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SOCIAL CAPITAL AND PARTICIPATION IN VIRTUAL STUDENT COMMUNITIES

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Abstract

Students nowadays participate in a number of virtual communities during their studies. They predominantly use social networks as a tool for organization and mobilization in connection with their education, however, they do not exploit the potential of their social networks to become learning networks well enough. Most often, students display a sense of affiliation to virtual student communities but their abilities to actively participate in collaborative virtual groups need enhancing. Their competences to create e-content are underdeveloped and they have to move forward from liking, through sharing and rewriting to generating genuinely own material on subjects from their studies. In addition, students' communicative roles are mostly on the passive end of the continuum – those of a "lurker" or a receiver of knowledge and information rather than that of being active agents in virtual communication processes. Although they are able to identify the necessary sources and relevant content, they lack the capability to critically evaluate, select and transform it in order to achieve sustainable learning results which can subsequently be applied to contexts close to their future careers. The paper focuses in on a survey conducted among BA students from Sofia University at the beginning of 2018, which

aimed at establishing the level of social maturity and social competences in connection with their learning and future professional realisation.

Keywords

Social Networks, Learning Networks, Virtual Student Communities, Social Capital

1. Introduction

The web and in particular the social web (or Web 2.0) has brought about unprecedented changes in people's personal and professional lives. Social media, social networks, social software tools have come to stay. Although some of them go in and out of fashion, it is hardly surprising that they are shaping academic landscapes as well.

Additionally, the authors of the current paper have been engaged in researching the educational uses of social media, social networks and social software at the tertiary level for a period of about 10 years now. Having looked into the potential benefits of computer mediated communication and social networking for enhancing students' learning and communication habits and skills, we are now interested in establishing the current state of these as well as students' attitude to taking the initiative in creating learning resources in relation to social capital.

2. Previous Studies

2.1 Social Capital, Social Networks and Social Software

The term "*social capital*" provokes the interest of philosophers, psychologists and sociologists among others. Social capital has attracted scientists' attention for different reasons and there are several trends in researching it.

The French sociologist Pierre Bourdieu is one of the first researchers who attempts to conceptualise the notion of social capital. He compares social capital with economic and cultural capital and concludes that "*Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition…*" (Bourdieu, 1986: 241-258).

Another researcher, Robert Putnam, believes that it is possible to draw an analogy between the notions of "*physical capital*", "*human capital*" and "*social capital*" and he adds specific features regarding social organisation, networks, norms and public trust that facilitate coordination and cooperation and mutual advantage. (Putnam, 1995: 65-78)

More recently, Coleman (2000) introduces and illustrates the concept of social capital, describes its forms, the social and structural conditions in which it is used, and analyses the behaviour of high school dropouts. Three forms of social capital are considered: obligations and expectations, information channels and social norms. The author explains the forms of social capital and he analyses the effect which the lack of social capital has (Coleman, 2000: 17-41).

Christine Greenhow and Lisa Burton (2011) accept that developing young people's social capital positively is related to both educational and psycho-social factors. On the basis of previous research into the factors contributing to social capital, they emphasise the role of off-line social networks. They also state that the extent to which online social networks influence students has been investigated to a lesser degree. Greenhow and Burton also investigate the barriers for low-income students to create and maintain relations via online networking sites (Greenhow & Burton, 2011: 223-245).

Social capital is also conceptualised on the basis of analyses of existing and dynamically developing practices. Jose Maria Viedma Marti, after a critical review of existing theories and studies on social capital, concludes that over the past two decades social capital has been connected to social sciences, that there is inequality in social capital, and there is reason to talk about a new form of social capital, which is related to cyber networks (Marti, 2004: 426-442).

Among the authors who have studied the relationship between social capital and a concrete social network are Ellison, Steinfield & Lampe (2007). They explore the relationship between using Facebook and creating and maintaining social capital. The authors conclude that the dimension of social capital must also be researched in view of assessing a person's ability to remain connected with other members of a virtual community (Ellison et al., 2007: 1143-1168).

