

EXPRESSION OF ADULT INFORMATION SOCIETY TECHNOLOGY COMPETENCE IN LIFELONG LEARNING CONTEXT

SUAUGUSIŲJŲ INFORMACINĖS VISUOMENĖS TECHNOLOGIJŲ TAIKYMO KOMPETENCIJOS RAIŠKA MOKYMOSI VISĄ GYVENIMĄ KONTEKSTE

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Summary. The European Commission emphasizes the importance of lifelong learning for competitiveness and employability, as well as for social inclusion, active citizenship and personal development. In the information and lifelong learning society information technology is becoming a driving force as it is applied not only for everyday activities but also for world economy. Information society technologies provide new possibilities for science and education. It is especially important to understand their significance and apply them in learning process.

The paper analyses the relevance of adult information society technology competence, its need and application in professional and social activities and personal life.

Keywords: lifelong learning, information society technology, abilities, non-formal adult education, adult learners.

Santrauka. Europos Komisija pabrėžia mokymosi visą gyvenimą svarbą tiek konkurencingumo ir gebėjimo įsidarbinti, tiek socialinės integracijos, aktyvaus pilietiškumo ir asmeninio tobulėjimo atžvilgiu. Informacinėje mokymosi visą gyvenimą grindžiamoje visuomenėje informacinės technologijos, jas taikant ne tik kasdieninėje veikloje, bet ir ekonomikos pasaulyje, tampa varomąja jėga. Informacinės visuomenės technologijos suteikia naujas galimybes mokslui ir švietimui. Ypatingai svarbu suvokti jų reikšmę ir pritaikyti mokymosi procese.

Straipsnyje analizuojami suaugusiųjų informacinės visuomenės technologijų gebėjimų aktualumas, reikalingumas ir taikymo poreikiai darbinėje, visuomeninėje veikloje ir asmeniniame gyvenime.

Raktiniai žodžiai: mokymasis visą gyvenimą, informacinės visuomenės technologijos, gebėjimai, neformalus suaugusiųjų mokymasis, besimokantieji suaugusieji.

INTRODUCTION

The importance of lifelong learning for the European future is now approved at the highest level and is the key element in seeking for public spirit, strengthening social cohesion and increasing employment. One of the state strategies is to help the individual to acquire a

professional qualification, in line with modern technological, cultural and personal skills, and facilitate lifelong learning – continually meet the knowledge needs of new qualifications necessary for the professional career and meaningful life. Lifelong learning competences are essential because of the need to achieve the necessary information and the necessary skills to judge the quality of the information received. Therefore, in recent decades, much attention is paid to the adoption of new technologies and the development of initiative, computer and information literacy, communication (Rutkienė, Trepulė, 2009).

Ability to use the information society technologies (IST), as one of the social actions is a part of the society, whose main feature is the European integration, development, lifelong learning, development of knowledge-based economy. Lifelong Learning Programme's special aim is to create innovative IST solutions to promote better education and science throughout a citizen's life.

IST competence is closely related to professional competence. Therefore IST competence is significant and its development is an important factor that provides opportunities in the labour market, to be an active citizen.

Seeking to ensure the lifelong learning possibilities, qualitative education and training services have to be provided that stimulate personal development of people of different age and interests. Non-formal adult education is the most convenient and easily accessible form of education which can help people to acquire new competences or refresh the existing ones. In the educational process IST displaces conventional techniques, traditional methods of teaching and becomes an important instrument for lifelong learning, innovation and learner-centred learning.

One of the Lifelong Learning Strategy (2008) aims is to improve people's computer usage competence in order to reduce social differentiation in the area of information society technologies. Even though people claim they are able, know how to use and want to use information technologies, not all the population understand the significance and use of IST competence.

The aim of the paper is to review and analyse the IST competence's significance and adult IST competence expedience for personal, professional and social activities.

The object of the paper is IST competences of adults.

The tool of the research was a structured questionnaire. Digital and information society technology competence questionnaire was constituted of 18 questions. Some respondents were given paper questionnaires, others filled the questionnaires electronically. Quantitative data analysis was performed applying data processing and analysis program SPSS, versions 16.0 and 20. Descriptive statistics methods were applied for analysis, correlations were calculated, statistical significances of gender, employment (employed, unemployed and seniors) and demographic (city, town, small town and village) variables were set.

