Palacký University in Second Life

Our Experience and Recommendations for Virtual Education

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Abstract

In this paper we describe the experience of the Philosophical Faculty of Palacký University in Olomouc (Czech Republic) with a three-year usage of the virtual world of Second Life for academic purposes. Firstly, we briefly introduce the virtual world of Second Life, then we define the most significant global changes and trends, which confirm our beliefs that graduates, as typical representatives of young knowledge workers, must be prepared for virtual work and virtual collaboration. We also describe the activities that we implemented at the Philosophical Faculty of Palacký University. At the end we perform a SWOT analysis of the academic use of SL and we offer some recommendations for further usage of SL.

Palacký University in Second Life

Our Experience and Recommendations for Virtual Education

Introduction

Second Life is one of the leading contemporary three-dimensional virtual worlds. It was

created in 2002 by Linden Lab. It is freely available to any Internet user – only the client has to

be downloaded from the website www.secondlife.com and the application functionality is

conditioned by certain characteristics of the hardware used, which are also recommended on the

website. SL has its own economy with its own currency called Linden dollar (Linden in short).

Lindens are directly transferable to a variety of real currencies, including the Czech crown.

Economy of SL is based on the ability of the users to create and offer virtual products. Total

turnover is about USD 30 million per quarter (year 2010 – 2011). Regarding the number of users

of SL, on average there are present around 50 thousand users at every moment and there are

around 700 thousand users logging repeatedly into SL (Second Life, 2011). There are no

structured goals, no duties or quests to perform and residents freely decide what they want to do

in SL. SL can be considered as a specific type of social network, because the most common

reason for entering SL is the possibility to communicate with others. The fact that SL is a

specific type of a social network in a 3D environment makes it ideal for academic use – it is able

to prepare students for entry into the working environment, where, as documented below, the use

of online social networks (or social media) becomes more frequent. The opportunity to use a new

form of modern education was the reason why Philosophical Faculty of Palacký University in

Olomouc entered the virtual world of Second Life. In 2008, Palacký University was the first

Czech university to open its virtual department in SL (Figure 1).

Figure 1: Virtual department of Philosophical Faculty of Palacký University in Second Life, author's image archive

There are seminars, discussions, workshops and conferences held in Second Life. SL and its possibilities of use are also researched by other faculty departments and there have already been processed several theses solving some problematics related to SL. A look into the teaching in SL is shown in Figure 2 (students are concentrated in the group Digital Students).

Figure 2: Teaching in Second Life, author's image archive

Millennials - Social Media Knowledge Workers

At the Philosophical Faculty of Palacký University we realize that we are preparing young

knowledge workers for the current market which is influenced by many factors that are

dynamically changing. These are social, technological, demographic and economic factors. One

of the major characteristics of the contemporary society is the mass use of online social networks

for various purposes. If we refer to social networks on the Internet, it is a combination of a web

hosting service and a dedicated web browser. Social networks enable communication among a

large number of people regardless of their current place of residence. The most popular social

network is Facebook, which is used by a more than a half of the social network users (Van

Belleghem, 2011) and currently has over 750 million active users (Facebook, 2011). For

comparison, a prominent professional social network LinkedIn has more than 100 million

members (Sundberg, 2011).

At the same time we can see the demographic development, which leads to a lack of young talented workers. In 2008, in the European Union countries the fertility rate was 1.6 i.e., a woman during her lifetime delivered 1.6-born child on average. The fertility rate needed to maintain population is 2.1 (Eurostat, 2011). A similar situation as in Europe is in the USA, South America and Asia. The combination of these two factors - the availability of modern communication technologies and the lack of young workers is historically quite unique.

Present time university students in the Czech Republic are mostly 25 years old, which means that they were born around the year 1986 and belong to the so-called Generation Y, which is also known as Millennials or Generation Digital. Generally, the Generation Y includes people born between 1980 - 1995. Students who come to the universities later (they are born after 1995), are successors to Generation Y and as a social group are called Generation Z. Both of these social groups have their own demographic and cultural specifics that need to be taken into account during their education and their employment.

Therefore, the lack of young talented workers is globally considered to be one of the greatest economic threats. This can be proved by a research made by PricewaterhouseCoopers, in which CEOs from around the world reflect on the greatest threats to their business. The lack of talented workers has been featured regularly (see table 1).

