

University of Silesia in Katowice
Faculty of Arts and Sciences
of Education in Cieszyn

E-learning

Vol. 13

E-learning in the Time of COVID-19

Monograph

**Scientific Editor
Eugenia Smyrnova-Trybulska**



Katowice–Cieszyn 2021

The Reviewers: *Prof. Sixto Cubo Delgado* – University of Extremadura, Spain
Prof. Tamar Lominadze – Georgian Technical University, Georgia

Proofreading by: *Ryszard Kalamarz, John Starnes*

Technical editing and correction by:
Ireneusz Olsza, Eugenia Smyrnova-Trybulska

Cover design by: *Ireneusz Olsza*

E-learning Series is indexed in Journal Factor <http://www.journalfactor.org/>, *Academic Research Index* <https://www.researchbib.com/>, *JIFACTOR.ORG*, *ceon.pl*, *Polska Bibliografia Naukowa* <https://pbn.nauka.gov.pl>
9th vol., 10th vol. and 11th vol. indexed in Web of Science Core Collection
The E-learning series web-sites:
<https://us.edu.pl/wydzial/wsne/nauka-i-badania/serie-wydawnicze/seria-e-learning>
<http://www.ig.studio-noa.pl/pubusc.html>

© Copyright by University of Silesia in Katowice, Poland, 2021

ISSN 2451-3644 (print edition), **ISSN 2451-3652** (digital edition), **ISBN 978-83-66055-25-4**

Published by: STUDIO NOA for University of Silesia in Katowice
Faculty of Arts and Sciences of Education in Cieszyn

Printed in Poland

Scientific publication co-financed from the statutory research funds

Publication co-financed by the University of Silesia in Katowice



UNIVERSITY OF SILESIA
IN KATOWICE

<https://doi.org/10.34916/el.2021.13>

Creative Commons Attribution-ShareAlike 4.0 International



This Monograph contains the Authors' own original work, not printed before in any other sources.

Scientific Programme Committee

Maria Potes Barbas – Polytechnic Institute of Santarém, the Open University in Lisbon, Portugal, Xabier Basogain – University of the Basque Country, Spain, Filipe Carrera – Lisbon University, Portugal, Sixto Cubo Delgado – University of Extremadura, Spain, Martin Drlik – Constantine the Philosopher University in Nitra, Slovak Republic, Prudencia Gutiérrez Esteban – University of Extremadura, Spain, Theo Hug – Innsbruck University, Austria, Zenon Gajdzica – University of Silesia in Katowice, Poland, Pedro Iasias, Queensland University, Brisbane, Australia, Tomayess Issa – Curtin University in Perth, Australia, Jana Kapounová – University of Ostrava, Czech Republic, Piet Kommers – University of Twente, The Netherlands, Kateřina Kostolányová – University of Ostrava, Czech Republic, Stefan M. Kwiatkowski – Academy of Special Pedagogy, Warsaw, Poland, Josef Malach – University of Ostrava, Czech Republic, Elspeth McKay – RMIT University, Melbourne, Australia, Nataliia Morze – Borys Grinchenko Kyiv University, Ukraine, Tatiana Noskova – Herzen State Pedagogical University of Russia, St.Petersburg, Russia, António dos Reis – The Graal Institute, Portugal, Eugenia Smyrnova-Trybulska – University of Silesia in Katowice, Poland, Halina Widła – University of Silesia in Katowice, Poland, Zygmunt Wróbel – University of Silesia in Katowice, Poland, Mirosław Zhaldak – Dragomanov National Pedagogical University in Kyiv, Ukraine

Editorial Board

Theodora Issa – Curtin University in Perth, Australia, Krzysztof Gurba – Pedagogical University of Krakow, Poland, Mirosław Hrubý – University of Defence, Czech Republic, Milena Janáková – Silesian University in Opava, Czech Republic, Theodora Issa – Curtin University in Perth, Australia, Rusudan Makhachashvili – Borys Grinchenko Kyiv University, Ukraine, Ewa Ogrodzka-Mazur – University of Silesia in Katowice, Poland, Tatiana Pavlova – Herzen State Pedagogical University of Russia, St.Petersburg, Russia, Paulo Pinto – The Lisbon Lusíada University, Portugal, Magdalena Roszak – Poznan University of Medical Sciences, Poland, David Richardson – Linnaeus University, Sweden, Halina Rusek – University of Silesia in Katowice, Poland, Nuria Salvador – 22nd Century Foundation– Spain, Iryna Sekret – Abant İzzet Baysal University, Bolu, Turkey, Eugenia Smyrnova-Trybulska – University of Silesia in Katowice, Poland, Aleksander Sadowoy – Dniprovsk State Technical University, Ukraine, Jana Šarmanová – TU-VSB, Ostrava, Czech Republic, Anna Szafrńska – University of Silesia in Katowice, Poland, Maciej Tanaś – Maria Grzegorzewska University, Warsaw, Poland, Milan Turčáni – Constantine the Philosopher University in Nitra, Slovak Republic, Max Ugaz – University of S. Martin de Porres, Peru, Dominik Vymětal – Silesian University in Opava, Czech Republic

Reviewers (Peer- and double blind review)

