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## THE USE OF YOUTUBE IN EDUCATION. ADVANTAGES AND DISADVANTAGES OF THE SERVICE AS A TEACHING TOOL

### Abstract

The most significant change in education which has happened in recent years is a transition from the analogue to the digital era. This paper focuses on the new communication technologies, such as YouTube, which are being implemented as part of the teaching process. The main purpose is to provide an overview of these technologies, answer questions concerning the process of their development and identify their educational functions. The aim is also to consider whether and to what extent YouTube is a tool complementary to traditional educational techniques and if it is possible that it will be used even more widely in the future or, on the contrary, that its role in education will remain as it is. Assuming that YouTube meets the expectations concerning its educational potential, what needs to be determined is the safety and efficiency of this form of knowledge sharing.

**Key words:** YouTube, teaching process, learning, new communication technologies, Internet, motion picture, video, knowledge sharing

**Słowa kluczowe:** YouTube, proces nauczania, uczenie się, nowe technologie komunikacyjne, Internet, wideo, upowszechnianie wiedzy

In recent years education has been undergoing changes that do not allow external control, as was the case in the past. The changes are multi-faceted and multi-dimensional, but the most significant one is the transition from the analogue to the digital era. This process cannot be prevented but it can be observed and analyzed in an attempt to show the positive aspects of this revolution and to warn against its possible negative repercussions.

This article focuses on the new communication technologies, such as YouTube, which are being implemented as part of the teaching process. The main purpose is to provide an overview of these technologies, answer questions concerning the process of their development and identify their educational functions. The aim is also to consider

whether and to what extent YouTube is a tool complementary to traditional educational techniques and if it is possible that it will be used even more widely in the future or, on the contrary, its role in education will remain unchanged. Assuming that YouTube meets the expectations concerning its educational potential, what needs to be determined is the safety and efficiency of this form of knowledge sharing.

Information and communication technologies have become a key element of the modern world, creating a network of institutions, businesses, economies and societies. This often leads to the emergence of the concept of technological determinism, a kind of technical imperative and a conviction that IT provides a technical solution to all problems (technological fix).<sup>1</sup> The central place in this approach is occupied by innovation and technology transfer, as well as a reliance on research. Much space is devoted to a discussion on the electronic revolution and digitization, which enter new areas of life. Not surprisingly, nowadays more and more attention is directed towards new methods of education, their proper systematization, and an analysis of their characteristics, applicability and prospects for further development.

This issue is particularly relevant in the face of obvious changes related not only to the development of new communication technologies, but also the introduction within the European Union of a uniform system of measuring of the expected learning outcomes, known as the European Qualification Framework. The emphasis on the so-called learning outcomes seems in this case a key element and in this context the primary objective is to adapt the learning process to the changing circumstances and an increasingly demanding labor market. Definitely, more attention is being paid to social skills and competences, the shaping of which can no longer take place without proper tools enabling distance teaching. At the moment, the biggest focus is on the implementation of this system in the area of higher education, but the same should soon be expected on all levels of education. Undoubtedly, the achievement of the objectives of the EQF will not be possible without the implementation of modern educational methods, among which particularly the VLE, PLE, or the project method<sup>2</sup> should be mentioned.

Obviously, the role of the rapidly developing communication platforms which are designed and used solely for educational purposes cannot be underestimated. It is known, however, that the young generation already spends a substantial amount of their time surfing the web and that it may also have adverse effects, regardless of the purpose of this activity. According to the European statistics on the child and youth activity in the web, EU Kids Online report<sup>3</sup> of October 2012, the use of Internet has become an integral part of the daily lives of young people. The data collected shows that 60% of 9–16-year-olds use the network every day, or almost every day. The Internet is mostly used at home (87%), followed by time at school (63%). The methods of access are

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<sup>1</sup> M. Castellis, "Materials for an Exploratory Theory of the Network Society", *British Journal of Sociology*, Vol. 51, No. 1, 2000, p. 6.

