

Social Constructivism, Collaborative Learning and Online Learning

Social Constructivism and online learning

It is perceived by Stacey (2002) that the implementation of online environments enhances and facilitates learning particularly from a social constructivist and a collaborative perspective. “The Internet and the World Wide Web have made it possible to establish a new type of learning environment in which learners can collaborate with fellow students to construct a meaningful and powerful learning experience”(Stacey, 2002, p. 1).

Researchers agree that social constructivism is appropriate to describe learning in online environments (Kanuka & Anderson, 1998; Li, Ingram-El Helou, & Gillet, 2012; Gunawardena et al., 2009; Dalsgaard, 2006; Huang, 2002; Mislove, 2009; Panitz, 1999; Romero-Frias & Montaña, 2009; Smith, 2005; Stacey, 1999; Stahl, Koschmann, & Suthers, 2006). Kanuka & Anderson (1998) assert that it is “currently the most accepted epistemological position associated with online learning” (p. 5).

Stacey (2002) citing Jonassen, Pr (1999) states that computer mediated communication can be viewed as a form of learner interaction and learning from a constructivist and social constructivist perspective. Online learning communities make provision for dialogue amongst learners to test their constructed views on others and to negotiate their ideas. This aligns with the Vygotskian idea that knowledge is socially and culturally constructed (Jonassen, 1997; Prawat & Floden, 1994).



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Technology provides the computerized learning environment with tools which facilitate collaboration and social construction of knowledge. Technology therefore supports the social constructivist notion that individuals create meaning through their interactions with each other and with the environment in which they live (Kim, 2001).

Through discussions, sharing information and resources, and then socially constructing their ideas online, learners are developing the needed skills to collaborate with others for effective learning. Learners hence own their learning which according to Jonassen (1999) in (Stacey , 2002) is the key to meaningful learning.

In the table below Bonzo & Parchoma (2010) draw a comparison between the principles which guide social networks and social constructivism, which supports the notion that social constructivism is compatible to learning in online environments.

Table 1. Comparison of social media (refer to as social networks in this study) and social constructivism principles

Social Media	Social Constructivism
Are dynamic and based on active participation rather than passive viewing	Active participation where learning is created based on collaborative effort
Information sharing	Knowledge is built upon experience
Communication	Social interaction
Information is created by individual participation and interactivity of the users / Collaboration	Shared interaction creates common knowledge
Information Sharing	Learning takes place best in socio-cultural context

Bonzo & Parchoma (2010)

Huang (2002), however, argues that there are seven controversies or issues in the constructivist approach for online learning. Only three of those issues highlighted by Huang (2002) are however relevant for this study. These three issues are: (a) the difficulty of evaluating learner achievement; (b) the emphasis of constructivism on learner-centred learning; and (c) the issue of collaborative learning which is in conflict with individual differences.

Although Huang (2002) argues that adopting a social constructivist approach to learning presents difficulty in evaluating learners' learning outcomes, Dewey (n.d.) in Huang (2002) reasons that the quality of learning is more important than the result. Focus on social constructivism is therefore on the whole learning process and not only the result. Thus, it differs from the traditional learning process or teacher-centred learning which are results driven.

Huang (2002) challenges the view that constructivist online learning is characterized by a shift from a teacher-centred learning to learner-centred learning. He states that constructivism acknowledges the vast experiences that adult learners bring to the online learning environment as central to the learning process. But, researchers proclaim that it is this variety

in experiences which pose a problem to develop an individual curriculum for each learner (Huang, 2002).

Bill Gates on the other hand, propagates that information technology will bring mass-produced information which will be customized to their learning styles, cultural backgrounds, educational interests and academic goals. It is thus possible with the assistance of information technology, to have twenty-five curricula for twenty-five different learners (McDonald & Gibson 1998 in Huang, 2002).

Collaborative learning and online learning

The potential of online learning for collaborative learning is highlighted by Stacey (2002): Computer communication provides help and feedback to students who are remote from campus. Individual learning is the result of a group process. Learning collaboratively implies peer exchange, a democratic interaction amongst equals who take on different roles like facilitator or resource person etc. depending on the needs of the group. Kaye (1992) asserts that collaborative online learning provides the opportunity for “reflective and thoughtful analysis and review of earlier contributions” (as cited in Stacey 2002, Collaborative learning online section, para. 1). Although studying at a distance can become a very isolated experience for the learner, Stacey (2002) explicates that good communication and enough online support provided by a successful collaborative group can reduce this isolation and can facilitate deeper learning.

Stacey (2002) shows that students, although geographically dispersed, experience a sense of community in sharing resources. They enjoy the online interaction which reduces their usual isolation in distance learning. The flexibility of access and times of study which accompany online learning are seen as an advantage and students have also indicated that their ideas were challenged by other participants which provided new thinking. Students felt that online courses have provided them with the opportunity to construct their own knowledge because they could revisit readings, interpret what others were saying in the group, respond and evaluate (Stacey , 2002).

Online learning is however not without any challenges. Because the electronic learning environment is fairly new, technical hurdles seem to be one of the biggest challenges facing online learning. This however can also provide good ground for collaboration and dependence on the MKO. Students who are more technically capable can help others to solve technical problems collaboratively hence providing a purpose for interaction and discussion and the formation of relationships (Stacey , 2002).

Curtis & Lawson (2001) illuminate that most previous research on collaborative learning focus on face-to face situations. This research on collaborative learning shows that effective face-to-face collaborative learning is an illustration of a wide range of student behaviours: verbal communication and gestures. A survey of the literature indicates that communication and information technologies are perceived to be the perfect tools for collaborative learning and teaching amongst learners or learners and tutors in online environments (Cochrane & Bateman, 2009; Barkley, Cross & Major, 2005; Hoffman, 2003; Jenni & Muriel, 2004; Kanuka & Anderson, 1998; Laal & Laal, 2012; Panitz, 1999; Serce & Yildirim, 2006; Stacey, 1999; Wayne, n.d.; Whipple, 1987). The challenge is to establish what can then be used as evidence of student experiences and engagement in networked learning in the absence of face to face collaboration.

Laurillard (1993); Moore (1993) and Ramsden (1992) in Curtis & Lawson (2001) find that students in higher education make positive contributions during face-to-face interactions. Curtis & Lawson (2001) question whether this belief is justified in the case of online learning environments where learners interact through non-verbal communication and text-on screen is a limited mode for what should be “semantically rich exchanges” (p. 22).

Curtis & Lawson (2001) examine online interactions among students in higher education to investigate whether behaviours displayed by learners in the traditional face to face collaborations are also evident in an asynchronous networked environment. This study searches for evidence of good quality interactions/collaborations among students who were geographically dispersed in the text messages amongst students in an asynchronous online learning environment. Curtis & Lawson (2001) find evidence of collaboration in the online learning environment in student postings to online discussions. The most significant difference between face-to-face collaboration and online collaboration is the “lack of challenge-and-explain cycles of interaction that are thought to characterize good face-to-face collaboration” (Curtis & Lawson, 2001, p. 31). In the online learning environment, the number and depth of contributions by students in on-task activity, social chat, extent of collaboration, possible gender influences, mutual explanation, seeking clarification and monitoring peers efforts and contributions reflect evidence of collaboration among students (Curtis & Lawson, 2001).

Serce & Yildirim (2006) stress the importance of collaborative learning, “team work”, “student centred learning” and “student taking responsibility for their own learning” as a focus of education in the information age” (p.175). The ever changing and evolving global market demands from workers flexibility and adaptability. To be able to work with all kinds

of people under all kinds of circumstances, graduates or workers must possess a variety of generic skills such as “interpersonal skills, knowledge of group dynamics, and the flexibility to work in teams, the ability to learn, solve problems and to communicate effectively” (Serce & Yildirim, 2006, p.175). Technology as a driver of the global economy is a facilitator in applications of collaboration. The internet or web, although it lacks the features of face-to-face collaboration (such as emotions, voice and body language, and gestures) is regarded as the key enabler of collaboration in online learning.

Social constructivism, collaborative learning and Web 2.0 tools

Since the creation of the World Wide Web (WWW) in 1989 by Sir Berners-Lee, it has evolved from Web 1.0 which was about “connecting information and getting on to the net” to Web 2.0 which is about “connecting people putting the ‘I’ in user interface, and the ‘we’ into a web of social participation” (Naik & Shivalingaiah, 2008, p. 499).

Naik & Shivalingaiah (2008) describe Web1.0 as the “read-only web” which is “a system of interlinked, hypertext documents accessed by the net” (p.500). A small number of writers created webpage’s for a large number of people. Web 2.0 however, sees an improvement of Web 1.0 since the technologies of this “read-write web” introduced ability to contribute content and interact with others. Web 2.0 tools such as blogs, social bookmarking, wikis, podcasts, RSS feeds, social software, Web APIs, and online services such as eBay and Gmail enable “many-to many” publishing, which is an improvement over Web 1.0. People can now, through Web 2.0 tools genuinely interact with each other and upload and download content (Naik & Shivalingaiah, 2008, pp. 500-501). Whereas Web 1.0 was more about static content, one way publishing of content, without real interaction between readers or each other, Web 2.0 is more about two way communications through social networking, blogging, wikis, tagging, user generated content and videos (Naik & Shivalingaiah, 2008).

In the following table adapted from O’Reily (2005), Gunawardena et al., (2009) draw a comparison between the focus of Web 1.0 and Web 2.0 technologies.

Web 1.0	Web 2.0
<ul style="list-style-type: none"> • Publishing • Content Management systems • Directories (Taxonomy) • Personal Websites 	<ul style="list-style-type: none"> • Participation • Wiki • Tagging (“ Folksonomy”) • Blogging

Table 2 adapted from O’Reilly (2005) in Gunawardena et al. (2009)

There is a noticeable change in how learning occurs from Web 1.0 to Web 2.0. Gunawardena, et al.(2009) drawing on the work of Lambert (2008) compare this change in learning from Web 1.0 to Web 2.0.

Learning 1.0	Learning 2.0
<ul style="list-style-type: none"> • Formal & Structured learning • Instructor Led, Web-Based Virtual & Blended • Command & Control; Top-down, Push • Centralized Content Creation • Management hierarchy • Taxonomies • Scheduled, Planned • Company-identified experts 	<ul style="list-style-type: none"> • Informal & collaborative learning • Blended, Blogs, Wikis, Q & A, Search • Bottom up; Peer to Peer, Pull • Grassroots Content Creation • Mentoring, Knowledge Networks • Tags • Real Time, Just in time • Community identified experts

Table 3 adapted from Lambert (2008) in Gunawardena, et al.(2009)

The key features of these Web 2.0 tools are the networking (interlinking) of people and the sharing of knowledge (Bonzo & Parchoma, 2010; Brown & Adler, 2008; Cochrane & Bateman, 2009; Gillet, El Helou, Yu, & Salzman, 2008; Glogoff, n.d.; Gunawardena, et al., 2009; Hoffman, 2003; Huang, 2002; Wayne, n.d.; Witts, n.d.; What is Web 2.0, 2005).

The emergence of ‘Web 2.0’ technology has led to a high abundance and a wide distribution of knowledge, and, has made access to information easy. Bonzo & Parchoma (2010) postulate; that Bart Decrem, founder of the social network browsing platform, has called SNs or Web 2.0 the “participatory web” (p. 913). The recent developments of SNs have created a social constructivist learning environment for collaborative learning.

This collaborative web is rich in applications known as Web 2.0 tools that can facilitate knowledge sharing, interaction, collaboration and communication, and, are therefore sharing many features of social constructivism as suggested by Brown & Adler (2008), Cochrane & Bateman (2009), McLoughlin & Lee (2008) in (Cochrane & Bateman, 2009) and Munguatosha, Muyinda, & Lubega (2011). The rich learning support provided by the Web 2.0 tools are in line with the Vygotskian approach to learning which emphasize personalization, collaboration, information sharing, common interests, active participation, and group work support (Mazman & Usluel, 2009 in Munguatosha, Muyinda, & Lubega, 2011).

