WEB 2.0 USAGE PREFERENCES AND ATTITUDES AMONG THE UNDERGRADUATE
STUDENTS AND TEACHERS IN RUSSIAN AND UZBEK MEDICAL SCHOOLS

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Abstract

Although usage of Web 2.0 has expanded dramatically among Russian and Uzbek postsecondary students, little is known about medical students and teachers preferences and attitudes toward Web 2.0 use as a learning tool.

Objectives: To assess the usage of Web 2.0 applications by teachers and students in Russian and Uzbek medical schools; to examine their perceptions toward use of these tools in curriculum.

Methods: A paper-based survey was administered among undergraduate medical students and teachers at two Russian and one Uzbek medical schools. Responses were received from 184 students and 69 teachers (response rate 92% for students and 69% for teachers) and analysed using descriptive statistics.

Results and conclusion: medical students actively used Web 2.0 tools for personal purposes, preferred to receive learning materials through the Internet, and were positive toward using those applications in learning. Their teachers however used Web 2.0 tools seldom and preferred traditional teaching format.

Key words: e-learning, medical education, Internet use, Web 2.0

BACKGROUND

Modern medical education is impossible without use of Internet resources and strong computer skills of students and teachers. Essential to the modern medicine active student-centered learning requires further development of the educational resources such as web 2.0 applications, simulators, virtual patients and games. This will allow students actively participate in the learning process, increases their motivation, and improves the quality of their study. Today Web 2.0 tools are widely used in many medical schools around the world (Cheston C. C., Flickinger T. E., Chisolm M. S., 2013, 22).

Until recently, face-to-face classroom format was considered the only appropriate way to teach medicine in Russia and Uzbekistan. Last fifteen years, however, marked the fast development of e-learning in the medical schools of those countries that has changed the whole concept of the medical education.

Data shows that most of Russian postsecondary students have strong computer skills and are proficient in Internet use and Web 2.0 use in particular. Pestrjakova (2012) states that up to 96% of Russian young people have profiles in the social networks. According to the report “Russian Internet” by OAO “NITs “Economika” (2012), more than 43.6 millions of Russian people use social media. Chumakova (2011) states that the most popular Russian network “V Kontakte” has more than 30 million Russian visitors in a year, “Odnoklassniki” - 22 million, and “Facebook” – 13 million people yearly. These data shows some opportunities to use Web 2.0 applications in the medical education.
The use of Web 2.0 application is Russian medical schools have not been researched. There are very few publications on this topic describing the use of some electronic courses in curriculum (Sattarova O.E., 2012).

The aim of this research was to investigate the use of Web 2.0 applications among medical students and teachers in Russian and Uzbek medical schools, to research their attitudes toward e-learning and preferences in use e-learning format in curricula.

CHARACTERISTICS OF THE PARTICIPATING INSTITUTIONS

The Bukhara State Medical Institute (BGMI)

The Republic of Uzbekistan uses 7 years system of the postsecondary medical education with two years of residency afterwards. Although blended method is permitted in medical education, the Institute uses face-to-face teaching format for all undergraduate students. Some continuous professional learning (CPL) online courses are available for the Uzbek medical doctors through the Tashkent’s (the capital of the country) and Russian educational web sites. No free wi-fi is provided at the BGMI. Due to limited access to computers and the Internet, the access to the social networks is unavailable from the institution.

The Krasnoyarsk State Medical University (KrasGMU)

Russian Federation uses 6 years system of the postsecondary medical education and two or three years of residency. Distance learning and blended method are permitted at some courses and programs in undergraduate and postgraduate education, as well as at residency and CPL.

The KrasGMU has used distance learning and blended method in its curricula since 2007. At the present time, more than 200 online and blended courses on the Moodle platform are taught. Free wi-fi is available on campus. The access to the social networks from the University’s computers is prohibited.

The Urals State Medical University (USMU)

The USMU have used some distance learning and blended courses since 2004. For now 15 blended courses for the CPL students, two distance courses and 120 blended courses for the undergraduate students are taught. The locally developed platform SixSoft is used in teaching. The University actively works on collaborative CPL projects together with the Bukhara State Medical Institute. No free wi-fi is provided. The access to the social networks from the University’s computers is very limited.

METHODS

A pilot study was conducted at the three participating institutions. To collect the data, a 24 multiple choice questions survey was developed.