THE CONCEPT OF INFORMATION SOCIETY TECHNOLOGY COMPETENCE

The definition of information technologies has been formed in 1980s. Information technologies (IT) can be defined as a set of tools and techniques for information processing. The concept includes different methods and tools (hardware and software) used for data processing: to collect, sort, store, send or otherwise manage with computer. In 1990s, with the widespread use of Internet technologies, the definition "information and communication technologies" appears. In the Encyclopaedic dictionary of computer science (Dagienė et al., 2008) information

and communication technologies (ICT) are defined as information technologies complemented with tools of communication, with the emphasis on computer networks and information transmission methods. ICT is in permanent transformation, it is constantly evolving, and it changes nature of work and naturally requires new knowledge and skills. Information society technologies (IST) are defined as information and communication technologies, complemented with communication and social media tools (Kankevičienė, 2011).

Information society technology progress is changing societies' way of life in all areas: employment, business, education, research, entertainment, etc. Lifelong learning strategy (2008) emphasizes the development of adult basic skills. Mathematical competence in science and technology field and digital competence that are related to technologies acquire particular significance (European Commission, 2006). In the document prepared by the European Commission (2007) digital competence is defined as a competence related to a reliable and critical use of information technologies. According to Ilomäki et al. (2011) digital competence is still a forming concept associated with technological development, as well as political objectives and expectations with respect to citizenship in the knowledge society.

Information society technology competence is perceived as an ability to develop and apply mathematical thinking solving different problems; to use information society technology reliably, critically, creatively at home and at work, in leisure time and communication: search, collect, process, present and understand complex information using the basic software and the Internet, using electronic information and communications tools: e-mail, social websites, etc. (Fig. 1).

The aim of the information society technology competence development is the formation of independent and self-governing, responsible and continuously developing personality, the integration into the world of information society technology.

The progress of information society technologies changes the society lifestyle in all fields: employment, business, education, research, entertainment, etc. They include information

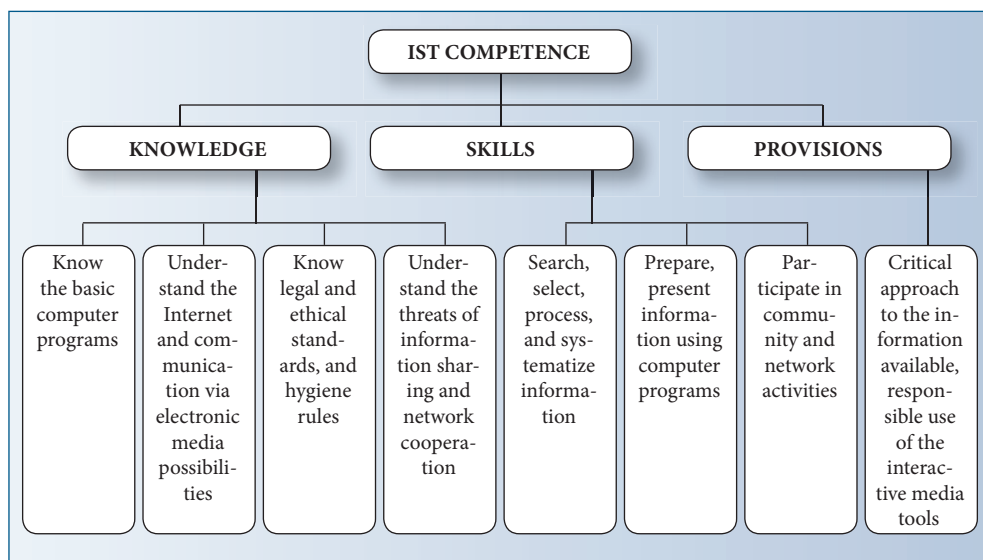


Fig 1. IST competence structure

development, installation, dissemination and control functions, influence public administration and all the political, legal, economic, social and cultural processes.

Lifelong learning is the best way to face all the changes, to integrate all the members of the society into social life and active citizenship, to help them create a productive and satisfying way of life.

IST COMPETENCE DEVELOPMENT TENDENCIES

At the beginning of 2004 more than a quarter of population – 27 percent used a computer regularly (at least once a week) (in 2003 – about 20 percent, 2002 – about 11 percent). The number of the Internet users increased almost twice – from 11 percent to 21 percent. Home consumer market increased by nearly one and a half times in comparison to 2001 (Barcevičius, 2012).

Computer and Internet use (Information technologies in Lithuania, 2012) gradually increased from 50 percent in 2007 to 67.5 percent in 2012. In 2012 65 percent of Internet users aged 16–74 used Internet banking services. 92 percent read or sent news, newspapers and magazines; 86 percent looked for information about goods and services; 81 percent of Internet users used e-mail. 71 percent of Internet users used the Internet to make a call or participate in chat sites, forums, or wrote blogs. 41 percent used the Internet for e-commerce, 40 percent of users bought tickets to cultural events. 12,2 percent of users studied on the Internet, 13,7 percent of users looked for a job.

