



## Attitudes and Perceptions of High School Students on the Use of Educational Technology in the Process of Learning a Foreign Language<sup>1</sup>

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### Abstract

*The research on high school students' attitudes and their perceptions about the use of educational technology in the process of learning, a foreign language included 112 vocational students. The research goals are: 1) to examine the habits among students concerning their computer and Internet use; 2) to examine the views of students on the use of technology in the process of learning a foreign language; 3) to examine students' perceptions on multimedia foreign language learning as well as on classical education; and 4) to determine the relationship between externality (defined as a belief that certain events are outside of one's control, or caused by external events) and attitude toward the use of educational technology in the process of learning a foreign language. When it comes to students' habits related to the computer skills and Internet use, it turned out that most students have a basic user level of digital literacy, especially in the case of computer literacy. Also, the majority of students successfully used software application. Research has shown that students most commonly used mobile application for learning foreign languages (like Duolingo and Babbel), with the most common place of access being their home. The purpose for which students most often use Internet applications for foreign language learning is to get a better grade and to complete their homework. Our research showed that most students are accepting of a possibility to adopt "learning via the Internet".*

**Key words:** *technology in education, computer and Internet use work habits, attitude and perception about the use of technology in education, perception of classical teaching, externality, multimedia foreign language learning.*

### 1. Introduction

In Croatia, the number of IB schools (International Baccalaureate - [www.ibo.org](http://www.ibo.org)) is increasing, with better student achievement results, because they implement high-quality educational programs. According to IB, learning rests on the constructivist learning theory, elaborated in this paper. Instead of textbooks, the IB school teachers use various concepts and guidelines for student evaluation, which are linearly and vertically connected through the years of learning and interdisciplinary approach. The evaluation is based on 'descriptors' and levels of achievement, with the use of formative and summative assessments. Digital media is interesting to the new-age students, and it is close to their "way of thinking" (hence the students are referred to as "digital natives", fluent "speakers" and digital technology users (Issing, 1975, str. 9.). Verduin and Clark (1991) define on-line education with the following elements: a) temporal and spatial separation communication between students and teachers, institutions or organizations which conducts education, and c) the emphasis on students mastering the concepts at their own pace. There are currently 30 different courseware tools available on the market, and some of the most popular are: WebCT (Web Course Tools), TopClass, Lotus Learning Space and Webfuse.<sup>3</sup> This research included 112 high school students, who are enrolled in various courses of vocational training. This profile of students was chosen for this research because they are potential media and technology users, especially in the area of learning a foreign language. of students and teachers during most of the educational process of using educational media (Internet,

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<sup>1</sup> The license to use WebCT in Croatia can be used by all members of the academic and school community free of charge, in cooperation with Croatian Research Network – CARnet who bought a package of licenses

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etc.), for the purpose of connecting students and teachers and for presenting educational content, b) providing two-way

## 2. Methodology

One hundred and twelve freshmen and sophomore vocational students participated in this research<sup>4</sup>, from the following fields: hospitality and tourism school (N=47), electro-technicians (N=31) and auto-mechanics (N=34). The research was conducted during German and Italian language classes, in 2016/2017 school year, from March 12 to June 14, in high-school. The survey instrument used was the first part of the questionnaire to record students' opinions on different variables related to various multimedia foreign language learning tool. Original Likert-type scale was used, with the following scale: 1=strongly disagree, 2=mostly disagree, 3=neither agree nor disagree, 4=mostly agree, 5=strongly agree. In the second part of the questionnaire a semantic differential<sup>5</sup> method was used. Based on data analysis, 44 testing attributes were selected, with the use of the following criteria: 1) only the statements that clearly express a positive or a negative attitude toward the use of multimedia in foreign language learning were taken into consideration; 2) statements considered included the categories of students' answers, including their general ideas about the advantages and disadvantages of the multimedia use in the foreign language learning; and 3) an equal amount of positive and negative opinion statements was taken into consideration. Measurement reliability was 0,93. Cramer's correlation coefficient was used for correlation. The goal of the research was to give answers to the following goals:

- to examine students' habits about their computer and Internet use,
- to examine students' attitudes toward the use of technology in the process of learning a foreign language,
- to examine students' perception toward multimedia language learning and toward traditional teaching approach, and
- to identify relationship between externality and attitudes toward the use of technology in the learning a foreign language.

## 3. Results

Table 1 provides a review of students' answers about different aspects of the use of computers and Internet, and their willingness to accept multimedia language learning as a way to gain understanding of a new educational content as well as improve their digital competency.

Table: 1. Students' level of digital competency.

COMPUTER SKILLS	Number of students
don't know how to use computers	16
basic user level	23
advanced user level	41
Administrative user level	32
<b>Total</b>	<b>112</b>

Table 1. indicates that 41 students (M= 0.47, SD= 0.54) adopted advanced level of digital competence and statistically significant correlation was obtained (Kendallov Tau = -0,362). Students with a higher level of digital competence prefer to use technology as an auxiliary tool for learning a foreign language, in contrast with students who have the lowest level of digital competence.