According to Bragg (2007) in Cuthrell, Deters & Joy (2010, p.3), “Social software is the major component of Web 2.0”. Web 2.0 applications provide the opportunity for learners to be autonomous and self-directed and to be able to work outside of the classroom without reliance on a tutor, but not necessarily alone as they will have informal access to class mates, subject experts and other human ‘connections’ that have been established via the student’s own personal learning network.

Web 2.0 tools which support extensive online collaboration include walls, discussion boards, wiki’s, blogs, social bookmarking, message forums, chat rooms, whiteboards, social networking sites (Facebook, Twitter, MySpace), podcasts, e-portfolios, del.icio.us, YouTube, Skype, flickr, online office, tagging and teleconferencing which support extensive online collaboration (Brown & Adler, 2008; Bonzo & Parchoma, 2010; Brown & Adler, 2008; Cochrane & Bateman, 2009; Gillet, El Helou, Yu, & Salzman, 2008; Glogoff, n.d.; Gunawardena et al., 2009; Huang, 2002; Hoffman, 2003; Mislove, 2009; Stacey, 1999; Munguatosha, Muyinda, & Lubega, 2011; Wayne, n.d.; Witts, n.d.; What is Web 2.0, 2005).

According to researchers, an effective social constructivist learning environment is a learning environment which is *social* in nature, enhances *collaboration* and fosters communication. Blogs, wikis, podcasting and a host of free easy to-use social software provide opportunities for social constructivist learning environments focussing on student-centred learning enabling learners to engage actively and interactively with content and to share content. Web 2.0 tools allow synchronous and asynchronous communication. The synchronous (chat, teleconferencing) and asynchronous (walls, discussions, message forums etc.) discussion modes encourage: (a) cooperation and collaboration remotely via tools; (b) active learning by allowing students to share documents and discussions (Wayne, n.d).

Brown & Adler (2008) argue that Web 2.0 not only promotes participation, but supports multiple modes of learning and it has the ability to expand social learning. Web 2.0 tools embrace social constructivist view that understanding is socially constructed through dialogue and through grounded interactions with others. Web 2.0 tools aid the transformation of the Cartesian way of learning, which is pedagogy of knowledge transfer, into social way of learning. Through the application of Web 2.0 tools in the learning environment, the Cartesian premise of “*I think, therefore I am*” is being challenged by the social view of learning which says, “*We participate, therefore we are*” (Brown & Adler, 2008, p. 18). Relevant is that in social learning, there is a shift from the content of a subject to the learning activities and human interactions around which that content is situated. Social networks are therefore

succinctly named by Munguatosha, Muyinda, & Lubega (2011) as the “collaborative web” (p. 308).

The social network learning environment can thus be described as social and multimodal with emphasis on collaboration and interaction. Web 2.0 tools make it possible to share information not just through discussions and written language, but also through images and music and live chats. These Web 2.0 tools which support and foster online services and software make it possible for people to upload their personal profiles and connect with other people irrespective of location, space or time.

Researchers are in agreement that the development of Web 2.0 also impacts on the provision of and participation in higher learning. Wilkenson (2011) describes how the increase in the demand for and an expansion in the participation of higher learning are coinciding with the technical revolution. This increase in demand and the widening of participation give rise to issues such as funding and input costs related to funding higher education. Institutions therefore seem to focus and promote self-directed learning in an e-learning environment. Supportive collaborating tools are thus necessary in the online-learning environment for learning and teaching. Romero-Frias & Montaña (2009), Cochrane & Bateman (2009), Hane (2010) and Wilkenson (2011) explore the use of collaborative learning tools in higher education and how these Web 2.0 tools support the shift from the traditional teacher centred learning to a learner centred learning.

Brown & Adler (2008), McLoughlin & Lee (2008) in Glogoff (n.d.), Romero-Frias & Montaña (2009) and Munguatosha, Muyinda, & Lubega (2011) share the view that the application of Web 2.0 tools within a social constructivist pedagogy has led to the formation of a new pedagogy termed “Pedagogy 2.0”. Cochrane & Bateman (2009) drawing on the work of McLoughlin & Lee (2008) explain that “Pedagogy 2.0“ integrates Web 2.0 tools that support knowledge sharing, peer-to-peer networking, and access to a global audience with socio-constructivist learning approaches to facilitate greater learner autonomy, agency and personalization” (p.56).

Researchers such as Li, Ingram-El Helou, & Gillet (2012); Curtis & Lawson (2001); Dalsgaard (2006); Gillet, El Helou, Yu, & Salzman (2008); Serce & Yildirim (2006) and Wilkenson (2011) agree with McLoughlin & Lee, 2008 in Cochrane & Bateman (2009) that the use of Web 2.0 social software provide opportunities for social constructivist learning environments. Romero-Frias & Montaña (2009) state that “Social Software characteristics

and social networking sites in particular fit well the requirements of a social constructivist approach to education” (p.1).

How Web 2.0 tools facilitate social constructivist pedagogy

I am drawing on research done by Romero-Frias & Montaña (2009); Cochrane & Bateman (2009); Hane (2010); Wilkenson (2011) and Baird & Fisher (2005-2006) to explain how the use of the various Web 2.0 tools facilitate a social constructivist pedagogy.

Romero-Frias & Montaña (2009) explore the use of social network sites on accounting education. The researchers investigate whether the use of social network sites could contribute significantly to the basic skills required by new education models under social constructivist pedagogy. According to the respondents of the study, the use of social network sites has helped them with key skills i.e. transversal skills that are essential in becoming a qualified accountant. The students report that the experience with the use of social network sites have contributed to a higher implication in the subject, a deeper collaboration with other students and the teaching staff, and to a deeper learning with strong emphasis in the collaborative aspect.

Cochrane & Bateman (2009) note that the new developed Web 2.0 tools in a social constructivist learning environment has led to the following learning benefits: increased interaction, problem solving and sharing between students, increased interaction from external commentators and reflective learning, as blogs were used for the development of student reflective journals. The authors explicate how a Product Design course has moved from a traditional face-to-face studio-based learning environment to one using mobile Web 2.0 technologies to enhance and engage students in a social constructivist learning paradigm. Cochrane & Bateman (2009) state that; “the mobile Web 2.0 tools provide students with a flexible, personalizable, and collaborative learning environment” (p. 77).

The rapid change in technology and its potential impact on higher education is illuminated by Hane (2010). Hane (2010) seeks to describe and analyse the way in which Google Wave, a new Web 2.0 tool, can be used for computer-supported, collaborative learning in higher education from a social constructivist point of view. The author wishes to “encourage educators and students to look at the possibilities that Google Wave has to offer for higher education and to encourage people working in higher education to develop and personalize this computer-supported collaborative learning tool by participating actively in the current discussion; trying it out and analysing the results in order to create something that could be useful for higher education” (Hane, 2010, p. 3). Although only in the infant stages and

available by invitation at this stage, Google Wave facilitates collaboration and communication among its users. The author draws the attention to the Google Wave homepage which says: “Communicate and collaborate in real time or anytime” (Hane, 2010, p.2). Thus, by implication it means that within a wave you can work on a common document and simultaneously have conversations in real time. According to Hane (2010), the developers see Google Wave as a natural way to reinvent email. Whereas email is linear, a wave is multidimensional and is all about sharing and communicating, and therefore a suitable tool for communication learning in Web 2.0 (Hane, 2010).

Wilkinson (2011) presents a brief account of the educational benefits and pitfalls of using Web 2.0 technology in particular wikis and blogs. Wilkinson (2011) like Cochrane & Bateman (2009) is of the opinion that support for the use of e-learning tools is placed in the context of recent shifts in pedagogical approaches to learning. Globally there is a rapid increase in the demand for higher education. Institutions of higher learning cannot fulfil this increased need for higher education. E-technologies are used to address the global need for higher education. Web 2.0 tools are therefore employed to develop collaborative learning communities. According to Wilkinson (2011) with this shift to the use of Web 2.0 technology in higher education the focus should be on the pedagogical, rather than technological reasons for change.

Wilkinson (2011) reiterates what Cochrane & Bateman (2009) and Hane (2010) are saying; which is that online learning is leaning towards a constructivist pedagogy encouraging student interaction, learning through personal construction of meaning and collaborative learning. According to the author, a successful and sustainable e-learning environment depends on four factors: situatedness, commonality, interdependency and infrastructure. It is the authors’ opinion that Web 2.0 tools such as wikis and blogs attempt to move beyond the potentially unstructured notion of a discussion forum by creating links and offering richer collaborative opportunities to its learning community. Blogs encourage the sharing of knowledge, interactivity, community and debate, and are therefore useful for increasing collaborative learning. In contrast to a blog, which tends to be reflections of one person, wikis allow people to upload content; and others to add and edit that content, thus making it more collaborative in nature than a blog. Wikis promote collaboration and allow users to interact with it over time. Wilkinson (2011) describes how wikis address different learning preferences; how it contextualises learning and how learners are able to make links between fractions of information which will result in an increase in cognitive engagement. The author

succinctly states that “these socially established technologies are well placed to support the opinion that learning is a socially constructed concept” (Wilkinson, 2011, p. 6).

Traditional classrooms bind learners and educators/peers to the same physical space for social interaction. The development of Web 2.0 tools support social interaction within the learning community which can be synchronous, asynchronous, not bounded by time and space allowing for a flexible learning environment. Through computers, laptops, social networks, Web 2.0 learning, interaction with peers/tutors, connection to course content, accessing and publishing information are “always on” (Baird & Fisher, 2005-2006, p.5). A learning environment with virtually no boundaries is created enabling learners to create learning communities and revisit content at any time. Baird & Fisher (2005-2006) cite Berner - Lee’s ideal using of the web as “an information space through which people can communicate ...by sharing their knowledge in a pool” the notion is hence generated that people contribute by putting knowledge in the pool, but can also harvest knowledge from the pool (Baird & Fisher, 2005-2006, p.5).

Web 2.0 tools situate learning within a collaborative and social learning environment which according to Baird & Fisher (2005-2006) provides the opportunity to take social interaction to deeper levels as well as address learning styles rooted in digital technologies. As learners collaborate and socially interact with their peers and tutors in the social network learning environment, they will develop more skills than they would achieve on their own. Baird & Fisher (2005-2006) predict the impact of the development of web 2.0 on student learning “as weblogs, instant messaging and other web-based technologies become more mainstream, new synchronuos and asynchronuos social networking technologies (i.e ipod, podcasting, flicker) are being developed which hold more promise to support student learning, increased opportunities for collaboration, collective reflection and interaction without being tied to constraints of physical space, whilst adressing their 'always on' learning styles” (p.11).

Baird & Fisher (2005-2006) give an indication of the implications of participation in social networks for education. These include “*The potential of blogs to support regular writing practice and reflective learning*”, the use of wikis where the writing, rewriting, publishing and unpublishing collaborative process “*gives users control over the process of knowledge construction*” and the use of collaborative tagging in social bookmarking which according to Grant (2006) in Trinder, Guiller, Margaryan, Littlejohn, & Nicol (2008) has the result that “*search results can be more informative and relevant than search engines or authoritative resources*” (p.19).

From the research, it is clear that Web 2.0 or social software tools facilitate all the key elements of social constructivism learning and share many synergies with social constructivist learning pedagogies (Bronack, Riedl, & Tashner, 2006). In social constructivism, “knowledge is the result of social interaction and language usage, and thus is a shared, rather than an individual, experience” (Doolittle P., 1999, pp. 3-4). Learning is considered to be student-centred, interactive, participatory, collaborative, with peer-to-peer networking and social in nature (Brown & Adler, 2008; Cochrane & Bateman, 2009; Gunawardena et al., 2009; Huang, 2002; Mislove, 2009; Munguatosha, Muyinda, & Lubega, 2011; Stacey, 1999; Wayne, n.d.). Web 2.0, enables the user the opportunity to become the creator or broadcaster (Bonzo & Parchoma, 2010; Cochrane & Bateman, 2009; Gillet, El Helou, Yu, & Salzman, 2008; Witts, n.d.).

Therefore, the use of software that requires social interaction and develops a community around itself is compatible to social constructivism. By their very nature, Web 2.0 technologies lend themselves towards this type of pedagogy.