In 2014 already 72 percent of population aged 16–74 used computers: 97 percent of age 16 – 24, 94 percent of age 35–34, and 22 percent of age 65–74. The majority of people (79 percent) who used computer in 2014 used it every day. In 2014 72 percent of population aged 16–74 used the Internet: 97 percent of age 16–24, 21 percent of age 65–74. 86 percent of working people used the Internet. 78 percent of the Internet users used it every day, 17 percent – at least once a week (Information technologies in Lithuania, 2014).

General visiting of public institution websites has increased, the main reason indicated by the population was the wish to use electronic services. In 2014 40 percent of population aged 16–74 in Lithuania visited websites of different public institutions. In comparison to

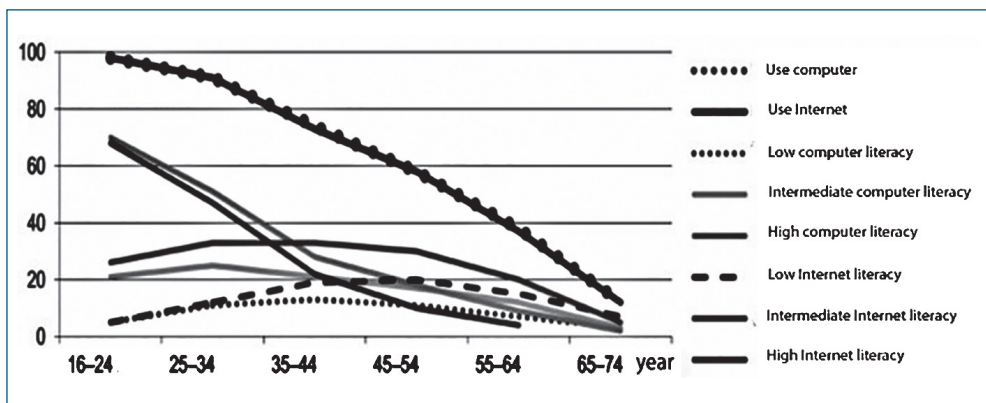


Fig. 2. Level of IST use and abilities in Lithuania in 2011 (percent)

2013 research data, a significant increase is observed of population who visited public institutions websites in the last 12 months (Electronic services use study, 2014).

The level of information society technologies use and IST skills fall when age increases. Low computer and Internet literacy is up to 20 percent (Fig. 2). (Distant learning: development of learning possibilities, 2012).

All public websites meet the technical standards on accessibility for disabled. Lithuania is in the top five in the EU according to the population which has the highest level of Internet skills (Eurostat calculation). 100 percent of population aged 16–74 can sign with electronic signature (Barcevičius, 2012).

The EU and national projects are performed in Lithuania with the aim to provide knowledge about modern information technologies, to train a person to work with personal computers and thus increase his/her competitiveness in labour market. Projects are initiated especially in rural areas with the aim of reducing social exclusion. In the period 2007–2013 about 60 thousand people were trained with computer literacy tool.

Computer and information literacy provide additional possibilities for people to improve their qualification, to learn independently, to search and use information needed at home and at work. This is the basis for independent and life-long learning.

ADULT ATTITUDE TOWARDS IMPORTANCE OF IST COMPETENCE

In the framework of the project “Research and Development Platform for Adult Training of Key Competences” No. VP1-3.1-SMM-07-K-03-073, funded by the Research Council of Lithuania, the researchers of Vytautas Magnus University Faculty of Social Sciences Department of Education Sciences conducted a research throughout Lithuania which aim was to study the situation of developing adult Key Competences in Lithuania.

Residents from 60 municipalities participated in the survey. There were surveyed 864 respondents.

The majority of respondents are women – 60,3 percent, men – 39,7 percent (N = 539, no answer – 325). The age of respondents is from 18 to 83 years, average – 37 years, standard deviation – 13,7. The majority of respondents (44,9 percent) are married, 10,1 percent live in partnership, 27,9 percent are single, 8,9 percent are divorced, 3,5 percent are widows, and 2,8 percent live separately (N = 537, no answer – 327). The majority of respondents live in cities and towns: 33,3 percent – in city; 26,7 percent – in town, 22,6 percent – in small towns, 17,2 percent – in village, 0,2 percent – other. The largest part of respondents is with higher education: 51,1 percent (higher non-university education – 12,1 percent, Bachelor’s Degree – 19,8 percent, Master’s Degree or corresponding to it – 17,5 percent, Doctor’s Degree – 1,7 percent). 10,6 percent have post-secondary education, 13,8 percent – vocational education, 18,3 percent – secondary education. Lower secondary education: 1,7 percent – incomplete secondary education, 4,5 percent – primary education (N = 536, no answer – 328). According to employment, the majority are looking for job – 44,7 percent. Employed – 33 percent, including “Public servant” – 12,6 percent of respondents, “Hired employee” – 15,0 percent, “Owning a business” – 5,4 percent, seniors – 22,3 percent (N = 530, no answer – 334).

