

# *Changing Role of Self-Study Work in the University Education of the 21<sup>st</sup> Century Students*

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**Abstract**—The article considers new requirements for the organization of self-study considering specific features of Millennial students, i.e. students of the 21<sup>st</sup> century. Despite similarities revealed by the youth worldwide in connection with IT, Russian students have some specific features. Moreover, Federal State Educational Standards of the 3<sup>rd</sup> Generation increased the number of hours in all subjects allocated for self-study which shows the importance of self-study for future specialists. Data obtained after the comparative analyses of preferences demonstrated by humanitarian and technical students of two Tyumen Universities allowed offering the most efficient forms of organizing independent work of Russian University students.

**Keywords**—*self-study work; university education; Millennial students; 21<sup>st</sup> century; digital technologies; electronic devices; electronic resources*

## I. INTRODUCTION

Nowadays, as a result of implementation of Federal State Educational Standards of the Third Generation (FSES 3+) in higher educational institutions of the Russian Federation, special emphasis is placed on organization of independent work of students, which becomes an important component of preparation of future specialists. The new curricula make a significant increase in the number of hours in all subjects allocated for self-study work of students, therefore, universities face a challenge of finding new forms and methods of organizing this training activity.

The need to strengthen self-study work of students is not accidental. Competence-based approach laid down in the FSES 3+ of the new generation requires a new approach to training, it strengthens the practical orientation of education, emphasizes the operational skill side of the result, involves the development of students' abilities for self-education, self-development and self-realization, it increases motivation of students, requires a high level of self-consciousness, reflection, self-discipline, personal responsibility, i.e. produces a competitive specialist of the 21<sup>st</sup> century capable of exercising their professional activity.

Thus, self-study work of students is becoming a mandatory element of education, the basis of higher education, which acquires special importance in preparing the expert for their further professional career and personal growth throughout life. One of the priority tasks of the higher school is, obviously, to form such a specialist that will constantly feel sustainable need for and will have enough abilities (skills) to personal and professional self-education and self-development.

However, new conditions of learning in modern University and a whole new contingent of students place new demands for the organization of self-study work of students. Thus, the purpose of this article is to characterize a new generation of students of the 21<sup>st</sup> century and determine the most optimal forms of organization of self-study work of Millennial students during their University studies.

For the first time it were American scientists and researchers who became interested in the features of a new generation of youth, namely Howe and Strauss (1993), Tapscott (1998), Marc Prensky (2001), Jorgensen (2003), Oblinger and Oblinger (2005), Weile (2005); McCrindle (2006) and others at the end of the 20<sup>th</sup> and beginning of the 21<sup>st</sup> centuries. Marc Prensky, talking about American youth of the 21<sup>st</sup> century, said: 'Our students have changed radically. Today's students are no longer the people our educational system was designed to teach.' The term 'Millennials' was first proposed by Neil Howe and William Strauss (1993, 2000). They apply this term to everyone who was born after 1982 and who is different from the generation of their fathers or previous generation X. [Neil Howe and William Strauss., 2003] Following these scholars, a new generation has been called:

- "NET Generation" [6] – "the first to grow up surrounded by digital media" [6];

- "Digital Natives" [11] – "young people who are 'native speakers' of the digital language of computers, video games and the Internet" [11];

- "Google Generation" [8] – "those born after 1993 and explore the world of a cohort of young people with little or no recollection of life before the web" [8];

- Generation Z [9] – those born after 1996 and are conditioned to use Internet and smart technologies.

Though these definitions differ slightly, the terms are often used interchangeably because what unites them is that this generation grew up in an environment of digital technologies and Internet resources. Thus, they can't imagine their life, including higher education, without their gadgets and search engines to obtain answers to questions and find necessary information.

Speaking about the Russian youth of the new generation, it should be noted that here we are talking about children born in the second half of the 90's - early "zero" years, i.e. during the

rapid development of computer technologies in Russia. The young people of the 21<sup>st</sup> century used to explore the world through digital devices, moreover, they prefer a distant, virtual communication in social networks to living contact.

Hence, the Internet has a decisive influence on their development and formation. Young people are known to perceive the new material differently from elder generations, namely very fast and in different quantities. Brainwork of such people is oriented at processing information in short portions – the so-called "clip thinking". They are not able to tackle and solve complex tasks as they cannot understand them. On the other hand, Millennials are fast in dealing with typical tasks.