Concerns with the application of Web 2.0 tools in education

Although the literature displays that social networks offer the tools which support social constructivist learning, scholars such as Witts (n.d.), Bonzo & Parchoma (2010) and Huang, (2002) raise concerns with the application of Web 2.0 tools in higher education.

Witts (n.d.) argues that most Web 2.0 technologies would be nothing without the social and community interaction with them because Web 2.0 technologies do not create true communities, and, the social interaction is not true interaction as the vital part of person to person contact does not happen.

Bonzo & Parchoma (2010) claim that SNs as a learning space is relatively new and unknown in comparison to centuries age old institutions of higher education. He also regards social networks as “disruptive technology” because of the way it challenges traditional education. He identifies three key areas where conflict between social networks and higher education can occur. Firstly, there is the issue of hierarchy: the organizational structure in higher education is very hierarchical, whereas in social networks the playing field is more level, “anybody can create, modify, transmit and share information in social networks, not just knower’s” (Bonzo & Parchoma, 2010, p. 916).

Bonzo & Parchoma (2010) further argue that although students are actively involved in learning in social networks, learning outcomes in social networks are not accredited and concerns about quality are raised.

Huang (2002) is of the opinion that although social network tools enhance and foster communication, the online learning environment restricts learners to mediation through the computer technology - not a real person. Therefore, it loses some humanity and it forms social isolation.

Pedagogy 2.0

A survey of the literature indicates that the traditional learning theories are not sufficient enough to explain teaching and learning within the social context of a digitized and globalized world. There is a suggestion the use of Web 2.0 tools which support social constructivist learning has led to the development of a new pedagogy. According to (Gunawardena et al., 2009) the paradigms for learning have already evolved beyond traditional classroom models to synchronous and asynchronous, interactive and collaborative learning, which are further extended by Web 2.0 tools and social networking approaches. Gunawardena et al. (2009) claim that “recent development in Web 2.0 technologies is far outpacing the theoretical frameworks for their utilization in education and training” (p.3).

Brown & Adler (2008), McLoughlin & Lee (2008) in (Glogoff, n.d.), Baird & Fischer (2005-2006) and Munguatasha, Muyinda, & Lubega (2011) share the idea that the use of Web 2.0 tools has led to the formation of a new pedagogy. The new pedagogy is referred to as Pedagogy 2.0.

Brown & Adler (2008) note that towards the end of the online course that there is an increase in student interaction and a pledge to keep in touch electronically. Interactive online social networks allow students to stay in touch with their old friends and former classmates through tools like SMS, IM, Facebook, and MySpace. Through these continuing connections, informal learning is strengthened and a new approach to learning is emerging - one characterized by a demand pull rather than the traditional supply-push mode of constructing knowledge. “Demand-pull learning shifts the focus to enabling participation in flows of action, where the focus is both on ‘learning to be’ through enculturation into a practice as well as on collateral learning” (Brown & Adler, 2008, p. 30).

McLoughlin & Lee (2008) in Glogoff (n.d) in accordance to the findings of Brown & Adler, (2008) state that this new learning approach, Pedagogy 2.0, is more relevant for learning and

teaching in a digital, networked, globalized world. McLoughlin & Lee (2008) in Glogoff (n.d.) state that “many educators have harnessed Web 2.0 tools for engaging student-centred learning environments. This appropriation of Web 2.0 tool within social constructivist pedagogy facilitates what has been termed “pedagogy 2.0”. Pedagogy 2.0 integrates Web 2.0 tools that support knowledge sharing, peer-to-peer networking, and access to a global audience with socio-constructivist learning approaches to facilitate greater learner autonomy, agency, and personalization”.

Baird & Fischer (2005-2006) posit that in the “always on” (p.5) world of interactive media, the internet and digital messaging technologies the current learner has different expectations and learning styles than previous generations. The authors state that this net-centric generation values their ability to use the web to create a self-paced, customized; on-demand learning path that includes multiple forms of interactive, social and self-publishing media tools. Baird & Fisher (2005-2006) claim that “Web 2.0 tools create a space in which everybody communicates, the idea is created that there’s a knowledge pool into which everybody would be putting their ideas, as well as taking them out” (p. 5).

The authors are thus of the opinion that a new era for teaching and learning is developing. This new era embraces the bi-focal perception that high quality education is shaped by changes in the characteristics of students and the ways in which they use technologies to exchange information ...the convergence of social network technologies and a new “always on “pedagogy” is rapidly changing the face of education (Baird & Fisher, 2005-2006, p.5).

Naik & Shivalingaiah (2008) posit that whilst the effects of Web 2.0 are far reaching affecting the people who use it socially, politically and culturally, the next step in the Web evolution has started. Web 3.0, which will transform the web into a database with more high quality content and services using Web 2.0 technologies as an enabling platform.

Web 3.0, “read, write and execute web” or the semantic web promises to “organize the worlds” information” in a dramatically more logical way than Google can ever achieve with their current search engine design. It promises to provide the learning what you want and delivering a personalized web experience (Naik & Shivalingaiah, 2008, p. 501).

SECTION 3 - RESEARCH DESIGN AND METHODOLOGY

Research Question

What collaborative learning has taken place in social networks which has supported learning in an online Masters Programme in Adult Learning?

Research Site

From August 2010 until February 2012, a very diverse group of students located in different parts of the world studied together in an online Masters Programme. This online Masters Programme is offered collaboratively by four universities located on four different continents.

The overall theme of global change is a common thread through all the courses. Students explore how globalization has affected and reconfigured international and local contexts of social, economic, cultural and environmental aspects in the world.

Learning in this programme is the process of collaboration across the globe and learning from each other. The curriculum is designed in a way that allow adult learners to participate and receive direct experience and academic knowledge in the areas of adult learning, pedagogy, style, paradigms and theories. The online learning site provides the forum for discussions.

To be able to participate actively in the discussions it is required from students to read extensively. Students need to complete a number of tasks which involve posting some information for others to see or completing an assignment. Student progress is monitored through the program as a whole and students collectively reflect on their experience.

Research Approach

For this study, I chose a mixed methods research approach because neither the qualitative method, which involves text data, nor the quantitative method, which is based on numeric data, was enough to address the research problem or answer the research questions. A mixed methods research approach is a procedure for collecting, analysing, and “mixing” both quantitative and qualitative research methods in a single study to understand a research problem (http://www.fischlerschool.nova.edu/applied-research/procedures_and_resources; Bryman, 2008).

The rationale for the use of a mixed method research approach was to generate a more comprehensive picture of the collaborative learning which was taking place amongst peers in the SNs. The qualitative method is aimed at understanding where, how and under what circumstances human behaviour comes into being and what historical circumstances and

movements they are a part of, while the quantification in the collection and analysis of the data helped to support the findings of this study.

Deductive Logic methodology was used, which means theory was deduced from existing theories of learning to explain the collected data of observed phenomena (Bryman, 2008).

The ontological position could be described as constructivist, which “asserts that social phenomena and their meanings are continually being accomplished by social actors. It implies that social phenomena and categories are not only produced through social action but that they are in constant state of revision” (Bryman, 2008, p.19). The suggestion is also then that “the categories that people employ in helping them to understand the natural and social world are in fact social products” (Bryman, 2008, p.20). Bryman (2008) thus asserts that people are constructing meaning in and through interaction with each other. Thus in the social context of a globalized world where emerging technologies are instrumental to the constant change in the social order, the focus of this study was to investigate how adult learners were employing new and changing technologies to collaborate in the learning process and to construct supportive learning networks.

Research method

The research method used in this study is a survey. A survey is a system for collecting information from or about people to describe, compare, or explain their knowledge, attitudes, and behaviour. Surveyors can collect information directly, by asking people to answer questions, or indirectly, by reviewing written, oral, and visual records of people's thoughts and actions. Surveyors can also obtain data by observing people in natural or experimental settings (Fink, 2003).

Surveys can be classified in a number of ways. One dimension is by size and type of sample, another classification is by their method of data collection. Thus, there are mail surveys, telephone surveys, and personal interview surveys. Survey data are also sometimes obtained by self-administered questionnaires filled out by respondents in groups (Fink, 2003).

The research method entails the use of online communication, e-mail, as a platform for collecting data from individuals.

Research Instrument

I chose a self-completion questionnaire (see Appendix 1) which I have sent via email to participants. It was easy to manage, was cheap and could be distributed easily to potential

participants irrespective of their geographical location. The transmission time of the self-completion questionnaire via email was fast; it could be delivered to respondents within seconds as opposed to the traditional mail system which takes days.

I conducted a pilot study before administering the self-completion questionnaire as suggested by Bryman (2008). This pilot study allowed me to assess the flow of the questions and whether it was necessary to either move, improve or eliminate some of the questions. It was easy to make changes to the self-completion questionnaire; it was easy to copy the self-completion questionnaire; and data could be easily sorted in the analysis.

A combination of close-ended and open-ended questions were used. I used an easy design for the questionnaire to minimize the risk of respondents failing to follow the flow or filter the questions.

I probed the following focus areas in the questionnaire: (a) Biographical details of the participants - gave me an indication of the gender, geographical spread and occupations of the participants; (b) Interaction in social networks – showed which social networks the participants used, the frequency of interaction with peers in the SNs, if, why and how the SNs were used as a learning platform and if participants improved or developed academic skills as a result of their interaction with peers in the SNs; (c) “Chat” and learn in social networks – the questions focussed on the support participants received or provided in “chat” with peers in the SNs, the participation of participants in “chat” with their peers in the SNS about essay writing and the participation of participants in “chat” with their peers in SNs to complete group tasks; (d) Reasons why the participants chose social networks for this kind of collaborative learning instead of the Its Learning platform.

Research shows that response rates of self-completion questionnaires done electronically are higher and respondents may answer more honestly than with paper surveys or interviews (Writing Guide: Survey Research).

I was aware that potential technical problems with hardware and software are of the greatest concern in using an electronic questionnaire because computers have a greater likelihood to malfunctions than oral or written forms of communication.

Methods of data-gathering

Because students were geographically dispersed, I used self-completion questionnaire which was being distributed via email. All respondents were students engaged in the online higher education programme; they have very high literacy levels, and are extremely skilled in online

communication. Thus, I foresaw no problem with the completion of the questionnaire and accessibility of results. Data was collected and collated quite easily. Due to time-zone differences, an asynchronous communication method of collecting the data was followed which allowed the respondents time to respond to the questionnaire (Bryman, 2008).

To reduce problems such as recipients' operating systems not being able to read attachments, and to eliminate the fear of virus threats, I established contact with potential participants before sending out the self-completion questionnaire as suggested by Bryman. To minimize coercion, I sent an information letter and a consent form to potential participants stressing that participation in the study was voluntarily and that they had a right to withdraw from the study at any time.

Contact details of potential participants were accessed from an email contact list which was created by the students on the online learning site. The self-completion questionnaire was emailed to all 32 cohort 10 students registered in the programme in 2012 as there was no guarantee that questionnaires would be returned immediately. Even though research shows that e-mail response rates are higher, Oppermann (1995) in (Writing Guide: Survey Research) warns that most of these studies found response rates higher only during the first few days; thereafter, the rates were not significantly higher. Should participants fail to return the questionnaire after two weeks of receiving it, I would have sent out a follow-up letter.

Participants

Students from Cohort 10 of an online Masters Programme in Adult Learning formed the participants of this study. Students in this programme were geographically dispersed across the globe and were involved in a diversity of learning contexts and sites of practice.

For this study I selected participants purposively because success of the study depended on participants in the online Masters Programme in Adult Learning using new technologies and social networks to form supportive learning networks with their peers. A deliberate choice was therefore made of students being geographically spread, which would ensure that students needed communication technology to expedite their collaboration.

There were a total of thirty two students in Cohort 10 of the online Masters Programme in Adult Learning. I initially approached all thirty two students on the course. I was however aware that not all students on the course used the SNs for collaborative learning with peers.

This was a small study; therefore an initial sample size of ten to fifteen students was used. The targeted gender balance was fifty percent males and fifty percent females. A final

number of fourteen students participated in the study, which represented forty-four percent of the total population.