<sup>2</sup> J. Gao, "Research on New Practice Teaching Mode of SPC Switching Fundamentals Course Based on the Training Platform", *Creative Education* 3.07.2013, p. 97.

<sup>3</sup> L. Haddon, S. Livingstone and the EU Kids Online Network, EU Kids Online: National Perspectives, <http://www2.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20III/Reports/PerspectivesReport.pdf>, p. 3 (Accessed: 15.05.2015).

diverse as children and young people use the Internet not only on computers (49%), but also on smartphones or other mobile devices (33%).<sup>4</sup>

The reasons for the Internet use can be classified as following and divided into several major groups. The most popular one is preparation for classes (85%), followed by visiting sites that offer games (more than 83%), watching video materials (76%), and finally instant messaging (62%). To a lesser extent the Internet is utilized to post images (39%), messages (31%) or as a tool for online file exchange (16%) and blogging (11%). Moreover, 59% of young people aged 9–16 have a social network profile. Among them, the largest group is that of 15–16-year-olds, 82% of whom have such a profile, although no less than 26% of 9–10-year-olds are also active in social networks.<sup>5</sup>

What may be interesting in this context is a closer examination of the statistics which show that the Internet is often used in preparation for classes and for watching video materials. These two indicators show an interesting supposition that YouTube can combine these two activities, and thus enable the acquisition of knowledge through video materials. This is obviously a highly simplified assumption, but it is worth analyzing in greater depth. In the first place, a matter which will require delineation is the phenomenon of application of moving images to wider educational goals. YouTube, of course, is not new to this area so in order to present a more comprehensive overview of the role of film in education over the decades, we should take a hind view on the issue.<sup>6</sup>

The appearance of the film quickly caused a stir in the world of educators and pretty soon it turned out that the enthusiasm was not unfounded. Shortly afterwards we can observe increasing attempts at systematizing training methods that used motion picture. A wide variety of publications contain critical remarks concerning the application of the new teaching methods and different ideas designed to raise the attractiveness mediated by the film track. A great number of educational innovations in this area are now available and useful movies designed for teachers are easily accessible. A development of film cycles in digitized form has been observed, which dramatically raises interest in the image. This form of knowledge acquisition is a powerful tool for those conducting the educational process.<sup>7</sup>

Another important educational value of the film can be pointed out in this context, namely its unique opportunity to preserve and perpetuate the past. Today, with digital archives, we can have an easier access to educational films from the beginning of the era of the motion picture. Not only can we watch those movies, but also conduct their successful analysis. In fact this is an excellent material for historical studies, in the service of, for example, history teachers as well as researchers in the field of the history of education. It is also a source of a more scientific analysis, which allows us to view the old methods of education used at that time.

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<sup>4</sup> It is worth mentioning that in 2005 70% of children aged 6-17 used the Internet but in 2008 the percentage rose to 75%.

<sup>5</sup> L. Haddon, S. Livingstone and the EU Kids Online Network, *EU Kids...*, p. 3.

<sup>6</sup> A.W. Armstrong, N.Z. Idriss, R.H. Kim, "Effects of Video-Based, Online Education on Behavioral and Knowledge Outcomes in Sunscreen Use: A Randomized Controlled Trial," *Patient education and counseling*, 83(2), 2011, pp. 273–277.

<sup>7</sup> It is worth pointing out a periodical titled *The Educational Screen*, published in 1922–1962, [www.archive.org](http://www.archive.org) (Accessed: 24.05.2015).

The place that collects these important resources (in the form of old movies) that can be used as a teaching help, is YouTube, which is a kind of specific repository of this type of content. Many clips from the early days of film can now be viewed online, exemplified by short videos illustrating the teaching process (cf. the experimental lesson by Jane Elliott<sup>8</sup>) as well as those that provide historical evidence relevant to the events important from the historical point of view. An interesting example would be Lenin's speech of 1917, films with Mao Zedong that allow you to trace the development of his political activism over the years, and many other highly important materials. Such historical "paintings" enliven history although it is true that sometimes they show it quite randomly, at the same time, however, creating a perfect complement to the knowledge that we gain from books. As a result we are able to conduct at least a partial verification of the historical reality<sup>9</sup>.