Table 1: Deep-going threats to business growth in view of CEOs (PwC, 2011a)

Rank/Year	2008	2009	2010	2011
1.	**Availability of key skills**	Recession, economy	Recession, economy	Recession, economy
2.	Recession, economy	Unstable capital markets	Overregulation	Public deficit
3.	Overregulation	Overregulation	Unstable capital markets	Overregulation

4.	Low-cost competition	Energy costs	Currency volatility	**Availability of key skills**
5.	Energy security	Inflation	Economic imbalances	Increasing tax burden
6.	Scarcity of resources	Low-cost competition	Low-cost competition	Exchange rate volatility
7.	Protectionism	**Availability of key skills**	Energy costs	Unstable capital markets
8.	Security of supply chain	Protectionism	**Availability of key skills**	Shift in consumers
9.	Technology disruption	Security of supply chain	Protectionism	Energy costs

According to the 14th Annual Global CEO Survey, 83 % of CEOs expect the need to change the ways of managing people in response to the changing global environment. Although each local labor market has its unique characteristics, all CEOs agree on the need to focus on motivating and retaining talented workers (PwC, 2011b).

It can be expected that talented young people in the labor market will be highly demanded and this will give them the opportunity to influence the way they work. Generation Y, which has excellent technological capabilities and is accustomed to using networking, will be attracted to companies which use technology for recruitment and for building teams across the world, and to companies which support the sharing and creation of new knowledge (PwC, 2010). On the other hand, nearly all Millennials (98 %) indicate that the most desired employment benefit is training and opportunity for professional development and they consider working with strong coaches and mentors to be the best way of development. In order for these needs to be satisfied, it is necessary to allow face-to-face collaboration at least in the first phase of establishing the relationship between coach and coachee or mentor and the person being mentored (Bendová, 2009). It cannot be expected that there would be an effective personal relationship if it was based

only on virtual communication. It is obvious that finding the optimal balance between face-to-face and virtual collaboration is one of the key factors of competitiveness of companies.

Millennials as a social group

Millennials, who are just entering the job market, bring with them a number of specific characteristics which distinguish them from other demographic groups of workers. Thus, if the companies declare that they compete for young talented workers, it is necessary that they know the specific characteristics of Millennials.

Millennials are undoubtedly still the most technically proficient generation in history (Humle, 2007). They assume that at work they will have constant and immediate access to information, databases and corporate applications, including the possibility to use a mobile hardware to be able to connect to such databases anytime and anywhere. Millennials use flexible working hours as a means to balance the time management of their work and personal life. On the other hand they are also willing to work during non-traditional times and at non-traditional places (e.g. from restaurant in the evening).

Sociologists Howe and Strauss (2000) show that Millennials are ambitious, confident, optimistic and team-oriented. Millennials may appear to be impatient, too confident, emotionally frustrated and longing for praise and recognition during co-operation. Inflexible hierarchy and rigid rules does not suit them. They are looking for work, which they find meaningful. Due to their characteristics mentioned above they require immediate response from leaders on their ideas and they also expect continuous feedback and if possible, frequent praise and recognition. They insist on having the options to combine their work and private life. To a large extent, the boundaries between their private and professional life are blurred. Their lifestyle and flexibility and variety of their work are the most important factors to them. They do not consider flexible

working hours to be a bonus; they expect it to be a basic working condition from the very start of

their work. It is obvious when one considers that from an early age they use the Internet and

mobile Internet, and are used to communicate virtually anytime and anywhere. That is how they

are in contact with friends and family, how they studied and that is how they want to work.

Sometimes a question is raised whether Millennials are Internet and social networking addicts.

To learn more about the Internet activities of young people, we surveyed a small group of

our students in February 2011. These students were participants in our seminars Live in Second

Life and Virtual Work. The aim of the survey was to obtain basic information about Internet use

and the importance of the Internet for our students. Polling results are shown in Table 2.

Table 2: Internet activities of the students

Number of participants: 21
Male/Female: 6/15
Average age: 21
Do you use Internet every day? YES/NO : 21/0
How many hours do you spend using Internet (hours/day)? On average: 4
What are your main activities on the Internet? E-mails, social networking, blog reading (related to the study), chats, information gathering for school work, news reading, books reading (to mention the most common)
What type of hardware do you use to access Internet? 20 notebooks, 1 table PC, sometimes also mobile devices
How long are you able to spend without Internet and still feel comfortable? On average: 1 week
Have you ever think about that people can be Internet addicted? YES/NO: 21/0

Our students are typical Millennials, born around 1990. They use Internet daily for many different purposes which are mostly related to their studies, or just for social networking. They will last about a week without the Internet and they also realize that it can become an addiction. Internet behavior of our students confirms the fact, that while their parents and grandparents prefer face to face contacts, their children / grandchildren are completely satisfied with the social communications on Facebook, LinkedIn, on blogs, on various collaborative applications, chat rooms and chat on Skype, etc.

