University Students' Perceptions about the Educational Videos on YouTube

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Abstract: YouTube is a Web 2.0 technology-based social media platform that enables users to produce and share their own videos as well as watch and interpret other users' video materials. The purpose of this study is to determine how university students perceive educational video clips shared on YouTube and whether their perceptions differ across some demographic variables. The study was designed as a survey research within the quantitative research paradigm. The sample of the study was made up of 125 university students attending at a major state university in Turkey. Data were collected through an online questionnaire including demographic information form and an 11-item opinion scale for the use of YouTube videos as educational material obtained from the related literature. As a result of the study, it was found that participating university students generally agreed the potential motivation and contribution that YouTube educational videos provide to their learning. In addition, students' perceptions were found to be independent of their gender, age, grade level, program type, and faculty.

Keywords: YouTube, Educational Videos, University Students, Perceptions

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Introduction

In today's information age, technology, information and the individuals who want to reach this information are increasing day by day. On the basis of technological developments, there are both quantitative transformations that increase the capacity of communication and reduce its cost and qualitative changes that bring together individual and mass communication. Social media is one of the most important communication tools among the technological developments in recent years. It is a platform that enables communication, sharing information and producing content using internet technologies, and consists of articles, videos, photos and other materials created by individuals (Dilmen, 2007). Therefore, the ability of an individual to create, comment and contribute

to the content of the media makes social media different from traditional media. Being a Web 2.0 technological environment, social media contains five key characteristics as participation, openness and barrier-free access, two-way conversation, community, and connectedness (Mayfield, 2008). Facebook, Twitter, Instagram and YouTube are among the most popular social media platforms where various content such as text, audio, image and video are shared.

Founded in 2005, YouTube is an online video sharing platform where users can share their own videos, and watch and comment other users' videos (Bostancı, 2010; Yıldırım & Özmen, 2011). Although there are certain categories for uploading videos, YouTube does not limit the content except for illegal materials. For some content, it is required to be over 18 years old. Generally, content such as video clips, television clips, music videos, video blogs, short original videos, and educational videos are published. Since video is a multi-sensory information transmission medium that can record both video and audio, it has important advantages. For instance, educational videos support individual learning, increase student interest and motivation, demonstrate complex subjects, explains dynamic changes and movements with sounds and images, demonstrate the use of tools or equipment, move to the desired part of the topic faster, are easy to acquire, use, reproduce and store and can be watched anytime and anywhere (Akerson et al., 2018; Bektas & Oguz Unver, 2022; Ergin, 1995; Gunel & Top, 2022; Hartsell & Yuen, 2006; Massner, 2022; Qi, 2021; Shukla & Mcinnis, 2021; Solé-Llussà, Aguilar, & Ibáñez, 2022; Yıldırım & Özmen, 2011).

As it is known, social media platforms have a large number of users. Videos have an important place among the elements in these environments. Video sharing sites, which emerged from the idea of sharing the videos that people created with their own means, have gained a popular place with their search and display features (Emiroğlu, 2007). According to the prior research, YouTube is not used for a single purpose. It is used for such purposes as increasing knowledge, spending spare time, following the popular ones, producing and sharing own content with other people, interacting with other people, having fun, etc (Arklan & Kartal, 2018). Akınç (2019) conducted a study on university students' motivation to watch YouTube channels and found that they usually use for purposes such as having fun, watching photos, videos, listening to music.

Social media is also widely used by students in terms of the age group it addresses, and students spend a lot of time especially on video sharing sites. For this reason, educational institutions can publish educational videos on video sharing sites so that students' video watching habits can be used for educational purposes can benefit from these videos (Alakurt, Kahraman & Mazman Akar, 2016). In the study conducted by Bolat (2014), it was observed that video technology is one of the biggest factors affecting learning. It was determined that the success in video-assisted teaching was higher than in the traditional classroom environment. In her study on the design and development of an educational video portfolio environment, Altıok (2018) investigated the effects of videos on the metacognitive awareness levels of foreign language students. He found that using Kinect-based videos was more effective than traditional training.

Although videos have such educational potential, students' perspectives on videos are also important for their

implementation. Balaman (2018) found that students less preferred the videos that were less than 5 minutes and more than 30 minutes; the narrator's voice tone, diction and pronunciation were important for watching the video; and the quality of the sound and image had an impact on the increase of the video watching rate of the students. Therefore, the purpose of this study is to determine how university students perceive educational video clips shared on YouTube and whether their perceptions differ across some demographic variables.

Method

This study was designed as a survey research within the quantitative research paradigm. Survey research is often used to describe the prevalence of a condition and its distribution within a population. It has three approaches as sample descriptive, cross-sectional, and longitudinal (Mertens, 1998). This study employed cross-sectional approach as it aimed to determine how university students as a sample population perceive educational video clips shared on YouTube and whether their perceptions differ across some demographic variables including gender, grade level, program type, and faculty.

