Marta Woźniak-Zapór

Gamification Mechanisms in Distance Learning

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Contents

Introduction

Distance learning is one form of educating adults and, therefore, it is willingly used at universities, in companies to improve employees' knowledge, and offered by training companies. Like every form of education, distance learning has both supporters and opponents. Preferences in this area certainly depend on a person's experience with courses distributed with the use of the internet. If that experience is positive, participants in e-learning courses consider them to be an effective and convenient form of acquiring knowledge. On the other hand, if the experience is negative, potential users will consider such form of training as an additional responsibility or an unnecessary burden.

A vast majority of adults encounter distance learning at universities. Therefore, it is crucial that the experiences and habits they acquire during studies allow them to continue further development after graduation. In the area of continuous acquisition of knowledge and skills, as well as educating methods they may use, what the students are encouraged to do during their formal education will influence their decisions concerning education throughout their entire lives. The students who have taken active part in distance learning may prefer such form of studying also after they graduate. One condition, however, is that the process of distance learning should be prepared and conducted in such a way that graduates will consider this type of education to be effective and allow quick acquisition of information given in a form conductive to understanding the delivered content.

Proper preparation of courses depends on a number of factors. They include trained employees preparing the courses, tools supporting their work, tools for distance learning, factual and methodological preparation, and the planned motivation elements. The courses made available to students have built-in components which allow consolidation of knowledge, improvement of its acquisition, and establishing social relationships between the members of the didactic group.

A course should also have an interesting construction and be engaging for students. Activities consisting in using gamification in e-learning courses are aimed at increasing the given activity participants' involvement in the processes, especially those which seem to be routine and boring. Using the mechanisms of gamification is based on evoking the feelings of satisfaction which are experienced when people overcome difficulties and receive prizes, but also when they compete or cooperate.

Every course participant has difficulties learning subjects they consider to be uninteresting, challenging, or boring. Introducing activities connected with gamification into the didactic process is intended to evoke in recipients the feelings of satisfaction with overcoming various levels of didactic tasks, or the feelings of happiness with common achievements of the group or with the involvement in competition. Another advantage of implementing such activities into the didactic process could be positive influence on achieving the intended learning outcomes by students. An important role in the process of designing and conducting the course is played by the teacher. The rules of working in class and outside of it, taking into account elements of game mechanics, should be established at the very beginning of the course.

Due to the fact that the gamification technique is used in various areas of social life, a survey on gamification and e-learning platform components which could be used in gamified courses, has been carried out among students. Some elements of gamification will also be analysed and a possibility of realising them with the use of the KKFM e-learning platform will be given. This monograph also presents information about distance learning, its history as well as current trends; the rules of creating courses; and information about gamification including mechanisms and types of players.

The results of the carried out research enable us to establish to what extent gamification is known to students, and if the elements on the platform, which can be adapted for gamification needs, are evaluated well by the students. These results will also be used to determine new areas of development, consistent with current needs of students.

Marta Woźniak-Zapór

1. What is distance learning

Learning is a universal experience – it is the main force which enables both humans and animals to survive and function in their habitats.[1] Knowledge can be communicated in various ways. It can be done in a traditional or remote way, yet, in each case, the possibilities of presenting educational content become more diverse as technology develops.

Over the years, depending on technical development, distance learning took various forms. Initially, it had the form of letters, later – of the radio and TV; currently, knowledge can be delivered at a distance with the use of the internet. The internet, together with its communication opportunities, has undoubtedly enabled the creators of contents delivered at a distance to hone distance learning methods and techniques. 'For most of that time, it was considered to be a substitute for traditional teaching, where the teacher was replaced with various textbooks and materials. And only in the computer era did we begin to perceive the teaching content as information, i.e. a material thing which can be processed, transmitted, and handed down. In the teaching-learning processes, the issue of information transfer has become especially interesting'.[2]

The beginnings of distance learning go back as far as the 19th century, when didactic materials were delivered to students in the form of printed scripts and notes. Later, together with the development of the mass media, transferring educational content became possible with the use of the radio, audio-video technology, and then also via television (in the form of tele-education). The development of computer technology allowed designing trainings in a multi-media form, which made education more attractive. Together with the development of the internet, the use of computers became more widespread. Not only were they now used for

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[1] Quinn C.N., *Engaging Learning. Designing e-Learning Simulation Games. Progress in Education of Electrical Measurements, Electronics and Electrical Engineering*, John Wiley & Sons, San Francisco 2005.

[2] Meger Z., 'Podstawy e-learningu. Od Shannona do konstruktywizmu', *E-mentor* 2006, No. 4(16), pp. 35–42.

scientific research or creating multi-media presentations which could later be shown on another computer, but they also made it possible to create didactic content delivered to users via e-learning platforms. Individual stages of distance learning development are referred to in literature as generations.[3] The development of internet services, which we can also witness presently, enables us to create professional didactic contents facilitating knowledge acquisition, and communication opportunities result in the fact that the social aspects of group teaching are not adversely influenced.[4] The process of distance learning connected with the evolution of technological possibilities is shown in Picture 1.
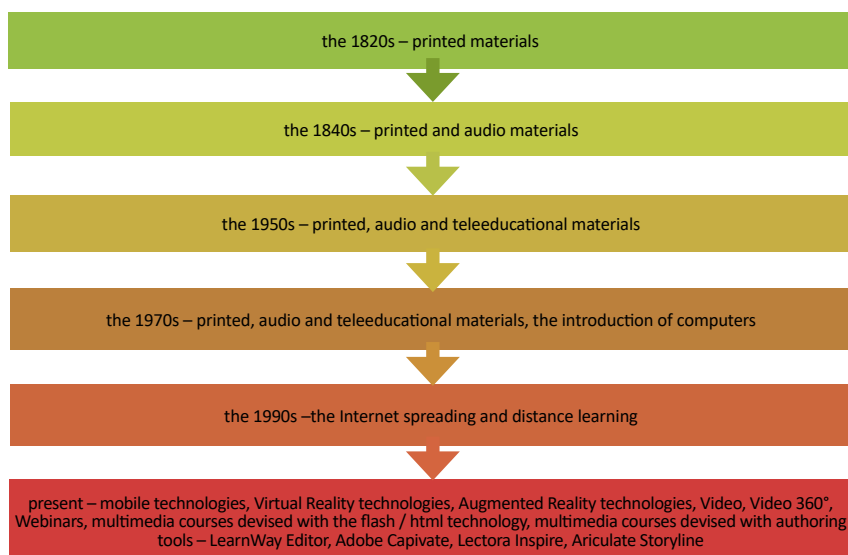
Picture 1: Distance learning development

Source: Author's own elaboration.

Together with the development of technical capabilities, the definitions of distance learning have also changed. According to one of them, 'Distance learning is a method of conducting a didactic process in the conditions where teachers and students are far from one another (sometimes considerably far) and are not in the same place. To deliver information, they also use – apart from traditional means of communication – current,

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[3]   Korzan D., 'Ewolucja kształcenia zdalnego', http://www.korzan.edu.pl/pdf/zdalne.pdf [access on 20.05.2018]; Meger Z., 'Szósta generacja nauczania zdalnego', http://www.e--edukacja.net/czwarta/_referaty/sesja_IIb/14_e-edukacja.pdf [access on 20.01.2018].

[4]   Woźniak-Zapór M., *Istotność komponentów kształcenia na odległość dla procesu dydaktycznego*, Oficyna Wydawnicza AFM, Kraków 2017.

very modern telecommunication technologies, and they transfer sound, images, videos, computer data, and printed materials. Additionally, modern technologies enable direct contact in real time between the teacher and the student via audio- or videoconferencing, irrespective of the distance between them'[5].

1.1. D-learning, e-learning, m-learning

The terms distance learning and e-learning are very often used interchangeably, whereas practically, they refer to separate concepts.[6] Distance learning (d-learning), irrespective of ways of defining it, consists in separating the student from the teacher in such a way that they are not in one place. According to one source, it is described as 'distance teaching, in which direct, personal contact between the student and the teacher is replaced with open communication based on modern technologies or traditional post; some examples of d-learning are correspondence courses, educational TV programmes, or e-learning.'[7] According to another source, 'it consists in separating the student from the teacher. It is typically used in more formal settings and one party is usually present. More often than not, it is the teacher who delivers the class to the present students. This type of education is particularly useful when one student cannot be physically present due to illness or distance.'[8] M.J. Kubiak's definition sounds similar: 'Distance learning is a method of conducting a didactic process in the conditions where teachers and students are far from one another (sometimes considerably far) and are not in the same place. To deliver information, they also use – apart from traditional communication means – current, very modern telecommunication technologies, and they transfer sound, images, videos, computer data and printed materials. Additionally, modern technologies enable direct contact in real time between the teacher and the student via audio- or videoconferencing, irrespective of the distance between them.'[9]

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5   Kubiak M.J., *Szkoła, Internet, Intranet. Wirtualna edukacja*, Wyd. MIKOM, Warszawa 2000, p. 12.

6   Berg B., 'The Differences Between eLearning and Distance Learning', https://elearningindustry.com/differences-between-elearning-and-distance-learning   [access   on   21.06.2018].

7   http://www.globalnet.com.pl/news/detail/13 [access on 12.01.2018].

8   http://www.yourtrainingedge.com/the-differences-between-elearning-and-distance-learning [access on 20.01.2018].