The research participants evaluated their digital and information society technology competence very well. The following skills were evaluated as *Very well* and *Well*: giving presentations

with text editors; communicating (e-mail, chat programs (Skype, etc.), Facebook and other social sites); searching and selecting information on the Internet; using information services for personal and business purposes (e-banking, online commerce, media, e-government gateway: assets, income declaration, etc.). These results conform to the data of Eurostat: Lithuania enters the EU top five countries in terms of population share, which has the highest level of Internet skills. The respondents also rated the ability to understand and apply legal and ethical norms related to information technology well enough. The respondents named the following skills as the weakest: calculating and drawing diagrams with spreadsheets; using a database system.

The respondents' answers to the question „Which of these digital and information society technology skills do you lack“ were closely related to answers to the question „Which of digital and information society technology skills would you like to develop“ (Fig. 3).

The results show that 35,5 percent of respondents want to develop information society technology skills *Very much* or *Quite a lot*. Respondents identified the following skills that should be developed the most: ability to use IT services for personal and/or business purposes (e-banking, online commerce, media, e-government gateway: assets, income declaration,

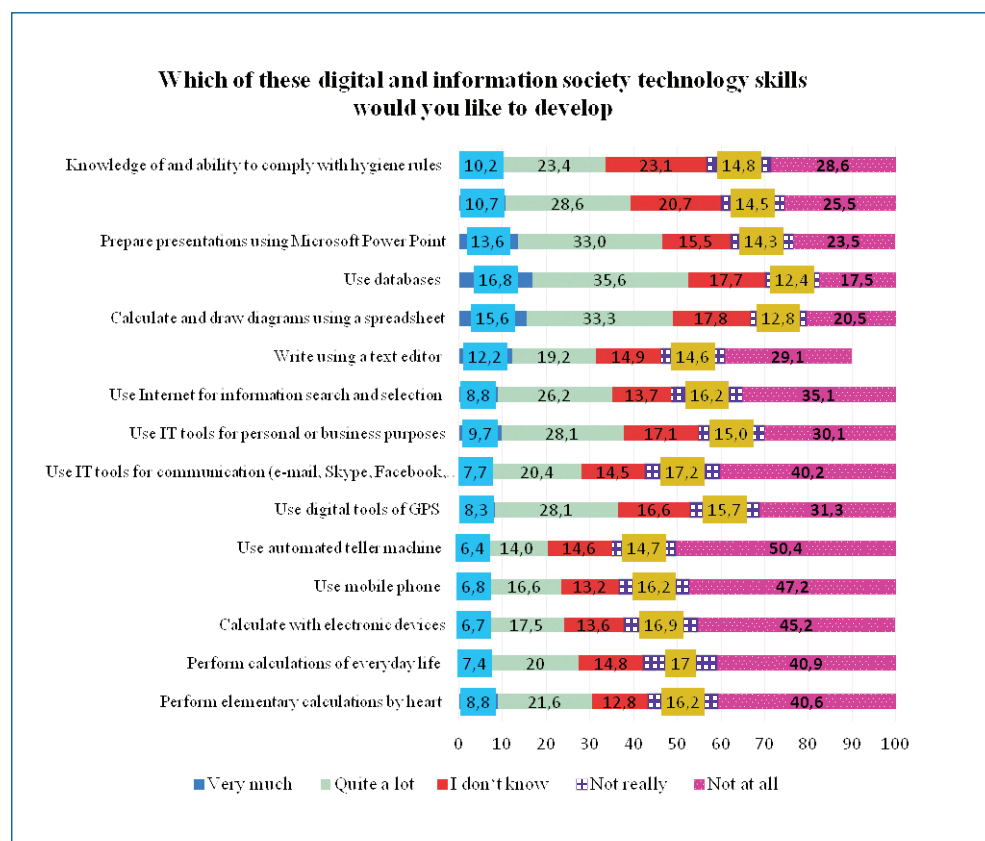


Fig. 3. Developing of Information Society Technology skills

etc.) – 9,7 percent (*Very much*) and 28,1 percent (*Quite a lot*); ability to read and write using text editor – 12,2 percent and 29,2 percent; ability to calculate and draw diagrams using spreadsheets – 15,6 percent and 33,3 percent; ability to use database systems – 16,8 percent and 35,6 percent; ability to prepare presentations – 13,6 percent and 33 percent; ability to use digital and GPS navigation tools – 8,3 percent and 28,1 percent; ability to use IT tools for communication: e-mail, chat programs (Skype, etc.), social sites (Facebook, etc.) – 8,8 percent and 26,2 percent; knowledge of and ability to comply with legal and ethical standards related to IT – 10,7 percent and 28,6 percent; knowledge of and ability to comply with hygiene rules – 10,2 percent and 23,4 percent. These results conform to the data published in the website of the Government of the Republic of Lithuania www.ivpk.lt, where positive changes are observed: the number of population that wants to improve computer literacy is increasing.

Statistical analysis reveals a positive correlation between all IST skills that are lacking and that respondents want to improve ($p = 0.000$). Strong correlations is observed between the related skills: if the ability to use information technology tools for communication is insufficient, then the ability to use information technology services for personal and / or business purposes ($r = 0,679$) and work with the Internet is insufficient too. Also, there is a correlation between skills used to work on the Internet: insufficient ability to use the Internet for finding and selecting the information is related to insufficient ability to use information technology services for personal and / or business purposes ($r = 0,653$). Significant relations are established between the ability to work with computer programs: insufficient ability to read and write with text editors correlates with insufficient ability to calculate and draw diagrams with spreadsheet ($r = 0.675$), and ability to calculate and draw diagrams with spreadsheets correlates with ability to prepare presentations ($r = 0.679$).