Nadiia Balyk – Volodymyr Hnatiuk Ternopil National Pedagogical University, Ukraine, Diana Bogdanova – Federal Research Center “Computer Science and Control” of the Russian Academy of Sciences, Russia, Robert R. Gajewski – Warsaw University of Technology, Todorka Glushkova – Plovdiv University “Paisii Hilendarski”, Bulgaria, Milena Janáková – Silesian University in Opava, Czechia, Krzysztof Gurba – Pedagogical University of Krakow, Poland, Halyna Henseruk – Ternopil Volodymyr Hnatiuk National Pedagogical University Ternopil, Ukraine, Mirosław Hrubý – University of Defence, Tomasz Kopczyński – University of Silesia in Katowice, Poland, Elspeth McKay – RMIT University, Melbourne, Australia, Iwona Mokwa-Tarnowska – Gdańsk Technical University, Poland, Tatiana Noskova – Herzen State Pedagogical University of Russia, St.Petersburg, Russia, Tatiana Noskova – Herzen State Pedagogical University of Russia, St.Petersburg, Russia, Volodymyr Proshkin – Borys Grinchenko Kyiv University, Ukraine, Maryna Romanyukha – Dniprovsk State Technical University, Ukraine, Svitlana Skvortsova – South Ukrainian National Pedagogical University named after K. Ushynsky, Odesa, Ukraine, Oksana Strutyńska – Dragomanov National Pedagogical University in Kyiv, Ukraine, Anna Ślósarz – Pedagogical University of Krakow, Poland, Olga Yakovleva – Herzen State Pedagogical University of Russia, St. Petersburg, Russia, Katarína Žilková – Comenius University in Bratislava, Slovakia

TABLE OF CONTENTS

INTRODUCTION	11
CHAPTER I.	
E-learning in the Time of COVID-19	
Nuno Silva & Isabel Alvarez A RETURN TO NORMALITY OR UNCERTAINTY AFTER COVID-19 FOR THE E-LEARNING ETHICAL ENVIRONMENT .	15
Anna Ślószarz STUDYING TIMES OF STUDENTS IN ASYNCHRONOUS FORMS OF DISTANT EDUCATION: FACTS AND MYTHS	25
R. Robert Gajewski EDUCATIONAL CHALLENGES DURING THE PANDEMIC	40
Olena Kuzminska, Nataliia Morze, Mariia Mazorchuk, Olha Barna, & Vik- toriiia Dobriak HOW TO BALANCE SYNCHRONOUS AND ASYNCHRONOUS TEACHING AND LEARNING: A LOCAL STUDY	49
Nadiia Balyk, Galyna Shmyger, Yaroslav Vasylenko, Anna Skaskiv, & Vasyl Oleksiuk THE DIDACTIC ASPECTS OF BLENDED LEARNING IN HIGHER EDUCATIONAL INSTITUTIONS DURING THE PANDEMIC	65
Liliia Hrynevych & Nataliia Morze BUILDING SOCIAL AND EMOTIONAL SKILLS IN STUDENTS IN THE CONTEXT OF DISTANCE LEARNING	76
Jon Xabier Basogain Urrutia THE MANAGEMENT OF E-LEARNING PLATFORMS AND ONLINE ASSESSMENT IN PRIMARY EDUCATION THROUGH THE PRISM OF SCHOOL ENGAGEMENT AND SCHOOL CULTURE	89
Gennadiy Karimov, Ivan Karimov, Marina Romaniukha, & Liudmyla Sorokina PROGRAMME COMPETENCES FOR MANAGEMENT STUDENTS IN THE COVID-19 PANDEMIC	100
CHAPTER II.	
Development of Key Competences and Soft Skills and E-learning	
Katarína Žilková & Alexandra Kondeková THE IMPACT OF ONLINE EDUCATION ON THE STUDENT’S SUCCESS IN THE COURSE “TEACHING GEOMETRY IN PRIMARY EDUCATION”	114

Tatiana Noskova & Tatiana Pavlova PEDAGOGICAL GOAL-SETTING IN A DIGITAL ENVIRONMENT: PROBLEM ACTUALIZATION	125
Eugenia Smyrnova-Trybulska, Iryna Sekret, & Nataiia Morze PRELIMINARY ANALYSIS OF THE DEVELOPMENT AND IMPLEMENTATION OF THE MOOC PROJECT: A CASE STUDY	137
Tetiana Liakh, Tetiana Spirina, Maryna Lekholetova, & Olha Shved BUILDING PROFESSIONAL COMPETENCES OF SOCIAL WORKERS THROUGH DISTANCE LEARNING IN THE CONTEXT OF THE COVID-19 PANDEMIC	151
Nataliia Morze, Mariia Boiko, & Eugenia Smyrnova-Trybulska SOME THEORETICAL AND PRACTICAL ASPECTS OF THE ORGANIZATION OF THE COMMUNITY OF TEACHERS (ON THE EXAMPLE OF INQUIRY-BASED LEARNING IMPLEMENTATION)	163
CHAPTER III.	
E-learning in STEM and STEAM Education	
Veneta Tabakova-Komsalova, Todorcka Glushkova, Stanimir Stoyanov, & Irina Krasteva ARTIFICIAL INTELLIGENCE TRAINING – APPROACHES, RESULTS, ANALYSES AND CONCLUSIONS	176
Nataliia Morze & Oksana Strutynska STEAM COMPETENCE FOR TEACHERS: FEATURES OF MODEL DEVELOPMENT	187
Dmytro Bodnenko, Oksana Lytvyn, Sergiy Radchenko, & Volodymyr Proshkin THE TEMPLATES METHODS IN E-LEARNING OF HIGHER MATHEMATICS	199
Olena Denysiuk, Liubov Lohvytska, Nataliia Martovytska, & Zhanna Petrochko THE ETHICAL ASPECTS OF ICT USAGE IN INTERCOMMUNION WITH PARENTS OF PRESCHOOLERS WITH SPECIAL EDUCATIONAL NEEDS	210
Svitlana Skvortsova & Tetiana Britskan DISTANCE MATHEMATICS LESSONS IN PRIMARY SCHOOL: SERVICES FOR CREATING INTERACTIVE EXERCISES	225
Halyna Henseruk, Bogdan Buyak, Hryhorii Tereshchuk, Mariya Boyko, & Yuliia Henseruk THE TEACHER IN THE SYSTEM OF DEVELOPING STUDENTS’ DIGITAL COMPETENCE	238