The population comprised university students attending at a major state university in Turkey during the 2020 Spring semester. Using a convenience sampling, the researchers formed a sample group of 125 students. The questionnaire form was designed as an online form and distributed to university students via WhatsApp groups and social media platforms. The sample was made up of those students who volunteered to participate and complete this online form.

The first section of the online questionnaire form contained some questions asking for participants' demographic characteristics. The second section included 11 items adopted from previous studies investigating students' views on the videos developed for educational material and shared on the YouTube site (e.g., Alp & Kaleci, 2018; Lai, 2013). Sample items were: "Educational videos on YouTube help me understand the subject", "I think YouTube video lessons have increased my success level" and "I find YouTube video tutorials boring". Participants were asked to rate these items using a 5-level Likert-type measure where "strongly disagree=1" and "strongly agree=5".

Results

As far as the demographic characteristics of the participants were concerned, 32% of them were male and 68% were female (n=125). The participants were distributed according to their class levels as 18% for freshman, 10% for sophomore, 26% for junior and 46% for senior. The greater part of them (96%) registered to undergraduate degree programs whereas a small proportion (4%) registered to associate degree programs. While the majority of them (78%) were students in the faculties related science and engineering fields, the remaining were as follows: social sciences (13%), health sciences (3%), and sports and fine art sciences (6%). The ages of the participants differed from 18 to 37 and the mean age was 22.18 years (SD=2.80).

Table 1 summarizes the descriptive statistics for 11 items regarding participating students' perceptions about the educational videos on YouTube. Considering the average scores, participants agreed with the statements like "Being able to repeat the topic with video lessons on YouTube helps me learn" (Mean=4.02, SD=1.07), "I Educational videos on YouTube help me understand the subject" (Mean=3.95, SD=1.08), "Educational videos on YouTube provide opportunity to learn at my own pace" (Mean=3.84, SD=1.15), "I think the video lessons on the YouTube improve the quality of teaching" (Mean=3.61, SD=1.25), "Video lectures on YouTube make topics interesting" (Mean=3.38, SD=1.32), "Video lessons on YouTube make teaching more effective" (Mean=3.34, SD=1.29), "I think the teaching with the Video lessons on the YouTube is enjoyable" (Mean=3.30, SD=1.25), "I think YouTube video lessons have increased my success level" (Mean=3.26 SD=1.22). They were undecided about the statement "I can also learn what I learned from the video lessons on the YouTube site by reading a book or the text on a computer screen" (Mean=2.95, SD=1.20) and they disagreed with the statements "I find YouTube video tutorials boring" (Mean=2.40, SD=1.15) and "It is unnecessary to teach the subjects by preparing video lessons on YouTube" (Mean=1.95, SD=.96).

Table 1. Participants' Perceptions about Educational Videos on YouTube

Item	Mean	SD
It is unnecessary to teach the subjects by preparing video lessons on YouTube	1.95	.96
Being able to repeat the topic with video lessons on YouTube helps me learn	4.02	1.07
I think the video lessons on the YouTube improve the quality of teaching	3.61	1.25
Video lectures on YouTube make topics interesting	3.38	1.32
Educational videos on YouTube help me understand the subject	3.95	1.08
Educational videos on YouTube provide opportunity to learn at my own pace	3.84	1.15
I can also learn what I learned from the video lessons on the YouTube site by reading a book or the text on a computer screen	2.95	1.20
I find YouTube video tutorials boring	2.40	1.15
I think YouTube video lessons have increased my success level	3.26	1.22
Video lessons on YouTube make teaching more effective	3.34	1.29
I think the teaching with the Video lessons on the YouTube is enjoyable	3.30	1.25

In order to investigate whether the participants' perceptions differed according to demographic variables, the items in Table 1 were initially subjected to exploratory factor analysis to determine their factorial structure as well as to form a composite variable. Prior to principal component analysis, the suitability of collected data for factor analysis was assessed. The Kaiser-Meyer-Oklin value was .85, exceeding the recommended value of .60 and Bartlett's test of sphericity reached statistical significance (Chi-Square=858,57, df=55, p<.01), supporting the factorability of the correlation matrix (Pallant, 2007). An inspection of the screeplot (Figure 1) revealed a clear break after the first component, suggesting a one-factor solution explaining a total of 55% of the variance. All items were remained in the single factor as their absolute factor loadings values, which varied between .33 and .87, were greater than the common cutoff score of .30 in the literature. After three negative items were reverse-scored, all items were summed to create a composite variable to represent participants' overall

perceptions about the educational YouTube videos (Mean=39.39, SD=8.47) and to use in the following analyses.