Studies show that Millennials will use communication technologies in the coming decades in such ways that it will change the existing methods of cooperation and business. According to Symonds (2010), "*They do not just use the new technology that has revolutionized the business over the past decade - they eat, sleep and breathe it.*"

If we are pointing out the fact, that companies have to prepare for new uses of technology due to work demands of Millennials, then we need to strongly remind this necessity in relation to Generation Z. Generation Z consists of children born in the 1995 - 2005 period, this means that in 2011 they are schoolchildren, with some already being high school students. Yet it is good to be already prepared for their entry into the working process. Generation Z are the true Digital Natives since at the time of their birth, Internet was widely available. Lifestyle of Generation Z is speed. The Generation Z processes information very fast and the skills in this direction are unmatched by today's standards (Lyon, 2010).

Generations Z is of course growing up while being connected to social groups on Facebook, Twitter, etc. Meeting and making friends online is perfectly natural for them. They exchange messages with a large number of other Internet users. Generation Z is also extremely open! The only taboo for them is money. This is fundamentally different from their parents, let alone their

grandparents. It seems that the more technically capable a generation is, the less they care about the protection of their privacy. This is a feature that supports the sharing of knowledge, but also endangers trade secrets. The future employers of Generation Z must be aware of this.

While sharing their ideas the Generation Z condenses them into essential nature. This means that Generation Z is expressing in a very economical way, using just 420 characters, which is the maximum that Facebook status update allows and for them, it is already quite a task to fulfill. Generation Z is also not very fond of e-mails, which they consider to be outdated and slow. They prefer short instant messages or social media status updates. Generation Z is developing new ways of creativity, based on cooperation and collaboration. They will surely behave the same way in work and companies must be prepared for this.

Due to their needs and habits of using the Internet applications, the members of Generation Y and potentially Generation Z are often called Social Media Knowledge Workers or Knowledge Workers 2.0 (Bruining and Spenser, 2010). Young talented workers are interested in work, where they can use social networking and other Internet tools that support virtual collaboration within virtual teams. Virtual team is a group of people working together on a joint project across space, time, and companies while using information and communication technologies to communicate with each other (Lipnack and Stamps, 2000). Virtual team members may be located anywhere in the world, come from different cultures and rarely or never meet in person. Virtual work, i.e., work performed with the support of information and communication technologies (computer supported cooperative work), allows organizations to use the best of their knowledge regardless of the geographic location of the wearer.

The use of virtual work and virtual teams is predicted by the research and advisory company Gartner. In the summer of 2010 the company published a prediction of ten changes which in

2020 will change the nature of work. According to the Gartner study (Gartner Newsroom, 2010), 40 % of the work performed in organizations in 2015 will be non-routine and routine operations will be automated. In 2010 the volume of non-routine work was 25%. Non-routine work is knowledge work, consisting of analysis, qualified estimates, inventions, innovations, etc. The work will shift its character more increasingly toward teamwork, workers will not perform well without the ability to communicate and lead, not only in traditional surroundings, but also in virtual environments. If Gartner's predictions are fulfilled, it will mean that knowledge work will resemble the ideas of Millennials, which is positive news for employers.

In 2011, Gartner, followed up by identifying five myths about co-operation (Gartner Newsroom, 2011). This identification is, in terms of virtual work, very important as it highlights some of the mistakes committed by leaders of IT, i.e., those same people who are responsible for support of virtual work. They tend to see technology as an essential element of successful cooperation, but forget other factors, such as defining staff roles, process definitions, identification of performance indicators and care for the working climate.

Preparing students for virtual work

As it is clear from the above mentioned facts, the use of social networks and virtual environments for work is a growing trend all around the world. This strengthens our intention to prepare students for virtual work in virtual teams during their studies. For teaching, we chose Second Life because it is a free and publicly accessible application (we carry only the relatively low costs associated with purchasing and managing of our virtual department) and it offers suitable conditions and tools for socialization, education, developing relationships, organizing meetings and conferences and also offers possible space for business opportunities. We focus on all these areas in our seminars Live in Second Life and Virtual Work.