Nataliia Morze & Oksana Buinytska THE PORTRAIT OF A SOCIAL EDUCATOR AS A CARRIER OF INFORMATION-DIGITAL COMPETENCE	249
Mariia Ostroha, Marina Drushlyak, Inna Shyshenko, Olha Naboka, Volodymyr Proshkin, & Olena Semenikhina ON THE USE OF SOCIAL NETWORKS IN TEACHERS’ CAREER GUIDANCE ACTIVITIES.	266
CHAPTER IV.	
The E-environment and Cyberspace.	
E-learning and Internationalisation in Higher Education	
Nataliia Morze, Liliia Varchenko-Trotsenko, Mariia Boiko, & Eugenia Smyrno- va-Trybulska EDUCATIONAL AND INFORMATIONAL ELECTRONIC ENVIRONMENT ORGANIZATION FOR APPLICANTS OF THE PROFESSIONAL MA PROGRAM, “MANAGEMENT OF E-LEARNING IN THE INTERCULTURAL SPACE”	278
Svitlana Skvortsova, Tetiana Simonenko, & Lilia Nichugovska THE CONDITIONING OF THE DIGITAL ENVIRONMENT ON COGNITIVE PROCESSES OF MODERN STUDENTS: THE OPINION OF TEACHERS OF UKRAINE.	294
Andrii V. Morozov & Tetiana A. Vakaliuk THE ADMINISTRATION OF THE DIGITAL ENVIRONMENT OF HIGHER EDUCATIONAL INSTITUTIONS: THE IDENTIFICATION OF USERS	309



ON THE USE OF SOCIAL NETWORKS IN TEACHERS' CAREER GUIDANCE ACTIVITIES

**Mariia Ostroha¹, Marina Drushlyak², Inna Shyshenko³, Olha Naboka⁴,
Volodymyr Proshkin⁵, & Olena Semenikhina⁶**

^{1,2,3,6} Makarenko Sumy State Pedagogical University, Romenska str, 87, Sumy, Ukraine

⁴ Donbas State Pedagogical University, Henerala Batyuka St. 19, Sloviansk, Ukraine

⁵ Borys Grinchenko Kyiv University, Bulvarno-Kudriavska St. 18/2, Kyiv, Ukraine

¹ mariia.ostroha@gmail.com, ORCID 0000-0003-0044-8801

² marydru@fizmatsspu.sumy.ua, ORCID 000-0002-9648-2248

³ shiinna@ukr.net, ORCID 0000-0002-1026-5315

⁴ olganaboka911@gmail.com, ORCID 0000-0003-4635-0009

⁵ v.proshkin@kubg.edu.ua, ORCID 0000-0002-9785-0612

⁶ e.semenikhina@fizmatsspu.sumy.ua, ORCID 0000-0002-3896-8151

Abstract: *The article reveals the essence of professional orientation as a system of interaction between a young person and a educator (teacher, teaching staff, society), which is aimed at meeting the needs of the person in professional self-determination. The authors make a content analysis of Internet sources to identify resources that can be used to support career guidance activities and present a classification of Internet resources by types of career guidance work: diagnostic (online testing), agitation (university and interested institution sites), advisory (career guidance sites, network services), information and orientation (professions directories, job sites), accompanying (support development software), organizational (chats, e-platforms for communication), and by types of career guidance activities: sites for meetings (network services), for immersion (specialized software), for consulting (online tests, career guidance sites), for excursions (institution sites), for projects (educational resources). Emphasis is placed on social networks and possibilities of their use in career guidance activities due to the large number of users, the informal nature of communication within the network, which is more interactive (almost one-time exchange of ideas and resources). The practical state of teachers' readiness to use social networks in career guidance was studied and it was found that despite the 100% inclusion of pre-service and service teachers in social networks, their readiness to involve them in career guidance is insufficient.*

Keywords: career guidance, career guidance activities, professional self-determination, social networks, digital technologies, teachers' career guidance activities.

INTRODUCTION

The economic downturn is due not only to lack of jobs, but also to the fact that the modern youth choose their careers, usually based on social media trends without taking into account individual inclinations and abilities, their own intellectual and financial capabilities, as well as regional and national labor market needs.

Generation Z (people born at the turn of the XX–XXI centuries) is characterized by impatience, Internet addiction, fragmental/ clip thinking, hyperactivity, etc. This has an impact not only on the peculiarities of generation Z training, but also on their professional orientation. According to the analysis of youth psychophysiological features, the use of digital technologies and tools is promising for the organization and conduct of career guidance.

At the same time, the most successful period for such activities is adolescence. In this period there is the formation of a stable professional interest and conscious professional intention. It is during this period that career guidance work allows to inform pupils about the different professions, helps them to determine personal qualities. Thus a choice of profession, future professional activity, choice of educational institution for further education is provided. This choice will meet their interests, reflecting their values and alignment with the needs of the labour market.