<sup>3</sup> The research was carried out during foreign language lessons: German and Italian and during extra foreign language lessons.

<sup>4</sup> The semantic differential is a method designed to measure students' attitudes which can offer the widest and most comprehensive approach for understanding attitudes, which is particularly important for relationship between attitudes and behavior. (Pečjak, 1981).



Table: 2. Students' purpose of using multimedia

Purpose of the multimedia use	Number of students
Sending and receiving e-mails	16
Entertainment	46
Gathering information related to the foreign language lesson activities (homework, etc.) in order to make a higher grade and complete homework	29
Gathering other information	21
<b>Total</b>	<b>112</b>

Table 2. indicates that 46 students ( $M= 0.37$ ,  $SD=0.44$ ) cited entertainment as the main purpose for using technology and only 29 students (or 25%) used multimedia as a way to gather information related to the lesson or to complete homework. A statistically significant correlation (Kendallov Tau = -0,342) was obtained, although students who use multimedia as an auxiliary tool preferred combined classes, rather than the traditional teaching approach.

Table: 3. Student preference about a teaching approach.

Answer	Number of students
Yes	41
Yes, but in combination with the traditional teaching process (e.g. smartboards, various software programs, mobile applications, etc.)	63
No	8
<b>Total</b>	<b>112</b>

Table 3. Shows that 41 student ( $M= 0.37$ ,  $SD=0.74$ ) prefer combined classes over the traditional teaching approach, also confirmed by the data in tables 2 and 2.1. It can be concluded that students who are more savvy with the use of multimedia foreign language learning prefer combined classes with the multimedia used as an extra tool, with smartboards and mobile applications being mentioned the most.

Table: 4. Relationship between the vocational school and technology use preference

Relationship	$\chi^2$	Df	p	$\Phi$	p
Hospitality and tourism school considering computer literacy and successful use of the Internet	83,31	1	< 0,01	-0,43	< 0,01
Electricians school considering computer literacy and successful use of the Internet	55,17	2	< 0,01	-0,35	< 0,01

The results presented in the Table 4. show the relationship between vocational school and technology use preference. The results indicate that 67% of hospitality and tourism school students have a high level of computer literacy, while 31% electricians and auto-mechanics showed advanced computer skills. In addition, electricians believe that they are successfully using Internet. A slightly smaller percentage of auto-mechanics show the same level of efficiency in the use of software tools and mobile applications for foreign language learning. Auto-mechanics and electricians most frequently use multimedia applications for the purpose of online-communication (64%), entertainment (75%), collecting various information (36%), collecting information related to foreign language class activities (11%), and collecting other information (4%). Analysis of the differences in attitudes, considering some



of the habits related to computer skills and the use of multimedia applications, showed that there are differences in attitudes toward multimedia learning concerning computer skills, successful use of the Internet, and the frequency of access. In order to test a relationship between attitude and willingness to adopt a multimedia lesson in a foreign language, we used the Kendall Tau coefficient. The Kendall Tau coefficient is  $-0,319$  ( $p < 0,01$ ). A small, but statistically significant correlation was obtained (Kendall's Tau =  $-0,127$ ;  $p < 0,01$ ). Comparing the results for each estimated term showed that students perceived classical education more positively ( $M=97,2$ ;  $\delta=12,7$ ) than the use of multimedia in learning a foreign language ( $M=65,8$ ;  $\delta=12,2$ ) ( $t=-4,245$ ;  $df=439$ ;  $p < 0,01$ ). It turned out that all the differences are statistically significant at the level of  $p < 0,05$ , except the differences in estimation on the scale "pleasant-unpleasant" ( $t = -1,239$ ,  $df = 439$ ;  $p > 0,05$ ). Regarding the relationship between the perception of multimedia foreign language learning and its approval, a statistically significant correlation was obtained (Kendall's Tau =  $-0,362$ ), where students who would be willing to adopt educational content through multimedia have a more positive perception about it. The relationship between the acceptance of the acquisition of educational content via the Internet and externalization was not statistically significant (Kendall's Tau =  $0,010$ ,  $p > 0,05$ ).

#### 4. Discussion

The results showed that when it comes to students' habits and computer skills and Internet use, most of the students have a basic level of media literacy. Furthermore, most of the students know how to use software applications. The study also showed that students most commonly use mobile applications Duolingo and Babbel for foreign language learning, because they think that they can make higher grades. Most students would accept the use of educational content through multimedia. This means that students who would be willing to adopt educational content through multimedia have a more positive perception of it. On the other hand, a greater willingness to accept multimedia foreign language learning is related to a more negative perception of classical education (Kendall's Tau =  $0,254$ ). However, they rather prefer classical education while educational technology is only used as an "extra tool", mostly because they think that it would help them to solve homework easier and faster. This paper shows that even 67% of hotel and tourism school students have a high level of media literacy. Unlike them, 31% of electrical engineering and auto mechanic school students showed advanced computer skills. Educational technology should not be primarily seen as a technical tool but as an aesthetic and symbolic material for self-expression and communication. The reasons are simple: attractive visual information, dynamic forms and active and interactive communication.

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