The necessary permissions to conduct the study was obtained from the administrative staff members responsible for the ethic and research planning of all the participating institutions.

The survey was piloted and discussed with a small group of the students and teachers at each institution, and needed modifications were made afterwards. Due to limited Internet access at the Bukhara State Medical Institute, as well as due to possible lack of experience in the work with the Internet among some students and teachers, the questionnaire was delivered in paper format.

The questionnaire was sent to convenience sample of 200 undergraduate medical students and 100 teachers across three medical schools. Data on demographic information, the Web 2.0 applications use, preferences and attitudes toward e-learning and toward using it in curriculum, as well as attitudes toward social media as a learning tool were collected and analysed using descriptive statistic. No personal information was collected.
RESULTS

Demographic information

Responses were obtained from 69 teachers (response rate 69%), and 184 students from first to sixth / seventh years of study (response rate 92%).

Among the teachers, 42.2% taught in clinical settings, and 57.8% worked only in classrooms (basic sciences, social sciences, and other preclinical programs). All the teachers taught undergraduate students, as well as the residents and CPL students. Most of teachers (30.7%) were from 31 to 35 years old, however, in Bukhara 68% teachers were from 25 to 35 years old, in Ekaterinburg, 45% teachers were younger than 36 years old, and in Krasnoyarsk, only 25% teachers were younger than 36 years old. 35% of the teachers were men, 65% women.

The students were from first to sixth year of studying in Russia (19-23 years old), and from first to sixth years of studying in Uzbekistan (19-25 years old). Among them, 43% were men, 57% women.

These data correspond to the general age and gender distribution in the participating medical schools.

Attitudes and preferences toward e-learning

In BGMI, neither teachers, nor students had any experience in teaching and learning online. In USMU, 21% of teachers taught online, and 79% did not. In KrasGMU, 43% teachers taught online, and 57% did not. Most of teachers, regardless on that experience, had positive attitude toward e-learning in general (BGMI – 84%, USMU - 75%, and KrasGMU - 87%). When asked if they wanted to teach online, 98% of BGMI teachers, 81% of USMU teachers, and 69% of KrasGMU teachers gave a positive answer. 96% of the BGMI students, but only 45% of the USMU and KrasGMU students wanted to study online.

Web 2.0 applications’ use preferences

According to the report “Russian Internet” by OAO “NITs “Economika” (2012), the most popular social networking platforms in Russia in 2012 were “V Kontakte,” “Moj Mir,” and “Odnoklassniki.” According to Smonews.ru (2011), the first three places in this list belong to “V Kontakte,” “Odnoklassniki,” and “Facebook.”

After literature search, four Uzbek social networks were found, but there were no data available on their use and popularity. Preliminary discussion showed that medical students and teachers at BGMI used only Russian social networks and there was no language barrier in networking communication. The only specific Uzbek social network used in BGMI was Odnoklassniki.uz (a derivate from the Russian network Odnoklassniki.ru) but neither students nor teachers separated those two platforms. According to this, Odnoklassniki.uz was added to the Uzbek questionnaire, and two networks (.ru and .uz) were combined.

Using these data, seven most popular social networks were listed in the questionnaire:

International networks: “Facebook,” “LinkedIn.”

An answer “Other networks” was also available.

In addition to it, the use of the microblogging site Twitter, video sharing site YouTube, applications for videoconferencing, discussion groups, professional medical networks, Wikipedia, and the application for the mobile devices were explored.

The tables 1-3 and the graphs 1-3 show the teachers’ and students’ knowledge and frequency of use of Web 2.0 applications. On 5-point scale, the respondents were asked how well they knew listed Web 2.0 applications and how often they visited their favourite Web 2.0 sites.
Graph 1. The knowledge of Web 2.0 application at the Bukhara State Medical Institute (three most known social networks)

*Although most e-mail services provide video call tools, Skype is the most popular and often the only known program for the videoconferences in Russia as well as in Uzbekistan.

Graph 2. The knowledge of Web 2.0 applications at the Ural State Medical University (three most known social networks)
Social media tools were the most popular Web 2.0 applications among both students and teachers. Other Web 2.0 applications, such as Wikipedia, YouTube, and professional networks were much less known and used more seldom.