At the same time, the most important stage of professional self-determination of adolescents is 5–9th grades and it falls out of teachers' career guidance activities, and high school students often make professional choices based on social media trends and obsessive virtual advertising, often influenced by professional agitation rather than conscious career guidance. Therefore, the need, on the one hand, to intensify the teachers' career guidance activities in 5–9th grades of school, and on the other hand, to attract digital tools to carry out such activities, has become urgent. In particular, the problem of using social networks in teachers' career guidance activities is actualized.

1. ANALYSIS OF CURRENT RESEARCH

Analysis of research findings helps characterize various aspects of teachers' preparation for career guidance activity. Among them problems which teachers face with regard to the inclusion of career guidance in the life orientation curriculum (Modiba & Sefotho, 2019); the teachers' attitude to the situation when responsibility for career guidance activities transfers to the school (Watermeyer, Morton, & Collins, 2016); teachers' suitable attitude toward high school students concerning their career guidance (Ochiai, Satoh, Okamoto, & Kunimoto, 1995); the role of teacher in career guidance (Henry, 1973; Wong, Yuen, & Chen, 2021); the positive impact of subject teacher as a career influencer (Holman, 2014; Hutchinson, 2013; Munro & Elsom, 1999); the teachers and students experience in involving parents in career guidance (Phokane, 2012); readiness for professional orientation of primary school students (Zavitrenko, 2013); pre-service computer science teachers' readiness for career guidance work in secondary schools (Ponomarova, 2017); pedagogical means of professional counseling of young people through the Internet (Osadchyi, 2005).

Following the analysis of these scientific findings, it was established that the problems of teachers' in preparation for career guidance and the use of information technologies in teachers' professional activities were systematically solved, but the study of the use of social networks in teachers' career guidance activities has not yet become systemic. It should be noted that, despite the active spread of digital technologies, resources and tools in the educational process, findings on the problems of pre-service teachers training to use social networks in career guidance today is almost absent. The **purpose** of the study is to substantiate the feasibility of using social networks in teachers' career guidance activities.

The purpose leads to the following **tasks**: 1) to conduct a theoretical analysis of approaches to the interpretation of the category "career guidance"; 2) to provide a classification of Internet resources from the standpoint of their use in teachers' career guidance activities; 3) to describe the features of the use of social networks in teachers' career guidance activities; 4) to investigate the practical state of readiness of pre-service and service teachers to use social networks in career guidance and justify the feasibility of their use.

2. MATERIALS AND METHODS

2.1. Research base

The study was conducted based on Makarenko Sumy State Pedagogical University, Borys Grinchenko Kyiv University. The pedagogical experiment was attended by 154 students of 4 course of specialties "014 Secondary Education" (specializations – mathematics, computer science), 56 service mathematics and computer science teachers in Sumy (Ukraine) and and 85 students of 3–4 courses of specialties "122 Computer science", 22 service mathematics and computer science teachers in Kyiv (Ukraine).

2.2. Stages of research

The study took place in four stages: the first stage – theoretical, aimed to clarify the concept «career guidance». The second stage – describes the classification of Internet resources from the position of their use in teachers' career guidance activities. In the third stage, the peculiarities of the use of social networks in the teachers' career guidance activity are described. The fourth stage was to conduct the practical state of teachers' readiness to use social networks in career guidance.

Based on the author's survey, a comparative analysis of the pre-service and service teachers' readiness to use social networks in career guidance activities was carried out.

Questionnaire

1. What cloud services (educational platforms) are you familiar with?
2. What services do you use in your professional activity?
3. What social networks accounts do you have?
4. What do you use social networks for?
5. Do you use Google Forms for surveys?

6. Do you know how to develop thematic posters, announcements, posts for various social networks?

To compare the positions of students and teachers, the answers were subjected to a correlation analysis: on the basis of percentage data for each of the answer the authors calculated Pearson's correlation coefficient,

$$r = \frac{\sum_{i=1}^n x_i y_i - \frac{1}{n} \sum_{i=1}^n x_i \sum_{i=1}^n y_i}{\sqrt{\sum_{i=1}^n x_i^2 - \frac{(\sum_{i=1}^n x_i)^2}{n}} \sqrt{\sum_{i=1}^n y_i^2 - \frac{(\sum_{i=1}^n y_i)^2}{n}}} \quad (1)$$

the probability of which was tested by Student's test with (n-2) degrees of freedom by

the formula $t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$, where n is the sample volume, with the hypotheses “ H_0 – correlation coefficient $r=0$, the linear relation is absent” and “ H_a – correlation coefficient $r \neq 0$, a linear relation between the data is present” (Liashchenko & Holovan, 1996).

3. MAIN RESULTS

3.1. Career guidance activities and the use of Internet resources to its support it

The essence of career guidance in most studies is understood as a system of interaction between a young person and a educator (teacher, teaching staff, society), which is aimed at meeting the needs of the person in professional self-determination. It is emphasized that career guidance work is, first of all, a process of interaction, and not some one-sided action (for example, a teacher); secondly, the basis of this interaction is the needs of both the person and society, which do not always coincide. Therefore, the teacher in such interaction should be a mediator between the young person and society, agreeing on the needs of each side. It should also be noted that it is important to achieve pupils' professional self-determination, which is seen as the ability to learn about individual characteristics (the self-image) and to make the best decision. Content analysis of Internet sources showed that today there is a large number of resources that can be used to support career guidance (Figure 1).