Data Capturing

Data was captured in a computer data file for analysis. Once again, I was aware that potential technical problems with hardware and software were of the greatest weaknesses and there was the risk of losing data on the computer, therefore I stored data in various forms e.g. compact disc, USB flash drive or hard copy during the data capturing process.



SECTION 4 - DATA ANALYSIS

The aims of this study were to investigate collaborative learning that took place in SNs associated with an online Masters Programme in Adult Learning and to generate new theoretical insights into how technology impacted on learners, their behaviour and learning within a group.

I gathered specific information in the questionnaire on how students collaborated with each other in the SNs in essay writing, in group work and how they provided emotional support for each other.

I identified three major themes which have emerged from the data: Collaborative Learning; The Social Networks as a Supportive Learning Environment and A New Type of Pedagogy, a Different Learner. Under the three major themes I have identified different categories and subcategories' and coded the data by breaking it down into component parts, which I gave names to, as suggested by Bryman (2008). I then manually colour coded the data according to the identified themes. I developed a coding frame to delineate the categories used in connection with each question in the self-completion questionnaire.

Due to my own learning on the Its Learning platform and my participation with peers in the SNs my objectivity in terms of this study can come into question; but according to Bryman (2008) "complete objectivity is impossible in social research" (p.379). Because of my learning experiences on the official It's learning platform and in the SNs I cannot be impartial in the conduct of this research. My objective however was to establish confirmability which would ensure that I have not "overtly allowed my personal values or theoretical inclinations manifestly to sway the conduct of the research and findings deriving from it." (Bryman, 2008, p.379). According to Ihantola & Kihn (2010) "Confirmability refers to the idea that research findings and interpretations are linked to data in ways easily understood by others" (p.5). This study was therefore reviewed by two of my peers and my findings are available to all participants.

Demographic Information

I distributed a total of thirty two self-completion questionnaires electronically, via email to Cohort 10 students of a Masters Programme in Adult Learning, who completed the online part of the programme in February 2012. Between 11 and 19 October 2012 a total of fourteen, completed questionnaires were returned, which successfully reached the targeted number of between ten to fifteen participants. These fourteen students represented forty- four percent of the total population. I gave the participants pseudonyms to protect their identity.

The data showed that the fourteen participants were geographically spread over five continents (see appendix 6). The participants were residing in ten different countries, namely the People's Republic of China, Australia, Canada, Germany, Japan, Ghana, Malaysia, Indonesia, Greece and Czech Republic. This geographical spread of the participants was a good indication of their cultural diversity. It also reinforced the global social context of the study and at the same time reflected the global nature of the online Masters Programme, which is collaboratively offered by four universities on four continents.

There were slightly more males than females. Of the fourteen participants, eight were female and six were male, thus the targeted gender balance of fifty percent males and fifty percent was not reached (see appendix 6). One female and one male student were in the age group 20 to 29 years. Seven participants were between the ages 30 and 39. There were one female and one male between the ages 40 and 49. The three students in the age group 50 to 59 years were all women. No student was over 59 years.

The data showed that the fourteen participants worked in a diversity of practices. Most of the students were employed in the education sector. Marco; Gillian; Greg; Kenny; Daisy and Maurice were teachers whilst Helga was a VET lecturer and Naomi was a lecturer in Business Management. Sharon worked as a manager in research administration. Candy, Thomas and Nancy were employed in the corporate world. Candy worked as an international project manager, Nancy as an adult learning consultant and Thomas as a trainer and technical writer. Beryl worked in the medical field as a clinical site supervisor/ medical tutor in ultra sound. Dennis did not state the type of work he was doing, thus I cannot with all certainty say whether he was employed or not.

Participants Utilisation of Social Networks and Technology

The data I collected on the participant's interaction with peers in the social networks was a key feature of this study, which focuses on collaborative learning amongst peers in the SNs. Cabral, (2011) declared that "The highest percentage of social media users are Generation Y, also referred to as the 'net generation,'" who have grown up understanding the power of the Internet", (p.5). The data however showed that the participants of this study who were all born before Generation Y, were deeply immersed in the SNs and that their learning was rooted in digital technologies.

“I was sharing my own experience and knowledge” (Thomas).

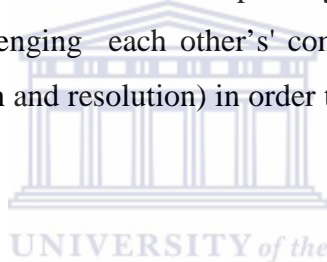
“I explained a bit about Chinese culture to an Australian peer who was having problems with a Chinese student. Although I am not Chinese, I was working in China and tried to give possible cultural reasons the student was acting the way he was” (Naomi).

All the participants received and gave feedback in the SNs as confirmed by the following responses:

“I was providing feedback, direction, ideas and gave input” (Helga).

“I often received feedback from others regarding their perspectives, which were different from my own. I also received specific feedback in response to drafts of papers and assignments” (Candy).

Thomas’ and Nancy’s responses indicated that especially during the completion of group tasks the participants were challenging each other’s contributions (cognitive conflict and controversy leading to negotiation and resolution) in order to reach consensus as to how to do the group task at hand.



Thomas explained that he was surprised at: “How varied the interpretation of instructions can be “and how important “the need to reach a common understanding” was.

Due to their different understandings of the tasks Nancy stated that “clarification of possible interpretation” was needed.

The data showed that collaboration amongst the multi-cultural participants across the globe, in different time zones was quite challenging and that it was necessary to advocate increased effort and perseverance among peers:

“We would discuss the tasks and divide the responsibilities as well as structure the timelines for completion” (Candy).

“Sometimes my friend helps me to understand the instruction in different words that make it easy to understand” (Daisy).

“Peer discussion leads us to understand group task content better” (Daisy).

The data revealed that all the participants were engaged in small group skills (see appendix 6). Collaboration amongst peers was the most during the completion of small group tasks, as proven by Beryl and Candy's responses:

"We had group assignments to complete and social networking helped with alerting others to responses that needed accessing"(Beryl).

"We would discuss the tasks and divide the responsibilities as well as structure the timelines for completion" (Candy).

The data showed that the participants have fulfilled the following roles in completing group tasks: initiator; resource person; scribe; collator; timekeeper; critic; editor; coach and referee (see appendix 6). The different roles that the participants fulfilled in terms of completing group tasks not just confirmed the interaction which took place amongst peers in the SNs, but also reflected on how they have drawn on each other's skills (see appendix 6).

The data showed that peers monitored each other's efforts and contributions:

"They were keeping me constantly reminded and pulling me along to meet deadlines" (Maurice).

The learning behaviours amongst the participants as they collaborated with peers in the SNs resonate with Serce & Yildirim's (2006) statement that "Learning by collaboration is a social process and leads to learning being not only active, but also interactive" (p. 167). It is this interaction that encapsulates collaborative learning, as seen in data.

In the data I collected the participants frequently used words such as *clarify*, *discuss*, *compare*, *respond to*, *explain*, *give advice* which is a good indication of the depth of interaction which took place amongst peers in the SNs.

"I would give clarification of core requirements" (Nancy).

"We would have a discussion about the expectations" (Helga).

"I was examining questions and concepts in collaboration with others. We were comparing our insights, and assisting with finding a consensus position." (Thomas).

"I would often respond to other posts and provide my support or interpretation" (Candy).

“I explained a bit about Chinese culture to an Australian peer” (Naomi).

Nancy gave advice on “how to query a mark”.

The data proved that interactive learning amongst the participants in the SNs resulted in deep learning.

Communication, the Core of Collaborative Learning

In terms of collaborative learning in social constructivist environment Prawat & Floden (1994) wrote that “knowledge is the result of social interaction and language usage, and thus is a shared, rather than an individual, experience” (p. 37). This “chat” in the SNs in accordance with the characteristics of a social constructivist learning environment thus became the core of the collaborative learning which took place amongst the participants in the SNs. The data showed that they have discussed, differed in opinions, negotiated ideas and collaboratively solved problems.

In their feedback the participants have frequently used the words: “clarify and clarification; comparing insights; discuss and discussions; explain and explanations and as expected chat and chatting”. The contributions of the participants and the reviewed literature: Cochrane & Bateman (2009); (Ruey,2010); Laal & Laal (2012); Panitz (1999); Gerlach (1994) and Dillenbourg (1999) underpin the fact that learning flourishes in a social environment where conversation amongst learners takes place.

I identified the following categories of communication in the data: the importance of “voice”; communication for academic purposes; effective communication in a diverse socio-cultural setting; to be sensitive and recognise other people’s needs; negotiation in SNs increase collaborative learning.

The importance of “voice”

The data showed that participants were in need of verbal conversation with peers to support their online learning. The data reflected that the participants turned to the chat rooms in the SNs to verbally communicate with peers in real time. Two participants explicitly mentioned how “SKYPE”, a chat room, which facilitates synchronous communication, aided their learning in the SNs.

“Using voice over SKYPE” and “discussing ideas gave direction” (Helga).

“SKYPE allowed for real time conversations which were needed at times to work through content, agree to our understanding of the terms of the assignment, and draft our timelines and plans” (Candy).

Communications for academic purposes

The data showed that participation in “chat” amongst peers in SNs was at its peak during the completion of group tasks (see appendix 6). One participant explicitly reported how important “chat” was in the completion of group tasks:

“Group tasks require chatting and conversation to complete the tasks” (Candy).

The following responses illustrate that knowledge was verbally shared; extended and deep learning also took place during these communications.

“We often discussed the instructions to make sure we all understood them and were on the same page” (Candy).

Greg mentioned that he had learned in “chat” during group tasks how to:

“Respond thoughtfully and constructively to discussions and to challenge viewpoints tactfully without being offensive” (Greg).

Dennis mentioned that in structuring essays “chat” with peers in the SNs: “helped to improve the quality and clarity of any argument.”

Effective communication in a diverse social-cultural setting

Learning in a complex international environment amongst multicultural peers can be very challenging. The data showed that it can lead to many misinterpretations of tasks at hand; therefore effective communication amongst peers were important. Nancy and Maurice’s frequent use of the word “*clarification*” confirmed the significance of effective communication amongst collaborative student peer groups in a diverse social-cultural setting. It showed that they wanted to make sure that there was consensus in what and how they should do group tasks.

Nancy mentioned “clarification” thrice: Nancy on interaction with her peers on essay writing and group tasks mentioned that she: “gave clarification of the core requirements”; “clarification of possible interpretation” and “clarification and narrowing of scope”

Maurice, like Nancy indicated that they wanted to make sure that everybody understood the task at hand.

Maurice wrote that most valuable learning in SNs during essay writing and group tasks were: “Clarification of instructions and by getting further clarifications from peers on instructions.”

The data confirmed Vygotsky’s (1978) claim that learning cannot be divorced from the social-cultural context in which it occurs. It showed that learning in the social-cultural context of a globalised world required a great deal of empathy and sensitivity amongst multi-cultural peers.

To be sensitive to and to recognise people’s needs

“Chat” was used in SNs empathetically, to support and to encouraged peers as shown by the following responses:

“Writing skills - how to respond thoughtfully and constructively to discussions, also how to challenge viewpoints tactfully without being offensive“(Greg).

Chatting with peers in SNs” helped to provide comfort and support to those not used to academic requirements” (Nancy).

“I found encouragement and empathetic feelings from them” (Daisy).

Negotiation in SNs increases collaborative learning

Other responses also showed how essential dialogue in the learning environment is. The data revealed that negotiation in SNs increases collaborative learning.

“Peers were sharing ideas and discussion about the expectations” (Helga).

“Peer discussion leads us to understand group task content better” (Daisy).

“We would discuss the content, our understanding, and work together to complete the tasks” (Candy).

Beryl mentioned “the ease of speaking and brainstorming constructive ideas.”

The data resonates with Baird & Fischer’s (2005-2006) statement that “The basic idea of the Web is that an information space through which people can communicate, but communicate in a special way: communicate by sharing their knowledge in a pool. The idea was not just that it should be a big browsing medium, but that everybody would be putting their ideas in, as well as taking them out” (p.5). The data confirmed that sharing knowledge through negotiation in the SNs has led to an increase of skills.