The graphs show better knowledge of Web 2.0 applications among Russian medical students and teachers than among students and teachers at BGMI. Among all the participants, the students knew more social networking sites and other Web 2.0 applications than teachers. Russian medical students preferred the network “V Kontakte,” but their teachers knew “Odnoklassniki” more. Interestingly that the network “Facebook” was the second well known among the Uzbek students but not very familiar to the Russian medical students.

Medical teachers and students knew programs for the video calls (Skype) very well, excluding BGMI where most students were unfamiliar with this application.

Professional networking sites were familiar to most medical teachers, especially at BGMI, but the students knew them much less.
Table 1. Frequency of the Web 2.0 applications use at the Bukhara State Medical Institute (three most known social networks)

<table>
<thead>
<tr>
<th>Application</th>
<th>More than once a day</th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odnoklassniki (ru+uz)</td>
<td>0%</td>
<td>0%</td>
<td>24%</td>
<td>16%</td>
<td>60%</td>
<td>0%</td>
</tr>
<tr>
<td>Moy Mir</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>36%</td>
<td>60%</td>
</tr>
<tr>
<td>Facebook</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>20%</td>
<td>76%</td>
<td>4%</td>
</tr>
<tr>
<td>Skype</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>68%</td>
<td>20%</td>
<td>8%</td>
</tr>
<tr>
<td>Professional networks</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
<td>84%</td>
</tr>
</tbody>
</table>

Table 2. Frequency of the Web 2.0 applications use at the Ural State Medical University (three most known social networks)

<table>
<thead>
<tr>
<th>Application</th>
<th>More than once a day</th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>VKontakte</td>
<td>14%</td>
<td>36%</td>
<td>14%</td>
<td>5%</td>
<td>0%</td>
<td>32%</td>
</tr>
<tr>
<td>YouTube</td>
<td>5%</td>
<td>30%</td>
<td>35%</td>
<td>5%</td>
<td>5%</td>
<td>20%</td>
</tr>
<tr>
<td>Odnoklassniki</td>
<td>13%</td>
<td>13%</td>
<td>21%</td>
<td>17%</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Skype</td>
<td>14%</td>
<td>36%</td>
<td>14%</td>
<td>5%</td>
<td>0%</td>
<td>32%</td>
</tr>
<tr>
<td>Professional networks</td>
<td>5%</td>
<td>30%</td>
<td>35%</td>
<td>5%</td>
<td>5%</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application</th>
<th>More than once a day</th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>VKontakte</td>
<td>6%</td>
<td>41%</td>
<td>12%</td>
<td>6%</td>
<td>6%</td>
<td>29%</td>
</tr>
<tr>
<td>Odnoklassniki</td>
<td>18%</td>
<td>24%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>24%</td>
</tr>
<tr>
<td>Moy Mir</td>
<td>0%</td>
<td>19%</td>
<td>6%</td>
<td>13%</td>
<td>13%</td>
<td>50%</td>
</tr>
<tr>
<td>Skype</td>
<td>7%</td>
<td>0%</td>
<td>7%</td>
<td>29%</td>
<td>7%</td>
<td>50%</td>
</tr>
<tr>
<td>Professional networks</td>
<td>0%</td>
<td>0%</td>
<td>7%</td>
<td>7%</td>
<td>0%</td>
<td>86%</td>
</tr>
</tbody>
</table>
Table 3. Frequency of the Web 2.0 applications use at the Krasnoyarsk State Medical University (three most known social networks)

<table>
<thead>
<tr>
<th>Application</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More than once a day</td>
<td>Daily</td>
<td>Weekly</td>
<td>Monthly</td>
<td>Rarely</td>
<td>Never</td>
<td>More than once a day</td>
<td>Daily</td>
<td>Weekly</td>
<td>Monthly</td>
</tr>
<tr>
<td>VKontakte</td>
<td>14%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>29%</td>
<td>36%</td>
<td>50%</td>
<td>35%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>YouTube</td>
<td>8%</td>
<td>15%</td>
<td>0%</td>
<td>31%</td>
<td>23%</td>
<td>23%</td>
<td>35%</td>
<td>13%</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>Odnoklassniki</td>
<td>0%</td>
<td>7%</td>
<td>14%</td>
<td>7%</td>
<td>21%</td>
<td>50%</td>
<td>10%</td>
<td>3%</td>
<td>23%</td>
<td>10%</td>
</tr>
<tr>
<td>Skype</td>
<td>7%</td>
<td>20%</td>
<td>27%</td>
<td>7%</td>
<td>13%</td>
<td>27%</td>
<td>14%</td>
<td>19%</td>
<td>52%</td>
<td>5%</td>
</tr>
<tr>
<td>Professional networks</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>33%</td>
<td>0%</td>
<td>42%</td>
<td>5%</td>
<td>5%</td>
<td>16%</td>
<td>5%</td>
</tr>
</tbody>
</table>