Nowadays, Internet resources can be divided by types of career guidance work into the following: diagnostic, advocacy, consulting, information and guidance, support, organizational (Figure 2).

Internet resources by types of career guidance activities are divided into: software for meetings, software for immersion, consulting, excursions, project resources (Figure 3).

Let us note that this classification is conditional and does not claim to cover the types of Internet resources in the field of career guidance fully. However, a few remarks should be made on the implementation of teachers' career guidance activities based on digital technologies.

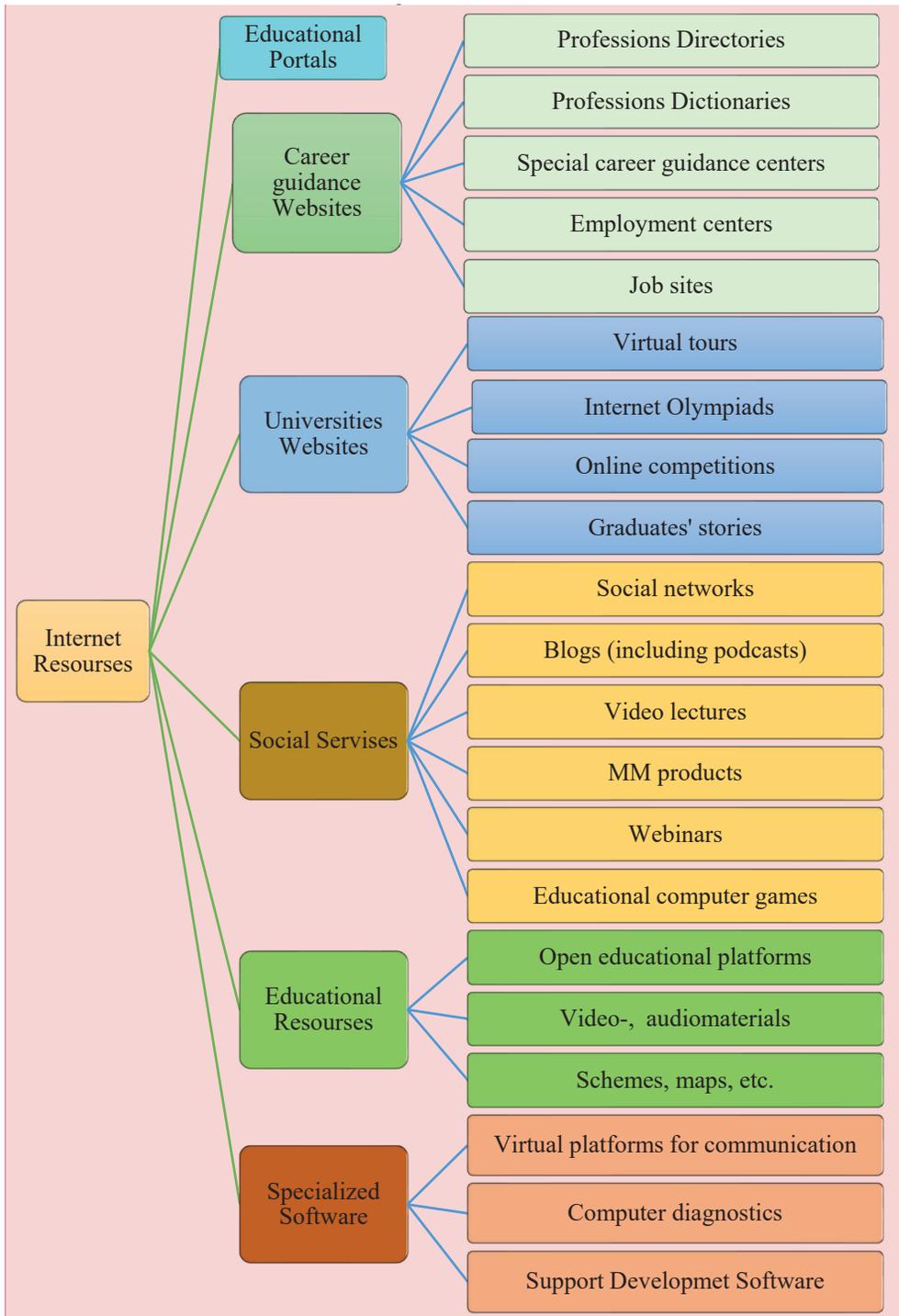


Figure 1. Internet resources for career guidance activities

Source: Own work.

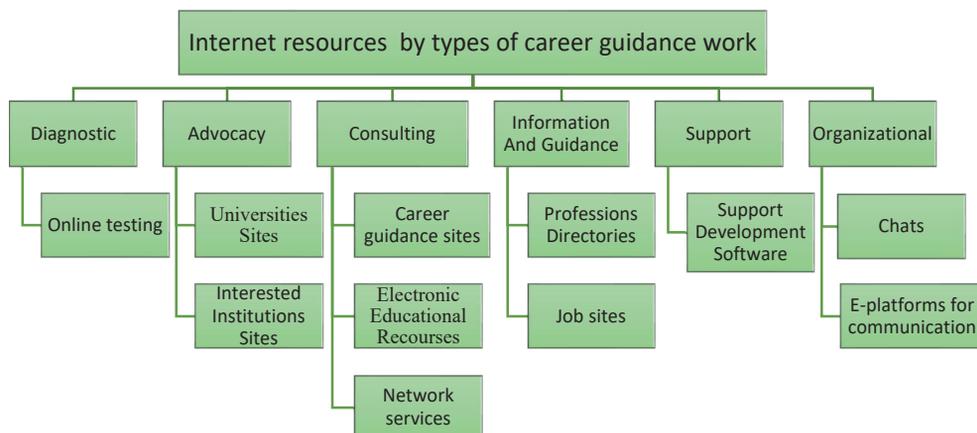


Figure 2. Classification of Internet resources by types of career guidance work

Source: Own work.