The first and the most concrete answer to the question of the effectiveness of the film in the educational process is provided by the research conducted by the scientists from the University of Chicago, also known as the Freeman-Commonwealth study. This was an extensive research, which collected data from 5,000 students over three years. The results of this study showed that the use of film passes the test successfully particularly when the object of teaching is action or movement. It also showed that significantly better results in teaching are achieved when the educational video is divided into short fragments instead of being shown as one, long and closed theme.<sup>10</sup>

The presented results were not widely echoed at the time when they were published, and became known only several decades later when the importance of film application as a part of the teaching process was noted<sup>11</sup>. According to these results, short units and highly monothematic films which are best suited for the teaching process are identical to the content that can be found on YouTube and which perfectly fits into the described requirements. Of course, we refer at this point only to the form of the video without evaluating its content. The long videos posted on YouTube are in general limited in number but, on the other hand, as noted, the most effective transfer of information should take place through a series of thematically linked, yet short and separated fragments.

YouTube through its fairly clear and accessible interface gives easy access to the published content. A simple design navigation allows a quick display of the subsequent part of the material, and can easily be shown in between the teacher's comments. This prevents the loss of attention by the students, who are quite often forced to listen to and watch a long monothematic presentation. The teacher or lecturer has an opportunity to prepare in advance a set of specific content on a given subject, which takes the form of playlists. Its projection is interspersed with comments and questions on his part. As a result, the teacher does not lose contact with the group, and the group, in turn, is not without opportunities to interact with the teacher.

On this basis, one can conclude that YouTube can be a powerful tool in the teaching and learning processes, and that it can affect the sphere of motivation. What is certain,

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<sup>8</sup> See. Experimental lesson conducted by J. Elliot "Blueeyed", <http://www.youtube.com/watch?v=VeK759FF84s> (Accessed: 20.04.2015).

<sup>9</sup> T. Haydn (ed.), *Using New Technologies to Enhance Teaching and Learning in History*, Routledge 2013, p. 15.

<sup>10</sup> See P. Saettler, *The Evolution of American Educational Technology*, Greenwich 2004.

<sup>11</sup> *Ibidem*.

the playback (which should be regarded as an effective method of improving education), does not depend directly on the site, but is strongly based on usage. The displayed video is therefore not an end in itself but a means of achieving the expected goal in the learning process. A well designed instructional video does not follow the simple ratios: television/film-student/ student, but is supported by the contact teacher-student, giving the latter a useful and at the same time an interesting basis for the further exploration of the topic<sup>12</sup>.

Undoubtedly, the advantages of a short YouTube content can (to some extent) be weakened by one element, which is difficult to ignore. The main issue is the quality of films used for educational purposes. It is well known that YouTube is a place where anyone can post a self-created content. For example, we can often find videos that document interesting experiments. And here comes the question of not only their cognitive values, but also the form of presentation. Much literature is devoted to the issue of amateur productions and their poor quality<sup>13</sup>. This aspect cannot be underestimated; however, the role of teachers is crucial in this context. They are obliged to carry out a selection of the material that they decide to use during the course. We can also, of course, hear critical voices concerning preparation for classes with a short video content (or lack thereof). The conclusion is that frequently a lack of new attractive teaching ideas on the part of the teacher causes the necessity of resorting to a video content of little value to simplify a difficult task.

Another important issue worthy of delineation is the primary purpose of creating YouTube. It is known that the fundamental ambition of the developers was not to create a public education platform, but the space in which everyone could freely upload their own productions<sup>14</sup>. We are dealing here with an important shift of emphasis, a smooth transition from entertainment to science. One can argue that this tool is not designed for the purpose of spreading knowledge and should therefore not be involved in it. This might indicate that the technology designed for entertainment can cause unnecessary chaos and undermine the rank of, let us say, the well-established and proper education process designed for pedagogical studies. Is it possible to disagree with this argument? Of course, there is an open field for polemics. Again we should look back in search of a suitable analogy of how entertainment and technology have been repeatedly adapted for formal education.