9   Kubiak M.J., *Szkoła, Internet, Intranet. Wirtualna edukacja*. Wyd. MIKOM, Warszawa 2000, p. 12.

On the other hand, another source says that e-learning 'is any kind of learning which encompasses technology that helps the student. This may include films, touch screen technology, online tools, or any other medium. (…) The term refers only to the tools used.'[10] It may also be understood as 'learning with the use of computer networks and the internet, a type of distance education applied in the so-called flexible learning; e-learning is frequently combined with traditional learning (blended learning)'.[11] The notion is also defined as 'a didactic process taking place outside school (stemming from the concept of distance learning/distance education), which, in order to provide new quality of learning, uses modern multimedia telecomputing solutions.'[12] In the Polish language, e-learning is described as remote education, electronic education, remote teaching, remote learning, or e-teaching,[13] where the letter 'e' in 'e-learning' may stand for various words. According to Bernard Luskin, it can stand for 'exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to electronic'.[14] Jay Parks, on the other hand, suggests that 'e' refers to 'everything, everyone, engaging, easy'.[15]

The development of technology towards mobile devices has enabled the emergence of yet another form of learning. It is m-learning, i.e. mobilelearning. It is defined as 'distance learning with the use of wireless mobile devices (smartphones, palmtops, tablets) with continuous internet access'.[16] The development of mobile services has resulted in the fact that the benefits of using them have also been noticed in education. However, m-learning is not just technology but also the skill of learning in any place and at any time, not being connected to cable networks.[17]

The above-mentioned definitions show that distance learning is the broadest term. When distance learning takes place with the use of electronic devices and digital media, we can talk about e-learning. If we add to this the possibility of learning with the use of mobile devices, we get m-learning. In certain situations, courses are run with the use of

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10   http://www.yourtrainingedge.com [access on 20.01.2018].
11   http://www.globalnet.com.pl/news/detail/13 [access on 18.02.2018].
12   Kuźmicz K., *E-learning. Kultura studiowania w przestrzeni sieci*, Gdańskie Wydawnictwo Psychologiczne, Sopot 2015.
13   Clarke A., *e-learnig nauka na odległość*, Wydawnictwa Komunikacji i Łączności, Warszawa 2007.
14   https://sites.google.com/site/smarteducation333/about [access on 19.02.2018].
15   *Ibidem.*
16   http://www.globalnet.com.pl/news/detail/13 [access on 18.02.2018].
17   Georgiev T., Georgieva E. & Smrikarov A., 'M-learning – a new stage of e-learning', https://www.researchgate.net/publication/262367952 [access on 19.02.2018].

traditional methods and distance learning, and in such a case they constitute blended learning. Relations between particular forms of learning are shown in Picture 2.
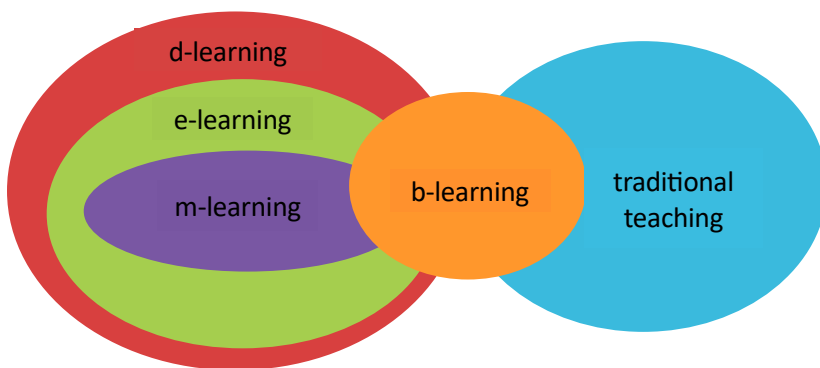
Picture 2: Relations between forms of learning

Source: Author's own elaboration.

However, it is worth considering whether m-learning is just a kind of e-learning in which we use mobile devices, or perhaps the differences consist in another way of learning, or maybe they require other skills from individuals delivering that knowledge and those who are learning. Having analysed both form of learning, we can notice some differences.[18]

The first of them is the objective of e-learning and m-learning. In the case of e-learning, it is delivering knowledge and skills concerning a particular selected task. An example of this can be a situation in which a student's task is to learn how to use spreadsheet charts or some devices. Here, the emphasis is put on acquiring skills and improving and consolidating knowledge. The knowledge itself is usually meant to be delivered at a particular time and in the right order, which is typically dictated by the organisation of the entire knowledge acquisition process. Such situations can be observed at school, where didactic material is divided to be taught during the school year; but also in business, where training employees within certain time limits is necessary for particular positions or when changes occur.[19]

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[18] Ferriman J., 'Mobile Learning Versus E-Learning', https://www.learndash.com/mobile-learning-versus-elearning [access on 17.03.2018].

[19] http://www.growthengineering.co.uk/difference-between-mobile-learning-elearning [access on 16.03.2018].

In the case of m-learning, the objective is to allow sustainable contacts with short, concise, and important at a given moment information. This provides an opportunity to spread information at the right, not set time. Therefore, continuous support of the system of learning is enabled.

When we look at both forms of learning from the perspective of access to information, we can see that in e-learning courses are prepared in such a way that a student can use the material acquired in one lesson during the following one. Comprehending and memorising information from one lesson enables students to understand and acquire what is taught in another. Therefore, e-learning is a form systematised in this respect. What is crucial here, is the fact that the knowledge acquired during e-learning courses is systematised and consolidated well by the student. In m-learning, the courses in the form of short, yet important observations are convenient, but do not always allow a deeper insight into the delivered content. This means that m-learning should not be used when we deal with didactic material which requires acquisition of a lot of complicated content that needs to be fully comprehended.[20]

The difference between m-learning and e-learning is also visible in time and methodology of the acquired knowledge. E-learning courses put greater emphasis on knowledge acquisition and retention by the student; m-learning, on the other hand, stresses practical application of the information included in the delivered didactic materials. In e-learning, testing theoretical and practical knowledge takes place after the learning process has been completed. In m-learning, the student should immediately apply the acquired information in practice by taking specific actions and decisions. Thus, it is tested instantly whether the student has comprehended the delivered content and found practical application for it.

Another difference can be seen in individual users' participation in creating educational content. In the case of e-learning, the content is usually prepared in a unilateral way. The teacher elaborates the materials and, later, becomes also the person who guides students through the course, supporting and motivating them at various stages. In the case of m-learning, students are encouraged to share their opinions within the educational groups they belong to. This is particularly easy due to the right technology, e.g. user-friendly instant messaging. In this way, sharing individual user's knowledge and experience becomes possible, and consequently, learning from one another may take place. This is also

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[20]   https://www.pulselearning.com/blog/6-differences-between-mlearning-and-elearning [access on 17.03.2018].

motivating for the group members, and enhances their involvement in the educational process as they are not only its recipients, but also active creators.

The way in which the educational content is prepared also differs in these two forms of teaching. E-learning requires the use of desktop or laptop computers, i.e. a transmission medium equipped with a large screen. On such screens, it is not problematic to play educational films in high definition so that the delivered content may be watched in detail. It is also possible to take part in video-conferences during which all participants are visible on the screen. Using numerous interactions available within the framework of e-learning, e.g. a common board shared by the teacher in real time, or participating in educational games, becomes much easier. In the case of m-learning, the user-friendliness of the tools such as smartphones, as well as the applications which can be run on them, deserve special attention. The lessons, containing the most important information, are brief and concise, in the form of short lists, films, or images. On the other hand, mobile devices screens are very small and using them for a longer time is tiring. A small screen may be an obstacle to presenting certain content: it may become difficult to see or may require from the users frustrating scrolling, e.g. in the case of complex diagrams.[21]

All the above-mentioned differences between m-learning and e-learning result in the fact that another, quite a natural dissimilarity emerges, and that is course duration time. As far as m-learning is concerned, both the learning objective and other conditions result in the fact that there cannot be too much material presented in one course. Hence, it is assumed that an m-learning course should last from 3 to 10 minutes. For e-learning courses, this time is estimated between 20 minutes to even one hour. However, smaller bits of material are more digestible and do not make the student tired, therefore the suggested time is 20–30 minutes.[22]

A compilation of the most important differences is presented in Table 1.

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[21] https://www.eztalks.com/elearning/main-differences-between-elearning-and-mlearning.html [access on 11.03.2018].

[22] https://www.dokeos.com/whats-the-difference-between-e-learning-and-m-learning [access on 11.03.2018].

Table 1: Differences between e-learning and m-learning

DIFFERENCE	E-LEARNING	M-LEARNING
Objective	Skills and knowledge are developed and consolidated so that after the learning process has finished, the student can still possess them.	Fast delivery of important information, instant access to necessary information.
Information sharing, education formalisation	Knowledge is delivered in the form of consecutive lessons, following one after another in a strictly defined way. Education is more formalised than in the case of m-learning, the courses may be carried out in a place with computer access, and the time for the course is defined.	Knowledge is delivered in the form of brief observations and key information, therefore it is more flexible and less formalised than in the case of e-learning, and it is accessible at any time and in any place.
Time and methodology of the acquired knowledge assessment	The assessment of the acquired knowledge and skills takes place after the learning process has finished.	There is instant possibility of checking whether the information is comprehensible. The presented knowledge is meant to help in the correct problem solving and decision making.
Creating content by the users	The didactic content is prepared by the teacher, the student is a recipient. Students rarely share their opinions.	The participants share their knowledge and experience, they can learn from one another.
Transmission medium	There is a possibility of viewing images in high definition, using video-conferencing during which the participants are visible, using a board shared by the teacher, learning by playing games, and collecting much data visible on one screen. Easy and effective work.	The devices, together with the software used in m-learning enable easy transition between the course contents, the lessons are brief and concise, but in some cases small screens of mobile devices make it difficult to present information, e.g. in the form of complex diagrams.
Course duration	The course duration time is between 20 minutes to 1 hour.	Due to the learning objective and method, as well as technical conditions, the course duration time is 3–5 minutes.