Kim & Kim (2017) have done research into social capital and personal / subjective well-being focusing on the mediation role of social media; they have come to the conclusion that there is heterogeneity in the use of social networks by students in their everyday lives and that there is a positive indirect effect through which social media exert their influence, linking social capital and subjective well-being to the heterogeneity of the network (Kim & Kim, 2017: 620-628).

The other focus of our research, e-resources and higher education students, have also been subject of a lot of surveys. After selecting and reviewing critically previous studies in the field, we have confined ourselves to looking into *social networking* and *e-learning* with a focus on some specifics of using these in higher education.

One direction of previous research into *social networks* is related to studying them not only as a means of sharing information online, but also as a means of mutual help and reunification. Particular attention is paid to how social networks are used by students and some authors have established their positive effects in this relation, i.e. Facebook and Twitter have been found to contribute to engaging students in both academic and social activities and aspects (Tayseer, Zoghieb, Alcheikh & Awadallah, 2014: 1-5).

Similar findings are reported by other authors who study the attitudes and behaviour of Texas University students using Facebook. These researchers have come to the conclusion that the use of this popular social network leads to a positive relationship between the intensity of use and students' life satisfaction, social trust, civic and political participation. (Valenzuela, Park & Kee, 2009: 875-901).

Over the last decades, social networks have been developing dynamically, some of them have had an increased impact (for example Facebook, Linkedin, YouTube, etc.), in the case of others, their influence has reduced (for example MySpase, Plaxo, Ning, etc.). New social networks have implemented improved functionalities and design (for example Instagram). Among the currently popular social networks are Facebook, YouTube, Twitter, Instagram, LinkedIn, etc.

As suggested by Ebner and Schaffert (2010), social software refers to the "*sum of all old and new forms of tools and applications that can be or are ordinary used for communication and collaboration*". They also point out that "*current technologies and applications are characterised by their high potential of bringing people together through facilitating communication and collaboration*" and distinguish between three types of social software depending on their purpose. These are a) tools which enable social presence and communication (such as discussion forums, Web chats, (micro-)blogging, (micro-)podcasting, and live streaming), b) tools which enable collaborative content development (such as wikis), and c) tools allowing collaborative enrichment of content (such as social bookmarking, social tagging, and rating) (Ebner & Schaffert, 2010).

Due to their being widespread and their features outlined above, social networks and social software seem to attract the attention not only of scientists but also of teachers and university lecturers, as well as administrative staff in relation to organising and even implementing teaching and learning.

2.2 E-Learning and the "Social Software"

The need to reconsider contemporary education in the light of the advancement of modern technology hardly needs any justification as ICTs have already been not only influencing but also shaping classroom and out-of-class processes at all levels of education all over the globe since their appearance. The trend started before the turn of the millennium and before the mass invasion of Web 2.0 tools and social networks. Researchers from various backgrounds emphasise that today's university students are "digitalized" meaning that they possess certain skills and have access to online tools regardless of where they study (see, for example Laadem, 2017). Naturally, there is a need to define such learning and many definitions of the term exist, however, for the purposes of the current paper we have adopted the following: [e-learning is] *any use of Web and Internet technologies to create learning experiences* (Horton & Horton, 2003).

The fact that the web has developed to offer different types of tools to assist online collaboration has been utilised in different types of platforms and learning management systems (Connolly, Gould, Baxter & Hainey, 2012) and this has already had an impact on the learning processes that take place at the tertiary level. Some scientists have staredt to study the connections between knowledge, social networks and cloud computing (Anshari, Alas, & Guan (2015: 909-921).

In summary, we can conclude that the authors mentioned above have contributed to analyzing social networks and that as a result the research fields are expanded including new manifestations and practical approaches.