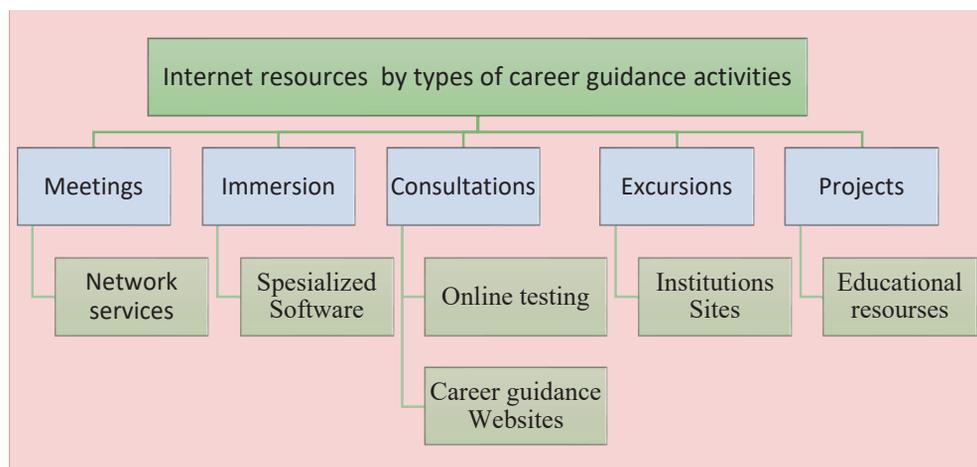


Figure 3. Classification of Internet resources by types of career guidance activities

Source: Own work.

When organizing project activities in career guidance work, one should take into account the diversity of digital resources and promote their diversity among pupils. This can be done by proposing projects related to professional choice: “Why is the teaching profession eternal?”, “How many professions does the IT industry have today?”, “Where can You get the design manager profession?”, “Top 20 the most popular professions in Sumy/ Kyiv region”, “What are the professions of the future”, “What professions will the country need in 10 years”, etc.

We see a promising promotion of open educational resources among pupils, as well as various competitions in the teachers' career guidance activities. At the same time, it is important to emphasize that it is necessary to take into account not only one's

own preferences, but also the requirements of the profession to the person. It is also necessary to take into account career guidance activities of representatives of certain industries, such as representatives of the IT industry, who have the latest information on the labour market and can guide the choice of specialization, promising areas of development, specifics of professional adaptation, employment, prospects in career. In this case, it becomes possible to get acquainted with the field, immerse oneself in the profession and compare one's own expectations with reality.

Since it is not a problem today to automate calculations according to certain algorithms, it is natural to consider the prevalence of resources with computer career guidance diagnostics. Thus, the Proforientator website (http://proforientator.info/?page_id=100) offers a number of computer tests that allow everyone to determine their own professional personality type (J. Holland test, http://proforientator.info/?page_id=6016), motives for choosing a profession (http://proforientator.info/?page_id=6014), motives for choosing a field of work (http://proforientator.info/?page_id=6249), to build your own "Map of interests" (http://proforientator.info/?page_id=6006). On this resource you can take tests to determine the ability to certain professions, to determine the priorities of professional choice, etc.

According to the results of the content analysis of Internet resources related to the professional orientation of young people, we propose the following:

1. Digital technologies affect the form and level of career guidance activities.
2. Due to Internet resources, it is possible to raise students' awareness of professions.
3. Internet resources can simplify professional diagnostics, then to promote a conscious professional choice based on pupils' understanding of their professional preferences and aptitudes. Due to specialized techniques, a series of different tests in the systems "man-technique", "man-nature", "man-sign system", "man-artistic image", "man-man" allow pupils to get ideas about their potential and advantages in a particular profession.
4. Internet resources promote free access to sources of professional orientation, which provides an opportunity to form an idea of the profession and the requirements that the profession places on the person.
5. Among Internet resources, social networks is a separate group of means that are most in demand of young people today and the potential of which is not described by scientists in the context of career guidance.

3.2. Social networks as a group of Internet resources for career guidance

The concept "social network" has several meanings in the conceptual and categorical apparatus of sociology. We define social network sites as web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd & Ellison, 2017).

The peculiarity of the construction of social networks is that their content is filled by the users themselves, and in addition to communication, the authors have the opportunity to consume media content and the full range of entertainment products, economic, political and other activities.

The most popular social networks today are:

Twitter – <http://twitter.com> (microblogs); Facebook – <http://www.facebook.com/>;
Linkedin – <http://www.linkedin.com/>; Instagram – <https://www.instagram.com/>;
Telegram – <https://telegram.org/>; Google+ – <https://plus.google.com>.