The strongest correlations are observed between the wish to improve abilities to use the Internet for finding and selecting necessary information and ability to use IT tools for communication ($r = 0.718$) and the wish to develop competence to use IT services for personal and/or business purposes ($r = 0.702$). Also the wish to improve the ability to read and write with text editors is related to wish to improve ability to calculate and draw diagrams with spreadsheets ($r = 0.709$). Strong relations are observed between wish to improve ability to prepare presentations and ability to calculate and draw diagrams with spreadsheets ($r = 0.694$).

The research does not reveal any statistically significant differences in the answers women and men to the question: *Which of IST skills do you lack and which skills would you like to develop the most*. Unemployed people lack IST competence more than employed people but less than seniors. There is a significant difference between town and village respondents talking about abilities to use IT services for personal and / or business purposes and abilities to write and read using text editors.

The majority of respondents use computers (including laptops and tablets) at home (63,7 percent and 21 percent) and at work (46,8 percent and 11 percent) every day or every work day or most days a week. Few respondents use computers in other environments: conference, public place, travel, at friends' house. Only 4,6 percent of respondents do not computer at home.

Researching *IST competences and the importance of their use in professional activities, to career, personal growth and development in social life*, it revealed that respondents use IST competence mostly for professional activities and personal development. Ability to use the Internet for looking and selecting necessary information for professional activity – 48 percent,

for personal development – 38 percent; ability to use the IT services for personal and/or business purposes (information search, e-banking, online commerce, media, e-government gateway: assets, income declaration, etc.) for professional activities – 35 percent, for personal development – 31 percent; ability to think mathematically and logically performing practical calculations – correspondingly 40 percent and 38 percent, ability to process information applying computer programs – 29 percent and 39 percent. The least IST competence are used for career and social life.

To the question *What is the purpose to use a computer*, respondents presented a wide range of possibilities to use a computer (Table 1).

Table 1

Purposes of computer use (percent)

	Every day, every work day	Most days a week	1–2 days a week, several times a month	1–2 days a month or even less frequently	Don't use
Work purposes	49,5	15,1	7,8	4,3	23,3
Domestic purposes (calculating apartment fees, online banking, etc.)	29,7	20,6	21,9	17,4	10,4
Communication	52,8	24,9	10,5	5,7	6,2
Studies	30,9	24,9	15,7	11,2	17,3
Entertainment, leisure	49,3	22,1	14,0	6,9	7,6
Other (write):	21,5	16,1	15,1	7,5	39,8

The biggest part of respondents use computers every day for communication (52,8 percent), work purposes (49,5 percent), entertainment and leisure (49,3 percent). The number of respondents who use a computer for studies (30,9 percent) and domestic purposes (calculating apartment fees, online banking, etc.) is fairly high. A computer use for the above mentioned purposes is exclusive between employed people and women. The purpose for Studies ($\chi^2 = 0,001$, $df = 12$, $N = 519$) reveals the differences between cities – 82,7 percent and other regions: town – 75,4 percent, small town – 65,6 percent, village – 60 percent. Also cities are exclusive in computer use for work purposes, domestic purposes, communication and entertainment.