Thus, it is clear that special attention should be paid to different types and forms of self-study work organization during the education of the Millennial Students.

We are firm believers that understanding the Millennial students, how they differ from the previous generation, is to help to avoid the conflict between the new and traditional approaches in their teaching. "Apart from the need to consider the ever-changing educational landscape, the teacher has to deal with an even more sensitive factor - the shift in the mindset of modern students. Young people (and obviously students) in Russia, like everywhere else, are digital natives, who are usually savvier than their teachers when it comes to new technology" [5].

Thus, we hypothesized that today's university students would show preference towards using technological devices and Internet than the traditional methods of learning while self-studying.

## II. METHODS

As we are teaching a new generation of students who live in the digital world, our aims were to:

- examine how computers, laptops, tablets and smart phones are being used by them,
- observe if the students can surf Internet for academic purposes,
- find new methods to help them self-study in a way appropriate to them.

The study was carried out in two stages. The first stage was to analyze the literature on the theory concerned with Millennial students and self-study work in higher educational establishments. The second stage was to conduct an experiment.

To obtain more reliable data of our research during the study we applied qualitative and quantitative approaches. We started our research with working out a questionnaire based both on open ended and closed questions. We used it as a preliminary technique to understand better the problem under investigation and a more detailed research to be carried out in the future.

We had considered that participant observation method would help us arrange the research properly, provide us with the data of how broadly the students would be involved in using

digital technologies for doing their self-study work. We kept teachers' diaries to record what happened during the classes when the students applied their smart phones, tablets, lap tops or computers to fulfil their self-study work. Besides we asked students to write down their feelings, ideas and difficulties while fulfilling their self-study work in their (students') diaries.

Our research focused on 77 bachelor's degree students of two Tyumen Universities: Tyumen State University (TSU) and Industrial University of Tyumen (TIU) during two academic years. In the year of 2016-2017 there were 45 humanitarian students of the first year (TSU) and 32 technical students of the same level of education (TIU). The next academic year 2017-2018 the same students were surveyed again, as they became second year students. The students of both universities were aged between 17 and 20. All the students agreed to take part in the survey and most of them (98%) were keen to participate in our research. Moreover, 92% of all the students involved in this survey were highly motivated to use digital technologies to make self-study work more interesting and effective while learning English as a foreign language.

## III. RESULTS

The questionnaire distributed among the first-year students at the beginning of the academic year (2016-2017) was anonymous. It took the students less than 15 minutes to respond. The students were also asked to complete one open ended question about the sites they often use for self-study in the given subject.

While conducting the survey we asked the first-year students of the two universities to answer the questionnaire concerning the purpose of using modern digital technologies in everyday life. The results can be seen in Table I.

TABLE I. WHAT IS YOUR PURPOSE OF USING MODERN DIGITAL TECHNOLOGIES? (2016-2017)

Purposes	Very Often		Often		Seldom		Never		Respond Account	
	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU
Communication	37	29	4	1	3	1	1	1	45	32
Entertainment	26	14	15	14	1	4	3	0	45	32
Education	9	7	25	16	11	9	0	0	45	32

As we have supposed the biggest proportion of the time spent on digital technologies includes communication (91% - TSU, 94% - TIU) and entertainment (91% - TSU, 89% - TIU). The questionnaire showed that students use electronic devices for educational purposes quite rarely (76% - TSU, 72% - TIU).

The second question (Table II) was aimed at finding out what electronic devices the students have at their disposal. It was expected that the students prefer laptops (60% - TSU, 62% - TIU) rather than computers (51% - TSU, 59% - TIU) and almost never use digital media players (4% - TSU, 9% - TIU).

**TABLE II. WHAT ELECTRONIC DEVICES DO YOU USE FOR YOUR STUDY? (2016-2017)**

Electronic Device	Very Often		Often		Seldom		Never		Respond Account	
	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU
Computer	12	11	11	8	15	3	7	10	45	32
Laptop	12	14	15	6	5	5	13	7	45	32
Tablet	8	3	11	4	3	2	23	23	45	32
Mobile phone	32	21	6	7	5	2	2	2	45	32
Digital Media Player	0	0	2	3	7	4	36	25	45	32

The next item of the questionnaire related to the use of digital technologies for self-work on the discipline English as a foreign language. We tried to find out what types of digital technologies the students use while fulfilling their self-study work both in and out of class. The results are given in Table III.