2.3 Connected Learning and Personal Learning Networks

In recent years, the predominant learning paradigm has been the one of social constructivism. It holds that knowledge is constructed on the basis of personal experiences and hypotheses supported in the environment and that learners continuously test these hypotheses through social negotiation and consequently puts an emphasis of the social environment (Bandura, 2001). Although at the rise of computer assisted learning "*the social aspects of learning had been overseen or ignored*" (Schaffert & Ebner, 2010), researchers gradually started to explore the role of the new technological tools in the process of acquiring knowledge and skills in different educational settings. *Connectivism* (Siemens, 2005) is another theory of learning which occurred as a result of the developments in ICTs and has a particular relation to the use of Web 2.0 tools in education. According to connectivism principles, learning can reside outside of ourselves and the connections that enable learners to learn are more important than

their current state of knowing. Thus the emphasis should be put on the acquisition of adequate learning strategies and not so much on what is being studied. (Kusheva & Tsvetkova, 2011).

Two notions, which have appeared as a result of the massive use of social software, are closely related to this connectedness of learners in digital communities. These are "*Personal Learning Environment*" (PLE) and "*Personal Learning Network*" (PLN). The former refers to a flexible system that helps people take control of and manage their own learning. It consists of a number of different tools (a blog, a wiki, a social network, etc.) that a teacher or learner chooses, around which he or she builds a group of people that can be turned to for knowledge, help, advice and support (Stanley, 2010). On the other hand, a personal learning environment (PLE) is actually the result of all the connections and relationships users establish over time within their social networks (Castañeda, Costa and Torres-Kompen, 2011). In view of the Digital Action Plan, mentioned in the introduction, it is especially important to establish if students actually take advantage of their PLEs and if they are aware of the existence of their own PLNs. Having in mind that university students will soon enter the world of work, it is also necessary to understand if students can use the above for the benefit of social capital.

2.4 Online Collaboration

Stoicheva, Mavrodieva and Tsvetkova (2013) report on building student groups online as a form of a complementary educational practice. They describe the process of creating such student groups at the Faculty of Philosophy (Sofia University) as one which at its first stage entails working with students in a traditional learning environment, group formation, and briefing, choice of moderator and online editor and task scheduling. They also underline the importance of prior diagnosis of students' digital literacy, as well as students' use of Web 2.0 tools and social networks on an informal / personal basis. The following features of communication are highlighted as emerging during the actual collaborative work:

- combining offline and online communication between teacher(s) and students, as well as among students themselves (within their own group and among the different groups);
- collaborating to prepare for, carry out and finally share the results of the task;
- using both L2 (English) and L1 (Bulgarian in this case) for informal and formal communication with the teacher(s) and among students themselves;
- creating a sense of belonging to academic virtual communities;
- learning through creativity.

Participating in such online learning communities effectively is established to be in direct relation with students' prior experience in using virtual forums, blogs and other social media. The authors contend that the uneven distribution of such prior skills and experience leads to the uneven distribution of students' efforts in carrying out the task and point out that those whose prior experience of using social networks and Web 2.0 devices is mainly for personal reasons remain passive in the collaborative learning groups. (Stoicheva, Mavrodieva & Tsvetkova, 2012; Stoicheva, Mavrodieva & Tsvetkova, 2013).

Mavrodieva takes into account the benefits of social networks such as the speed of information transfer, easy access, opportunities for discussion and sharing within social networks, developing online communication skills. (Mavrodieva, 2017: 132-151)

3. Methodology

The empirical study was prepared in early 2018 and conducted in March-April 2018 by use of a specially developed questionnaire. The questionnaire consists of 14 questions, excluding those related to demographic indicators: age, work experience, faculty and specialty. The questionnaire is structured in such a way that it starts from more general and moves to more particular questions. The first questions (from 1 to 6) are aimed at obtaining information on the use of electronic resources, free and paid for, used during training and exams, their role in organising the learning process and access to them. The next 8 questions (from 7 to 14) lead to establishing the connection between participation in virtual communities - preparation of e-resources - social networks - social capital. The aim is to cover different aspects of this use, i.e. organisation, access, preparation, participation, developing certain values and adopting certain behaviour on students' part and its contribution to social capital through participation in virtual groups during students' university education.