The results show that computers firmly established themselves in both personal life and business activities and studies. The data presented by the Public policy and management institute in Lithuania (Barcevičius, 2012) also reflects the increased use of computers for personal and business purposes: 80 percent of population bought (ordered) goods or services on the Internet (as a percentage of total population), the level of using a computer for online banking services increased by 24 percent, 43,1 percent of population use computers at work.

Job searching is important for 73,9 percent of respondents. Looking for job information society technology competence is very important (Fig. 4) in searching information about vacancies (89 percent), preparing necessary documents for employment (70 percent). Less

important it is for cooperation with employers and their representatives looking for job (58 percent) and presenting themselves for employers during the interview (44 percent). According to the presentation of Ministry of Transport and Communications of the Republic of Lithuania Information Society Politics Department “Information Society: Present and Future Prospects” (Liaugminas, 2011) 56,7 percent of population use the Internet for looking for job. The significance of IST competence is also confirmed by the Lithuanian Labour Exchange and association “Window to Future” research results, which indicate that the unemployed, who acquire computer skills, become active in looking for job.

Looking for job is more important to men than to women ($\chi^2 = 0,045$, $df = 1$, $N = 541$) – 77,6 percent and 69,7 percent. It conforms to the official statistical data from the Statistics Lithuania (2014), which shows that men unemployment rate is 13,9 percent, and women – 10,9 percent. Job search importance is statistically significantly different for the analysed group ($\chi^2 = 0,000$, $df = 2$, $N = 530$): for unemployed – 94,5 percent, for employed – 61,7 percent, for seniors – 44,1 percent. This is natural that looking for job is the most important for unemployed. It can be assumed that employed people are looking for a better job, and non-working seniors – their number is lower – differ from other groups the most, but they still want to work.

Sustainability of employment is important to 83,9 percent of respondents, and information society technology competence in many cases helps to sustain the workplace for the largest percentage of respondents – through saving time and effort (71,8 percent), solving work-related issues and problems (62 percent), achieving greater results over work day (65,7 percent), improving communication and collaboration with colleagues (53,2 percent). Sustaining the workplace is equally important for men and women. However, IST competence contributes to sustain workplace more for women than men. The differences were found that women in comparison to men are better to use a computer for communication, use text editors, prepare presentations; it suggests that these skills are more helpful to women looking for information, preparing documents, and cooperating. The importance of sustaining the workplace is

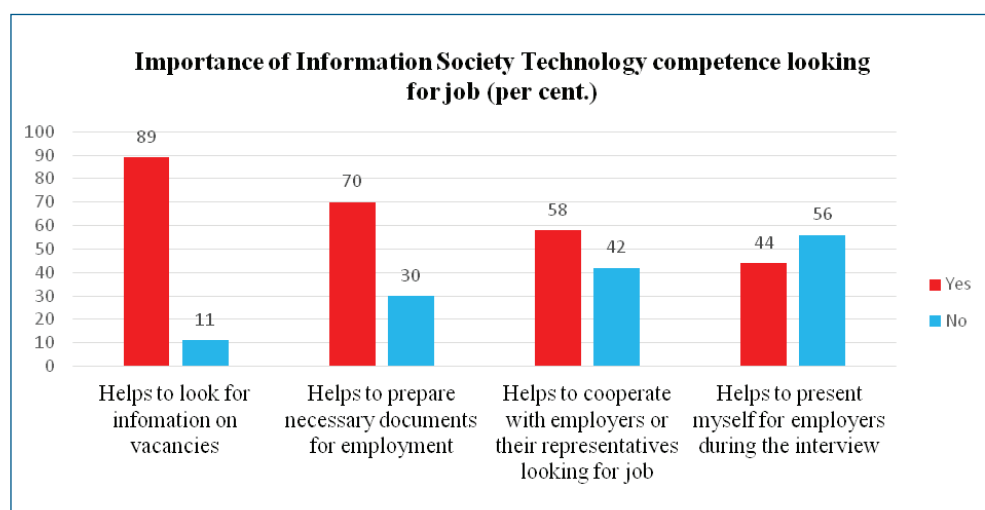


Fig. 4. Importance of Information Society Technology competence looking for job (percent.)