**TABLE III. WHAT TYPES OF DIGITAL TECHNOLOGIES DO YOU USE FOR YOUR SELF-STUDY? (2016-2017)**

	Very Often		Often		Seldom		Never		Respond Account	
	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU
Power Point presentation	14	9	19	10	6	10	6	3	45	32
Prezi presentation	3	1	5	2	4	2	33	27	45	32
Videoconference	0	0	0	0	5	2	40	30	45	32
Webinars	3	0	5	0	4	3	33	29	45	32
Blogging	1	1	3	1	2	4	40	26	45	32
Chat	4	4	12	6	6	2	23	20	45	32
Podcasts	6	5	6	6	4	2	29	19	45	32
MOOC	1	0	2	0	1	2	41	30	45	32
Forum	0	0	3	2	2	1	40	29	45	32
e-mail	30	30	11	2	2	0	2	0	45	32

The analyses of the collected data showed that the most applied technology by the students surveyed are e-mails (91% - TSU, 100% - TIU) and Power Point presentation (73% - TSU, 59% - TIU). The latter is explained by the students' familiarity with this program due to secondary school projects. Apart from that, the lower percentage of the TIU is explained by less quantity of specialized classrooms equipped with modern media for foreign languages classes. To our regret, the students were practically unaware of such modern technologies as MOOC (7% - TSU, 0% - TIU), webinars (18% - TSU, 0% - TIU), videoconferences (0% - TSU, 0% - TIU) for studying foreign languages. The students didn't pay any attention to forums and chats in the English language.

The forth question of the survey was aimed at finding out types of electronic resources the students use for self-study while learning English as a foreign language (Table IV).

The analyses of the collected data showed that the first-year students prefer using the most common search-engines (Google: 82% - TSU, 69% - TIU, Yandex: 84% - TSU, 84% - TIU). Practically equal percentages of the students of both universities address the so-called people encyclopedia (Wikipedia: 71% - TSU, 72% - TIU). We have noticed that professional editions which can be found on web-sites are not so popular among the students surveyed. Moreover, to find

some necessary for their study information the students apply resources of the Social Networks: 49% - TSU, 78% - TIU.

**TABLE IV. WHAT TYPES OF ELECTRONIC RESOURCES DO YOU USE FOR SELF-STUDY? (2016-2017)**

	Very Often		Often		Seldom		Never		Respond Account	
	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU	TSU	TIU
Google	15	10	22	12	8	4	0	8	45	32
Yandex	30	16	8	11	6	4	1	1	45	32
Wikipedia	29	16	13	7	3	5	0	4	45	32
E-libraries	1	0	3	0	1	2	40	30	45	32
E-Journals	0	0	1	0	2	7	42	25	45	32
Web site (educational)	6	7	3	3	2	3	34	19	45	32
Web sites (professional)	0	0	0	1	2	2	43	29	45	32
Web sites (governmental)	0	0	0	0	1	0	44	32	45	32
Social Networks (YouTube, Facebook, VKontakte, Odnoklassniki, etc.)	16	18	6	7	8	5	15	2	45	32

Relying on the analyses of the results obtained from the questionnaire and our theoretical knowledge on the subject under consideration, we tried to create a match between students' technological interests and skills and a wider range of resources and technologies that can be used in studying a foreign language. Thus, the students' self-study work was arranged in such a way that to encourage them to use digital learning resources for developing students' independent skills through the mix of digital technologies and media elements.

In a year the same students demonstrated better awareness of the opportunities of using digital technologies for studying foreign languages. So, as we can see from Bar diagram 1, the students of both universities demonstrated a dramatic increase in the use of digital technologies for educational purposes, i.e. Tyumen State University by 60% while Tyumen Industrial University – by 41%.

Tyumen State University and Industrial University of Tyumen actively implement digital technologies in the educational process and most of the teachers encourage the students to use their devices for fulfilling different tasks, that's why the percentage of the students using computers and laptops remains practically stable. A slight increase may be observed in the very often and often use of tablets (TSU - 6%, TIU – 28%) and mobiles (TSU - 6%, TIU – 13%), which can be explained by the convenience of these devices.

All the participants of the survey were asked what types of digital technologies they use for self-study. 100% of the students of Tyumen State University responded that they very often and often use Power Point Presentations and e-mails for self-study when compared with the 2016 – 2017 survey results only 73% and 71% respectively. While the increase in the use of the Prezi Presentation made 15%, Chats – 13% and Podcasts – 34%.