History knows many examples where the technology of the motion picture was used for teaching purposes, which has already been outlined. The video technology, originally created for entertainment, was later successfully applied to teaching and learning. Today we are facing the era of new media and YouTube, besides being a great source of entertainment, is also a powerful repository of knowledge that is available for everyone with basic technological skills. Not surprisingly it is a tool widely used by professionals from many areas; it offers teachers, as already mentioned, a very easy access to and a possibility of preparing a simple selection of the cost-free content.<sup>15</sup>

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<sup>12</sup> P. Duffy, "Engaging the YouTube Google-Eyed Generation: Strategies for Using Web 2.0 in Teaching and Learning," *Electronic Journal e-Learning*, Vol. 6 Issue 2, 2008, p. 124.

<sup>13</sup> M. Majorek, *Kod YouTube. Od kultury partycypacji do kultury kreatywności*, Kraków 2015, p. 195.

<sup>14</sup> *Ibidem*.

<sup>15</sup> D. Koller, What we're learning from online education, "TED Talk, online", <http://www.youtube.com/watch>, 2012 (Accessed: 20.05.2015).

YouTube is increasingly being used by educators at various levels of education and may already be included in the category of teaching tools. In particular, the service resources are becoming irreplaceable in new areas not fully described yet. YouTube is used to present the learners with a wide variety of content, ranging from interesting events of everyday life, to simple daily activities which have application in teaching foreign languages.

In order to secure an appropriate use of the available content, it is worth citing a list of requirements that must be fulfilled to make the learning process using short video forms satisfactory. The films must

- be aligned with expected learning or performance outcome;
- reduce cognitive load;
- exclude superficial text or graphics;
- be appropriate for target learner's level of literacy;
- be an effective catalyst and facilitator for classroom discourse and analysis.<sup>16</sup>

In this context, and by way of summing up, some strategies for using YouTube in teaching and learning may be outlined, along the lines suggested by Peter Duffy:

- YouTube can be used to create a learning community where everyone has a voice, anyone can contribute and the value lies equally within the creation of the content and the networks of learners that form around the content discovered and shared;
- It allows your students to create a short video as part of an assessment item instead of the traditional essay. Becoming involved in the creation of a video heightens a student's visual literacy, an important skill in today's electronic culture;
- YouTube allows the learner to experiment with new media to convey information and knowledge;
- You can record a video of a guest presenter relevant to your content and use YouTube comments to generate some discussion;
- You can pose a question at the end of class that can be considered from distinct viewpoints and ask your students to search for 2–3 video references relating to the different perspectives. The use of video as a part of an anticipatory set to promote discussion can be a useful tool to engage an audience already enamored of the YouTube phenomenon;
- The use of video also has several advantages over graphic and textual media.
- To support language learning, at the end of one of your classes, decide on a particular topic and ask your students to search for short videos on this topic to watch and create a difficult vocabulary guide;
- Ask student to capture a series of video vignettes related to their work placement. This will provide a rich authentic resource both for your current students and your future use.
- In higher education YouTube can provide a suggestion for creating an intellectual network where students interact not only with professors, but with industry and the community;
- YouTube can be used as a virtual library to support classroom lectures by providing students with access to video clips.<sup>17</sup>

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<sup>16</sup> P. Duffy, "Engaging the YouTube...", p. 124.

<sup>17</sup> D. Remenyi, ECEL 2007 6th European Conference on e-Learning, Copenhagen Business School Denmark 4–5 October 2007, pp. 178–179.