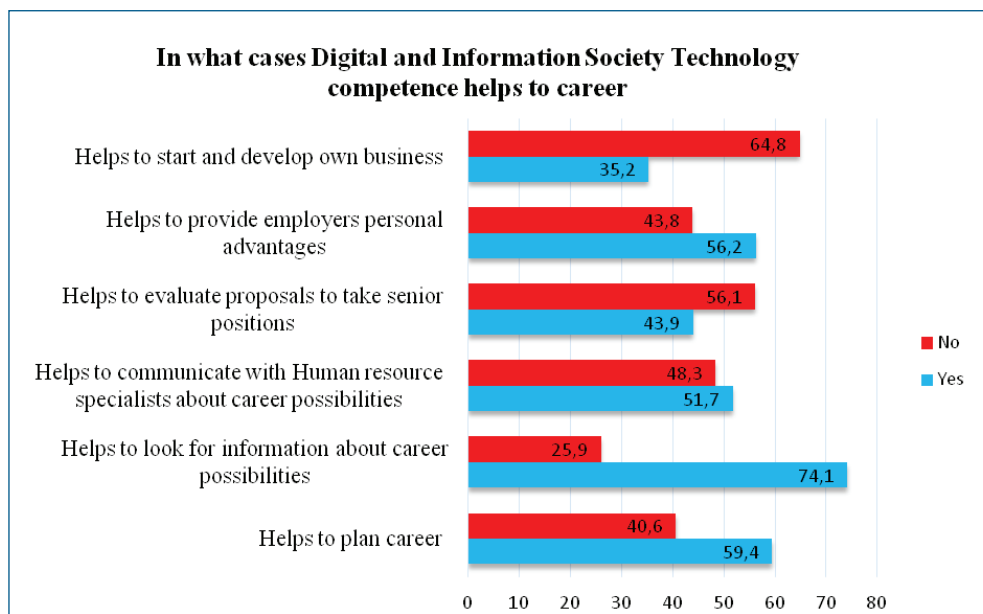


Fig. 5. Importance of Information Society Technology competence to career

statistically significantly different for the analysed group ($\chi^2 = 0,025$, $df = 2$, $N = 530$): unemployed – 86,9 percent, employed – 81,7 percent, seniors – 75,4 percent. There are no statistically significant differences of looking for job and sustaining the workplace geographically.

77,1 percent of respondents achieve career goals. IST competence helps to look for information about career possibilities for 74,1 percent, helps to plan career individually for 59,4 percent, helps to present personal advantages to employers for 56,2 percent, helps to evaluate proposals to take senior positions for 43,9 percent, helps to start and develop personal business for 35,2 percent of respondents. It is obvious that IST competence is important in achieving career goals (Fig. 5). According to the Lithuanian Statistics Department data of 2012, 43,1 percent of employers use computers.

Researching the cases in which digital and information society technology competence helps achieving career goals, the statistically significant differences in gender, research group and demographic context are determined for individual statements: helps to plan career ($\chi^2 = 0,023$, $df = 1$, $N = 414$) – IST competence helps more to women than men – 63,8 percent and 52,5 percent; helps to search for information about career possibilities ($\chi^2 = 0,001$, $df = 2$, $N = 403$): for unemployed – 82,1 percent, employed – 77,9 percent, seniors – 60,3 percent; helps to plan career ($\chi^2 = 0,009$, $df = 3$, $N = 409$): in city – 69,4 percent, in village – 62 percent. The importance of IST competence is higher in comparison to town – 49 percent, and small town – 55,2 percent. Starting and developing own business ($\chi^2 = 0,000$, $df = 3$, $N = 409$) the results in cities are significantly higher (46,9 percent) in comparison to other ~ 27 percent – it can be assumed that there are more possibilities to start own business in cities.

Less than a half (41,8 percent) of research participants participate or plan to participate in social activities. Mostly the information society technology competence helps them to participate in the following social activities: events and initiatives organized by municipality

(50,1 percent), establish and maintain contacts with the local community or communities (65,1 percent), collect and spread information about local community (-ies) and its activities (50,4 percent), find activity in the local community (52,6 percent).

Participation or planning to participate in social activities is statistically significantly different between women and men ($\chi^2 = 0,004$, $df = 1$, $N = 541$), where women are more active – 47,4 percent and 35 percent. IST competence helps women more than men – 56,8 percent and 38,7 percent – to participate in events and initiatives organized by municipality ($\chi^2 = 0,010$, $df = 1$, $N = 230$). A statistically significant difference ($\chi^2 = 0,000$, $df = 2$, $N = 530$) is between the activity of unemployed – 32,1 percent, employed – 50,3 percent, seniors – 51,7 percent. This suggests that seniors want to be active and seek to realize their potential in society. In small town the IST competence to participate in social activities is less important in comparison to other regions.

Respondents evaluate their information society technology competence as *Very well* (15 percent) and *Well* (44 percent). Only 6,7 percent of respondents evaluate it as *Poor* or *Very poor*.