Increase in skills

All participants indicated that they have developed new or improved on a wide range of academic skills through “chat” with their peers in the SNs. This resonates with Baird & Fischer ‘s assertion that; “The result of situating learning in a collaborative and social environment is an increased range of skill, versus what can be attained alone.” (Baird & Fischer, 2005-2006, p. 8).

The most improved skills reflected by the data I have collected were in academic reading and writing. Sixty two percent of students reported that they have improved their academic reading and writing skills through collaboration with peers in SNs.

Peers were very helpful to assist each other in improving on academic writing skills as proven by the following response:

Sharon wrote that she has helped her peers with: “general writing and editing skills, relevance and relationships to the topics, references, grammar, analysis, critical reflection.”

The data revealed that it was mostly the students from non-English speaking countries who have improved their skill in academic writing with the help of their peers who were native English speakers.

“I have worked with my “learning partner” to help improve her Academic English writing” (Naomi).

Kenneth wrote that when he was assisting his peers with essay writing he had mostly focussed on: “ grammar, spelling and punctuation.”

The data showed that participants have improved or acquired new skills through “chat” with peers in the SNs in: how to respond thoughtfully and constructively to discussions; how to challenge viewpoints tactfully without being offensive; how to be precise and concise, giving very effective feedback; editing, proof reading and peer evaluation; how to become more reflexive and consider perspectives from other parts of the world; diversification of effectively employing research tools, developing better arguments for points; research and interaction/ interpretation skills and an increase technological skills.

Thomas reported that he has through “chat” in SNs improved the ability to adjust his verbal communication style. He reported that “chat” with peers in SNs has led to “improved communication style for different individuals, social, academic and professional contexts“.

The data confirmed that transformation of our social world impacts on how learning occurs. It portrayed how learning occurs in a globalised, social-cultural setting which is technology driven.

Transformation and Extension of the Learning Environment

The data showed that the participants of this study were in need of a private space, which is more user friendly as displayed by the following responses:

“Social networks allow for more private, student-student interaction, avoiding the watchful eye than the professor “(Nancy)

“Sometimes it was easier to use email to communicate with the group. On It’s Learning, everyone had access to our forums and sometimes we received postings from others which confused our main goals “(Sharon).

The participants however also expressed how collaborative learning in SNs provided them access to multiple perceptions of reality and enhanced their global understandings.

Kenneth described how through collaboration with peers in SNs he has realised; “The importance of having access to multiple perceptions of reality”.

For Helga the most valuable about collaboration in the SNs was the; “Use of technologies as learning tools, global understandings and connections”.

Gillian was of the opinion that collaboration with peers in SNs support; “Global learning and understanding of others’ cultural and social standards”.

The data revealed that learning occurs within a specific cultural context. The results also revealed how ubiquitous SNs are; so that they can extend the learning environment into where students live and socialize. The data I have collected proved that SNs have enabled the participants to connect to academic resources irrespective of time and location and was thus supporting their learning, as seen in the following examples.

“The SNs made it possible to: work collaboratively across time zones and cultures” (Nancy).

“Collaboration with peers in the SNs was valuable because of the immediacy and being able to access it from my own home, across time” (Helga).

Dennis found the SNs comfortable about social networks for collaborative learning between himself and his peers because he was “able to access the platforms anytime, anywhere, allowing me the flexibility to work and learning on my schedule“.

From the following response by Dennis, it was evident that SNs expanded the learning environment to where people live, but it also connected participants to experts in the adult learning environment. :

“For me it is not an instead, but an addition. I am on Facebook anyways and it helped me to connect with some members of the programme, to get information on how they are doing and what are their struggles. They provided me support and inspiration. Moreover I also used social networks to connect with experts in the Adult Learning Space that are not in the program, for example the ASTD <http://www.astd.org/>“(Dennis).

This further expansion of the learning environment to experts exhibited that access to SNs have the ability to broaden the learning environment even further than the official It’s Learning environment and the collaboration with peers in the SNs .

The data gave an account of how the participants have employed the tools of a globalized world, namely technology, the SNs, to aid their learning (see appendix 6). This portrayed the notion of the social constructivist theory that learning is socially situated. Vygotsky (1978) posits that learners should therefore learn from the real world and that the learning environment cannot be divorced from its social cultural – context. Technology and the media are cultural features of a globalized world and have transformed our social world into one that is highly connected and networked. The acts or activities which happen in society are thus part of a socio-cultural setting, (Vygotsky,1978; Bonzo & Parchoma, 2010; Jaworski 1996).

The Social Networks as a Supportive Learning Environment

The data indicated that emphasis in the SNs is not on the content of what is being learned, rather on the interaction between the participants and their activities around the content of what is being learned. This correlates with Munguatosha, Muyinda & Lubega’s (2011) idea of collaborative learning, that there is “a shift from the content of a subject to the learning activities and human actions around which content is situated” (p.308). The results showed

that participants in their interaction with peers and the activities they were engaged in around the learning content, a supportive learning environment was created in the SNs.

The following two categories of support were reflected in the results: (a) Peer Academic Support and (b) Emotional Support.

Peer Academic Support

Although Web 2.0 tools have numerous applications which can support learning, one of the most valuable resources are people, as also evident by contributions from the participants. All of the participants reported that they have provided and received academic support from their peers (see appendix 6). This academic support included feedback given and received; support in essay writing and in completing group tasks. All of them reported that they have referred their peers to other academic resources.

The following responses are indications of the academic support peers supplied and received in the SNs:

“I provided feedback, direction, ideas, and input” (Helga).

“I often received feedback from others regarding their perspectives, which were different from my own. I also received specific feedback in response to drafts of papers and assignments” (Candy).

Daisy reported on essay writing: “My peer helped me to make a good outline of my essay.”

Maurice wrote that he was supported by peers in completing group tasks: “by getting further clarifications from peers on instructions. Some peers structured our group tasks into manageable lots for members.”

Thomas provided support to his peers by: “referring others to online journals, articles and videos; providing reference to physical library materials.”

The data revealed that peers have not just supported each other academically, but they were becoming increasingly dependent on each other in the learning process as shown by Gillian’s response:

“The one, who understand the most, was helping all the others” (Gillian).

This interdependence amongst individuals in the learning process is described by Vygotsky (1978) in two concepts - namely the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD). In the nomenclature of Vygotsky's social theory of learning, the MKO is any person who has a better understanding or who is better skilled to complete a specific task. The MKO is normally understood to be an adult/ teacher/coach but it can also be peers or even computers.

The ZPD is defined by Vygotsky as "the difference between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

Beryl's experience resonates with Vygotsky's description of the ZPD: "Not coming from an education background, I had tremendous input from my peers who were." (Beryl).

In the literature that I have reviewed, the authors indicated that the importance in the application of Web 2.0 tools in learning and teaching are growing, (Wilkinson, 2011; Witts, n.d.; Serce & Yildirim, 2006; Ruey, 2010; Munguatosha, Muyinda & Lubega, 2011). I however have not anticipated that participants would at times become entirely dependent on peer academic support in the SNs.

Kenneth and Naomi from China and Maurice from Ghana reported that during their time of study they at times could not access Its Learning. They were relying on the support of their peers in the SNs to aid them in their learning, as reflected by their responses:

Maurice wrote that he was tutored by peers in SNs: "In times when I could not access Its learning."

According to Kenneth, he chose SNs to interact with peers, because he had more regular access to the SNs than Its Learning; "Trouble accessing Its Learning because of great firewall of China."

Naomi, like Kenneth resided during her time of study in China and also reported how supportive her peers were when she had trouble accessing electronic resources:

"Several students posted videos in a form that I could receive as I couldn't access Youtube in China" (Naomi).

Peer academic support in the SNs was very strong. The evidence showed that SNs have the potential of facilitating study groups. This was explicitly mentioned by Gillian from Greece on what the most valuable learning of “chat” with her peers in SNs was:

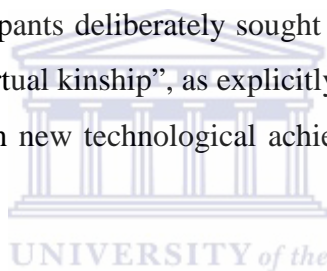
“It reminded me of the way ancient Greek tutors used to teach small groups: the one who could understand the most was guiding all the others and assisting them in forming an excellent learning group” (Gillian).

Emotional support in the context of learning

The data showed that the participants, who were geographically dispersed, formed relationships and experienced tremendous emotional support in the SNs. A type of kinship was formed not by blood and a sense of belonging and caring were experienced. This resonates with Alexander & Boud’s assertion that, “Learning does not occur in isolation The extent to which we sustain learning over time is a function of emotional and personal support we gain from others “(2001, p.14).

The data revealed that the participants deliberately sought out likeminded people in the SNs with which they could form a “virtual kinship”, as explicitly written by Gillian:

“I have always been interested in new technological achievements and thus tried to find as many of my kind as possible!!!”



Gillian’s search for likeminded people in the SNS supports Cram, Kuswara, & Richards (2008) statement that “technology has allowed individuals to form communities based on shared interests rather than kinship or locality”, (p. 70).

The tremendous emotional support that the participants received and gave in the SNs was also reflected in the following responses:

“I have helped to provide comfort and support to those not used to academic requirements” (Nancy).

“The fact that there was inherent trust in giving and receiving feedback and exchange of ideas without feeling intimidated” (Sharon).

“I found encouragement and empathetic feelings from them” (Daisy).

The literature that I researched explicated that online learning is coupled with feelings of isolation (Stacey , 1999); the results showed that communication amongst peers in the SNs reduced these feelings of isolation as explicitly stated by the following two students:

“SNs provide a sense of togetherness that supports collaborative learning” (Daisy).

“They provided me support and inspiration” and “the feeling that I am not alone with some of the challenges” (Dennis).

We often think of education as a cognitive experience, but it is much more than that. Learning support can be seen as a form of emotional support and SNs are creating the space to provide emotional support in a learning context. The evidence however also displayed that learning and education are also an emotional experience as seen by Helga’s example;

Helga reported on the kinds of support that she has provided in “chat” with her peers in social networks; “Editing assignment and moral support” in one sentence.

In my literature review I did not focus on learning support as a form of emotional support as such. Mazman & Usluel (2009), although not explicitly writing about learning support as an emotional support do however write about the rich learning support provided by the Web 2.0 tools which are in line with the Vygotskian approach to learning. The Vygotskian approach to learning emphasizes personalization, collaboration, information sharing, common interests, active participation, and group work support (Vygotsky, 1978).

I cannot however be impartial when analysing on the kinds of support that the participants gave and received in the SNs. Having participated in collaborative learning in SNs I am totally aware of the categories of support that students gave and received through “chat” in the SNs. I have experienced Peer Academic Support, Emotional Support and Technical Support in the SNs. I therefore was totally surprised that the results did not reflect the give-and-take of any Technical Support amongst students in the SNs. My own experience resonates with Stacey’s (2002) findings on a study of collaborative group learning that “technical hints were often shared, with students who were more technically capable helping the others” (Stacey, 2002, p.2).

A New Type of Pedagogy, a Different Learner

Participant's responses illuminated the features of an emerging pedagogy within the social context of a digitized and globalized world:

“It is more private and intimate, quicker and more efficient collaboration“(Thomas,).

“It provided instant response capabilities” (Beryl).

“ The ability to work together in a more informal manner, better tools for “real time” collaboration, better text editing tools, ability to incorporate multiple feedback . It allowed us to work collaboratively across time zones and cultures” (Nancy).

“They are smooth and easy to use. Ease of use eliminates a barrier to learning which, in turn, facilitates the choice of such tools in the learning process” (Marc).

“They are fast and, user friendly” (Gillian).