Source: Author's own dataset based on https://www.dokeos.com/whats-the-difference-between-e-learning-and-m-learning.

The differences between d-learning, e-learning, and m-learning are visible not only in the technology used for delivering knowledge, but also in other aspects, be this the learning objective, the methodology of didactic content preparation, the amount and form of interactions between learning participants, and the relations between the student and

the teacher, as well as among the students in the didactic group. Due to the technological development, distance learning basically means e-learning and increasingly popular m-learning. Special attention should be paid to the possibility of exchanging experience and information, as well as individual and group learning offered by m-learning. However, it is not recommended for all areas, and therefore, a number of issues should be considered before designing a course. The main considerations include the learning objective in a given area; technical capacities of delivering knowledge, and therefore, if micro-courses and sharing experience would be enough; a quick reaction to activities and information appearing in the course; or whether that course requires a more complex form, longer lessons, or special software, e.g. for simulation, available only on computers.

Distance learning is a convenient and also, thanks to technical possibilities, attractive form of knowledge acquisition. Its convenience is mainly connected with the freedom of choosing the time and place in which the student becomes familiar with the course content, although in university conditions this freedom is limited by the framework set by the teacher. The technical possibilities result in trainings including more and more multimedia. Thanks to computers, simulation environment can be included in the educational process for presenting issues which could not be shown outside the digital environment[23]. However, we should be careful to avoid doing unnecessary things only because available technological solutions allow us to do so. This can, instead of supporting didactic content presentation or facilitating perception, bring chaos into the learning process[24].

1.2. Distance learning in the aspect of society computerisation

Technological development fosters the development of distance learning, both in the area of data transmission and the devices used by students and teachers. In the case of e-learning and m-learning, access to the internet, computers, and mobile devices is crucially important. Therefore, it is worth considering how that access has changed and what awaits us in the future. Picture 3 presents household access to the internet.

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[23] Clark R.C., Mayer R.E., *e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*, 4th Edition, Wiley, New Jersey 2016 [access on 14.06.2018].

[24] Allen M.W., *Michael Allen's Guide to E- Learning: Building Interactive, Fun, and Effective Learning Programs for Any Company*, Wiley, New Jersey 2016 [access on 14.06.2018].
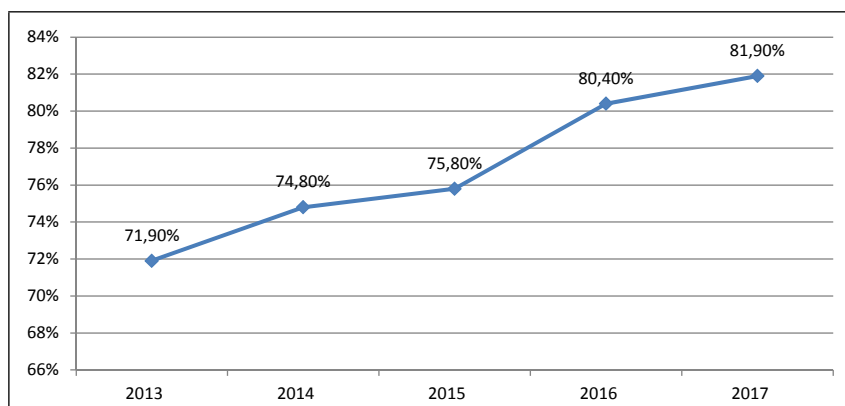
Picture 3: Households with access to the internet (data presented in % of the total number of households in a given group)

Source: based on GUS data, *Społeczeństwo informacyjne w Polsce. Wyniki badań staty-stycznych z lat 2013–2017 Warszawa*, Szczecin 2017.
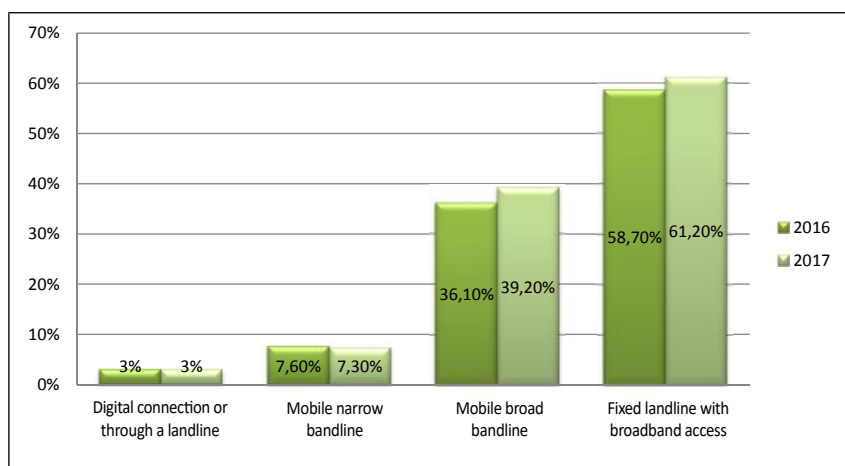
Picture 4: Households with access to the internet, divided according to connection type
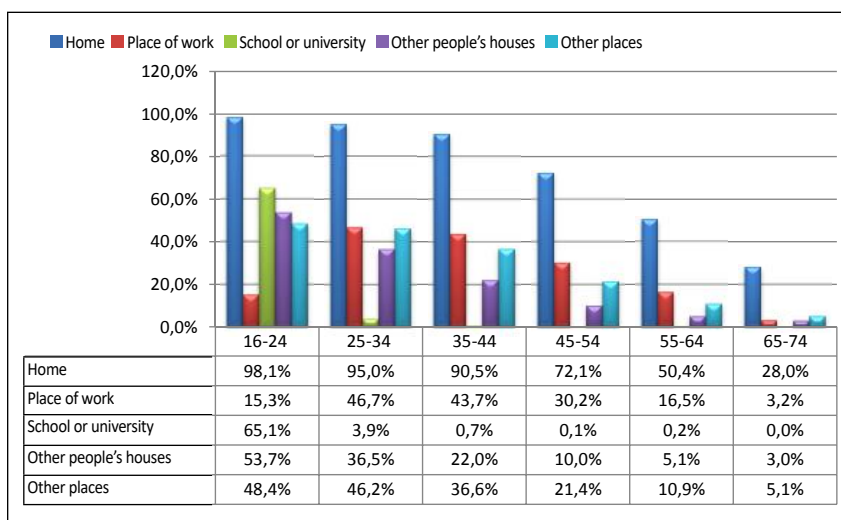
Source: based on GUS data, *Społeczeństwo informacyjne w Polsce…, op. cit.*

In 2017, most households with access to the internet were located in highly urbanised areas of central Poland (85,2%), and the smallest amount of such households was in the areas with a low degree of urbanisation in the eastern part of the country (78,6%)[25]. In 2016, Poland was eighteenth

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[25]   *Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013–2017 Warszawa*, Szczecin 2017.

in Europe in this respect. Among the households which had access to the internet in 2017, 95% had broadband connection. The way of providing the internet is also interesting: more than a third of households access the internet with the use of mobile devices. The exact data is shown in Picture 4.

In 2017, 72.7% of people who had internet access declared they used the network regularly, 61.1% every day or almost every day, 11.5% at least once a week, and only 3.3% less than once a week. The highest percentage of people using the internet regularly, divided according to undertaken professional activities, are working people (83.7%), self-employed people (91.0%), and university and secondary school students (99.9%).[26] As it can be seen, learners constitute the largest group using the internet regularly. The second-biggest group is formed by employed and self-employed people, who certainly take part in trainings. It might be assumed that taking regular advantage of the opportunities offered by the internet, as well as gaining experience in using the available tools, will also result in their search for knowledge, courses, and trainings on the internet. Picture 5 presents the distribution of internet users by age and place of access.


	16-24	25-34	35-44	45-54	55-64	65-74
Home	98,1%	95,0%	90,5%	72,1%	50,4%	28,0%
Place of work	15,3%	46,7%	43,7%	30,2%	16,5%	3,2%
School or university	65,1%	3,9%	0,7%	0,1%	0,2%	0,0%
Other people's houses	53,7%	36,5%	22,0%	10,0%	5,1%	3,0%
Other places	48,4%	46,2%	36,6%	21,4%	10,9%	5,1%

Picture 5: Internet users by age and place of access

Source: based on GUS data, *Społeczeństwo informacyjne w Polsce..., op. cit.*

Irrespective of the age group, internet users access the network most frequently at their homes. Depending on the age group, people under the