The *first hypothesis* is that social capital can be augmented through using different social networks, by making sense of their advantages and disadvantages, and by combining them to achieve specific goals, including educational ones.

The *second hypothesis* is that being a member of different virtual communities while studying at university contributes to gradually overcoming being a user of e-resources and to achieving collaboration between teachers and students, among students while creating e-resources. Sharing these resources helps develop a certain behaviour that contributes to the increase of social capital even after completion of tertiary education.

The survey encompasses 133 BA students from Sofia University "St. Kliment Ohridski" from the following faculties: Faculty of Philosophy (40), Faculty of Slavic Phiolologies (3), Faculty of Classical and new Philologies (1), Faculty of Business (30), Faculty of Journalism and Mass Communication (51) and Faculty of Geology and Geography (5). Their distribution across subjects is: EU Studies (23), Library and Infornation Studies (17), Bulgarian Philology (3), English Philology (1), Business Administration (29), Public Relations (51), Tourism (5).

The surveyed students' age ranges from 18 to 39 and their average age is 22.

Their work experience is as follows: 75 of the respondents do not have any work experience and their status is of university students only, 1 has 8 years of work experience, 5 – 3 years, 15 - 2 years, 1 - 7 years and the rest have work experience ranging from 1 month to 1 year. This predominant lack of work experience can be attributed to the fact that the respondents are first and second-year students and they still prefer only to study.

4. Analysis

Students' answers to *Question 1* (about using resources) are distributed as follows: 97 students use free resources very often, 28 use them often, 6 - occasionally, and 2 - rarely. The situation regarding the use of paid resources is very different. Only 2 students use them very often, 7 - often, 22 - sometimes, 57 - rarely and 45 students state they never use resources which they have to pay for. According to the survey, students from Sofia University prefer libraries and specialised information centres and this conclusion is based on the results: 34 students use them very often, 38 - often, 37 - sometimes, 23 - rarely and only 1 does not use them. A very big number of the surveyed students (114) never use other resources. The factors that lead to the above results are: on the one hand, there is free and easily accessible information presented online; on the other hand, the amount of learning and additional materials presented online in the university's Moodle LMS is increasing and Sofia University libraries offer e-resources. A third reason is the relatively small to small financial capacity of Bulgarian students to pay for e-resources.

The responses about what other resources are used by students include own lecture notes, scientific articles, wikis, www.slovo.bg (a virtual library of Bulgarian literature), other students' lecture notes, presentations, business websites, institutional websites, laws, documents, databases, books, videos, the Internet (indicated as one resource). This variety of sources is due to the fact that the respondents come from different faculties and specialise in different majors. According to the findings, traditional and new sources are combined, there is moderate activity

towards websites presenting official information of companies and institutions, as well as towards modern resources such as databases. Personal relationships with other students and small groups in online and offline communication continue to exist. Social capital can therefore be enriched in the future by reconsidering the importance of e-resources and their specific application to individual majors with specific, adapted, up-to-date and specialised information, not just links and website targeting.

External sources such as government and international websites, company websites, and online resources are gaining in popularity but they are still under-used. This partly confirms the assumption that a large number of the students are still users who have the ability to search for information from official sources or easily accessible electronic resources but are not yet geared towards developing their own selection, evaluation and synthesis, in other words, they lack skills to create resources themselves. Thus, they remain in the position of information well-being by using websites and social networks without contributing to social capital by creating their own resources. Certain differences surface in the answers but they are mainly due to students' experience with regard to optimizing the time for exam preparation. However, there is no focus on paid for e-resources and students remain at the level of users of what is publicly available, of unpaid for / free information, and they are often just distributors of resources online.