Seminar Live in Second Life

The course Live in Second Life is teaching the basics of SL controls. In this course, students also learn to work with Sloodle application (Simulation Linked Object Oriented Dynamic Learning Environment). There is also a presentation component used in which students represent themselves, and then present interesting places in Second Life, which are then visited by the study group. The course is not only teaching the basics of life in SL, but it also prepares students for various uses of SL - from education to entrepreneurship and including preparation and implementation of virtual presentations.

In the seminar Live in Second Life a testing of students in form of a Quiz Chair was used which was then followed by a survey that asked the students about their opinion about such way of testing. A group of 19 students was tested on the subject of business English. A multiple choice type of the test was used, where students had to add missing vocabulary into sentences. Sloodle Quiz Chair tool was used which lets students' avatars sit on a virtual chair and based on their answers they either rise or fall down. As an additional task for students, they were assigned a task to find information on a given theme in the SL and write reports in English, which they inserted into Moodle. Working in an environment other than SL and LMS Moodle was not the subject of assignment. In the follow-up questionnaire almost three quarters of students (74 %) stated that testing via SL and Moodle is able to evaluate writing skills in a foreign language, and two students also pointed out that it is very easy to cheat; they can find the correct answers on the Internet. About half of the students had the feeling that the testing and competing was going fast, when they saw their colleagues rising or falling on Quiz Chairs, but a third of the students said that they experienced unpleasant feelings as well. This survey shows that testing in SL in comparison with traditional methods of testing can be more competitive in nature and students

can feel more stressed. Also, testing in SL shows the difference between the meaning of having

the tested knowledge and correctly using it and obtaining the tested knowledge and using it

properly. If companies use virtual testing methods for applicants or employees, they have to

determine the goals and methods of testing very carefully.

Virtual Work Research Seminar

Virtual Work Research Seminar focuses on research in the field of virtual teams with an

emphasis on virtual teambuilding. Research seminars are prepared by a three-member research

team, which also meets in a virtual environment of SL (the members are independent of their

geographical location). The team members are experts in the field of economics and

management, psychology and one member is a technical expert on environment of SL. The

technical expert especially consults suggestions of virtual activities in terms of technical

feasibility in SL and helps participants with technical problems during seminars. The role of

experts in management and psychology is evident in team management and in creating

suggestions for teambuilding activities. The psychologist also proposes a research methodology

of team dynamics and group atmosphere. Examined team consists of a group of about ten

students.

The most important factors in SL activities are possible ways of communication. In SL you

can communicate verbally and in writing (voice chat, written chat). According to our experience

with the students, written chat (in short chat) is more popular among the users and is used more

often than voice chat. Voice chat is relatively unreliable, has a delay and is often interrupted and

if the participants do not use a closed discussion group, which takes time to create and requires

conference administrator, it can be heard by all the present users. Our course participants also

reported in focus groups which are held at the end of each course that they rather use written chat

during some types of activities due to its ability to store whole conversations and that they can analyze the steps they made, the data and all needed information.

The research team typically uses voice communication. This is possible due to its members having sufficiently powerful computers and that if fewer people are meeting in one place in SL there are less problems with voice chat, but if there is a concentration of multiple avatars in one place, the voice communication fails. In addition to team meetings in SL, where detailed plans for seminar blocks are discussed, the team also uses shared documents (specifically googledocs), which all three members have the right to edit. These documents record the suggestions of programs, technical comments, schedules, etc. The final version of the document serves as a basis for the management of the seminar block.

Realization of the seminars

Seminars generally have the following structure

– Filling in the entry questionnaire focusing on the group atmosphere

– Establishment of communication

– Simple activity – form of an ice breaker / warm-up game

– Long cooperative game

– Feedback, game analysis

– Entering the instructions / tasks for the next seminar

– Filling in the final questionnaire focused on the group atmosphere

Students can login to seminars from any place, where they have the adequate equipment. Faculty offers such equipment in computer classrooms, and students use this option most of the

time. The members of the research team are also logged in, either from home or computer

classroom. At the beginning of the seminar block it always takes quite a long time before all the

present students and researchers will log in and are able to communicate with each other. After

almost three years of research seminars, we know that the average time, needed by all

participants for connecting, and setting up chats in a closed working group, is 20 minutes. It is

yet to be determined why is this happening – we attribute part of the problems to the state of

computers in public classrooms (despite the guaranteed service), but the major problem is the

instability of the SL environment, when more people are present at one place. Students in some

parts of the seminars preferred written communication. The establishment of mutual

communication is followed by a short activity which is very important at the beginning of the

semester as it helps students to get to know each other. It will also prepare the group for the

following key activity. These are short activities such as icebreaker and warm-up games, but

these games have to be realizable in the environment of SL. During the semester, these activities

are replaced by short student presentations on a given topic. Students receive group tasks outside

of the mandatory seminars in order to get accustomed to working in SL, and then they show all

the other participants the fulfillment of their tasks at the beginning of the seminar blocks.