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[26]   *Ibidem.*

age of 25 often use the internet at school, people aged between 25 and 65 – at work, and the retired – in other places. People using the internet do it for different reasons, yet, for the needs of distance learning development it is crucial for internet users not to have difficulties searching for information, installing software, or communicating via various messaging systems, e.g. built-in, available on different social networks, or external tools. Additionally, using social networks provides an opportunity to function in online communities and establish groups for joint activities, including educational ones. As it turns out, internauts are willing to use social networks and videoconferencing, which is shown in Picture 6.
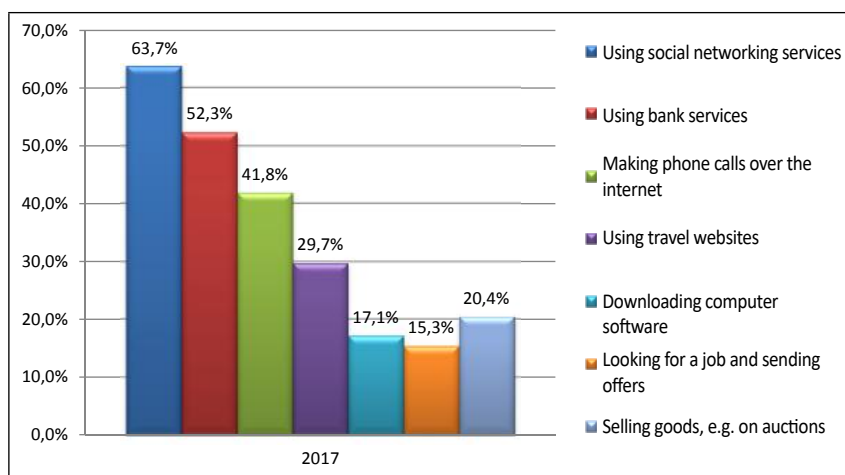
Picture 6: Reasons for using the internet in the 1st quarter of 2017

Source: based on GUS data, *Społeczeństwo informacyjne w Polsce…, op. cit.*

E-learning participants use desktop or laptop computers at work. Let us look at the situation regarding access to computers in Poland. The data of Główny Urząd Statystyczny (the Central Statistical Office) shows that in 2017 in Poland, 22.0 million people used computers, out of which 20.9 million used them regularly. 'The percentage of people using computers regularly, i.e. at least once a week, increased systematically in the years 2013-2017. The number of regular computer users in the total number of people aged 16-74 was 71.2% and was larger by 2.1 per cent when compared with the previous year, and larger by 10.4 per cent in comparison with 2013.'[27] In 2017, 81,8% of households were equipped with computers. In the case of m-learning, learners use smartphones and tablets,

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[27]   *Ibidem*, s. 110.

provided it is possible to use these devices at any time and in any place. This means that these people should be able to access the internet with their devices also outside their homes or places of work. In 2017, the percentage of people accessing the internet outside their homes or places of work with the use of mobile phones or smartphones, amounted to 38.7%; and with the use of tablets – to only 7.8%. A detailed division of users on the basis of age and devices they use is presented in Picture 7.
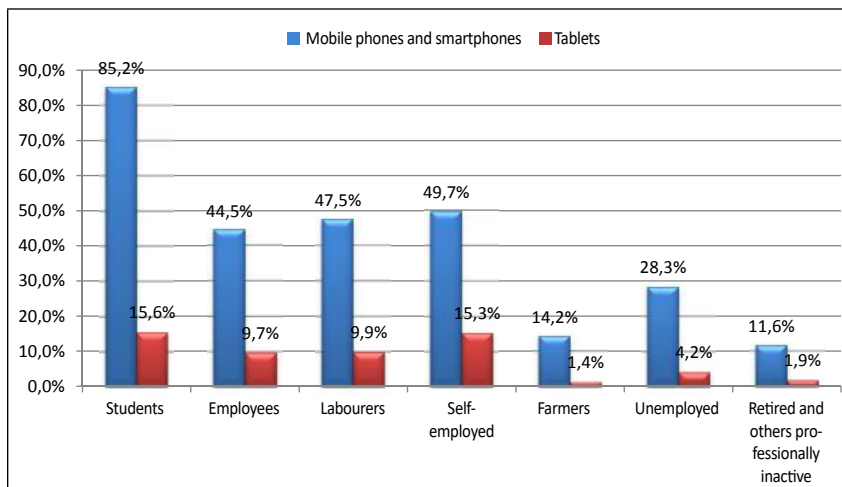
Picture 7: People accessing the internet with smartphones and tablets, by the device type

Source: based on GUS data, *Społeczeństwo informacyjne w Polsce..., op. cit.*

AsPicture 7 shows, in the case of the devices which could also be used in m-learning, the respondents connected to the internet with smartphones, irrespective of the age group.

Apart from access to the internet, it is also worth looking at the level of digital skills in Poland. People who already have some competencies in this area will not be afraid to try new possibilities, thus the chances for greater interest in distance learning increase.

Below are the definitions presented by GUS, according to which the people tested for digital skill were categorised:
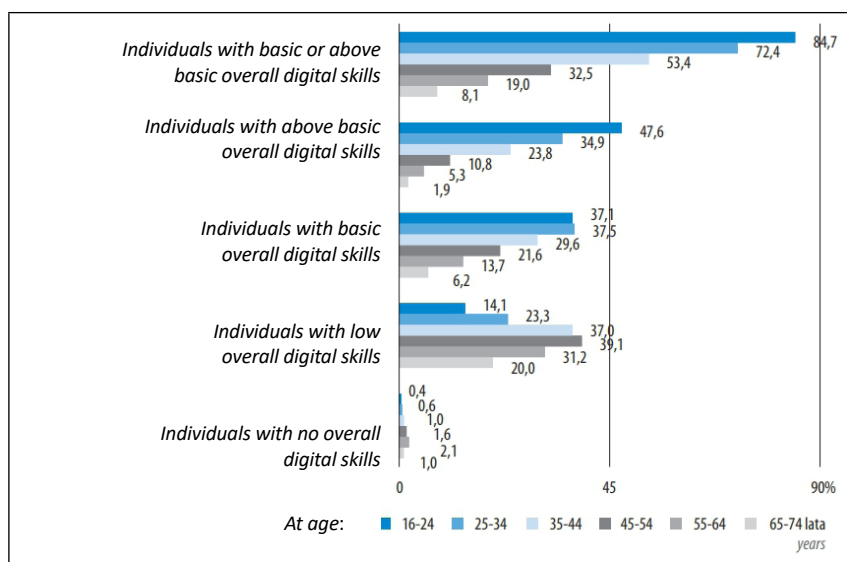
'Individuals with no overall digital skills – individuals who used the internet in the last 3 months and did not have any digital skills in information, communication, problem-solving, or connected with software.

Individuals with low level of digital skills – individuals who used the internet in the last 3 months and did not have between 1 to 3 digital skills

in information, communication, problem-solving, or connected with soft-
ware.

Individuals with basic digital skills – individuals who used the internet
in the last 3 months and had each type of digital skills in information, com-
munication, problem-solving, or connected with software, but at least
one of them on the basic level.

Individuals with above-basic digital skills - individuals who used the
internet in the last 3 months and had each type of digital skills in infor-
mation, communication, problem-solving, or connected with software on
the above-basic level.'[28]

Picture 8: Individuals with overall digital skills by level and age groups in
2017.

Source: GUS, *Społeczeństwo informacyjne w Polsce…, op. cit.*

Distance learning requires its users to have some digital skills. The
higher the level of those skills is, the easier and more enjoyable learning
becomes. Picture 8 shows that individuals aged between 16-24 have the
highest level of overall digital skills. In older groups, the level of those
skills is lower and lower. Still, it is good forecast for the future of distance
learning (e-learning and m-learning), as today's youth, brought up in
touch with computers, tablets, and smartphones, accustomed to com-

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[28]   GUS, Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013–
       2017, Warszawa, Szczecin 2017, s. 152.

munication on the internet and working in groups of people using remote communication, will not find it difficult to take advantage of learning, be this in the form of e-learning or m-learning.

Communication in the network

There are many definitions of communication, devised on the ground of various fields, including sociology or biology.[29]'Communication is a central activity of our culture. Without communication, every culture must die.'[30]In network communication, certain conditions of the net functioning and development can be distinguished. 'Apart from the users who start the process of communication, and network resources (information and services) which end this process, other conditions constitute a particular set of further boundaries between reality and the virtual world, and between the user and the network resources.'[31]Individual components are shown in Picture 9.
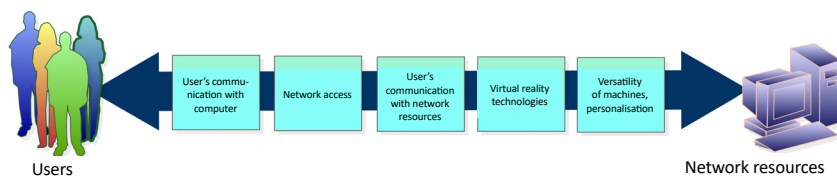
Picture 9: Components of network communication conditions

Source: Author's own elaboration based on Gogołek, W. Komunikacja sieciowa. Uwarunkowania, kategorie i paradoksy. Oficyna Wydawnicza ASPRA-JR, Warszawa 2010.

The basis for communication on the internet are its users. How they will exchange information depends on them, on their interests and computer skills. Some boundaries which can hinder the communication process are visible between the users and the network resources. First such boundary is the user's communication with the computer, although these considerations could be extended to mobile devices which also enable network communication. On the one hand, the boundary is connected-

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[29] Kulczycki E., *Teoretyzowanie komunikacji*, t. 2, Wydawnictwo Naukowe Instytutu Filozofii UAM, Poznań 2012, https://repozytorium.amu.edu.pl/bitstream/10593/2236/1/Teore tyzowanie%20komunikacji_Emanuel%20Kulczycki.pdf [доступ: 14.07.2018].

[30] Fiske J., *Wprowadzenie do badań nad komunikowaniem*, Wydawnictwo Astrum, Wrocław 2008.

[31] Gogołek W., 'Komunikacja sieciowa. Uwarunkowania, kategorie i paradoksy'. Oficyna Wydawnicza ASPRA-JR, Warszawa 2010, http://www.gogolek.com/Ksiazki/Gogolek01b. pdf [access on 14.07.2018].

with the users' skills, on the other, with the kind of device they use, e.g. whether the screen is big enough, the keyboard enables fast and easy typing, etc. Other boundaries are access to the internet and the user's communication with the network resources, which is understood as the possibility of searching for the right resources with the use of network services. Another boundary is connected with the computing power and the form of collecting and storing data. The last one is device universality enabling, in effect, personalisation in communication with the user.