Question 2 refers to the type of resources students use during the semester in comparison with those used during the examination session. Thus 80 students use free resources very often, 37 - often, 9 - sometimes, 6 - rarely, and 1 - never. Even during the exam periods paid resources are not used, only 3 students use them very often, 4 - often, 16 – sometimes, 57 - rarely, 53 - never. During exams, the use of scientific information from libraries and specialised information centres increases: 53 students use them very often, 37 – often, 26 - sometimes, 14 - rarely, and 3 students never use them. One of the reasons for this is the fact that students are studying at a state university, the oldest in Bulgaria and, on the one hand, they have access to high quality resources through the university libraries, and on the other hand, students' attitude as users is both pragmatic and one of confidence in these resources. It is interesting to note that 108 students do not seek information from outside sources even during exam sessions, but pragmatically prefer to use scientific information available in official centres and libraries, where access is predominantly free. This confirms that students still need mentors, professionally prepared e-resources, official sources of information when preparing for exams and as part of the learning process. The analysis established that students from the Faculty of Business during a session use

paid e-resources more often than the rest of the students. This can be seen as confirmation of the hypothesis about the preference for speed access to online information, as well as a utilitarian approach to e-resources. In summary, students still have little experience in, attitude to and capacity for creating resources, and social capital remains at the level of small groups and temporary communities, while students display consumer behaviour. This puts university lecturers and educational management in front of the serious task to maintain, prepare and adapt e-resources tailored to the particular specialties, subjects and specialisation profiles. It seems of particular importance that lecturers focus on creating the conditions for mentoring and collaborating with students so that the latter can engage in such activities with a view to embracing values and patterns of behaviour aimed at usefulness, cooperation and sharing of common resources and increasing social capital.

Question 3 aims at revealing students' use of other e-resources such as computer presentations, video, e-tutorials, video lectures from Coursera or different MOOCs, e-books, blogs, wikis, social networks or webinars during the semester and during exam sessions. The surveyed students prefer fast access to wikis (34 use them very often, 34 - often, 24 - sometimes, 23 - rarely and 14 - never). Social networks are moderately preferred by students (21 students use them very often, 25 - often, 23 - sometimes, 29 - rarely, and 35 - never). This is a seeming paradox if we take into consideration expectations that young people belong to a Net generation, however, they most probably prefer using social networks for personal contacts. There is a lasting interest in computer presentations, 43 students use them very often, 62 - often, 22 - sometimes, and 6 – often). There is a moderate interest in e-books (26 students use them very often, 27 - often, 31 - sometimes, 37 - rarely, 14 – never). Webinars are used relatively rarely: 6 students state they use them very often, 16 - often, 31 - sometimes, 39 – rarely and 44 - never. Blogs are often used by students, however, there is no broad and sustainable tradition of using them at Bulgarian universities. Only 8 out of the 133 respondents use them very often and 18 - often. At the same time, there is little interest in video lectures from Coursera or MOOCs, only 10 students use such resources very often, 17 - often, 26 - sometimes, 26 - rarely, and 54 have never accessed them. This means that accessible knowledge in this format does not reach a lot of students because it is a matter of self-initiative, self-organization, payment and high language proficiency, mainly in English.

Question 4 regards the use of Facebook, Twitter, Google+, electronic diaries of personal and other engagements, online platforms for distance and blended learning, tools of online

communication with colleagues such as Viber, Skype, email (or another application) in students' self-organisation and mobilisation. The results confirm the hypothesis that when it comes to self-organisation and mobilisation, students predominantly use Facebook: 68 use it very often, 30 - often, 13 - sometimes, 13 - rarely and 11 - never. Viber, compared to Skype, is still frequently used but mainly for online communication with other students: 21 of our respondents use it very often, 31 - often, 26 - sometimes, but 37 students never use it. At the same time, email and online platforms for distance or blended learning, are seen as tools of official communication. Twenty-four (24) respondents often use online multi-modal or mixed-training platforms, 25 of them - often, 23 - sometimes, 19 – rarely and 42 never. It remains a sustainable trend for students from Sofia University not to use Twitter, 110 of the respondents never use it, while only 16 rarely use this micro-blogging tool. While Google Plus has advantages for student education (Stoicheva & Tsvetkova, 2012), it has not entered university education in a sustainable manner and is relatively unfamiliar to students. Only 4 of the surveyed individuals use it very often, 13- often, 6 – sometimes, 15 - rarely and 32 - never. There are many attempts to use e-diaries to keep tracks of own engagements. 23 students use such very often, 26 - often, 26 - sometimes, 30 - rarely, 29 - never. When asked what applications and tools they use, our respondents' top choice is Facebook messenger, sometimes Dropbox, WhatsApp, chat. There is heterogeneity of responses among representatives of different faculties and majors when using Moodle, for example, some faculties seem more advanced while others remain closer to traditional formats of communication and learning. When it comes to students' contribution to social capital in the context of social networks, applications, and software, it is not possible to draw firm conclusions as, on the one hand, e-resources evolve dynamically and, on the other hand, students' literacy levels vary and students combine formal and semi-formal communication channels.