Studies of the content of social networks and people's reactions to various content have shown that:

- the opinion of “friends” is important for a person-user of a social network: if an individual has received a positive experience on a certain issue, it is very likely that this opinion will be taken into account by his “friends” on the network;
- the desire to share ideas not in one, but in several networks is popular, because this expands the audience of communication and the ability to collect opinions of users with different worldviews, ages, preferences;
- social networks allow you to inform users about something quickly and cheaply, for example, to organize “draws”, which due to the belief in winning contribute to the rapid dissemination of information among people from more than one community;
- social networks provide the ability to track feedback through likes, reposts, comments, as well as the activities and reactions to these activities of others to improve their own.

These factors determine the need to use social networks in teachers' work, not only for educational but also for career guidance.

In favour of mastering social networks we can point to a large number of users, the informal nature of communication within the network, which is more interactive (almost one-time exchange of ideas and resources).

In the context of teachers' career guidance work, the main purpose of their work in the network is to increase the level of involvement in a particular group, retain attention, expand the target audience, collect feedback, opinions, suggestions, manage negative feedback, increase resource visibility, study student demand. This is a complex process that requires the use of various techniques and tools: monitoring resources, creating and planning posts, communication with students, analyzing the results of such interaction.

3.3. The results of the experiment

Bachelor's graduates, pre-service teachers, and service teachers were asked to answer the questionnaire. The survey results are presented in Table. 1.

We see that the attitudes of service teachers and graduate students (pre-service teachers) to the use of social networks are fundamentally different, there is no correlation between them, which is confirmed statistically at the significant level of 0.05 (hypothesis H_0 is accepted). Therefore, it should be concluded that as of today, teachers do not sufficiently use the potential of social networks in their professional activities. At the same time, the use of such potential by pre-service teachers (bachelor's graduates) is promising.

The distribution of answers on the awareness about Internet resources for career guidance and ways to use them in career guidance is also not satisfactory (Figure 4).

Table 1. Survey results

Question	Answers	Students	Teachers	Correlation coefficient	Degrees of freedom -2	T _{crit}	T _{exp}	Hypothesis
1) What cloud services (educational platforms) are you familiar with?	For lesson	25%	100%	-0,05	6	2,44	-0,13	H ₀
	Classtime	31%	100%					
	Moodle	100%	17%					
	Zoom	100%	100%					
	Skype	54%	87%					
	Google Meet	56%	68%					
	Google Classroom	64%	89%					
else	19%	12%						
2) What services will you use in your professional activity?	For lesson	16%	100%	0,26	6	2,44	0,68	H ₀
	Classtime	19%	100%					
	Moodle	32%	5%					
	Zoom	100%	100%					
	Skype	32%	23%					
	Google Meet	56%	43%					
	Google Classroom	100%	89%					
else		12%						
4) What social networks accounts do you have?	Instagram	100%	45%	-0,44	4	2,77	-0,98	H ₀
	FaceBook	100%	100%					
	Telegram	100%	57%					
	Viber	100%	100%					
	e-mail	56%	100%					
	else	100%	43%					
5) What do you use social networks for?	e-communication	100%	87%					
	information distribution	100%	56%					
6) Do you use Google forms for survey?	Yes\No	54%	34%					
7) Do you know how to develop e-materials for different social networks?	thematic posters	76%	34%	-0,12	1	12,7	-0,12	H ₀
	advertisements	87%	41%					
	posts	95%	32%					

Source: Own work.

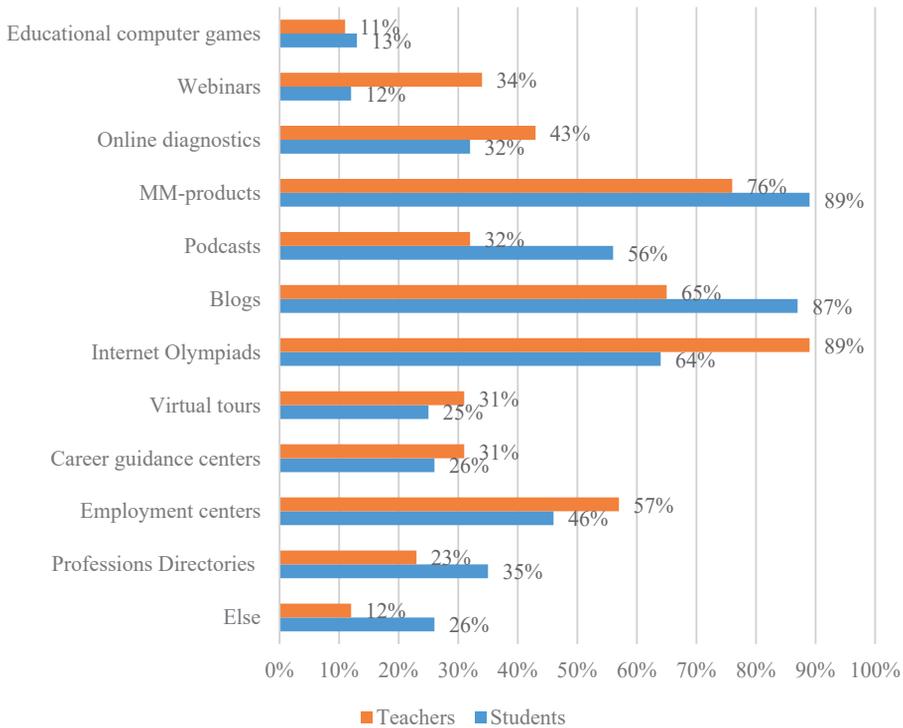


Figure 4. Results of the survey on career guidance resources

Source: Own work.