'Communication via the internet takes place beyond the limits of time and on an anonymous basis. The delivered content is characterised by authenticity and a high level of expression, but also bypoorness of communication forms.'[32]Taking into consideration dependence on time, communication on the internet can be divided as follows:

unilateral communication, where the sender delivers information and does not expect a reaction from the recipient. The sender and the recipient do not interact either. Examples of this are internet articles, data bases, documents, or instructions;

interactive communication, where at least two people are involved. In this case, another division should be made – into synchronous and asynchronous communication. The former takes place in real time. In the latter – the message does not have to be received immediately. The sender does not wait for an instant reaction either. Examples of asynchronous communication include electronic mail, discussion groups, or fora. Synchronous communication is represented by videoconferences.

The choice of one of them always depends on several factors, among others, the objective of communication, people we want to communicate with, or conventions in a given group.

Communication can be understood as preparing, receiving, and collecting information. The entire process of preparing, receiving, and collecting is carried out by the communication system users, i.e. society.[33]

In this context, each user of the network may become not only a recipient of information, but also its creator. This allows co-participation in the process of building knowledge available to everybody. However, there is danger connected with redundancy of data delivered on a given subject and not verified by anyone. With too much data from various sources,

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32   Panek A., 'Język w przestrzeni Internetu, Przestrzeń społeczna', No. 1/2016, http://social-spacejournal.eu/11%20numer/Panek%20-%20J%C4%99zyk%20w%20przestrzeni%20internetu.pdf [access on 15.07.2018].

33   D. Dobek-Ostrowska, *Podstawy komunikowania społecznego*, Wydawnictwo Astrum, Wrocław 2007.

it is more difficult to decide what is true and what is not. Dissemination of information which is incomplete or not entirely accurate is not always connected with the author's ill will, but with their lack of experience or knowledge.

Communication on the internet differs from communication in reality. Characteristic features of the virtual space include the following:
• 'limitation of sensory experience
• identity liquidity and anonymity
• equalisation of status
• overcoming spatial limitations
• time stretching and concentrating
• availability of numerous channels
• possibility of permanent recording
• altered states of consciousness'[34]

Communication taking place in this reality provides immense possibilities, but also threats. When designing trainings and placing teaching in the network environment, we should bear in minds the specificity and conditions of that environment.

1.3. Directions of distance learning development

As it has already been mentioned, the industry connected with distance learning is developing continuously, and this has been made possible thanks to technology development. And what are the trends in 2018 (Picture 10)? We can certainly list here systems based on the cloud. Cloud e-learning platforms are often chosen by corporations.[35] In this way, they can provide their employees with access to trainings 24 hours a day. This solution may also be feasible in schools. Additionally, solutions of this type are equipped with a number of security systems, which is crucially important in companies as well as during exchange of materials between students and teachers.

Virtual and augmented reality is another trend in education. Solutions of this type are especially used in industries, where the costs of making mistakes are high. In education, such solutions enable students to see thing they would not be able to experience otherwise. An example of this

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34   K. Kuźmicz, *op. cit.,* s. 34.
35   Davis C., 'Smart World, Smart Learning: Trends And Future Prospects Of Learning', https://elearningindustry.com/future-prospects-of-elearning-smart-world-smart-learning-trends [access on 03.06.2018].

could be a smartphone application with which it is possible to see a person's spine when looking at them.[36]

Another, more and more visible trend is micro-learning. Here, the didactic material is divided into very small, easy to remember bits, which the trend's efficiency is attributed to. Micro-learning is marked by a short duration time – at most a few minutes. The content is delivered in little fragments, 'knowledge pills', as part of larger problems. Separate micro-courses can exist independently from one another.[37]
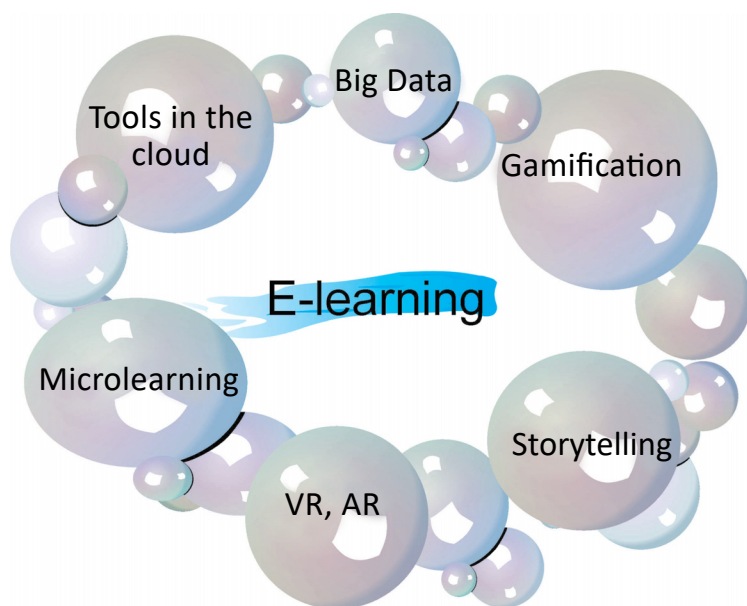
Picture 10: E-learning trends in 2018

Source: Author's own elaboration.

Gamification is another trend in 2018. It consists in applying the mechanisms known from games to reaching the pursued objective, and engages students by evoking in them the same emotions which occur during playing games not connected with education.

Another trend in e-learning is making use of the social potential.[38]The opportunities for sharing knowledge are offered by discussion fora,

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[36]   https://myownconference.pl/blog/pl/index.php/trendy-w-e-learningu   [access   on 14.07.2018].

[37]   Laśkiewicz A., 'Co to jest micro learning', https://ipro-elearning.com/html/partners/ tech/co_to_jest_microlearning.html [access on 21.07.2018].

[38]   http://elearninghub.pl/elearning-trendy-2018 [access on 16.07.2018].

Q&A websites, chats, and places for sharing documents. This enables the creation of space for online learning, where students can communicate regardless of place. More and more LMS platforms provide such functionalities.[39]

Storytelling, i.e. delivering knowledge by telling stories, is an interesting trend in e-learning. 'Over centuries, tales, myths, and legends amused and educated entire generations. Telling stories, with words, sounds, and images, is what makes us humans. We told stories long before we learnt how to read and write.'[40]Tales and interesting stories always help remember information better. Information which is not placed in some context looks as if it doesn't make sense, therefore it is forgotten. Stories give context to information, thus making it more digestible.

When listing e-learning trends in 2018, we should also mention Big Data. The number of digital training increases, which, in turn, influences the capacity of gathering large amounts of information. The analysis of this information will play an increasingly important role in supporting studentsthrough, e.g. improving education strategies.[41]

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[39] https://www.talentlms.com/blog/online-learning-trends-2018 [access on 16.07.2018].

[40] Wiśniewska K., 'Storytelling w szkoleniach e-learningowych', http://e-dumania. pl/2015/10/26/storytelling-w-szkoleniach-e-learningowych [access on 14.07.2018].

[41] C. Davis, *op. cit.*

2. Distance learning at a university

E-learning trainings and courses differ depending on the recipient type: courses for company employees are different from courses for students. The objective of courses for employees is to develop the skills employees already have or to train them in a given area. The objective of educating students is to provide them with knowledge and skills necessary for their future profession. The description of the adequate qualifications is pre-determined and defined in the National Qualification Framework for Higher Education.

University education is formalised. We can distinguish here mutually related areas, such as legal conditions for academic e-learning, technology, training contents, or academic community.

When considering the legal conditions of university education, we should look into the following documents:

- Regulation of the Minister of Science and Higher Education of 2 November 2011 on the National Qualification Framework for Higher Education, Dz.U. 2011, No. 253, item 1520;
- Act of 27 July 2005 – Higher Education Law, as amended (Dz.U. 2005, No. 164, item 1365), which in Article 164 (3) allows for conducting classes with the use of distance learning methods and techniques, and in Article 164 (4) detailed arrangements are placed under the regulation of the minister for higher education;
- Regulation of the Minister of Science and Higher Education of 25 September 2007, as amended, on the conditions indispensable for conducting classes with the use of distance learning methods and techniques, and according to the amendment of 2 November 2011, the conditions concerning verification of the learning outcomes in the subject taught with the use of distance learning methods and techniques;
- internal university resolutions and decrees concerning, among others, the requirements which need to be met in order for the classes to be

conducted with the use of distance learning methods and techniques over a prescribed number of teaching hours.