The answers to *Question 5*, which aims at revealing students' evaluation of their access to e-resources necessary for their university studies, are distributed in the following way. Thirty-eight (38) respondents state the extent to which they have access to resources is "high", 63 – "mostly high", 18 cannot judge, 12 students state this extent is "mostly low" and 2 people give no answer. For 101 out of our 133 respondents, the results show that there is free access to e-resources, and as a rule this facilitates students' preparation and as users they are part of communities not only offline but also online. Up to a point, it is possible to talk about strengthening social capital by establishing affiliation with virtual groups, but mostly as users of already prepared electronic resources. At an institutional level, at Sofia University there are

conditions for creating e-resources. There is no reason to talk about information inequalities as our respondents state they have access to resources.

The results for *Question 6*, which is related to the self-assessment of their digital literacy, show that 102 students evaluate their skills in using computers, smartphones and tablets as "high", 26 – as "rather high" and only 6 as "average". However, this is not the case when it comes to using LMSs and MOOCs - only 40 students rate their skills in this respect as "high" and 29 – as "rather high", and 31 – as "average". They evaluate their abilities to use software in the following way: 53 respondents state that it is "high", 51 – that it is "rather high", and 37 – "average". Realistically, students say they have skills to discover and evaluate authentic information - 32 of them rate their skills in this area as "high", 53 – as "rather high" and 37 – as "average". In the era of fake news and post news and in view of the development of information and media literacy, as well as of the ability to search, discover, select and verify scientific information, there is no great achievement. The data show that students evaluate themselves highly in terms not only of their digital literacy but of its relevance to university education. The highest score belongs to business administration students, this is related not only to the use of Moodle, email, but also to using specialized software programs in accounting, online business models, and other software which they have given as examples of important digital skills they possess. When it comes to skills in interacting within online communities, the data is that 53 students evaluate these as "high", 40 – as "rather high", 33 – as "average", which is different from individual / personal use of online resources. There is some fluidity and unevenness in terms of digital literacy with regard to education and resources of a different type. What is common is the affinity for quick, easy and free access to e-resources, while the differences are at an individual student level, educational policies at different faculties and specialties at Sofia University.

The next *Question* (№7) is about how useful students find participating in the preparation of electronic resources as part of their university activities. Most respondents consider it "very useful" and "rather useful". The results show a positive attitude to collaborative learning during their training and to creating educational resources which they can use in their own training. No student has responded that they are not useful at all, only 3 term it "not useful". Seventy-four (74) students find it "very useful" to take part in preparing and executing tasks and 43 – "rather useful". Sixty-three (63) find preparing e-resources "very useful" to improving their digital literacy and 56 – "rather useful". In connection with their future career, 66 people state that

participating in preparing resources collaboratively is "very useful", while 44 think it is "rather useful". Over 100 out of 133 respondents rate very highly the links between e-resources and education, e-resources and digital literacy, e-resources and future career. Notably, only 11 to 13 people cannot judge, while the greatest number of people who have no opinion (23) is related to linking e-resources to future professional interests. Apparently, it can be summarized that there are relations in which digital literacy, e-resources and future careers are not seen as static dimensions, and students indirectly associate them with the creation of digital capital. There is a tendency towards interactivity, activation of resource creation while still at university. At the same time, there is a readiness to pursue a pragmatic goal, to be part of task preparation and performance, however, presented by lower numbers when it comes to contributing to the enhancement of digital literacy. With a view to achieving continuity and sustainability in social capital in the context of e-resources and virtual groups, it is established that such as e-resources are connected to preparation and implementation of tasks directly related to students' education.