The analysis of the answers leads to the conclusion that despite the 100% involvement of pre-service teachers in social networks, the ability to attract the resources and services to the professional, including career guidance activities, is insufficient. The situation with service teachers is similar.

CONCLUSION

1. Professional orientation is understood as a system of interaction between a young person and a teacher, which is aimed at meeting the needs of a young person in their professional self-determination.
2. Internet resources can help pupils make informed professional choices based on their awareness and their professional preferences and aptitudes. Internet resources by types of career guidance work are divided into: diagnostic (online testing), campaign (university and interested institutions sites), advisory (career guidance sites, network services), information and guidance (professions directories, job sites), support (support development software), organizational (chats, e-platforms for communication). Internet resources by types of career guidance activities are divided into: sites for meetings (network services), for immersion (specialized software), for consulting (online tests, career guidance sites), for excursions (institution sites), for project (educational resource).

3. Every day, on average, a person spends more than two hours communicating on social networks, and therefore a teacher should use social networks for extracurricular activities. Social networks, as web services that enable large groups of people to communicate and integrate them into virtual communities of interest, can be a tool for career guidance. Teachers' mastering of the use of social networks is seen as a priority for their professional development, because social networks make it possible to influence pupils' career guidance, encourage self-determination in professions, simplify the organization of surveys and processing results, quantify them and predict conclusions.
4. A large number of users and informal communication within the network, which is more interactive (almost one-time exchange of ideas and resources), testify in favour of mastering the use of social networks by teachers. In the context of career guidance, the main purpose of teachers' networking is to increase the level of involvement in a particular group, retain attention, expand the target audience, collect feedback, opinions, suggestions, manage negative feedback, increase resource visibility, study student demand. This is a complex process that requires the use of various techniques and tools: monitoring resources, creating and planning posts, communication with students, analyzing the results of such interaction.
5. According to the analysis of the survey results, we state 100% involvement of pre-service teachers in social networks with a simultaneous lack of readiness to involve the resources and services in career guidance.

REFERENCES

- Boyd, D.M. & Ellison, N.B. (2017). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210–230. <https://doi.org/10.1111/j.1083-6101.2007.00393.x>.
- Henry, A.L. (1973). Teachers Role in Career Guidance. *Agricultural Education*, 45(8), 185–&.
- Holman, J. (2014). *Good Career Guidance*. London: Gatsby Charitable Foundation.
- Hutchinson, J. (2013). *School organisation and STEM career related learning*. York: National STEM Centre.
- Liaishchenko, M.Ia. & Holovan, M.S. (1996). *Chyselni metody: Pidruchnyk [Numerical methods: Textbook]*. Kyiv: Lybid.
- Modiba, M.R. & Sefotho, M.M. (2019). Life orientation teacher training needs in career guidance at rural high schools. *South African Journal of Education*, 39(2), S1–S8. <https://doi.org/10.15700/saje.v39ns2a1538>.
- Munro, M. & Elsom, D. (1999). *Choosing Science at 16: The influences of science teachers and careers advisers on student's decisions about science subjects and science and technology careers*. Cambridge: CRAC.
- Ochiai, Y., Satoh, Y., Okamoto, M., & Kunimoto, K. (1995). Teacher's attitude towards students' desire in a career guidance. *Japanese Journal of Educational Psychology*, 43(4), 445–454. https://doi.org/10.5926/jjep1953.43.4_445.

- O s a d c h y i, V.V. (2005). Pedahohichni zasoby profesiinoho konsultuvannia molodi zasobamy Internet [*Pedagogical means of professional counseling of young people by means of the Internet*] (Candidate dissertation). Vinnytsia.
- P h o k a n e, M.D. (2012). *Educators' and learners' experiences of parental involvement in creating a positive climate for the teaching of Life Orientation*. (Doctoral dissertation). Pretoria, South Africa: Univeristy of Pretoria. Retrieved from <https://pdfs.semanticscholar.org/39b1/e40c57ea01f98d60147918e71f30da765540.pdf> (accessed 29 August 2019).
- P o n o m a r o v a, N.O. (2017). Hotovnist vchytelia informatyky do proforientatsiinoi roboty na IT-spetsialnosti yak pedahohichna problema [The Readiness of Future Teacher of Informatics to Career Guidance on IT- Specialty as a Pedagogical Problem]. *Informatsiini tekhnolohii i zasoby navchannia [Information Technologies and Learning Tools]*, 59(3), 168–178. <https://doi.org/10.33407/itlt.v59i3.1614>.
- W a t e r m e y e r, R., M o r t o n, P., & C o l l i n s, J. (2016). Rationalising for and against a policy of school-led careers guidance in STEM in the UK: a teacher perspective. *International Journal of Science Education*, 38(9), 1441–1458. <https://doi.org/10.1080/09500693.2016.1195520>.
- W o n g, L.P.W., Y u e n, M., & C h e n, G.W. (2021). Career-related teacher support: A review of roles that teachers play in supporting students' career planning. *Journal of Psychologists and Counsellors in Schools*, 31(1), 130–141. <https://doi.org/10.1017/jgc.2020.30>.
- Z a v i t r e n k o, D.Zh. (2013). Formuvannia v maibutnikh vchyteliv tekhnolohii hotovnosti do profesiinoi orientatsii uchniv osnovnoi shkoly [*Formation of pre-service teachers' technology of readiness for vocational guidance of primary school students*] (Candidate dissertation). Kirovohrad.