to digging deeper in the use of YouTube educationally.

In the second chapter, we dealt with the research methodology followed in conducting the investigation. In relation to this, a mixed method design was adopted, as well as three data collection instruments including an experiment to test the effectiveness of the YouTube tutorials in teaching the module, an observation to collect data for the first and second hypotheses, and a questionnaire to gather feedback from students about their perceptions of using these clips.

As for the last chapter, we dealt with the analysis of the collected data and the discussion of the results. From the classroom observation, we found out that YouTube tutorials have a positive effect in teaching research methodology, for they helped develop students' understanding of the module as well as contributing in enhancing the 21st century trends and skills in the learners. Also, from the questionnaire we noted that students welcome

and appreciate the integration of the clips in teaching the module. From these, we have deduced that YouTube tutorials can be effective in teaching research methodology module.

Eventually, the revealed results validate and support the proposed hypotheses. For, YouTube tutorials indeed help students develop a better understanding of the research methodology module. The clips also play an important role in enhancing the 21st century trends and skills and developing them in the students. Finally, students all in all have shown an appreciation towards the utilization of those clips in teaching the module.

Limitations

Due to the sudden outbreak of the Coronavirus disease, our research was subject to several limitations which affected the process and advancement of the investigation. The planned methodology of this research could not be put into practise as planned. Due to the total lockdown which led to closing the University of Abdelhamid Ibn Badis where our investigation was planned to be carried, we had to make some changes in the plan, we therefore, instead of working with the whole L3 classroom, have reduced our case study to a sample of 8 students. Also the setting of the investigation has been changed, instead of conducting our experiment in a real research methodology classroom at the University, we have gathered our sample in a room and created a research methodology classroom-like atmosphere where we conducted our experiment.

Recommendations

1. **Digital training (awareness raising)**

It would be of a great benefit, since nowadays learners' most utilized way of gaining knowledge is YouTube, to train these learners on how to gain knowledge from the YouTube videos effectively. That is, from how to choose the right credible video to how to extract the necessary details and information from it, for information cannot be of benefit if taken from a wrong falsifying source. This is likely to help students develop their level as competent researchers in a more natural way.

2. **Equipments**

Additionally, as recommended but some of our sample of students, it is of a necessity to equip nowadays' classrooms with the necessary material. For despite the availability of

some of the needed materials for our investigation, a lot of other items were needed such as the speakers.

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Appendix (1): Students' Questionnaire

Investigating the role of YouTube tutorials in teaching research methodology

This questionnaire is to collect data about the role of YouTube tutorials in teaching research methodology. Thank you for accepting to collaborate and take time to share your honest answers on these questions.

Part one:

1. Gender: Male Female
2. Age:

Part two:

1. Were there any differences you have noticed between the usual research methodology lessons and the ones introduced in form of a YouTube tutorial?

Yes No

2. If yes, are those differences:

Positive Negative Both

3. What are those differences?

……
……

4. What do you think about utilizing YouTube tutorials in teaching research methodology module?

……
……

5. Would you like the rest of your research methodology lessons to be presented this way (i.e. in form of a YouTube tutorial)?

Yes No

Why?

6. After watching the tutorials, do you think you are ready/capable to apply what you have learned in them to undertaking your own real research?

Yes No To a certain extent

7. On a scale of 0 to 10, to what extent were the YouTube tutorials beneficial in helping you understand the lesson?

8. For revision, would you prefer to have your summary of research methodology lesson;

a. in a written form (in form of handout)

b. explained in form of a YouTube tutorial

9. If your answer for the question "6" was "b", why would you prefer a YouTube tutorial over the written form?

- ……

10. Are there any remarks/recommendations that you think will improve the videos? Please, feel free to suggest them bellow.