Technology

University system of distance learning

Academic community

Legal conditions

Training contents
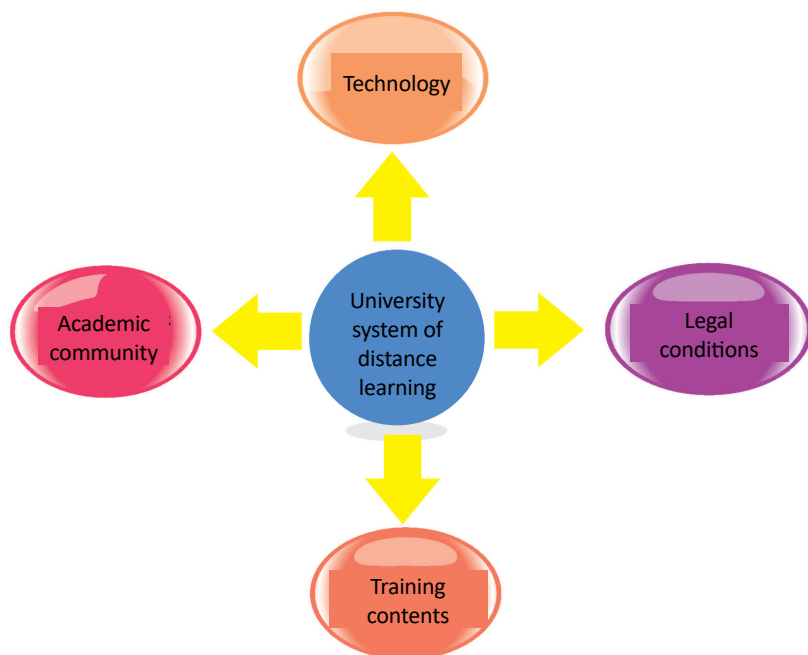
Picture 11: University system of distance learning

Source: Author's own elaboration.

Students and teachers constitute the basis of education at university. The academic community is an important factor which may influence the possibility of distance learning development. It is essential that both teachers and students interested in this form of knowledge acquisition become involved. It should be noted that the human factor mentioned here is the most crucial for the success of this education method and, at the same time, this factor poses the most considerable obstacles, such as age, computer competencies, attitude to distance learning, and experience with distance learning.

Another listed area refers to the way of material sharing. In the case of distance learning, materials are shared electronically and may take various forms. Because of involvement, type of available technology, or the teacher's concept, learning material may be prepared in the form of a text with illustrations, animations, an educational game, assessment tests, audiobooks, podcasts, screencasts, vodcasts, or webcasts. Regardless of the

selected technique, it is important to maintain a balance between the content of the devised material and the delivery form. The choice of the proper form of material preparation should support achieving the defined learning outcomes.

Technology is a very important area in the distance learning system. Here, we can distinguish software supporting activities connected with teaching-learning, and hardware used in the distance learning process. Both the software, i.e. tools, or applications for creating materials to be used in the education process, and the e-learning platform itself where those materials will be uploaded, should meet the university's needs. They should always enable and support achieving learning outcomes intended for particular subjects. Hardware consists of resources for maintaining the technical infrastructure (e.g. a server or connections).

2.1. Conditions for distance learning implementation

The implementation of distance learning as a method of teaching at a university is connected with numerous issues. However, it is not connected only with starting a selected IT system. We should take into consideration a number of other aspects, such as the choice of an e-learning platform or preparing the teaching staff to create and moderate trainings. We should also consider fulfilling the conditions arising from the applicable regulations.

The right e-learning platform isone which is suited for its users' needs. Therefore, an e-learning platform for a university should be suitable for the specific characteristics of the teacher's work with students. It should also enable teachers to make various forms of didactic materials accessible to students. Hence, it is crucial to ensure at the very beginning that on the platform there is a place where the prepared courses are available to students in the time limits set by the teachers. The participants in distance learning – students – should be informed at the beginning of a semester about the scope of the material they will have to learn and about the time limits within which they will be able to access the materials. Due to the technical capacity of contemporary e-learning platforms,also those for universities should provide opportunities for including in the courses, apart from texts, examples, illustrations, and interactions which would allow students to check their knowledge during the course. On the platform, the student should be able to repeatedly access the shared content in order to revise the didactic material and by doing so, systematise the is-

sues dealt with in the course. Apart from interactive courses, the teacher should be able to set tasks to students, which they could do individually or in groups. The student would then upload on the platform the results of the tasks to be assessed by the teacher. The entire didactic process should be dynamic, which means that the teacher needs to be able to make additional materials available to students any time a need arises. Such materials can, for instance, be reports, articles, or examples. We should remember that an e-learning platform is not only a place where the teacher shares a course and verifies whether the student has completed the tasks. A tool of this kind should also be a means of communication, consultation and exchange of ideas between students and the teacher. That is why it is of crucial importance to allow two kinds of contact and cooperation on the platform – both asynchronous and synchronous. In order to guarantee that, in the process of the platform designing and implementing, modules serving the function of a chat should be provided (and made available after the implementation) – they would allow the group of students and the teacher-moderator to exchange ideas in a synchronous mode; the modules should also serve the function of a forum – i.e. a conversation in an asynchronous mode. On the other hand, in order to enable asynchronous communication, a module for creating videoconferences should be implemented and made available. Not only can the students and the teacher communicate in real time through writing texts during such videoconferences, but they can also see and hear one another. Videoconferences provide an opportunity to conduct lectures or consultations without the necessity to gather all the participants in one place.

The way of preparing materials for students is yet another important issue which should be born in minds while designing courses. The didactic contents shared on an e-learning platform should not have the form of a book. Designing a course does not simply mean copying a textbook as we are not writing an e-book. In effect, we might produce something which will differ from a paper version only in the way it is rendered. E-learning course generators, prepared especially for teachers, considerably facilitate the process of designing an interesting form for the future didactic material. This can be done through technical support in designing many paths in the course, or through enriching the factual material with engaging tasks, surprising quizzes, or other interactions to activate the student. The course authors should be able to tap into the expertise of educationalists and e-learning educators. In many cases, their experience and knowledge concerning methods of preparing contents in a way which would be interesting for students, will prevent many errors. The experi-

ence with e-learning courses makes it possible for educationalists to keep distance and a fresh look at the materials provided by the course author. This makes it easier for them to devise several options for designing the content layout and the plan of teaching on the e-learning platform.

For those course authors who are also course moderators, the methodological aspect of the designed e-lessons is just as important as the technical skill of preparing courses. Therefore, continuous development of skills in this area is of paramount importance. A university providing an opportunity to conduct e-learning courses should also ensure that teachers can take part in trainings on technical aspects of preparing such courses or, in other words, should ensure that teachers have access to the tools they need for their work.From the perspective of the person designing courses, methodology trainings are also important. While preparing courses, the author might face dilemmas which materials can be included in the course, and which are protected by copyright. Thus, academic teachers should also be familiarised with the issue of copyright. Academic teachers, who are frequently courses moderators, should be trained in the area of working with students on an e-learning platform. Such trainings should particularly concern ways of sharing materials, moderating discussions on a forum or a chat, and forms of motivating students to learn. The recipients of distance learning, i.e. students, should also receive trainings in using e-learning platforms and employing the platforms to communicate with the teacher.

E-learning cannot be implemented without the proper legal regulations. Therefore, the process of distance learning at a university is connected with the necessity to fulfil the conditions required and defined in the law. This involves an environment analysis which will show whether the conditions for distance learning, defined in the applicable regulation, are met. According to the regulations in force, a university needs to have academic staff competent in conducting classes with the use of distance learning methods and techniques. One of such conditions is providing access to the IT infrastructure and software enabling synchronous and asynchronous communication between students and academic teachers. A university also provides didactic materials in the electronic form. Moreover, a university is obliged to provide every student with an opportunity to consult the teacher in person in the university buildings. A prerequisite for a university to be allowed to conduct e-classes is controlling learning progress. 'A university should continuously assess students' learning progress and verify their knowledge and skills, also through administering tests and final examinations in particular subject in the university build-

ings'[42]. Teachers' activity in class should also be monitored. We need to remember that, according to the regulation in force, 'the number of teaching hours on full-time and extramural studies conducted with the use of distance learning methods and techniques may not constitute more than 60% of the total amount of teaching hours defined in education standards for particular fields of studies and levels of education, with the exception of practical and laboratory classes'[43]. While implementing the technical aspect of distance learning, we must not forget about the necessity to devise a system of rules concerning running classes in the form of e-lessons, and facilitating efficient coordination of the distance learning process.

2.2. Barriers in implementing academic e-learning

When considering the barriers in implementing e-learning, two clearly visible problems are frequently mentioned. One is a technical barrier, the other is a mental one.

Technical difficulties typically occur in the area of providing the proper IT infrastructure, i.e. the hardware and the software. Therefore, the first thing to do when implementing an e-learning platform is to carry out an analysis of the available infrastructure. Then, the equipment should be selected in such a way that it will allow efficient use of the e-learning platform by a large number ofusers at the same time. On the other hand, when choosing an e-learning platform, we should make sure that the platform can be accessed with the equipment available to the potential group of users.

The latter of the listed barriers, i.e. the mental one, concerns both students (although to a lesser extent) and teachers. As far as students are concerned, the difficulties are usually connected with the necessity to learn how to use a new tool which an e-learning platform is. This might be puzzling if we take into consideration their skills in using social portals and communicators. In this case, learning how to use a new system does not take them a long time. Academic teachers, especially older staff, are perhaps faced with a larger problem. This is also connected with more responsibilities than in the case of students. Moderators-academic teachers

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[42]   Regulation of the Minister of Science and Higher Education of 25 September 2007, as amended, on the conditions which must be fulfilled for academic classes to be conducted with the use of distance learning methods and techniques, DZ.U. No. 188, item 1347, p. 1.

[43]   *Ibidem*.

need to learn not only how to work on an e-learning platform, but also how to use the tools for creating such courses. The mental barrier is also connected with being used to traditional forms of teaching. When they start working in a new environment, they need to overcome their own reservations concerning the effectiveness of this form of teaching which is new to them, and they need to learn how to effectively use the potential it carries.

3. Gamification at a university

3.1. Gamification at a university – elements of game mechanics

Due to the fact that gamification can be applied practically to every aspect of social life, it is also possible to use game mechanisms for educational purposes. PlayMaker School – a project of Game Desk, established by Melinda and Bill Gates – is one of the most popular educational application of gamification.Efterscolein Denmark is also a good example.The school Quest to Learn is an example of fully gamified teaching.