The main focus of the seminar block is a larger strategic game, which supports teamwork

and team development. The students either perform a collective task, or are divided into 2 to 3

groups to compete with each other. The given task cannot be completed without mutual

communication and cooperation. Creation of cooperative games for the environment of SL is yet

again influenced by the technical capabilities of the virtual world. It is imperative to realize that

in the world of SL, it is impossible to work with a normal object, like a rope is, but the team can

create virtually unlimited variety of objects, buildings, images, etc. Preparation of the games, so

that they contain all the elements supporting the development of teamwork, while being

realizable even for players who do not have a broad experience with virtual worlds, is one of the

most challenging tasks for the research team. The structure of seminars and the proposed

activities respect the rules of experiential education. Activities are designed with regard to the

well-known Kolb's learning cycle (Kolb, 1984), consisting of four phases (Figure 3):

1. CE (concrete experience) – The immediate experience from the particular situation

2. RO (reflective observation) – reverse observation, looking back and reflection –
perception of everything that happened

3. AC (Abstract conceptualization) - conversion of the acquired knowledge into abstract
concepts and creation of assumptions, understanding the context

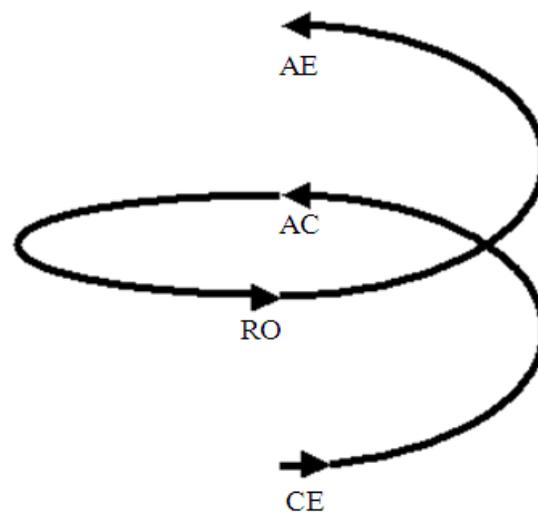4. AE (active experimentation) - testing of created hypotheses in new situations, planning

Figure 3: Kolb's learning cycle, author's illustration

After the game, the research team (especially the psychologist) will lead a feedback interview with the group. In the interview, students express their views, experiences and define how in the future the team could improve team communication and collaboration. Members of the research team then share their observations with the students and evaluate their performance.

At the beginning and at the end of every seminar block, the group atmosphere is diagnosed by using standardized questionnaires, which are completed by all course participants. Thanks to the results from the survey, it is possible to monitor the changes in a group atmosphere (e.g. in areas such as trust, cooperation, communication, etc.) after every seminary block, but also between other seminary blocks. At the very end of the seminar students are given instructions and tasks for the next seminar block.

Seminar block Virtual Work - a case study

In the following study we focus on the specific content of one of the seminar blocks. These games are suitable for inclusion in the seminars during the second half of the semester, when the participating groups know each other, i.e., they know each other at least within the SL environment.

Introductory communication game: Place at my right hand is free

Principle of the game: All players sit in a circle and one place remains empty. The player sitting at the left of the empty space begins the game by saying: "The place at my right hand is empty, I want ... (someone) to sit there because ..." (and the player states the reason for their choice). The selected person will then move to the empty space. The game continues when the player, who is now sitting at the left of the new empty space, says: "The place at my right hand is empty, I want ... (someone) to sit there because ..." etc.