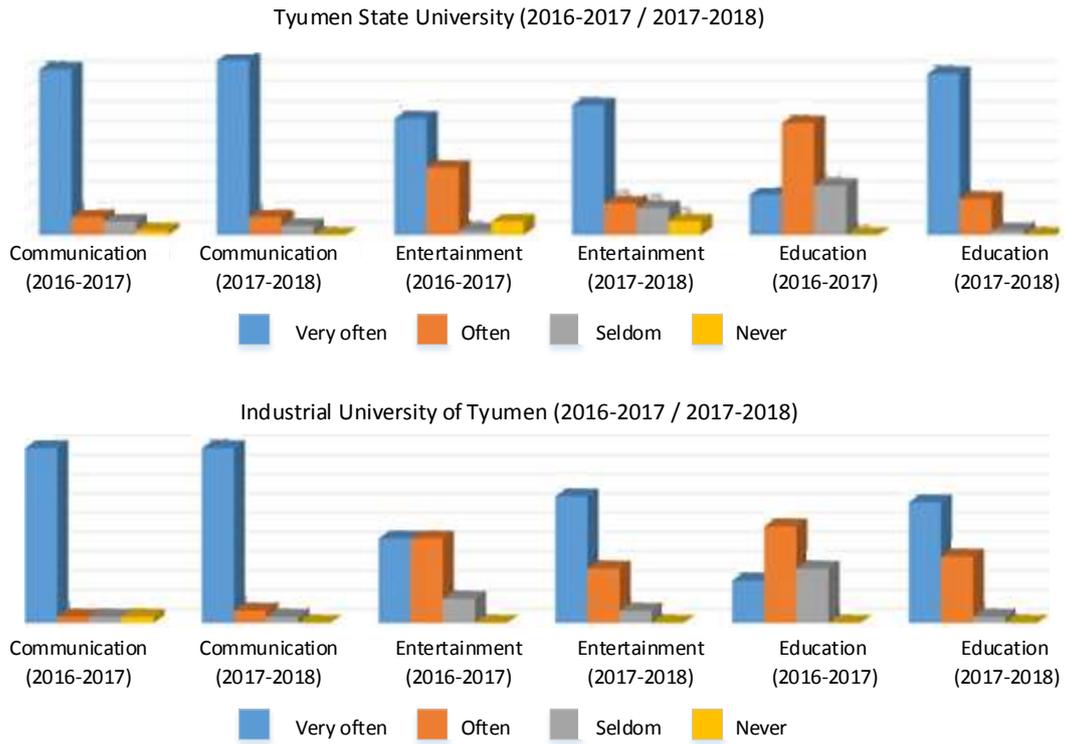


Fig. 1. What is your purpose of using modern digital technologies?