Gamification in teaching is used in the form of educational games. One instance can be educational role-playing games. The player's task is to support their favourite character or group of characters in a pursuit of the objective. The trick is not to give away the educational objective in a direct way. The player, together with the game character, has to overcome life's adversities, solve riddles, and discover secrets. The activities which are pleasant for the player also serve a teaching purpose. Therefore, the very learning process takes place in the background of the carried out activities, i.e. playing a game. In such a way it is easier to learn, e.g. new words in foreign languages, or by solving puzzles learn how to solve mathematical tasks. Additionally, games help develop creativity and logical thinking. Above all, this way of learning is attractive because the form of acquiring knowledge is not associated with the activities we are used to while learning, i.e. passive reception of what the teacher says. Individuals learning in this way have the opportunity to develop their talents. What is more, by engaging in doing further tasks, they expand their knowledge of a given subject. This practically means that by applying didactic games, or even elements used in games, in an educational process it is possible to increase the speed of learning and the involvement of students in the didactic process[44].

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[44] 'Gamifikacja: na czym polega ta metoda nauczania?', http://www.mjakmama24.pl/dziecko/edukacja/gamifikacja-na-czym-polega-ta-metoda-nauczania,563_8062.html [access on 05.06.2018].

The gamification mechanism proves to be effective with children, but also with adults. It turns out that also adults readily engage in various forms of contest on gaming platforms. Their behaviour is similar to children's behaviour and they also, just like children, support their characters in fighting off challenges and solving puzzles. Every task which is properly fulfilled is awarded with points or a higher position in the ranking. If adults are can engage in games just like children, then nothing prevents creating educational games or trainings with elements of gamification for adults.

It is worth considering which elements of game mechanics influence the fact that the number of player is consistently increasing and which ones can be applied in didactic processes. Therefore, several recommendations have been collected and the most important ones are presented further.[45]

In the case of education, planning several possibilities of achieving success can be implemented through various ways of passing the course in such a way that students can choose their own path. A possibility of a failure should also be included in order to motive students to work harder and make an effort. Another good idea is to arrange the didactic material in a way which makes further content available with the progress students make. In practical terms, this can be achieved by making the initial parts relatively easy to get credit for. Together with the increase of students' experience and knowledge, the difficulty of the didactic materialshould also increase so fulfilling a task requires greater involvement. In the case of students, it is also possible to set tasks which require cooperation in achieving common objectives. This will additionally allow enhancing and strengthening social connections. Moreover, tasks of this kind teach how to work in a team, which will be useful after students finish their education. Students should also learn how to work under time pressure, therefore it is worth introducing tasks which need to be done in a short period of time. A good method of motivating individuals learning how to work effectively is to present a detailed map of activities where particular tasks are connected with learning outcomes and possibilities of direct practical application of the acquired knowledge. It is extremely difficult to design a narrative form of didactic tasks for students, yet, this can be done by appointing roles to students and narrating the entire course on the basis of the subject theme. A good incentive for further activities is also intro-

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[45]   Mochocki M., 'Gamifikacja szkolnictwa wyższego – obce wzorce, polskie perspektywy', Warszawa: Game Industry Trends. Presentation: http://www.slideshare.net/BILUSZ/gamifikacja-szkolnictwa-wyszego-obce-wzorce-polskie-perspektywy-14413868, s. 44–45, publication 23.09.2012 [access on 06.07.2018].

ducing an assessment system which would be different from traditional grades. It can take the form of points exchanged for, e.g. a tip for carrying out another task. If the tasks fulfilled by students are rewarded, the rewards should be pertinent to the performed didactic task.

Using gamification at a university is possible. The only problem seems to be posed by selecting proper elements of games and testing possibilities of including them in the didactic process, so that their objectives and effects are in accordance with the intentions of the course author.

When introducing games mechanisms into working with students, we should rememberthat the main objective of such activities is students' involvement in the didactic process[46]. Elements of gamification should additionally motivate them.

3.2. Gamification on the A. F. M. Krakow University e-learning platform

The application of certain games mechanisms requires the creation of an appropriate IT environment or an adaptation of the already existing ones. Therefore, an attempt has been made at checking to what extent it is possible to implement some games mechanisms to motive and involve students in the didactic process on the A.F.M. Krakow University e-learning platform[47]. The analysis will be made on the basis of four quests of different character[48], already put into practice at one university in Gdynia[49], andadapted to the conditions and possibilities on the A.F.M Krakow University platform. The A.F.M. Krakow University e-learning platform will further be referred to as the e-learning platform or the platform.

On a platform where there is a special module which enables fulfilling tasks and tests, the above-mentioned quests are entitled as follows: a laboratory task, a special task, a surprise task, and a challenge task. The considerations will take into account the subject of information technology.

A laboratory task may consist in doing the task during the class or as a homework assignment and delivering the work through the e-learning platform within the time limit set by the teacher. Each task can be credited with a certain amount of points. Additionally, the number of points

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[46] Rodwald P., 'Edukacyjny system gamifikacyjny', *EduAkcja. Magazyn edukacji elektronicznej*, No. 1 (9)/2015, pp. 19–28.

[47] Andrzej Frycz Modrzewski Krakow University e-learning platform, accessible at learning-ka.edu.pl.

[48] P. Rodwald, *op. cit.*

[49] Polish Naval Academy in Gdynia, subject: *Security of Information Systems,* lecturer: PrzemysławRodwald, information from: P. Rodwald, *op. cit.*

may depend on when the task is submitted. The longer the time of sub-
mitting the task, the fewer points are given for it.The element of working
under time pressure is also introduced here. However, the task should
not lose in quality at the expense ofshortening the submission date, and
should still be performer with greatest diligence. In such case, the points
for timeliness should be added to the points awardedto the student for
the task realization. Picture 12 presents an example of how a task mod-
ule can be used for this purpose. The task window is divided into several
sections. On the left-hand side, there is an option for adding task content,
also narrated content. The conditions which have to be met in order to
get a particular grade or a number of points, i.e. to complete the quest,
are also specified here. Each task may have a limited time for giving an
answer. Prolonging the time for submitting answers by individual students
or the entire group is possible, which allows to give extra time to some or
all individuals in the group.
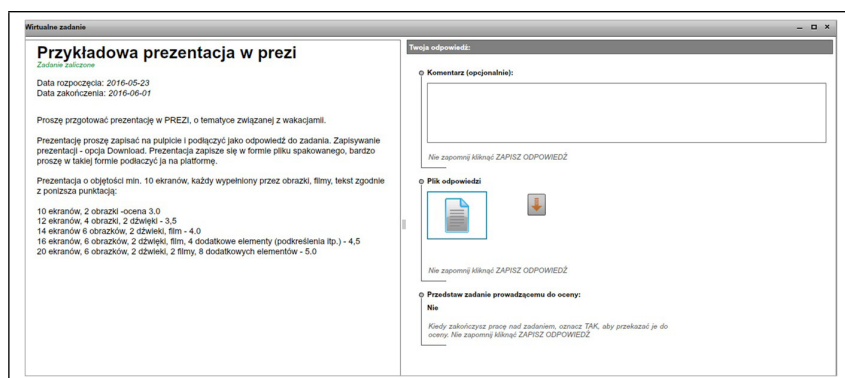
Picture 12: Task management window – student view

The teacher can easily monitor the students' progress and assess in-
dividual tasks. The appropriate window is shown in Picture 13. The work
uploaded on the platform can only be assessed when the student makes
it available for assessment. Until the student does it, the attached work
is visible as a task not made available for the teacher's assessment. This
may mean that it is incomplete and the student is still working on it and,
therefore, it should not be assessed yet. Adding tasks for a didactic group
is possible on the platform. Students do such tasks individually. It is impor-
tant to make all the key information concerning the deadlines and forms
of delivering the tasks as well as the deadlines and forms of assessment
visible to the student. The teacher can control the students' progress.

Moreover, the teacher I sable to report the information on whetherthe student has opened the task content, and whether the task has been submitted for assessment or the student is still working on it, whether the task has been given credit, and when a grade or points are given – the information about the number of points. The student receives information about the status of their task: whether it is still closed, started, submitted for assessment, or assessed and if so – what grade has been given, sometimes with an additional descriptive comment.