The advantages of using the data gathered on YouTube were first noticed by the sector of higher education. This is not a big surprise, since YouTube cannot be treated as a formal educational channel and its use at lower levels of education remained and still remain highly limited. However, even on lower levels we can observe a gradual change in this aspect.<sup>18</sup>

According to the results of the study conducted by the American Pew Research Center<sup>19</sup>, essentially concerning the internet and its use by the contemporary American society, we can identify its elements which are interesting from the educational point of view, which is the main subject of these reflections. In that report, the Pew Research Internet and the American Life Project say that today a vast majority of students, young people, are in contact with technologies similar to YouTube in their everyday lives.<sup>20</sup> Using such a tool for exercise, or lectures does not surprise them in the least. YouTube is primarily used by teachers who bring the so-called digital teaching style to their teaching and treat it as a complementary teaching tool.<sup>21</sup> In this context it is worth mentioning an interesting phenomenon in the virtual space of YouTube, the Khan Academy.<sup>22</sup> The Khan Academy shows old things in new ways, which can be a great inspiration for teachers<sup>23</sup>. It is not, therefore, that the Khan Academy has come up with a completely innovative method of teaching mathematics, but has improved the previous way of transmitting this difficult area of knowledge. Thus, new technologies and tools, such as YouTube, allow acquisition of content in previously unknown ways.<sup>24</sup>

For more advanced learners, YouTube offers a possibility of gaining experience and competencies that can support the development of their future career. Through this online tool, teachers and educators gain access to huge resources. If these resources are properly selected, they can help students in the use of existing skills in a way that otherwise may not have been recognized.<sup>25</sup> The main point here is that the content in question is characterized by a high rate of personal relevancy, which results in a greater engagement in the learning process, and a better application of the new knowledge and skills. What's more, YouTube is extremely profitable for academic institutions. We know that a purchase of multimedia hardware and software is a costly venture, while the technology discussed here does not constitute any burden on the university budget.<sup>26</sup> YouTube is also increasingly used as a tool complementary to the traditional programs, mainly for the presentation of relevant content. Today, a vast majority of teachers resign from the

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<sup>18</sup> K. Fulton, "The Flipped Classroom: Transforming Education at Byron High School: A Minnesota High School with Severe Budget Constraints Enlisted YouTube in its Successful Effort to Boost Math Competency Scores," *The Journal Technological Horizons in Education* 39(3), 2012, p. 18.

<sup>19</sup> More about PEW on <http://www.pewresearch.org/> (Accessed: 30.04.2015).

<sup>20</sup> More information about this project is available at <http://www.pewinternet.org/> (Accessed: 30.04.2015).

<sup>21</sup> S.C. Burke, S. Snyder, R.C. Rager, "An Assessment of Faculty Usage of YouTube as a Teaching Resource," *The Internet Journal of Allied Health Sciences and Practice*, vol. 7, no. 1, p. 2.

<sup>22</sup> You Can Learn Anything, <https://www.youtube.com/user/khanacademy> (Accessed: 20.05.2015).

<sup>23</sup> C. Thompson, "How Khan Academy is Changing the Rules of Education," *Wired Digital*, July 2011.

<sup>24</sup> M. Prensky, "Khan Academy," *Educational Technology*, 2011, [http://www.marcprensky.com/writing/Prensky-Khan\\_Academy-EdTech-Jul-Aug2011.pdf](http://www.marcprensky.com/writing/Prensky-Khan_Academy-EdTech-Jul-Aug2011.pdf) (Accessed: 12.04.2015).

<sup>25</sup> H. Jenkins, "From YouTube to YouNiversity," *Chronicle of Higher Education*, vol. 53, no. 24, 2007, [http://henryjenkins.org/2007/02/from\\_youtube\\_to\\_youiversity.html](http://henryjenkins.org/2007/02/from_youtube_to_youiversity.html) (Accessed: 25.05.2015).

<sup>26</sup> S.C. Burke, S. Snyder, R.C. Rager, "An Assessment of Faculty...", p. 2.

traditional, purely oral form of lecturing, even in humanities. A presentation supported by multimedia gives a teacher a chance to organize the content and facilitate its better acquisition by the students. Multimedia presentations can be varied by simply pasting a link with a fragment of a film, which will be played in the key moment. A simple click on the link will automatically move you to YouTube service and start a projection.