An independent samples t-test (Table 2) showed no significant differences in participants' overall perceptions about the educational YouTube videos by gender [$t_{(123)}$=-.29, p>.05]. Similarly, another independent samples t-test (Table 3) showed no significant differences in participants' overall perceptions by their program type [$t_{(123)}$=.92, p>.05].

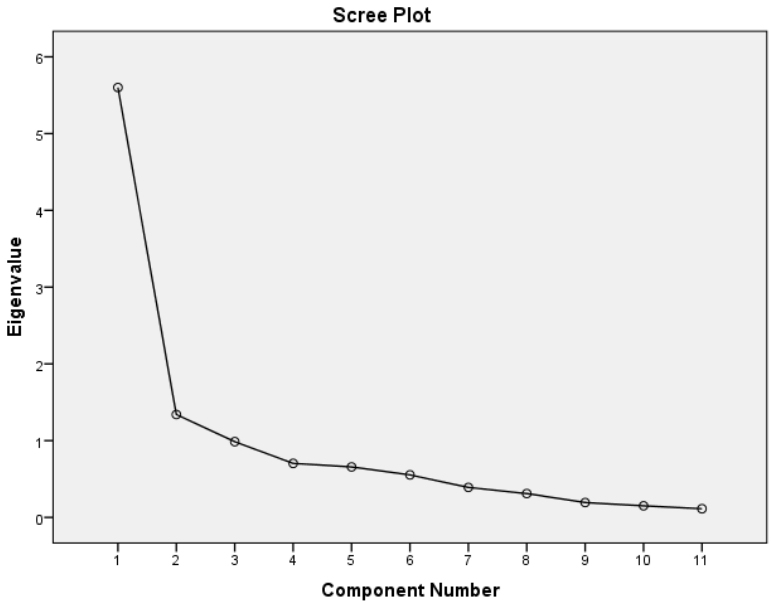

Figure 1. Screeplot of the Perception Items

Table 2. Comparison of Participants' Perception by Gender

Gender	N	Mean	SD	t	p
Male	40	39.06	9.86	-.29	.78
Female	85	39.54	7.79		

Table 3. Comparison of Participants' Perception by Program Type

Program type	N	Mean	SD	t	p
Associate degree	5	42.80	5.59	.92	.36
Undergraduate degree	120	39.25	8.56		

A one-way between-groups analysis of variance (ANOVA) test (Table 4) indicated no significant differences in participants' overall perceptions about the educational YouTube videos by faculty type [F(3, 121)=.59, p>.05]. Similarly, another ANOVA test (Table 5) revealed no significant differences in participants' overall perceptions about the educational YouTube videos by grade [F(3, 121)=2.46, p>.05]. On the other hand, the relationship between participants' perceptions and age was investigated using Pearson product-moment correlation coefficient. The findings indicated no significant correlation (r=.17, p>.05).

Table 4. Comparison of Participants' Perception by Faculty Type

Faculty type	N	Mean	SD	F	p
Science and engineering	98	39.80	8.21	.59	.63
Social sciences	16	37.50	10.69		
Health sciences	4	41.25	3.30		
Sports and fine art sciences	7	37	9.00		

Table 5. Comparison of Participants' Perception by Grade Level

Geade level	N	Mean	SD	F	p
Freshman	22	37.27	8.72	2.46	.07
Sophomore	12	34.75	9.98		
Junior	33	41.39	7.48		
Senior	58	40.01	8.27		

Conclusion

This study shows that participating university students generally agree the potential motivation and contribution that YouTube educational videos provide to their learning. They think that teaching become more effective as they can learn the topics from YouTube at their own pace and repeat them as much as they want and education becomes more enjoyable with the support of educational videos with visual materials. In addition, students' perceptions are independent of their gender, age, grade level, program type, and faculty. With the spread of online or blended courses today, it is known that videos are one of the most widely used educational course materials in learning-teaching processes. When educational videos are prepared in accordance with cognitive theories and presented to the student at an appropriate level, teaching can become meaningful, enjoyable and of high quality. Therefore, this research suggests that educational institutions should provide students with more and educational videos on a variety of topics through YouTube.

References

Akerson V.L., Carter I.S., Park Rogers, M.A. & Pongsanon, K. (2018). A video-based measure of preservice teachers' abilities to predict elementary students' scientific reasoning. *International Journal of Education in Mathematics, Science and Technology (IJEMST),* 6(1), 79-92. DOI:10.18404/ijemst.328335

Akınç, S. (2019). *Kullanımlar ve doyumlar kuramı perspektifinden üniversite öğrencilerinin youtube kanallarını izleme motivasyonları.* Unpublished master's thesis, Gazi University, Turkey.