Question 8 aims at revealing students' attitude to participating in creating e-resources and virtual collaborative groups. Overall, the surveyed students give the highest rate to participating in online groups in relation to knowledge acquisition - 78 of them agree with such a view "completely", and this refers to membership in virtual groups, online communication, social networks, starting collaborative student groups, which is beyond mere membership. Between 80 and 110 students have a positive attitude to such participation and creation of e-resources, going beyond regular membership in online groups and focusing on collaboration, from personal profiles in social networks to reconsidering their advantages in connection with university education. Negative attitude to social networks in relation to student learning reduces because these networks involve horizontal, informal or semi-formal communication, while purely academic environments tend to be formal and hierarchical. There is positive assessment that online communication and social networking contribute to accumulating work experience in a dynamic environment and stimulates interest in the novelties of science increases. Although indirectly, it is suggested that this experience also leads to students being prepared to work in an environment where online communications and the searching for and selecting information from different sources is useful. While remaining oriented towards imparting knowledge, universities are gradually turning to skills formation and preparation of future specialties, optimizing university-to-business relationships with regard to future employees not only holding desired diplomas but also in terms of social capital and adaptation to new working conditions.

Question 9, related to the motivation to create e-resources on their own or in cooperation with other students, which resources will become part of the "learning packs" they are going to use at Sofia University, students respond as follows. Ten (10) respondents state that their motivation to do this is "low", 48 – "average", 51 – "high", and 22 – "very high". If compared to the answers to *Question 6,* which establishes a high self-assessment of students' digital literacy, there is no similarly high motivation for collaboration and being of benefit to the university or building a sense of belonging. There is also little motivation to participate in accumulating social capital for the benefit of the university and fellow students through group participation, that is, to make more students aware, which reduces the opportunities to achieve sustainability in creating social capital related to university environments. This indirectly correlates with their realisation on the labour market and the values associated with participation in social capital construction as they are not truly developed at university. The latter is perceived as a place of learning and preparation, while it is also a place for gaining social maturity and well-being, including through engaging in groups, collaborating, and sharing results to the benefit of society.

The answers to *Question 10,* related to the difficulties students encounter or expect to encounter when communicating online in virtual groups demonstrate a high degree of confidence in the reliability of the their internet access, while confidence in their own digital skills in general also dominates. This is determined by the combination of the good quality of technical equipment at Sofia University, the fast and free access to the Internet in the country in general and at the university campuses, the rapid spread of cloud technologies and the development of personal digital literacy. All these create good conditions for participation in virtual groups, as well as potential for strengthening social capital, understood, as stated at the beginning of the paper, as related to the creation and maintenance of networks.

The answers to *Questions 11* and *12* confirm the hypothesis that the majority of students are members of social networks; 122 respondents give an affirmative response while only 11 students state they are not members of social networks. The assumption that Facebook is the preferred network for students is also confirmed. It is established that there is an increasing interest in Instagram and Snapchat. Also, the results show that students tend to use up to 5 social networks, most often combining Facebook with Instagram. The interest in and use of LinkedIn, Google+, YouTube is relatively stable. Students are also turning to Dropbox as well as to Academia.edu. More and more students are using Viber. LinkedIn is also used by about a third of our respondents and this is associated with career development. New networks and tools such

as Pinterest, Tumbler and WhatsApp are also indicated by students. This proves young people's openness to what is new and their desire to engage in different social networks, to search for and create contacts, thus developing communication skills in a virtual environment. This leads to the formation of behavioural patterns for communication in virtual communities that also contribute to increasing social capital in view of the dynamics in the development of the Internet and generations of Web 2.0, Web 3.0, etc.