In a similar way, educational content can be supplemented by e-learning platforms, such as the popular Polish Moodle.<sup>27</sup> YouTube can also serve as a space for lining online content, which is extremely useful when a lecturer specializing in a particular subject remains in remote place so that delivering a lecture “live” would be difficult for logistical reasons. The portal offers a possibility of deciding what group of students will have access to the data. It may therefore be limited only to students enrolled in the particular course<sup>28</sup>.

## CONCLUSION

The idea that contemporary teaching, or even more broadly, the transfer of knowledge, must move towards gaining a wide audience through the use of new technologies, is popular nowadays. The article demonstrates the inevitability of this process. More and more open-minded professors who want to interest audience in their achievements do not see anything inappropriate about placing their talks, and even entire lectures, on YouTube. The fact that education is a priority area undoubtedly means that the service will implement further modifications and adopt educational modules that would fulfill the growing expectations.

Today it is said that popular culture is entering the premises of the university, the environment which has so far been associated with seriousness and esteem. Today’s teachers are faced with the technological changes occurring at a rapid pace and are well aware that traditional didactics is passé. We have an era where we have to fight for a student’s attention and meet his/her interests, so whether we accept it or not, it is a time for a lecturer — performer. In the future educators will increasingly be forced to demonstrate their acting talents, and their task will be to attract audiences raised on music performances, videos and sitcoms<sup>29</sup>. On the one hand, we see here an opportunity for a greater democratization of the education process; on the other hand, we can recall a scary vision from “Idiocracy”<sup>30</sup>, where all spheres of social life have been colonized by the omnipresent entertainment, where the lawsuit and the deliberations of parliament resembled appallingly low quality performances of the pop music stars. It is not hard to imagine such a teaching revolution but we can only hope that the above mentioned pessimistic scenario is unlikely to happen, and the respect for knowledge and those who transmit it will stop the impending devaluation of university education.

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<sup>27</sup> Moodle comes from Modular Object-Oriented Dynamic Learning Environment. More information available at: <https://moodle.org/>.

<sup>28</sup> M. Gilroy, “Higher Education Migrates to YouTube and Social Networks,” *Education Digest* 75.7, 2010, pp. 18–22.

<sup>29</sup> J.R. Young, “YouTube Professors: Scholars as YouTube Stars,” *The Chronicle of Higher Education*, 2008, <http://chronicle.com/article/YouTube-Professors-Scholars/22847> (Accessed: 1.04.2015).

<sup>30</sup> See „Idiocracy”, <http://www.imdb.com/title/tt0387808/> (Accessed: 26.05.2015).

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## YOUTUBE W EDUKACJI. WADY I ZALETY SERWISU JAKO NARZĘDZIA NAUCZANIA

### Streszczenie

Jedną z najbardziej zmiennych przemian, które możemy obecnie obserwować jest przejście z ery analogowej do epoki cyfrowej. Artykuł koncentruje się na nowych technologiach komunikacyjnych, które są stosowane w procesie nauczania. Głównym celem jest udzielenie odpowiedzi na pytania dotyczące przebiegu rozwoju tychże technologii, ich ramowy ogląd oraz funkcje edukacyjne, które mogą być przypisane serwisowi YouTube. Warto rozważyć, czy i w jakim stopniu YouTube jest narzędziem uzupełniającym tradycyjne technologie stosowane w procesie kształcenia oraz czy jest możliwe, że YouTube będzie w przyszłości jeszcze bardziej intensywnie wykorzystywany, czy też przeciwnie, rola tego kanału w edukacji pozostanie bez zmian. Zakładając, że YouTube spełnia w pewnym stopniu oczekiwania dotyczące potencjalnego zastosowania tego kanału w nauczaniu, w pierwszej kolejności należy udzielić odpowiedzi na pytania w przedmiocie bezpieczeństwa i skuteczności tej formy przekazywania wiedzy.