The goal of this game is mutual understanding and self-discovery of players. In SL, however, the implementation of this game is linked with other aspects than in the real world. Creating a circle with avatars in SL is not easy, so even the activity "Create a circle!" can be a difficult task. Since the avatars in SL will not be able to create and maintain a regular circle, it would be impossible to know, where exactly the empty space is. The assignment strictly says that the avatars have to be seated - they could sit directly on the ground, but we must remember the need to determine where the empty space is. It is preferable that each avatar creates their own seat and one extra seat will be created by the technical expert. Students were instructed to create a cube with a specific size. It is relatively simple to create a cube which anyone can sit on. Our technical expert gave the students precise instructions for creating their cubes. Another requirement was to organize the cubes to form a circle. Students were then asked to sit on the cubes. During this activity the group must also communicate and the chaos can be sometimes funny but also very confusing. The last technical difficulty, which was raised by the technical expert, is the fact that not everyone always manages to sit on the cube as intended, i.e., facing into the center of the circle, but sometimes the avatar happens to be facing the other side. Therefore, it was necessary to formulate a rule that would determine the right and left sides for the avatars – it was decided that the view from outside into the circle's center determined the direction (and not the orientation of the seated avatar).

Strategic game: Proverbs

Czech is a language rich with proverbs. And because the Czechs also have the tendency to make fun of many things, they convert proverbs which are traditionally formulated as a folk wisdom into scientific language. For example, the saying "He who has enough to eat does not

believe the one who does not" can be scientifically phrased as "Transfer of information from an individual with a caloric deficit to an individual with caloric need already saturated is blocked."

Using a database of such scientifically formulated proverbs (Známá česká přísloví, 2011), we created a strategy game in SL. This game can be played anywhere on the beach. For this game we have created a set of twelve small cubes, which contain notecards with scientifically formulated proverbs. Notecard is visible after clicking on the cube. At the selected site in SL, the game organizers arrange complex objects, houses, plants, etc. They hide the cubes with proverbs into these objects. Students are then divided into two competing groups; the ideal group size is 5 to 6 players. The task for the groups is to find as many cubes with proverbs as possible in a given time limit. Cubes cannot be moved from their original places and students also have to convert scientifically formulated proverbs into the traditional Czech form. Identified proverbs must be then written down on their own notecards, and these new notecards must be sent to the organizer of the game. The group, that hands in more of the correctly identified proverbs, wins. Students are looking for the cubes with proverbs, where one of them is behind the window (Figure 3).

This game is always very entertaining for most of our students. It is obvious that it places heavy demands on communication and coordination within the groups. The results vary differently depending on the groups. After the game we perform an analysis with the students, to show them what strategy was successful, and where they made mistakes or did not proceed efficiently.

Figure 3: The Proverb game, author's image archive

Other courses and activities led by Philosophical Faculty of Palacký University using SL

Department of Psychology at the Philosophical Faculty of Palacký University launched a distance learning course in SL focused on traffic psychology in 2010. Department of Romance studies made use of SL for teaching of the subject called Special language, while the teacher was working abroad. Sloodle together with SL and Moodle was at the time used as the main teaching channel.

Department of Applied Economics at Philosophical Faculty of Palacký University organizes an annual international conference called Knowledge for Market Use. Since 2009 this conference has its virtual section, set in the virtual headquarters of Philosophical Faculty in SL. That means that in 2010 Dr. Kurt David Herold was able to attend the conference despite being located in Hong Kong during that time. It is interesting to note, that it was midnight in Hong Kong during

the lecture of Dr. Harold. This shows one of the disadvantages of virtual meetings - problem with different time zones.

Several theses dealing with SL and its problematics were written by students and academics. Theses address topics such as use of Simulation Linked Object Oriented Dynamic Learning Environment (Sloodle), use of SL for teaching of foreign languages, business opportunities in SL and marketing communications in SL. Due to a plan which involves the use of SL for teaching, conferences and business practices for students, the theses, which are publicly available in Czech Republic, will have a practical use.

SWOT analysis of academic use of SL at Philosophical Faculty of Palacký University

After three years of virtual life at Philosophical Faculty of Palacký University we see a number of advantages and disadvantages of Second Life for academic purposes. We refer to academic use of SL as a way of research and teaching within the university. We also prepare students for the economic environment, influenced by all the above specified developmental trends and changes. We present the basic factors in a SWOT analysis, which includes suggested strategies which strengthen the positive aspects and weaken the negative aspects of the activities in SL.