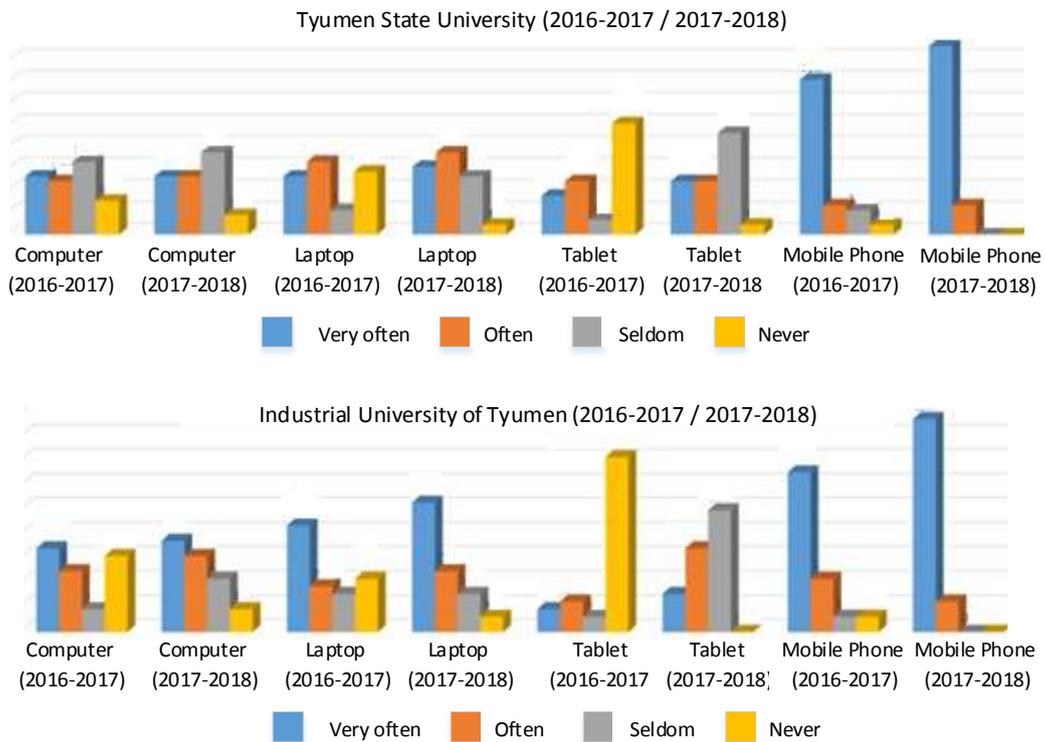


Fig. 2. What electronic devices do you use for your study?

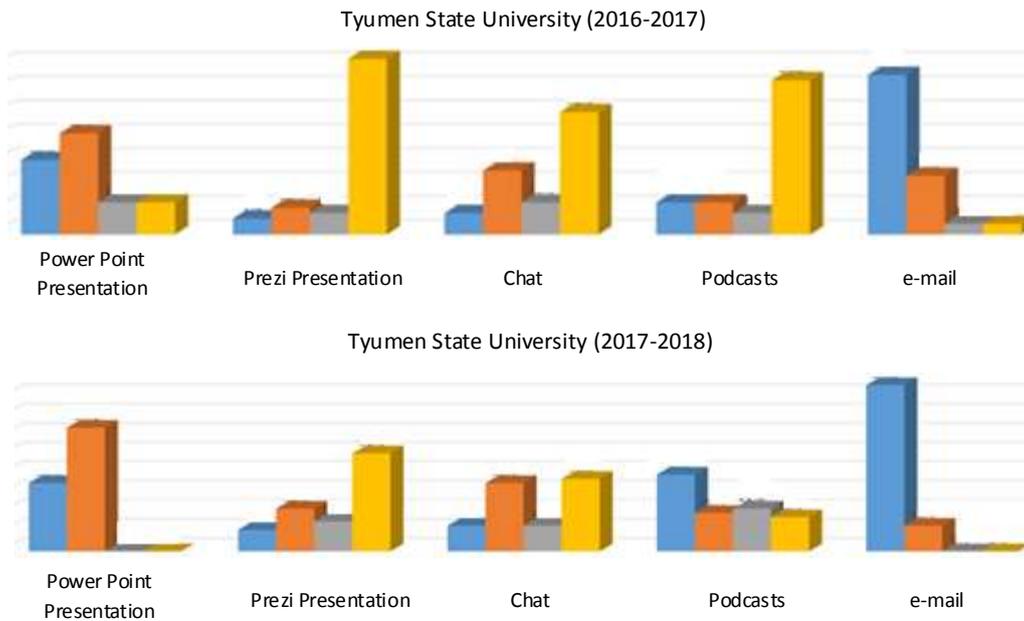


Fig. 3. What types of digital technologies do you use for your self-study?