Question 13 aims to determine the extent to which students are active in different social networks and whether they are only registered on the basis of searching for online recognition or creating profiles as a result of following a certain fashionable trend in this type of communication. The results show a relation to those for the previous question and for *Question 10*. The leading position is occupied by Facebook - 47 students find their active participation in this social network as "very important", 52 - as "rather important", YouTube holds the second position with respectively 39 "very important" and 59 – "rather important", followed by Instagram with 28 "very important" and 42 "rather important" evaluations, while LinkedIn receives 20 "very important" and 29 "important" replies. Twitter is preferred by only 7 of the respondents. Some students also note the use of a Russian social network – VKontakte. (This correlates to the language situation at Sofia University, studies of which have established that for many students Russian features as the second or third foreign language studied at secondary school while English is predominantly the first (Stoicheva et al., 2011). For 18, participation in it is "very important", for 22 – "rather important". The interest in active participation in Pinterest, Tumbler, Snapchat, and Flickr, however, is not significant. There is also distancing from very active participation in social networks, especially in the case of LinkedIn - for 45 of the answers are "not important" and for Instagram they are 30. YouTube is traditionally preferred, while Vimeo does not arouse a similar interest - for 78 students the latter is "not important", i.e. more traditional social networks attract greater attention and may be seen as possessing higher credibility in comparison with newer developments in the field.

Question 14 reveals students' assessment of the relationship future career - digital literacy - own capacity in relation to social capital. The conclusions are that there are instances of good practice but it is not yet sustainable. The question of the role of universities in societies and in the world, particularly in the context of social capital in view of students (who will be active experts working and generating capital in the future at a national, regional and global level) participating in virtual communities. Thus the overall assessment of membership in social groups

and communities is positive - for 27 respondents it is "very important", for 75 – "rather important", 14 students cannot decide, i.e. 102 out of 133 respondents consider it important. This indicates attitudes of being active, but not overly active, without a tendency to neglect this aspect. All the above can be seen as a good basis for engaging in creating and increasing social capital, as students accumulate practical knowledge and experience while still at university.

5. Discussion

The leaning affordances of social media and those of MOOCs (Massive Open Online Courses) are among the newly developed online tools which can be used in and out of class and consequently they attract researchers' attention (Bari, Djouab & Hoa, 2018). Social networks create the conditions for interactive online communication which communication takes place in student virtual groups and involves active participation on their part. This may be interpreted that students are not only recipients of scientific information, but they begin to develop skills as team players online and offline, develop flexibility, self-reflection and commitment to e-resource creation. This could be achieved by, for example, allocating certain time to creating online collaborative student groups within the process of learning different academic disciplines (Stoicheva et al., 2013). Social networking also lends itself to promoting synergies between disciplines and teachers and this trend should also be used to achieve a meaningful learning process, brought closer to the requirements of the labour market and sustainability in view of social capital.

6. Conclusion

As pointed out by Buttar (Buttar, 2015) ICTs are already a regular feature of higher education – they are used for developing course material, delivering and sharing content, communication between learners, teachers and the outside world among other purposes. On the basis of the survey results we can say that the surveyed students are aware of all these uses.

We can also say that the two hypotheses have been confirmed to a very high degree.

Social capital, in relation to social networks, albeit within certain limits, is relevant to the following parameters. Social networks are evaluated by students as useful in disseminating and delivering knowledge in the process of their university education, as well as in sharing useful information on particular courses and subjects, but not as a comprehensive educational strategy that is relevant to students' well-being. The benefit of social networks is understood at an

individual and group level and in temporary virtual groups and this does not lead to social capital sustainability or to building a sense of well-being.

Social networks contribute to maintaining semi-formal relationships in the academic environment, creating horizontal contacts in the course of academic communication, which indirectly leads to increased social capital and social maturity among students. This in turn develops students' behaviours based on creativity, collaboration, willingness to share knowledge and experience. This pattern of behaviour and these values contribute to creating social capital in a dynamic work environment that combines online and offline communication and students gradually part with the convenient role of an e-resource user.

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