		External	
SWOT analysis of academic use of SL		**Opportunities** • Free entry into SL • Low cost of establishing and operating a virtual department • SL can be used for numerous academic and business activities • Preparation of the students for the practical use of virtual work and collaboration	**Threats** • Equipment of the participants with computers/ notebooks with the necessary configuration • The time required to manage virtual environment • Technical problems, instability of the environment
Internal	**Strengths** • Creation of teams regardless of the physical location of members • Low cost of implementation of activities in comparison with traditional methods • Simulation and experiments have no serious consequences and financial losses in case of failure • Participants are enjoying the activities	Entry of organization into SL is appropriate only after a complex consideration of all the activities that an organization can realize in SL. Virtual work will allow the company to develop and assemble teams of experts, without considering the physical location and movement of individual members. Workers with prerequisites for a virtual work will engage in work quickly and the team will successfully develop.	Combine virtual work with the use of real workplaces. Prepare effective training and activities to accelerate the entry of staff / students into SL, including creation of manuals. Prepare alternative strategies for different types of failures in SL, familiarize participants with these activities and ensure an easy transition for them when a specific problem occurs. Provide technical support for the users of SL (specialist – a technical expert).
	Weaknesses • SL is a publicly accessible environment, there is a threat of disposal of know-how, or disruption of activities • Some people refuse to use SL and similar applications, virtual communication does not suit them well, technical requirements are too demanding for them	With expenditure of additional resources it is possible to create on-demand environment, which is closed to the public. The members of virtual teams have to be carefully chosen – their relation to technologies and virtual environments has to be verified	Thoroughly link the use of SL with organizational security policies, including teaching the participants about possible security threats. Repeatedly verify participants' satisfaction with virtual activities and react immediately to any occurring problems. Add the work in a virtual environment to the educational plan.

Discussion

Given the current demographic and technological developments, as well as expected trends in the work environment, it is essential that graduates who are typical representatives of the Social Media Knowledge Workers are prepared for virtual work and collaboration. Students are naturally accustomed to the use of social networks such as Facebook, but for successful management of virtual work, it is necessary that they learn the principles distinguishing the working and private networking. Since individual work is heavily shifting toward team work, we consider that it is necessary that students learn to collaborate on a virtual level. For that we use a range of activities - either direct use of virtual teambuilding or a variety of group assignments.

After three years of use of SL, we can say that students are interested in studying in this environment; the courses are always full. Even during these three years we see that it is becoming gradually easier for the students to handle SL. We believe that it is because younger students have more experience with other Internet applications, such as playing Massive Multiplayer Online Role-Playing Games. However, it is necessary for the students to realize that the course will take place in SL and they should prepare in advance and preferably have their avatar created beforehand. To be able to do this, our students have a computerized instructions and links to pages with various tutorials about SL. It is also true that the SL environment is being progressively perfected. SL is suitable for us thanks to its availability and low cost. The virtual department of Palacký University in SL is for us, of course, an important symbol and a place where we meet at the beginning of seminars. Nevertheless, for most of our activities, we tend to use other locations in SL because of the diversity that this virtual world offers. But for some courses, such as language teaching, the virtual department is more than suitable. Another advantage of owning a space in SL is the possibility of closure to the public. We try to do most

of our activities in public (for promotional reasons) and we do not mind other avatars watching us work. We are also happy to explain who we are and what we do. Unfortunately, one of the disadvantages of SL is that some avatars tend to harass the others. We have experience with highly aggressive behavior of avatars, who attacked our students – there is no other option than closing the area for public.

Therefore, all our students and colleagues are associated in a group called Digital Students. Avatars that are not in the Digital Students group are not allowed to enter the space which is owned by Palacký University. During the course students will become aware of the strengths and weaknesses of the SL. We have already talked about the technical problems that occur in the SL. Different server failures and region restarts can be very unpleasant while working in SL, but in these cases we tell our students that we do not present SL as an ideal environment, but as an environment with its advantages and disadvantages. The major advantage of SL is the accessibility - it is a place where teachers and students can meet even in cases where one of them is far away from the real university. However, with regard to the possible technical failures that may occur in SL, we have set a rule for how long we will try to restore contact in SL. The seminar is ended, if the reconnection lasts longer than the pre-agreed period.

Another advantage of teaching in SL is the possible research of the participants and application of the gained knowledge in management of virtual work and virtual teams. It creates opportunities for collaboration with business subjects. In the future we want to focus on the expansion of separate student activities in the environment of SL. We teach economics at the Department of Applied Economics and students should ideally acquire the business practice as well. Realistically this is not quite possible, because, in addition to the legal issues, we would have to ensure the entry of capital. This barrier practically does not exist in SL, and therefore, in

2012, students will have the opportunity to try separate entrepreneurship in SL without the risk of loss, but with opportunities for success. The usage of SL for academic activities is still a great adventure for teachers as well as for students. But we are convinced that we are all learning, so that we will be prepared for all the predicted changes.