The data resonates with researchers claim that the integration of Web 2.0 tools into the learning process gives rise to the development of a new pedagogy. Gunawardena et.al, (2009) assert that the paradigms for learning have already evolved beyond traditional classroom models to synchronous and asynchronous, interactive and collaborative learning, which are further extended by Web 2.0 tools and social networking approaches. My study builds on the research conducted on this new pedagogy, which is succinctly coined by researchers as Pedagogy 2.0. Pedagogy 2.0 integrates Web 2.0 tools; support knowledge sharing; facilitates peer-to-peer networking, and access to a global audience with socio-constructivist learning approaches. Pedagogy 2.0 facilitates greater learner autonomy, agency, and personalization, (Brown & Adler, 2008; McLoughlin & Lee, 2008 in Glogoff, Baird & Fischer, 2005-2006; Munguatocha, Muyinda & Lubega, 2011). In the nomenclature of Vygotsky's social constructivism, the various tools in society that learners use to collaborate with their peers are a key to understanding humans socially and psychologically. The tools used to mediate are used to impact on society (Vygotsky, 1978).

The emergence of this new pedagogy in this connected, globalized social setting that we live in supports social constructivists claim that learning is influenced by the social setting in which it occurs (Vygotsky, 1978; Bonzo & Parchoma, 2010; Jaworski, 1996). It stands to reason that this new pedagogy will result in a different type of learner. According to Baird & Fischer (2005-2006) the “always on“ world of interactive media, the internet and digital

messaging technologies students have different expectations and learning styles than previous generations (p.5).

I deliberately probed the data for evidence of this different type of learner. The data showed that the participants of this study are highly connected. From the kinds and variety of Web 2.0 tools that they applied to their learning it can be said that they are creative (see appendix 6). The data also indicated that participants chose the SNs according to their needs. This confirmed that the participants of this study not only had a choice over their learning, but they also controlled their learning. The data revealed that participants wanted a choice of learning tools; content and time of learning; study in a comfortable and flexible learning environment.

More than twenty five percent of the participants indicated that it was convenient to collaborate with their peers in the SNs. The SNs are ubiquitous and easy to access it provided peers flexibility in when and where they wanted to interact with peers. Seventy percent of the participants found collaboration in SNs valuable because it is quick, they could get answers fast and they wanted instant responses.



SECTION 5 – SUMMARY, FINDINGS AND RECOMMENDATIONS

SUMMARY

The research problem that this study addressed is: Students in online international academic programmes can feel isolated which prompted them to seek support through from peers through various media. This study has successfully showed how the research problem can be solved.

The aims of the study were to investigate collaborative learning that took place in social networks associated with an online Masters Programme in Adult Learning and to generate new theoretical insights into how technology impacted on learners, their behaviour and learning within a group. The research question was instrumental in the successful fulfilment of the aims of this study.

I investigated the research question: “In what ways has collaborative learning in social networks supported learning in an online Masters Programme in Adult Learning?” it has guided me to investigate how Web 2.0 technologies enabled peers to share information collaboratively, to assist each other in essay writing and in completing group tasks, to improve on skills, to develop new skills, and enabled the participants to provide a supporting learning environment.

I adopted the mixed method research approach, which was appropriate for the collection and analysis of the data. My experience as an online learner in this Masters Programme was beneficial and contributed to the successful execution of the research, because I was familiar with the online research site. For my research I selected cohort 10 students of an online Masters Programme in Adult Learning. The participants were geographically dispersed across the globe and employed in a diversity practices.

The purposive sampling of the participants contributed to the success of this study. All the participants in the study used SNs to collaborate with their peers in the learning process. This collaboration was student to student, in hindsight I could have made the sample more inclusive by adding non-users and student-tutor collaborators in the sample. This would have given me a more holistic view of the impact of SNs on the online learning process.

Through the theoretical lens of socio-constructivism I succeeded in investigating the collaborative learning and knowledge creation that was taking place amongst peers in the social networks. To gain an understanding of learning as a social and interactive process I adopted the socio-constructivist belief explained by Vygotsky (1978). I found the Vygotskian

approach which is characterized by three themes: (a) every behaviour has a past history; (b) higher cognitive abilities come from social interaction; and (c) that the key to understanding human social and psychological processes are the tools and signs used to mediate them (meaning that signs are our language and tools, such as a computer, are used to impact society) (Penny, n.d) fitting to describe the collaborative learning among peers in the SNSs.

I used a survey as research method to gather the data. I gathered data by administering a self-completion questionnaire which was carried out through e-mail. Taking into consideration the global nature of the study the self-completion questionnaire was the most applicable to use as research instrument. With the research question in mind I designed the questions in the self-completion questionnaire around the following themes: Learning in the SNSs, with specific focus on group work and essay writing and how they provided emotional support for each other. The questions were well thought through and very well constructed because the information gathered on these questions was a key factor to the success of this study. In hindsight I could have included questions on how they have provided or received technical support to each other. Together with the sharing of knowledge and resources, the solving of technical problems collaboratively would have provided opportunity for interaction and discussion and had the potential to illuminate the interdependence which Vygotsky (1978) posits exists amongst individuals in a collaborative learning process.

I captured the data in a computer data file for analysis. I was aware of the risks of losing data due to technical problems on the computer therefore I stored data in various forms e.g. USB drive and hard copy during the capturing process. I heavily relied on the suggestions made by Bryman (2008) to help me organise the data. I identified major themes which have emerged from the data, I then identified different categories and subcategories, coded the data by breaking it down into component parts, which I gave names to, as suggested by Bryman (2008). I then manually colour coded and connected the data according to the identified themes. I found a winning recipe in Bazley's (2009) three step formula: Describe-compare-relate, to work through and analyse the data.

Analysis of the data and drawing on research studies done by Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montaña (2009) and Selwyn (2007) has helped me to show how social networks provide the tools to establish a learning network that enables collaborative learning within a social-constructivist The data gave me a good understanding on how students collaborated with each other in the SNS and how they have developed new skills through this collaboration with each other.

The data revealed the attributes of socio-constructivism in the learning process and knowledge creation among collaborating peers in the social networks i.e. peer – collaboration, reciprocal teaching, cognitive apprenticeship, peers communicating and collaborating to solve real-world. The data has proved that a learner-centred learning environment can be successfully created in the SNs. This research study and my own experiences as an online learner expanded my knowledge about a socio-constructivist perspective on online learning in the Master Programme in Adult Learning.

At times I was totally overwhelmed by the data of this study. It became a challenge to analyse the data because I felt that my own theoretical knowledge was challenged and that there's plenty of room for further research and exploration of the data. I have however succeeded to fulfil the aims of the research.

The data gathering process, via email was effortless and was done at little costs.

FINDINGS

Anticipated findings confirmed

The following anticipated findings were confirmed by the data:

- (a) The participants' collaborative learning in social networks is needs driven, learner-centred, informal, unstructured and spontaneous.
- (b) My study affirmed one of the core aims of the Masters Programme in Adult Learning: to develop adult learning practice in international cross-cultural contexts as stated in the course brochure of this online Masters Programme in Adult Learning; can be achieved in SNs. <http://edst.educ.ubc.ca/future/alg>
- (c) Some of the goals as described in the course outline of this online Masters Programme (<http://edst.educ.ubc.ca/future/alg>) can be achieved through the use of new and emerging technologies and social networking. The following general goals of the programme were achieved through collaboration by the multi-cultural participants of this study: Being employed in a myriad of adult learning practices and being adult learners the participants gained an understanding of commonalities and differences across different contexts for adult learning. The tools in the SNs have enabled the participants to learn and work collaboratively on group tasks and essay writing, to share knowledge and resources and to support each other. This study has found that the participants

applied Web 2.0 tools in the SNs to learn how to learn and work globally. The findings of this study therefore have implications for teaching and learning in the online Masters Programme in Adult Learning.

- (d) This study shows that because of the rapid development of the World Wide Web from the inception of Web1.0 in 1996, to the growth of Web 2.0 in 2006, till the anticipated full-fledged development of Web 3.0 in 2016 Naik & Shivalingaiah (2008), there will therefore always be a need for research on the impact of technological tools on teaching and learning.

Three unexpected findings

The findings of this study generally reflected expected outcomes and reported similar findings to those in the literature I reviewed, specifically in the research studies done by Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montaña (2009) and Selwyn (2007) with its focus on the role of SNS in pedagogy. However there were some unexpected findings in the data of my study, which do not relate to the literature I reviewed, which will be discussed below.

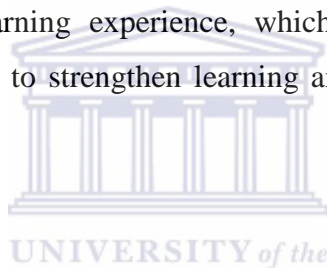
The three unexpected findings include: (a) SNs have the potential to substitute the official learning platform as an environment for learning; (b) learning support as emotional support and (c) collaborative learning in SNs can lead to social prestige.

- (a) SNs have the potential to substitute the official learning platform as an environment for learning: Where structural barriers occur, such as the firewall in China which prohibits access to the official online learning at times or insufficient bandwidth in Ghana which make it difficult to access the official online learning, the SNs became the only accessible learning platform. In this temporary inaccessibility to the official It's Learning platform, the SNs substituted the official online learning platform. With no other contact to the learning on the official online learning platform, interaction with peers in the social networks became important in the learning process.
- (b) Learning support can also become a form of emotional support: The data showed that participants were seeking academic support in the SNs, but they have also expressed the need for emotional support to their search for academic support. This makes me conclude that they were actually seeking for emotional support in the SNs. This emotional support that the participants

received and the kind of “kinship” they felt support Stacey’s (2002) assertion that online interaction reduces the usual isolation students experience in online learning and Alexander & Boud’s declaration that, “Learning does not occur in isolation The extent to which we sustain learning over time is a function of emotional and personal support we gain from others “(2001, p.14).

- (c) Collaborative learning in SNs can lead to social prestige: What I was not expected to see was a shift from how SNs can facilitate collaborative learning to collaborative learning in SNs amongst multi-cultural peers being associated with social status. I was therefore totally surprised by the participant, from Indonesia’s response that her collaborative learning in the SNs with her international peers has led to an increase in her social status amongst her colleagues.

Based on the data of this research I am of the opinion that the social communication capabilities of the SNs have the potential to expand the learning environment, increase participation and enrich the learning experience, which can facilitate a learner-centred pedagogy. SNs can thus be used to strengthen learning and teaching on the official online learning environment.



Theoretical insights

My study is building on prevailing theoretical perspectives and is generating new theoretical insights into how technology impacts on learners, their learning, behaviour and needs within a group in the following ways:

1. Social Constructivism and Collaborative Learning

- (a) My study is theoretically framed by Vygotsky’s (1978) social-constructivism an epistemological theory which is grounded in the belief that: learning is contextual, knowledge creation is a shared experience; there’s interdependence amongst individuals in the learning process and knowledge comes about through negotiation within collaborative groups, Vygotsky (1978); Prawat & Floden (1994); Kim, B. (2001).The data has shown that all this attributes that researchers are connecting to a social-constructivist learning environment can be achieved in the SNs.
- (b) The collaborative learning behaviours of the participants in the SNs strongly corresponded with the collaborative behaviours identified by Johnson &

Johnson (1996), which included: giving and receiving help and assistance; exchanging resources and information; explaining, elaborating information sharing existing knowledge with others; giving and receiving feedback; challenging others' contributions; advocating increased effort and perseverance among peers; engaging in small group skills and monitoring each other's efforts and contributions.

2. The synergy between Social Constructivism and Collaborative learning confirmed

The findings of this study confirmed the proclaimed synergy between social-constructivism and collaborative Learning, (Gerlach, 1994; Cooper & Robertson 1998; Huang 2002; Smith & Macgregor 1992). Confirmation of this synergy between collaborative learning and social constructivism was shown in the following ways:

- (a) The data confirmed learning as an active process which involves interaction with other people and environments and the interdependency on more skilled and knowledgeable peers in the learning process.
- (b) The participants revealed learning in the SNs as a positive experience and how they have benefitted from being exposed to different viewpoints from their peers with diverse backgrounds.
- (c) A particular behaviour category that stood out in this study was communication, which support researchers claim that dialogue is a prominent feature in a social constructivist environment, (Prawat & Floden, 1994; Cochrane & Bateman, 2009; Ruey, 2010; Laal & Laal, 2012; Panitz, 1999; Gerlach, 1994; Dillenbourg, 1999; Cochrane & Bateman, 2009). The data confirmed that communication is also the core of collaborative learning as stated by Smith & MacGregor that "Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves. It is through the talk that learning occurs" (1992, p.2).
- (d) The intensity of communication increased during the completion of group tasks, which confirms that learning flourishes in a social environment where conversation between learners takes place. This increased communication substantiates Jonassen's claim that social negotiation environment can foster reflective response and support collaborative construction (Jonassen, 1994).