Picture 13: Task assessment window. Teacher view. In order to protect personal data, student information has been blurred

Another type of a quest which can be used in the didactic process on an e-learning platform is performing a special task. Fulfilling this task can consist in, e.g. awarding points for active presence in facultative classes. At university, attending lectures is not obligatory and students' attendance should not be recorded. However, students can be awarded in a number of ways in this area. Students may be rewarded for the very presence at a lecture, yet, it is not certain that they followed what happened in the classroom. Another bonus scheme may consist in giving students additional grades or points which can be included in the final grade for extra information students remember. This should motive students to take active and careful part in classes. On the one hand, their attention is directed to the content delivered during lectures and is connected with their wish to get the bonus; on the other hand, through active listening

students acquire knowledge which will be assimilated for a longer time. Testing the knowledge from lectures can be done on the e-learning plat- form with the use of the test module. Therefore, knowledge testing can be performed quickly and efficiently. Moreover, the result will appear automatically after the test has been completed, which is an additional benefit of automatically graded tests.
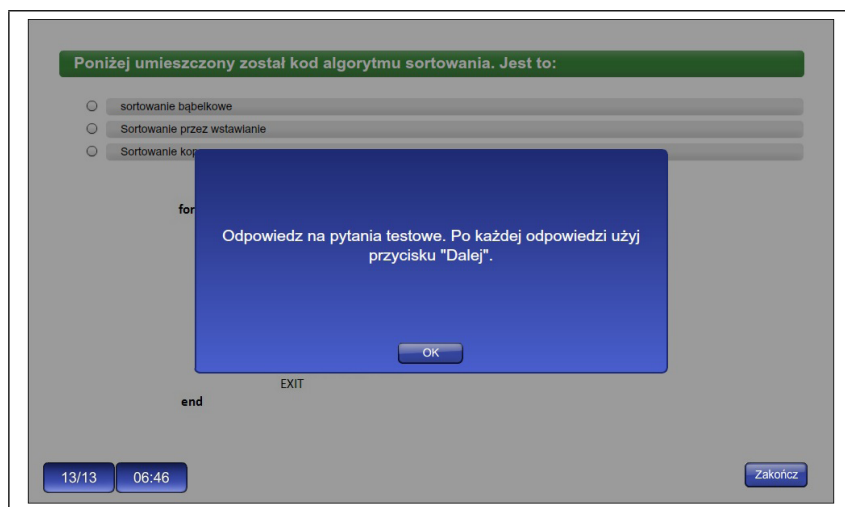
Picture 14: Example of a text window

A surprise task is an additional task which is not signalled in the course schedule, but which may be added at any time during the course. The objective of such a task is to intensify the students' involvement in sys- tematic acquisition of knowledge delivered not only in class, but also from other sources. Students receive information about the task start and fin- ish. The platform makes it possible to inform students that a new resource has been shared – the option 'Inform about the resource'. Information delivered in this way is sent to students to their student email accounts and to the inbox on the platform. After logging in, the platform users can always see information about new messages, new resources, and time limits for accessing the resources – Picture 15.

Picture 15: Information view in the main window of the platform

The last type of a mission is a challenge task. It is an additional task. The whole of the didactic material discussed during the course may be covered in a task of this type. As this is an additional task, it can only be performed after certain conditions have been met. Students can get access to it when they have received the sufficient number of points for previous tasks. This is not a task which allows students to get additional points only to get credit for the course. Such tasks are intended for those students who have systematically worked on their knowledge and skills acquisition, which enabled them to receive points or grades which they can use in their further educational process. In order to take the additional task, students might, e.g. 'buy' it for some of the points they have collected. The reward for performing the task consists in points being given for the correct fulfilment of the task. If the task is done incorrectly, the points exchanged for the task are lost, which practically means they are subtracted from the total amount of points the student has collected. A challenge task can be performed in various forms. One such way is in the form of a test – like in Picture 14. An essay written by the studentor a study prepared on the basis of a document provided by the teacher will work very well here. The student's work may be delivered in the form of a file – like in Picture 12.

The materials available for students can be visible from the beginning of the course or may be added in the meantime. A window displaying the resources to be performed by the students on the e-learning platform is presented in Picture 36.This sample window includes two laboratory

tasks, information on bonuses for attendance, and a surprise task. In the case of tasks, the start and the finish dates can be seen, i.e. the time limits within which students can submit answers for assessment, and the grade given. As far as the bonus for attending facultative classes is concerned – the number of points given is visible.

Picture 16: The window in which the student can see all the resources available and the information about the points obtained

Team-working in groups is also possible on the platform. Such work can begin with dividing the students into sub-groups and choosing topics to work on. The choice of the task topics can be done on the forum which can be seen by all the students in the didactic group and by the teacher. The operating principle is that the teacher opens a new topic on the forum where a list of topics is given and the rules of task performance are stated. The rules concerning team work should be clearly formulated and available for every student. The students should also be informed about the number of people working in each team and the deadlines for the entire task or its particular parts. A task of such type should have clear assessment criteria so that each group knows what needs to be done in order to get particular grades. While the task is being performed, the students can communicate using a chat built into the platform. However, group tasks have some drawbacks. One of them is that it is difficult to define how much each person has contributed to the task fulfilment. Most frequently, the students need to define each person's contribution to the process of

realising a given task, e.g. by stating which person in their group was responsible for particular parts of the task. Therefore, it helps to make participation in the platform discussion forum obligatory. Discussions serving the purpose of the task fulfilment, held by the students on the forum, may enable the teacher to see who actually worked on performing the task. If participating in a discussion will be taken into consideration when the task is assessed, the students need to be informed that the posts they include on the forum will also be assessed – their amount and quality contribution to the group task fulfilment. It might turn out that it will be the only objective indicator for assessing the students' involvement in performing the group task.

All the tasks for students and forms of fulfilling them on the platform are used to pursue learning objectives. Thus, the information concerning the connection between particular tasks and learning objectives, as well as ways of applying the acquired knowledge should be made available to students. One form of delivering such information is including it in the Information bookmark which can be seen in the upper part of Picture 16. Relevant information can also be included directly in the content of each task.

Summary

Opinions about distance learning vary[50]. Whether distance learning is perceived as a positive experience and individuals taking part in it see it as an opportunity to acquire knowledge at the convenient time and place and in a friendly form, or whether it is perceived negatively – as an additional burden, depends to a great extent on the first experience users have had with distance learning. Therefore, it is important to design and conduct courses very well and with the use of friendly software. This might influence the fact that distance learning participants will look for this method of education, even after they finish their formal education, in order to expand their knowledge and perfect their skills. It is often the case that the first encounter with any distance learning platform and courses takes place only at a university. Therefore, academic teachers are responsible for making distance learning valuable to students. It depends on them whether students, both during their studies and after graduation, will be eager to take part in distance learning courses. Experts designing courses together with teachers have influence on whether students will consider the necessity to learn the didactic material on the platform as a duty they have to fulfil to get credit for a subject, or as an attractive and reliable source of knowledge.

When conducting distance learning at a university, we should take into consideration both external ministerial regulations as well as those internal university ones[51]. Due to the requirements mentioned above, distance

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[50] Wilkin M., 'E-nauczanie dla wielu czy dla nielicznych', [in:] Dąbrowski M., Zając M. (eds.), *E-edukacja – analiza dokonań i perspektyw rozwoju*, Fundacja Promocji i Akredytacji Kierunków Ekonomicznych, Warszawa 2009, http://www.e-edukacja.net/piata/referaty/sesja_IIa/07_e-edukacja.pdf. The research partly funded with the means for statutory activities of the Department of Management and Social Communication at A.F.M. Krakow University.

[51] Woźniak-Zapór M., 'Uczelniany system kształcenia na odległość a KRK', [in:] *Krajowe Ramy Kwalifikacji – biurokratyczna konieczność czy szansa na poprawę jakości kształcenia w uczelniach?*, M. Kapiszewska (ed.), Oficyna Wydawnicza AFM, Kraków 2013, pp. 121–127.

learning at a university can only be realised with traditional classes in the mixed form. Therefore, a possibility of conducting only distance learning courses does not exist. Internal university regulations and by laws define the rules for distance sharing of didactic material, and divide them into three groups: as supporting, supplementary, and complementary classes. When certain conditions are met, the teacher can run classes in one of those groups. The necessity to meet the conditions, evidenced by a certificate, allows to assure the quality of individual courses on the appropriate level. Any course conducted at Andrzej Frycz Modrzewski Krakow University, whether it is a supporting, supplementary, or complementary one, needs to undergo the process of certification. During the process, it is checked whether a given course includes the elements required for distance learning in the amount proposed by the course author. Individual courses are also reviewed from the methodological perspective so that the shared materials comply with the university requirements.

Factual and methodological knowledge, as well as technical skills are indispensable in designing and conducting courses using distance learning methods and techniques. Although factual knowledge is a basic element of every course, incompetent presentation of it may result in a failure to achieve the planned learning outcomes. It is recommended that every distance learning course include materials enabling knowledge systematization. Participants in distance learning should be stimulated and encouraged to undertake their own activity. Owing to this, they will be able to transform from passive recipients into knowledge hunters, players, and winners of new skills. Progress assessment is of key importance in the didactic process. Therefore, a course should include a possibility for assessment or self-assessment of gaining qualifications. Noticeable progress motivates to make an effort, and good results motive to work further. Course participants need to know how, when, and what they are going to learn, and what the expected outcomes of their learning are. A person taking part in distance learning should always know what they aspire to achieve, so that they will find it easier to act towards it. Following the basic rules of designing courses will enable running distance courses and achieving the established didactic objectives.

Gamification can be used on various levels of education. The extent to which the mechanisms making games attractive and engaging for users can be applied depends on a number of factors. These factors include, among others, the involvement of the course authors as well as the person conducting classes in a given subject. One aspect affecting whether gamification will be used in education or not, is a possibility of carrying

out the planned activities within the available infrastructure, especially when a course requires using IT tools.

Undoubtedly, not only students are reluctant to learn about issues they find difficult or uninteresting. This can be changed by applying certain mechanisms. Evoking in students the feelings of enjoyment or satisfaction with completing individual levels of didactic tasks, or the feeling of pleasure with common achievements of the group, could positively influence their achievement of the planned learning outcomes in a given subject. It is possible due to the fact that 'games have the potential to engage us in their world and to motivate us to perform certain actions. Psychological mechanisms which formed with us thousands of years ago are behind that phenomenon. When we discover new places, interact with other users, and move towards the final victory with a pleasant feeling of control, we have no doubt that the experience we are going through is positive, and we will do a lot to be able to go through it again and again.'[52] Hence, it is worth making the effort connected with introducing gamification elements into teaching activities.

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[52] Osiągnij przewagę w biznesie dzięki grywalizacji (e-book), https://gamfi.pl/pl/textpage/grywalizacja-ebook,64.html [access on 18.05.2018].