References

Bendová, K. (2009). Možnosti vzdělávání ve virtuálním prostředí. In Sborník z konference

    Psychologické dny 2009 na téma Prameny psychológie v europskom priestore. (pp. 368 -

    371). Bratislava: Slovenská psychologická spoločnosť pro SAV.

Bonabeau, E. (2009). Decisions 2.0: The Power of Collective Inteligence. *MIT Sloan Mangement*

    Review. Guest edition. Retrieved from http://sloanreview.mit.edu/the-magazine/2009-

    winter/50211/decisions-20-the-power-of-collective-intelligence

Bruining, J. W., & Spenser, H. (2008). The social media knowledge workers. Retrieved from

    http://www.slideshare.net/hansslender/the-social-media-knowledge-worker

Doculabs. (2010). Social computing and Collaboration for the Enterprise: Enabling Knowledge

    Workers Productivity. A Doculabs White Paper. Retrieved from

    http://69.89.31.183/~doculabs/wp-content/uploads/downloads/2010/04/A-Doculabs-

    White-Paper-Social-Computing-and-Collaboration-for-the-Enterprise.pdf

Eurostat. (2011). Total Fertility Rate. Retrieved from http://epp.eurostat.ec.europa.eu/

    tgm/table.do?tab=table&init=1&language=en&pcode=tsdde220&plugin=0

Facebook. (2011). Statistics. Retrieved from http://www.facebook.com/ press/info.php?statistics

Gartner Newsroom. (2010). Gartner Says the World of Work Will Witness 10 Changes During

    the Next 10 Years. Retrieved from http://www.gartner.com/ it/page.jsp?id=1416513

Gartner Newsroom. (2011). Gartner Identifies Five Collaboration Myths. Retrieved from

    http://www.gartner.com/it/page.jsp?id=1711814

Howe, N., & Strauss, W. (2000). Millennials rising: The next great generation. New York:

    Vintage.

Humble Hodges, L. (2007). Preparing for Generation Y: Welcoming Generation Y to the

workplace. Retrieved from http://human-resources-

management.suite101.com/article.cfm/whats_up_with_y

Kolb, D. A. (1984). Experiential Learning: Experience as the Source of Learning and

Development. Englewood Cliffs, N. J.: Prentice-Hall, Inc.

Lipnack, J., & Stamps, J. (2000). *Virtual teams: People working across boundaries with

technology*. 2nd ed. New York: Wiley.

Lyon, E. (2009). Entrepreneur Spotlight: Ryan Paugh from Brazen Careerist. Retrieved from

http://sparxoo.com/2009/11/17/entrepreneur-ryan-paugh-brazen-careerist

Lyon, E. (2010). Examining Generation Z: Stats, Demographics, Segments, Predictions.

Retrieved from http://sparxoo.com/2010/02/23/examining-generation-z-stats-

demographics-segments-predictions/

PwC. (2010). Talent Mobility 2020. Retrieved from http://www.pwc.com/gx/en/managing-

tomorrows-people/future-of-work/pdf/talent-mobility-2020.pdf

PwC. (2011a). 14th Annual Global CEO Survey. Growth Reimagined. Retrieved from

www.pwc.com/ceosurvey

PwC. (2011b). Managing tomorrow's people. Millennials at work: Perspectives from a new

generation. Retrieved from http://www.pwc.com/gx/en/managing-tomorrows-

people/future-of-work/pdf/mtp-millennials-at-work.pdf

Second Life. (2011). Featured News.Q1 2011 Linden Dollar Economy Metrics Up, Users and

Usage Unchanged. Retrieved from http://community.secondlife.com/t5/Featured-

News/Q1-2011-Linden-Dollar-Economy-Metrics-Up-Users-and-Usage/ba-p/856693

Sundberg, J. (2011). LinkedIn Global Demographics and Statistics. Retrieved from

http://www.linkedin.com/groups/LinkedIn-Global-Demographics-Statistics-2011-

1245667.S.43964739)

Symonds, M. (2010, January 21). Business schools beware: Gen Y is at the door. *Bloomberg*

Business Week. Retrieved from

http://www.businessweek.com/bschools/content/jan2010/bs20100121_624849.htm

Van Belleghem, S. (2011). Social Media around the World. Retrieved from

http://www.slideshare.net/stevenvanbelleghem/social-networks-around-the-world-2010

Známá česká přísloví. (2011). Retrieved from http://www.pixy.cz/osobni/prisl.html