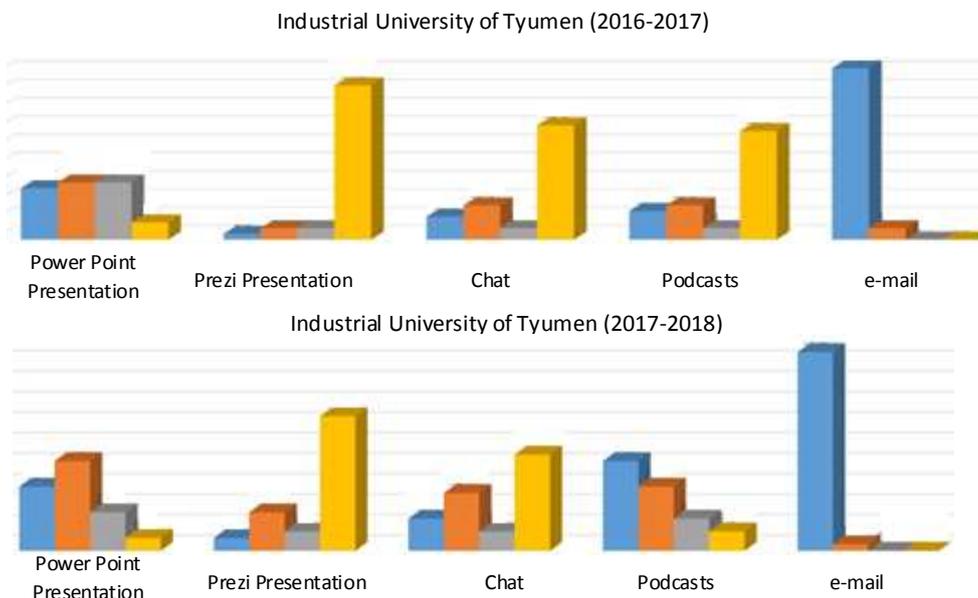


Fig. 4. What types of digital technologies do you use for your self-study?

In the Industrial University of Tyumen 100% of the students answered that they very often and often use e-mails for self-study during both academic years. The increase in the use of the Power Point Presentations turned out to be 14%, Prezi Presentation - 16%, Chats – 12% and Podcasts – 20%.

The proportion of the TSU students who were involved in studying professional and governmental web-sites increased

from 0% on 2016-2017 to 40% and 50% respectively the following year. This can be explained by their specialization, i.e. State and Municipal Law, Jurisprudence and Customs Service. Moreover, after having been taught how to implement electronic resources into studying a foreign language, the students of this university began to use E-libraries more widely (44%).

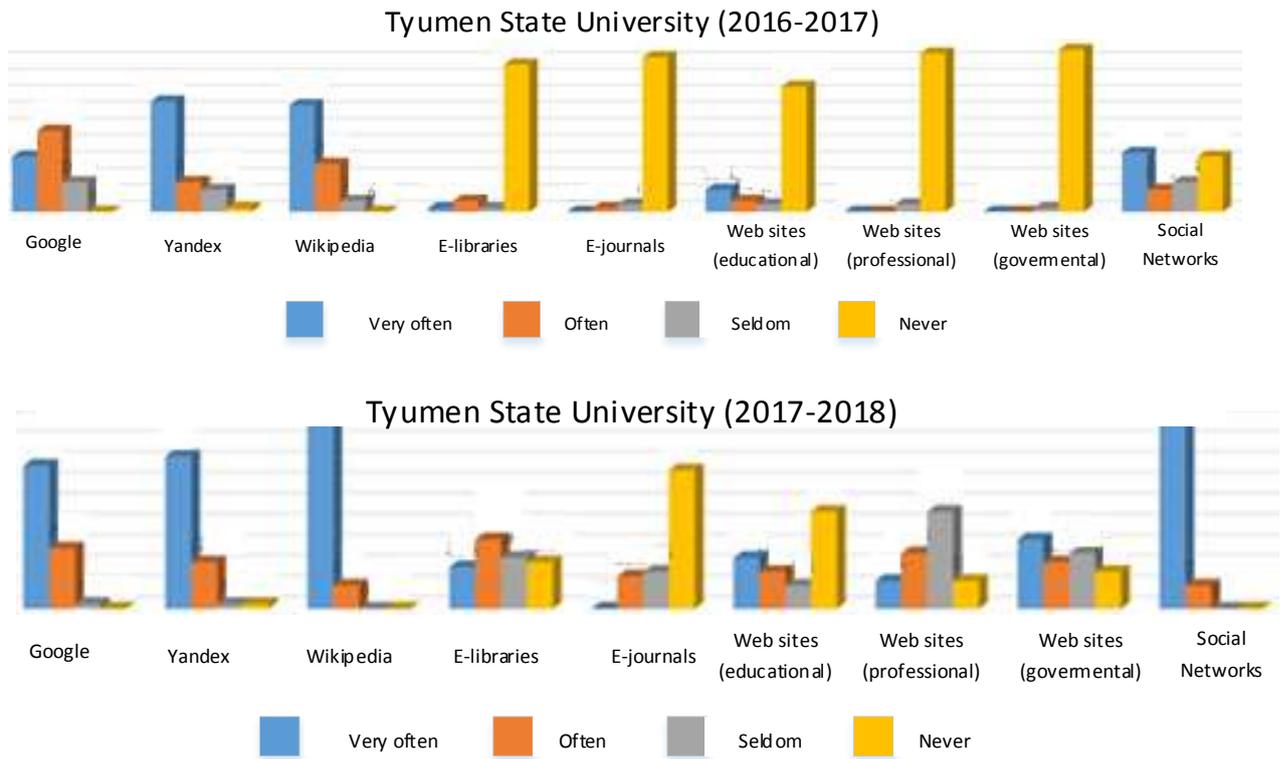


Fig. 5. What types of electronic resources do you use for self-study?