The data on frequency of Web 2.0 applications usage revealed a big difference between students and teachers. Most students visited their favourite social networks at least daily, but the teachers used the networking sites mostly once a week or less. Students and teachers of BGMI used their preferable web sites more seldom that in Russian medical schools.

Due to absence of Web 2.0 applications in the curricula and the limited access to them from the institutions’ computers, the terms “use for work” and “use for study” included all the activities connected to work/study, such as information search, sharing, collaboration, and informal discussions using the Web 2.0 tools in their spare time outside of their work places.

Both students and teachers of Russian medical schools preferred to use social networks and other web 2.0 applications for the personal purposes (see Table 4). The students at BGMI, however, used the social networks mostly for study.
Table 4. Purpose of Web 2.0 use among teachers and students of the participating institutions

<table>
<thead>
<tr>
<th>PURPOSE OF WEB 2.0 APPLICATIONS’ USE</th>
<th>Teachers</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>BGMI</td>
<td>USMU</td>
<td>KrasGMU</td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>100%</td>
<td>60.9%</td>
<td>56.3%</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>0%</td>
<td>39.1%</td>
<td>43.7%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Purpose</th>
<th>BGMI</th>
<th>USMU</th>
<th>KrasGMU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>32%</td>
<td>62%</td>
<td>79.7%</td>
</tr>
<tr>
<td>Study</td>
<td>68%</td>
<td>38%</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

Among the reasons not to use the social media for work/study most teachers named lack of time (43.8%) and information protection concerns (24.5%). 33.3% of the USMU teachers and 42.8% of KrasGMU teachers did not see a need to use the Web 2.0 tools in the curricula. None of the BGMI teachers, however, responded that way, but 12% of them thought that personal networking would distract them from their work.

Interestingly enough that both students and teachers did not mind discussing the work/study related questions in social networks.

Knowing wide use of Internet resources for personal purposes, we checked the students’ preferences and attitudes toward receiving course’s materials and announcements through the Internet (Graphs 4-9).

The students were asked two questions: “How do you receive your course materials / announcements?” and “How do you prefer to receive your course materials / announcements?”
Graph 4. Students’ preferences for receiving course materials (BGMU)

Graph 5. Students’ preferences for receiving announcements and course information (BGMU)
Graph 6. Students’ preferences for receiving course materials (UGMU)

Graph 7. Students’ preferences for receiving announcements and course information (UGMU)

*Instant messaging and Videoconferences were not chosen by the participants*
The analysed data show that the students receive their course materials mostly face-to-face (in classrooms during the lectures and seminars, and in clinical settings) and in print (textbooks and handouts). In Russian medical schools, the educational web sites and e-mails were widely used for that.
purpose. Other formats, like video conferences, CDs, mobile applications, and social networks, were used very seldom. The students’ preferences differed from the school to school but mostly coincided with those of the teachers. At BGMU, on the other hand, students wanted their courses materials to be delivered in different formats (online, mobile devices, video calls) but were given mostly face-to-face and print choice.

In receiving the announcements and other information about their courses, the students inclined toward web sites, e-mail, mobile devices, and video calls. In real settings, the announcements were given mostly through the web sites, face-to-face, and in print.

CONCLUSION

The data show that medical students and teachers had positive attitude toward e-learning in general and wanted to teach and study online. The students were familiar with many Web 2.0 applications and actively used them, which can make the integration of new technology into curriculum easier.

On the other hand, medical teachers knew fewer social networking sites and used them less actively than students, although they were much more familiar with the professional networks and video call programs.

It corresponds with data that students are inclined toward using more technology in receiving course materials and announcements, while teachers prefer traditional face-to-face and print formats.

Both students and teachers used social networks mostly for personal purposes and had very careful attitude toward using them in study and teaching.

Future research with bigger audience is needed to address these issues and to make the integration of technology into learning process easier.

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REFERENCES


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