# Student attitude towards virtual classrooms (a pilot study at the Ural Federal University)

**Abstract**: The present paper considers the virtual classroom as an innovative educational model in the context of education digitalization and the development of information and communication technologies. In this work, we set out to analyse attitudes of Ural Federal University students (Yekaterinburg) towards virtual classroom practices. The research methodology involved a standardized questionnaire survey among students (n = 150). The obtained results indicate that virtual learning is in demand at the stage of high-school education (preparation for a unified state exam or foreign language courses). Virtual classes allow learners to save time required for commuting to a campus and to acquire relevant knowledge under the conditions of a rapidly changing reality. According to our respondents, the advantages of virtual learning include increased convenience in terms of time and geographic location, as well as the possibility to revise learning materials when necessary. Study distractions connected with the use of Internet and the absence of social control were mentioned as a disadvantage of the model.

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# Introduction

Penetrating all aspects of human life, digitalization is increasingly becoming a fundamental basis of contemporary processes. Information and communication technologies in education are in steady demand at all education levels. Education is gradually becoming independent of students' location, thus providing flexibility in determining their learning trajectories. While changing the educational landscape, digital technologies improve the accessibility of educational services for the representatives of different social groups and communities. New technologies in education improve the affordability of education and boost cooperation and partnership (Stupnisky and Butz, 2016). The adjustment of teaching technologies to transforming learner needs and a growing request for innovative online educational services are the trends that increase the efficiency of education (Antonova et al, 2017).

Being an innovative practice in modern educational technologies, the virtual classroom is aimed at meeting a wide range of educators' and students' needs. Virtual learning environments provide improved feedback for learners, thus supporting personalized and life-long learning (Bystrova et al, 2018). Online learning can be synchronous (in a real-time mode) and asynchronous, when the educator posts teaching materials (video lectures, etc.) online for the students to learn them at any convenient time. Today, the real-time mode of virtual classroom (webinars, live streaming, etc.) is becoming increasingly popular, since it enhances learner motivation and provides an opportunity for ongoing interaction with educators. Therefore, disabled people, working students, students residing abroad and those unable to attend traditional classes for health reasons can participate in virtual discussions.

The virtual classroom has the advantages over the traditional classroom, however, researchers highlight a number of drawbacks of the virtual classroom (Lightner and Lightner-Laws, 2016). As a result, the absence of face-to-face interaction with the educator and other students sometimes leads to poor learning outcomes (Marshall, 2018).

It can be seen that modern literature on the efficiency of virtual learning presents conflicting opinions, which determines the need for additional research. Therefore, we undertook an empirical study to investigate university students' experience of virtual learning with the purpose of revealing their opinions about the advantages and disadvantages of the virtual classroom model. Such a study can elucidate the potential of virtual learning technologies in terms of their broad application in real educational practices.

# Materials and methods

## Study characteristics

The aim of the present study was to analyse students' attitudes towards virtual classrooms. In December 2019, we conducted a pilot standardized survey among 150 students of the Ural Federal University (Yekaterinburg, Russia). The obtained data are useful for administrations of Russian universities in outlining the developmental trends of education digitalization. A questionnaire comprising 15 questions was developed. The questions were aimed at: 1) identifying the most attractive subjects for learning via virtual classes; 2) determining motivations behind using virtual classes; 3) revealing the advantages and disadvantages of virtual classrooms. The average time spent on completing the questionnaire was 20 minutes. The obtained data was processed by frequency, cross-stabilization and correlation analysis using the SPSS software.

## Characteristics of respondents

Figure 1: Distribution of respondents by gender

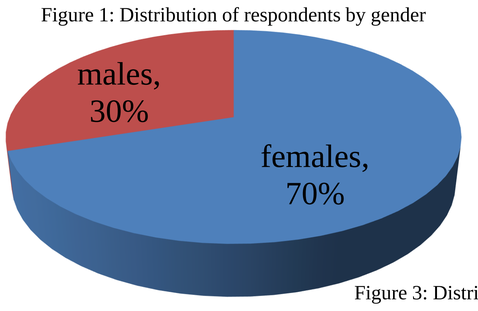



Figure 2: Distribution of respondents according to the course of study

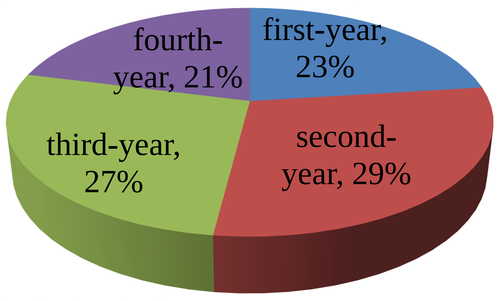
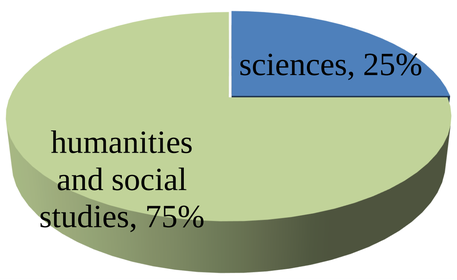



Figure 3: Distribution of respondents by direction of study




# Results

## Use experience

The Yekaterinburg students, who participated in the study, almost equally balanced between those who had experienced online courses based on the virtual classroom model (52%) and those who had never used this kind of learning (48%). The respondents' experience in virtual courses was independent of their sex and year of education, but depends on the direction of study

Table 1. Experience accessing online courses

| | Естественнонаучное | Математическое | Техническое | Humanities study | Social study |
|---|---|---|---|---|---|
| 5and more courses | | | 5,3% | 8,3% | 9,7% |
| 3-4 courses | 25,0% | | 10,5% | 4,2% | 16,4% |
| 1-2 courses | 50,0% | 50,0% | 36,8% | 20,8% | 7,8% |
| No experience | 25,0% | 50,0% | 47,4% | 66,7% | 66,1% |
| | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% |

## Motivation for choosing virtual learning

The analysis of *motivations behind the choice of virtual learning* allowed us to distinguish the following groups.

The first group include motivations connected with the organizational form of such courses. 61% mentioned the absence of the need to attend traditional classes. 39% consider this kind of learning to be a modern and innovative form of education.

The second group is connected with the search for necessary or interesting information. The Internet serves as a main source of information for modern students. 54% of students were consciously seeking for online courses as a source of new (necessary) information, while 48% experienced accidental choice ("have encountered") of an interesting course.

The third group of motivations includes those based on some external sources. It can be either recommendation from the academic environment (24% completed virtual classroom courses as part of university compulsory subjects, 17% received recommendations from their professors), or recommendations from friends (17%).

Finally, another motivation is a relevantly low cost of virtual learning. Thus, 7% of online course participants conducted a prior comparative study of the cost of education to find more affordable learning options.

# Conclusion

The conducted research has allowed us to formulate the following conclusions.

1. Virtual classes are popular among students who have had previous positive experience of online learning during preparation for a unified state exam or enhancing foreign language competencies. At university, students tend to choose subjects directly connected with their field of study.
2. The leading motivation for students to engage in virtual classes is to save time on commuting, as well as to obtain innovative information not provided by traditional learning.
3. Our respondents identified both advantages and disadvantages of the virtual classroom model. The former include the freedom to choose the place of learning and the possibility to download materials for further revision. The latter include the problem of study distractions, which decrease the overall quality of education.

# References

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