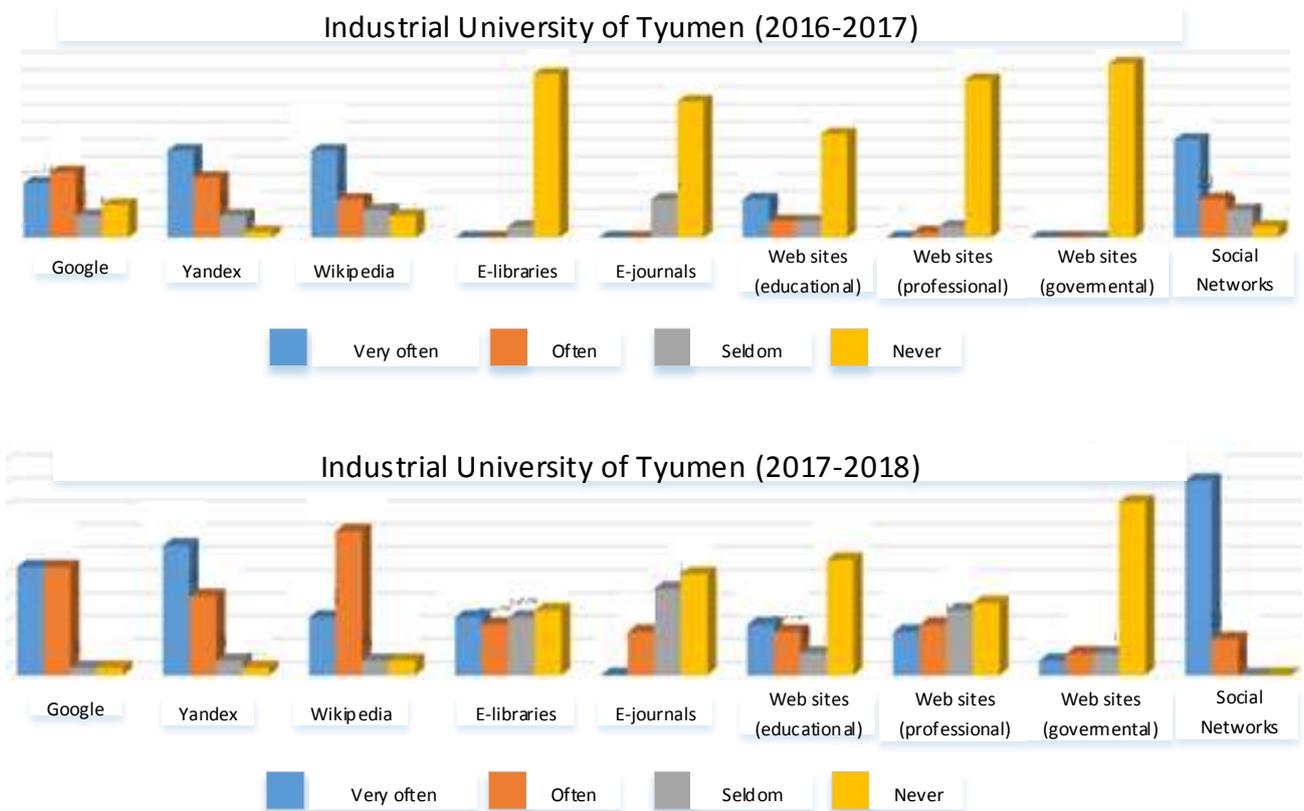


Fig. 6. What types of electronic resources do you use for self-study?

The percentage of the TIU students, who resort to social networks with the purpose of mastering the foreign language, rose up to 100% in 2017-2018. At the same time, as their counterparts from the TSU, the TIU students started applying E-library resources (47%) and professional web-sites (41% in 2017-2018 compared to 3% in 2016-2017) for self-study.

#### IV. DISCUSSION

Due to the growing influence of the self-study work of the new generation Russian students on their learning, we set the aim to examine how digital technologies are being used by them for academic purposes.