- (e) The learners reported how they were challenged both socially and emotionally as they listen to different perspectives. Learners reported how they were looking for likeminded people in the SNS's, how they were more confident to give their opinions and felt safer to utter their feelings in the SNS. These actions prove that collaboration can improve students' social skill.

3. SNS's have the ability to facilitate a diversity of adult learning styles

The data has shown that apart from collaborative learning SNS's have the ability to facilitate a diversity of learning styles. This finding is in convergence with Huang's (2002) assertion that online learning can facilitate a diversity of constructivist adult learning styles which will benefit both learner and tutor. The data reflected the following adult learning in the SNS which are in convergence the adult learning styles identified in online learning by Huang (2002):

- (a) Interactive Learning - according to Vygotsky people naturally learn through their interaction with others and work collaboratively in their lives.
- (b) Facilitating Learning - students have more freedom to select and arrange their learning processes with others.
- (c) Authentic learning - Students learn from real life experiences.
- (d) Learner-Centred Learning - learners own the learning process, is highly autonomous, self-directed, motivated and individually different.
- (e) High Quality Learning – Learners learn how to manage, analyse, critique, cross reference and transform information into valuable knowledge.

4. Assumptions on the role of SNS in pedagogy

My study has common assumptions on the role of SNS in pedagogy with the research done by Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montañó (2009) and Selwyn (2007). There is however a divergent in the focus of our studies. My study focus was on student behaviours which display the SNS as a social-constructivist learning environment which facilitates collaborative learning. On the other hand Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montañó (2009) and Selwyn (2007) investigated how the diversity of Web 2.0 tools can be employed to create a collaborative learning environment in the SNS. My study thus complements the research done by Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montañó (2009) and Selwyn (2007).

My knowledge of how web 2.0 tools can be applied, used and aid learning was broadened by this study. The research done by Wilkinson (2011); Muños & Towner (2009); Romero-Frias & Montaña (2009) and Selwyn (2007) on the role of SNs in pedagogy implicate that there's a myriad of ways in which web 2.0 tools can be applied in the learning process, its uses are countless and it can be a great support for learning in the official learning environment. According to Muños & Towner (2009) research on social network sites is at its infant's stage and few studies have addressed its role in pedagogy. My study, with its focus on how collaborative learning that has taken place in social networks supported learning in an online Masters Programme in Adult Learning, is therefore contributing to the growing literature which specifically addresses the role of SNs in pedagogy. Interesting to me was how the following studies have shown how these various web 2.0 tools can be used for academic purposes.

- (a) Romero-Frias & Montaña (2009) show a social network can be used for academic purposes which led to deeper peer collaboration and helped them to develop key skills.
- (b) Wilkinson (2011) provides an account of how Web 2.0 tools such as wikis and blogs attempt to move beyond the unstructured notion of a discussion forum, "blogs encourage the sharing of knowledge, interactivity, community and debate and is therefore useful in increasing collaborative learning. A wiki allows people to upload content, add to and edit that content, thus making them more collaborative than a blog "(Wilkinson, 2011, pp.4-5).
- (c) Muños & Towner (2009) and Selwyn (2007) researched the educational significance of the social network site Facebook for teaching and learning. Muños & Towner (2009) investigated how Facebook can be used in teacher education and Selwyn (2007) researched students' educational use of Facebook.

The findings of these studies converge with the data of this study that (a) students are already deeply immersed in the use of Web 2.0 technologies and (b) Web 2.0 technologies are so rich in applications that it can facilitate a number of collaborative actions.

According to Wilkinson (2011) we should be thinking of education and learning in terms of changes in communication and information technologies and whether learning can be enhanced by web 2.0 technologies. With this study I proved that developments in technology have the ability to change the face of pedagogy. Wilkinson (2011) stresses in her study the importance of developing collaborative communities in higher education in the light of the

increase in the demand for higher education, the widening participation agenda and the technological revolution. The data of this study has reflected that the participants are already connected to and collaborate with each other in SNs. They reported how they are using Web 2.0 technologies which are facilitating synchronous (SKYPE) and asynchronous (e-mail, blogs, wikis, discussion boards, chat rooms) communication to interact with other students. It is thus possible for organizers of this online Masters Programme to capitalize on these social networks which provide a learning network that enable collaborative learning. SNs thus offer the tutors of this online Masters Programme opportunities for adapting learning and teaching which would make the learning experience more holistic (Wilkinson, 2011), “the reality is that students are already using social networking sites (SNs) and the educators have the choice to work with or against them” Pegrum (2009, p.27-28).

5. Web 2.0 tools and services facilitate extensive collaborative learning and broaden participation in learning

Contrary to the Generation Y, who grew up in this period of rapid technological developments (Cabral, 2011), the participants of this study revealed that although not born into the internet, that they are deeply emerged in SNs and that they are highly skilled in using the various Web 2.0 tools and services. The data showed that the participants have adapted to the rapid technological changes which have led to a transformation of the global society into a networked and connected one. The data showed that the diversity of Web 2.0 tools and services can be employed for extensive collaborative learning in the SNs and is broadening participation in learning.

6. Social networks can complement the official learning platform as an environment for learning

What amazed me in this study is how SNs complemented the official It's learning environment. From the evidence it is clear that the official It's learning platform was and remained the base or the core of the learning process. The data revealed that participants were looking for ways into which they could expand the learning environment. The learning needs of the participants sprouted from this official core towards the SNs. The SNs were facilitating the expansion of the learning environment beyond the boundaries of the official It's Learning Platform. The data showed that SNs have the ability to push the learning environment even beyond the boundaries of It's Learning Platform and the collaboration with peers within SNs, making the learning environment so fluid and ubiquitous that it

becomes seamless. In terms of the learning process the SNs expanded the learning space beyond the boundaries of It's Learning; the SNs became a scaffold for It's Learning; the SNs became a temporary substitute for Its Learning and the SNs supported the learning that took place on It's Learning. The data revealed that SNs were thus not replacing the official Its Learning environment, but it was rather enhancing it.

7. Learning support as emotional support

Several participants sought and found learning support in the SNs. It leaves me wondering whether participants were not seeking emotional support intentionally in the pedagogical space, because of the isolation that students are experiencing in online learning. My insight builds on Alexander & Boud's assertion that, "Learning does not occur in isolation The extent to which we sustain learning over time is a function of emotional and personal support we gain from others "(2001, p.14).

8. The need for a private chat facility revealed

The data revealed communication as a central collaborative behaviour and although a "chat room" was developed on It's Learning platform, which gave students the possibility to verbally converse with peers in real time, no participant reported to have used it. There is thus room here for further exploration on this matter: if they have used the "chat room" on the It's Learning platform, how effective was it or if they have not and verbal communication is so important, what were the reasons for why they have not used it?

The participants of this study expressed the need for a chat facility which is more private and more accessible. It's Learning or future learning platforms should thus be designed to create a chat facility which has the same accessibility and features as other SNs.

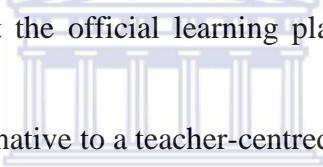
The challenges with which the management of the online Masters programme are now confronted are: how to increase the existing technological tools on the It's learning platform which will enhance collaborative learning amongst students; how to make the Its learning platform less "chaotic" and more user friendly and how to provide a more private space for small group interaction.

9. Web 2.0 tools facilitate a new type of pedagogy and a different type of learner is emerging.

My research confirms that Web 2.0 tools facilitate a new type of pedagogy and that a different type of learner is emerging, (Brown & Adler, 2008; McLoughlin & Lee, 2008 in

Glogoff, n.d.; Baird & Fischer, 2005-2006; Munguatosha, Muyinda, & Lubega, 2011). Immediacy seems to play a vital role in the new learners' learning. This new learner wants quick answers and wants to be kept in the loop. The data revealed that this immediacy in the new learner's learning can be accomplished by the diversity of Web 2.0 tools which students can use in the SNs for collaborative learning and the fact that they can access the SNs as learning environment any place and any time. The question that however comes to my mind is: What kinds of learning does this immediacy lend itself to? The extent of the learning can be questioned. Although it can be acknowledged that collaboration in the SNs can broaden learning, it also provides an opportunity for further exploration of the depth of the learning that takes place in the SNs. Even though the depth of learning that takes place in the SNs is questionable, collaboration amongst peers in SNs keep the learning thread alive. Social networks thus provide the space which facilitates continuous pedagogy engagement, whereby both tutors and students can benefit.

Based on the data I believe that both students and tutors can benefit in the SNs as learning environment in the following ways:

- 
- (a) It can complement the official learning platform, which will strengthen the learning process.
 - (b) It provides an alternative to a teacher-centred environment, which will give the students more autonomy over their learning. It will also increase peer and tutor-student interaction and collaboration.
 - (c) SNs as a learning environment have the potential to facilitate a diversity of learning styles.
 - (d) It can promote learning communities or communities of practice, which can enhance skills development and stimulate active learning.

Further investigation

None of the participating students revealed that they have used the "chat" possibilities that were created on the official It's Learning platform; this in itself requires for an investigation into the functionality of the existing chat room.

It is quite evident that further research is required to understand more fully how SNS are being used and can be used in academic studies in the future.

RECOMMENDATIONS

In line with the purposes of the research that I stated the collaborative learning in the SNs has enhanced learning in the official online It's learning platform. Based on the research findings I make the following recommendations to present and future course designers of online Masters Programmes:

1. SNs can be used as a platform to facilitate collaborative learning that supports learning in the formal online platform.
2. Course designers encourage students to use SNs for collaborative learning because it can enhance their online learning.
3. The participants revealed the need for a private space and to group with like-minded people. Course designers of online Masters Programmes should therefore encourage students to use Social Media to develop social networks through which collaborative learning could take place outside the formal online learning platforms.
4. To make the chat facilities self-selecting which would provide another reason to use the chat facility and would provide the needed privacy.

CONCLUSIONS

This study is limited because the sample consisted primarily out of student to student interaction and collaboration in the SNs. It excludes student to tutor and tutor to tutor collaboration in the SNs. In failing to do so, it does not provide a comprehensive insight into the impact of Web 2.0 technologies on learning and teaching on the official online learning platform of this Masters Programme. It also does not explicate the reasons why non-users of SNs do not interact or collaborate with their peers / tutors in the SNs. If this study should be repeated, it should be more inclusive and be replicated with a more diverse sample, which would include all users and non-users of SNs.

The influence of technology on learning in our globalised world supports Vygotsky's (1978) declaration that learning takes place in a specific social context and is time bound. The prominence of technology in our digitalized, interconnected global society is increasing. The rapid development of the Web and the internet are constantly changing and are continually influencing pedagogy. Research on the impact of social networks on this changing digital learning environment is limited, because SNs as learning environments are relatively new and unknown in comparison to century's age old institutions of higher education. Muños &

Towner (2009) elucidate that the research on SNs has only just begun. There is thus a need for further in-depth research needed on the influence of SNs on teaching and learning.

The study has shown that technology, the development of Web 2.0, also influences the ways of discourse in the different levels of society. This research has shown that discourse in SNs can no longer be regarded as marginal, but is increasingly becoming part of mainstream communication. It is becoming part of the mainstream discourse of the academy. Technology influences discourse, therefore the ways in which the ever changing technology change the way we communicate and interact on a variety of levels in society need to be taken into consideration.