CONCLUSION

IST competence and its development is a decisive factor in the lifelong learning process, providing possibilities to get employed in the labour market, to get integrated into the social life and active citizenship.

IST competence is mostly used for professional activity and personal development.

More than a half of respondents evaluate their information society technology competence well and almost half of them would like to acquire or develop IST competence. IST competence is mostly encouraged to be developed by the fact that these skills are required to direct work, personal development, studying.

The ability to use database systems, spreadsheets, knowledge of legal and ethical standards and rules of hygiene is evaluated worse.

Almost a hundred percent use of a computer at home for the purpose of communication, entertainment and leisure, household purposes encourages to gain more skills in working with e-services, communicating in social networks, knowing the legal and ethical standards.

General trends in the country and the performed research revealed that IST competence is very important to adults' personal, social and professional activities. The results showed that IST competence is more important achieving career goals and at work, and less important for social activities. Correlation shows the close links between these activities and an important role of information society technology competence in these activities.

Men and women evaluate their information society technology competence equally, but women are more active in all activities, they use computers more versatile and for different purposes.

Comparing employed, unemployed and seniors – seniors have poorer information society technology competence. Seniors are also less active in participation in different activities. But seniors want to stay in labour market, to participate in both professional and social activities.

It can be stated that information society technology competence and its development is an important factor which provides possibilities to study, enter the labour market, be an active citizen.

REFERENCES

- Barcevičius E. (2012). *Lietuvos informacinės visuomenės plėtros tendencijų ir prioritetų 2014–2020 metais vertinimas*. Available at: http://www.ivpk.lt/uploads/Tendencijos_proc.201r_proc.20prioritetai/Rekomendacijos_proc.202002-04-16_proc.20FIN.pdf accessed: 10 12 2014.
- Dagienė V., Grigas G., Jevsikova T. (2008). *Enciklopedinis kompiuterijos žodynas*. Matematikos ir informatikos institutas. 2-as papildytas leidimas. Vilnius: TEV.
- Elektroninių paslaugų naudojimo tyrimas* (2014). Informacinės visuomenės plėtros komitetas prie LR susisiekimo ministerijos. Available at: http://www.ivpk.lt/uploads/Leidiniai/SIC_IVPK_gyventoju_proc.20naudojimas_proc.20e-paslaugomis_ATASKAITA_2014_proc.2007.pdf accessed: 12 04 2015.
- Bendrieji visą gyvenimą trunkančio mokymosi gebėjimai. Europos orientaciniai metmenys*. Europos Komisija. Liuksemburgas: Europos Bendrijų oficialiųjų leidinių biuras, 2007.
- Europos Parlamento ir Tarybos rekomendacija 2006 m. gruodžio 18 d. dėl bendrųjų visą gyvenimą trunkančio mokymosi gebėjimų*. Europos Sąjungos oficialusis leidinys L394. http://eur-lex.europa.eu/LexUriServ/site/lt/oj/2006/l_394/l_39420061230lt00100018.pdf accessed: 12 04 2015.
- Ilomäki L., Kantosalo A., Lakkala M. (2012). *Skaitmeninė kompetencija, kas tai?* Available at: http://linked.eun.org/c/document_library/get_file?p_l_id=22957&folderId=22067&name=DLFE-807.pdf accessed: 10 05 2014.
- Informacinės technologijos Lietuvoje* (2012). Lietuvos statistikos departamentas. Available at http://www.ivpk.lt/uploads/Statistika/Informacinės_tehnologijos_Lietuvoje__2012_m._2159.pdf accessed: 12 04 2015.
- Informacinės technologijos Lietuvoje* (2014). Lietuvos statistikos departamentas. Available at http://www.ivpk.lt/uploads/Informacinės_proc.20tech_nologijos_proc.20Lietuvoje_proc.202014.pdf accessed: 12 04 2015.
- Kankevičienė L. (2011). *Informacinės visuomenės technologijų integravimas modernizuojant kolegines studijas*. Daktaro disertacija. Kaunas: VDU.
- Mokymosi visą gyvenimą užtikrinimo strategija (2008). Žin., 2008-10-23, Nr. 122-4647.
- Nuotolinis mokymasis: mokymosi galimybių išplėtimas. Švietimo problemos analizė* (2012). Nr. 9, ISSN 1822-4156. Švietimo ir mokslo ministerija. Vilnius.
- Rutkienė A., Trepulė E. (2009). Nuotolinis suaugusiųjų mokymasis mokymosi visą gyvenimą kontekste. *Acta pedagogica Vilensia*. ISSN 1392-5016, 2009, 29–42.

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