In the course of analyses of the pedagogical literature available on the topic under discussion we stick to the definition of the term “students’ self-study work” given below. It is considered to be a complex of intra-curricular and extra-curricular independent educational activities of students with and without the educator’s supervision. According to the Federal State Educational Standards of the Third Generation (FSES 3+) in higher educational institutions of the Russian Federation and curricula of the Tyumen State University and the Industrial University of Tyumen students’ self-study work on the discipline “Foreign Language” is carried out in the process of class hours (laboratory and practical works) and out of class self-study work (at home or in a public place).

Having studied different sources of pedagogical literature, we decided that the classification given below can be of use for our research. So, the students’ self-study work can be divided:

1. by type of organization: collective, group, individual work;
2. by target setting sessions: theoretical and practical;
3. by the cognitive process: understanding and learning the new material for self-study based on knowledge; consolidation; systematization of the material, and repetition of self-monitoring skills;
4. by logical setting training: assessment of the facts and the differences in the definitions, specification of similarities and differences between phenomena, rectification and collection of independently learned concepts of the educational material, a distinction between some typical phenomena, clarification of the relationship between the facts;
5. by nature of the action: reproductive (repetition), reconstructive-variative, semi-scientific and research (creative) self-study;
6. by levels: literal and reformative reproduction of information, self-study work on a sample, reconstructive and self-study works, heuristic self-study works, creative (research) self-study works [1].

As we had set the task of preparing the students for their independent activity and of organizing their self-study work so that they had interest to work, and satisfaction from its result, the students were offered some effective ways of mastering the language skills by using digital technologies and Internet

resources in the educational process for students’ self-study work:

1. Work with audio and audio-visual information for receiving additional information on the material studied in class (e.g. Instagram, YouTube, BBC News, CNN News );
2. Work with Internet Communication Tools for practicing communication skills (e.g. WhatsApp, Viber, Facebook Messenger, Skype, Line, Google Talk, Talkray);
3. Work with multimedia resources and podcasts for listening to the previously recorded lessons, self-listening and self-observation [4].
4. Work with online encyclopedia (e.g. Wikipedia), online libraries (Open Library, Aldebaran, Flibusta, lib.rus.ec) and Web search engines (e.g., Alta Vista, Google, HotBot, Excite, Magellan, MetaCrawler, Open Text, WebCrawler) for searching information;
5. Work with online dictionaries (e.g. Lingvo, Multitran, Multilex, Merriam-Webster Dictionary, Polyglossum) and online translators (e.g. Camera Translator, Camera Translator All 2017, <https://translate.yandex.ru/>, <https://translate.google.ru/> и <http://www.translate.ru>) for translating words, phrases, texts;
6. Work with on-line grammar sites with rules and exercises and tests for self-assessment (most of the sites contain keys);
7. Work with textual information for practicing reading skills and logics. The following tasks can be performed by the students:
  - arrange parts of the text in a logical order,
  - entitle the text,
  - compose question on the contents of the text,
  - answer the question to the text,
  - agree/ disagree with the statements given,
  - insert the missed phrase/sentence,
  - fill in the gaps, etc.

Moreover, the analyses of the students’ diaries and our own notes have demonstrated that from the very beginning of the research most of the students of both universities were not oriented in the flow of information, were unable to plan their self-study work and produce satisfactory results of it. The students had some difficulties in finding the relevant information, systematizing the received material and its application for the educational process. In the course of the research the students were acquainted with the new techniques of information search, processing of the available language material and presenting it to the educator. A year later the situation radically changed. The students were quite familiar with the possibilities of using digital technologies for educational purposes including studying a foreign language.

## V. CONCLUSION

The changes in the sphere of 21<sup>st</sup> century higher education in Russia have encouraged us to examine characteristics of the millennial students and to investigate their aims of using digital technologies. So, the survey, in which 77 first-year bachelor students of two Tyumen universities (Tyumen State University and the Industrial University of Tyumen) participated, showed that a high proportion of the students used digital technologies and resources mainly for communication and entertainment. Therefore, their interest was encouraged to be transferred to the education as well. In the course of teaching during one academic year we have found some optimum forms of organizing their self-study work so as to improve their Internet skills for educational purposes, as well. The use of new forms of self-study work has provided the students with positive motivation for searching, storing and sharing the information in the language studied, has developed communicative skills and has helped efficiently organize the learning process.

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