Alakurt, T., Kahraman, M., & Mazman Akar, G. (2016). Öğrenmede bulut bilişim ve eğitsel Google uygulamaları. In Ö. Demirel and S. Dinçer (Eds.), *Eğitim bilimlerinde yenilik ve nitelik arayışı* (pp. 1183-1198). Ankara: Pegem Akademi Yayıncılık.

Alp, Y., & Kaleci, D. (2018). YouTube sitesindeki videoların eğitim materyali olarak kullanımına ilişkin

öğrenci görüşleri. *International Journal of Active Learning (IJAL), 3*(1), 57-68.

Altıok, S. (2018). *Kinect ile e-eğitsel video portfolyo ortamının tasarlanması, geliştirilmesi ve öğrencilerin üstbiliş farkındalık düzeyleri üzerine etkileri.* Unpublished master's thesis, Kırıkkale University, Turkey.

Arklan, Ü., & Kartal, N. Z. (2018). İkna edici iletişim tekniği olarak tek yanlı ve iki yanlı sunumun kriz yönetimi sürecine etkisi. *Süleyman Demirel Üniversitesi Vizyoner Dergisi, 9*(20), 39-52.

Bektas, O., & Oguz Unver, A. (2022). Teachers' Effective Use of Time in Scientific Inquiry Lessons. *International Journal of Research in Education and Science (IJRES), 8*(4), 647-661. https://doi.org/10.46328/ijres.2918

Bolat, Y. İ. (2014). *Öğretimsel videoların İngilizce öğretmen adaylarının akademik başarılarına etkisi ve uygulamaya yönelik görüşleri.* Unpublished master's thesis, Atatürk University, Turkey.

Bostancı, M. (2010). *Sosyal medyanın gelişimi ve iletişim fakültesi öğrencilerinin sosyal medya kullanım alışkanlıkları*. Unpublished master's thesis, Erciyes University, Turkey.

Dilmen, N. (2014). Yeni medya kavramı çerçevesinde internet günlükleri-bloglar ve gazeteciliğe yansımaları. *Marmara İletişim Dergisi, 12*(12), 113-122.

Emiroğlu, B. G. (2007). UniTube-Üniversitelerarası web tabanlı çokluortam içerik paylaşım platformu. *Akademik Bilişim*, 357-360.

Ergin, A. (1995). *Öğretim teknolojisi iletişim*. Ankara: Pegem Yayınları.

Gunel, E., & Top, E. (2022). Effects of Educational Video Games on English Vocabulary Learning and Retention. *International Journal of Technology in Education (IJTE), 5*(2), 333-350. https://doi.org/10.46328/ijte.225

Hartsell, T. & Yuen, S.C.Y. (2006). Video streaming in online learning. *AACE Review (formerly AACE Journal), 14*(1), 31-43.

Lai, K. (2013). How are our undergraduates using YouTube? A survey on music students' use of YouTube and the library's multimedia collection. *Music Reference Services Quarterly, 16*(4), 199-217.

Massner, C. K. (2022). Who's Zooming Who: A Case Study of Videoconferencing's Effects on Faculty and Students. *International Journal of Technology in Education and Science (IJTES),* 6(4), 602-619. https://doi.org/10.46328/ijtes.412

Mayfield, A. (2008). *What is social media? An e-book from iCrossing*. Retrieved from http://crmxchange.com/uploadedFiles/White_Papers/PDF/What_is_Social_Media_iCrossing_ebook.pdf

Mertens, D. (1998). *Research methods in education and psycohology*. New York: Sage Publicaitons.

Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis for windows*. New York: Open University Press.

Qi, Y. (2021). Users' social interaction on online fitness videos during the COVID-19 pandemic in China - evidence from the Bilibili website. In V. Akerson & M. Shelley (Eds.*), Proceedings of IConSES 2021--International Conference on Social and Education Sciences* (pp. 184-194), Chicago, USA. ISTES Organization.

Shukla, N. J., & Mcinnis, E. (2021). Flipped Classroom: Success with First Year Mathematics Students.

International Journal on Social and Education Sciences (IJonSES), 3(1), 32-47. https://doi.org/10.46328/ijonses.56

Solé-Llussà, A., Aguilar, D., & Ibáñez, M. (2022). The Effect of an Instructional Intervention Based on the Use of Video-Worked Examples to Promote Elementary Students' Science Process Skills. *International Journal of Education in Mathematics, Science, and Technology (IJEMST), 10*(3), 753-772. https://doi.org/10.46328/ijemst.2158

Yıldırım, N., & Özmen, B. (2011, September). Video paylaşım sitelerinin eğitsel amaçlı kullanımı. *Proceedings of 5th International Computer & Instructional Technologies Symposium* (pp. 22-24).