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<http://edst.educ.ubc.ca/future/algc>



SELF – COMPLETION QUESTIONNAIRE**1. BIOGRAPHICAL DETAILS****1.1 Gender**

	Please mark answer with a \checkmark
Male	
Female	

1.2 Age

	<i>Please mark answer with a \checkmark</i>
20 -29	
30-39	
40-49	
50-59	
59 +	

**1.3 Country of residence**

Please type your response here

1.4 Occupation

Please type your response here

2. INTERACTION IN SOCIAL NETWORKS

2.1 Which social networks have you used to interact with your peers in the Masters Programme outside of Its Learning?

	<i>Please mark answer with a ✓</i>
E-Mail	
Discussion boards	
Wikis	
Blogs	
Chat rooms	
Facebook	
Twitter	
MySpace	
Flickr	
Other (please specify)	

2.2 How frequently do you access social networks?

per day	
per week	
per month	

2.3 How was the link between you and your peers in the social networks initiated?

Please type your here

2.4 Was the frequency of interaction with peers in the social networks less or more than in the Its Learning platform?

Please type your response here

2.5 What did you find most valuable about your interaction with fellow students in the social networks?

Please type your response here

2.6 Did you use social networks as an environment for learning?

Please mark "Yes" or "No" with a √

Yes	
No	

2.7 Did you use social networks to enhance your learning in the Masters Programme in Adult Learning? *Please mark "Yes" or "No" with a √*

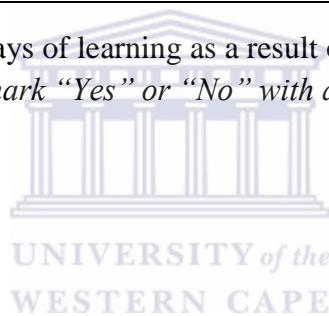
Yes	
No	

2.8 What features made social networks a comfortable environment for enhancing your learning in the Masters Programme?

Please type your response here.

2.9 Have you changed your ways of learning as a result of your interaction with peers in social networks? *Please mark "Yes" or "No" with a √*

Yes	
No	



2.10 If yes, describe these new ways of learning.

Please type your response here

2.11 Have you developed new academic skills through interaction with yourpeers ?

Please mark "Yes" or "No" with a √

Yes	
No	

2.12 If yes, what kind of academic skills have you developed?

Please type your response here

3. “CHAT” AND LEARN IN SOCIAL NETWORKS

3.1 “CHAT”, LEARN AND SUPPORT

These questions focus on the support you received or provided in “chat” with your peers in social networks.

3.1.1 Did you support your peers? Please mark “Yes” or “No” with a ✓

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

3.1.2 If the answer to question 3.1.1 is yes, which of the following kinds of support did you give? Make examples of the kinds of support you gave.

“give advice “	<i>Please type your examples here</i>
“tutor”	<i>Please type your examples here</i>
“refer to other literature”	<i>Please type your examples here</i>
“ provide feedback”	<i>Please type your examples here</i>
“consult”	<i>Please type your examples here</i>
“refer to other sources i.e. video’s, films, books”	<i>Please type your examples here</i>

3.1.3 Did you receive support from peers? Please mark “Yes” or “No” with a ✓

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

3.1.4 If the answer to question 3.1.3 is yes, which of the following kinds of support did you receive? Make examples of the kinds of support you received.

“receive advice “	<i>Please type your examples here</i>
“tutor”	<i>Please type your examples here</i>
“refer to other literature”	<i>Please type your examples here</i>
“ receive feedback”	<i>Please type your examples here</i>
“consult”	<i>Please type your examples here</i>
“refer to other sources i.e. video’s, films, books”	<i>Please type your examples here</i>

3.2 “CHAT”, LEARN AND ESSAY WRITING

These questions focus on your participation in “chat” with your peers in social networks about essay writing.

3.2.1 Has “chat” with your peers assisted you with essay writing?

Please mark “Yes” or “No” with a √

Yes	
No	

3.2.2 If yes, how did your peers assist you with essay writing?

Please type your response here

3.2.3 If the answer to question 3.2.1 is yes, what did you learn from your peers about the following aspects of essay writing?

(a) understanding the instructions	<i>Please type your response here</i>
(b) understanding essay content	<i>Please type your response here</i>
(c) structuring the essay	<i>Please type your response here</i>
(d) applying academic conventions	<i>Please type your response here</i>

3.2.4 What was your most valuable learning in the above list (a) - (d)?

Please type your response here

3.2.5 Did you assist your peers with essay writing? *Please mark “Yes” or “No” with a √*

Yes	
No	

3.2.6 If yes, what aspects of essay writing did you focus on when assisting your peers?

Please type your response here

3.2.7 What was comfortable about social networks that enabled this collaborative learning between your peers and yourself?

Please type your response here

3.3 “CHAT”, LEARN AND GROUP TASK

These questions focus on your participation in “chat” with your peers in social networks to complete group tasks.

3.3.1 Has “chat” with your peers assisted you in completing group tasks?

Please mark “Yes” or “No” with a √

Yes	
No	

3.3.2 If yes, how did your peers assist you in completing group tasks?

Please type your response here

3.3.3 If the answer to question 3.3.1 is yes, what did you learn from your peers about the following aspects of completing group tasks?

(a) understanding the instructions	<i>Please type your response here</i>
(b) understanding group task content	<i>Please type your response here</i>
(c) structuring group tasks	<i>Please type your response here</i>
(d) applying academic conventions	<i>Please type your response here</i>

3.3.4 What was your most valuable learning in the above list (a) - (d)?

Please type your response here

3.3.5 Did you assist your peers with completing group tasks?

Please mark “Yes” or “No” with a √

Yes	
No	

3.3.6 If yes, what aspects of completing group tasks did you focus on when assisting your peers?

Please type your response here

3.3.7 Did you fulfil different roles in completing group tasks?

Please mark “Yes” or “No” with a √

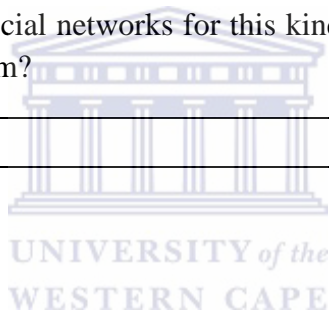
Yes	
No	

3.3.8 Which of the following roles did you fulfill?

	<i>Please mark answer with a √</i>
Initiator	
Resource person	
Scribe	
Did you “collate”?	
Critic	
Timekeeper	
Other	

4. Why did students choose social networks for this kind of collaborative learning instead of the Its Learning platform?

Please type your answer here



3 August 2012

Professor Zelda Groener

Director of the Centre for Adult Education

University of the Western Cape

RE: Permission to conduct research study

Dear Professor Groener:

My name is Lorraine Ann Isaacs. I am currently enrolled in the online Masters Programme in Adult Learning and Global Change which is offered collaboratively by the University of the Western Cape, South Africa, The University of British Columbia in Canada, Linköping University, Sweden and Monash University in Australia.

I am writing to request permission to conduct a research study entitled: *“Social Constructivism and Collaborative Learning in Social Networks: The Case of an online Masters Programme in Adult Learning.”*

This study investigates how students use social networks such as wikis, podcasts, blogs, chat rooms, social networking sites and email to create a supportive environment for collaborative learning in the online Masters Programme in Adult Learning outside its delivery. This study shows how the use of these Web 2.0 technological tools have the potential to expand the learning environment, broaden participation and deepen the learning experience.

I hope that the administration of the online Masters Programme will allow me to recruit 10 - 15 students as participants for my study. Potential participants will be from Cohort 10 registered in the Masters Programme in Adult Learning from 4/10 /2010 to 16/03/2012.

If approval is granted, participants will be required to fill out a self - completion questionnaire. The self-completion questionnaire should take them an hour to complete. Participants will be requested to email the completed questionnaires back to me. Results of the questionnaires will remain confidential and anonymous.

No costs will be incurred by either the universities or the individual participants. Participants will be given a letter with information on the study. I have enclosed a copy of the information letter for your review. Consent forms will be sent to the participants to be signed and returned to me. See the attached copy.

I am aware that email is not always safe. Therefore, I will take all the necessary steps to protect the identity of participants and the information disclosed to me.

I will conduct my research in accordance with the ethical and professional guidelines as specified by the University of the Western Cape.

I further seek permission to name the research site as the Masters Programme in Adult Learning and Global Change and the research population as Cohort 10 of the Masters Programme in Adult Learning and Global Change.

Your approval to conduct this study will be greatly appreciated. I would be happy to answer any questions or concerns that you might have. You may contact me at my email address: lorraine-ann@hotmail.com or by telephone at 0738403470.

If you agree, kindly submit a signed letter of permission on your institutional letterhead acknowledging your consent and permission for me to conduct my study.

With kind regards

Researcher: Lorraine Ann Isaacs

Student Number: 8213439

Course: Masters in Adult Learning and Global Change

University of the Western Cape

3 August 2012



Research Title : Social Constructivism and Collaborative Learning in Social Networks:
The Case of an online Masters Programme in Adult Learning.

Researcher: Lorraine Ann Isaacs

University of the Western Cape

Email: lorraine-ann@hotmail.com

Contact Number: 073 840 3470

RE: Information regarding participation in research study

Dear potential Participant

My name is Lorraine Ann Isaacs. I am currently enrolled in the online Masters Program in Adult Learning and Global Change (ALGC). The University of the Western Cape requires me to conduct a research study which will allow me to graduate from the ALGC Masters Programme.

I am writing to invite you to participate in my research study details of which are provided below.

Purpose: The purpose of the study is to investigate how students use social networks such as wikis, podcasts, blogs, chat rooms, social networking sites and email to create a supportive environment for collaborative learning in the online Masters Programme in Adult Learning outside its delivery. This study shows how the uses of these Web 2.0 technological tools have the potential to expand the learning environment, broaden participation and deepen the learning experience.

Your Participation: You are requested to fill out the self-completion questionnaire which will take approximately an hour to complete. Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate and decide not to continue, you can withdraw from the study at any time without consequences of any kind. In the event you choose to withdraw from the study, all information you provide will be destroyed and omitted from the final paper.

Benefits and Risks: The benefit of your participation is to contribute information to the kinds of learning, collaboration and knowledge sharing that takes place within the social networks. The use of social network tools and how they foster a social constructivist environment for collaboration may assist and enhance the tutors and students of the online Masters Programme in Adult Learning with their planning, teaching and learning capacities. There are no risks associated with this study. No costs will be incurred by you as a participant in this study.

Questions about the Study: If you have questions or concerns during the time of your participation in this study, or after its completion; or, if you would like to receive a copy of the final aggregate results of the study, please contact:

Researcher: Lorraine Ann Isaacs

Supervisor: Professor Zelda Groener

Email: lorraine-ann@hotmail.com

Email: zgroener@uwc.ac.za

Contact Number: 073 840 3470

Contact Number: 027 21 959 29 11

If you agree to participate in this study, please fill in the attached self-completion questionnaire and consent form and return both to me at lorraine-ann@hotmail.com.

With kind regards

Lorraine Ann Isaacs



Research Title : Social Constructivism and Collaborative Learning in Social Networks:
The Case of an online Masters Programme in Adult Learning

Researcher : Lorraine Ann Isaacs

Email : lorraine-ann@hotmail.com

Institution : University of the Western Cape, Cape Town, South Africa

Course : Masters in Adult Learning and Global Change

Supervisor : Professor Zelda Groener

Email : zgroener@uwc.ac.za

Dear Participant

Thank you for agreeing to participate in this study research on the online Masters Programme in Adult Learning and Global Change.

This form indicates your consent for participation in the research process and your rights as a participant.

Confidentiality: The research instrument is a self-completion questionnaire which should take you about an hour to complete. I am aware that email is not always a safe method of communication. However, your name and identifying information will not be associated with any part of the written report of the research. All your information and the completed questionnaire will be kept confidential. I will not share your individual responses with anyone other than the research supervisor. The results of this research study will be coded in such a way that the respondents' identities will not be attached to the final report of this study. Data will be kept in the strictest confidence and will be stored in a secure location for 5 years after which time it will be destroyed.

Statement of Consent: I have read the information letter and the consent form. I understand what is requested of me as a participant in this study. I freely consent to participate. The researcher provided me with a copy of this form through email. I agree to fill out the attached questionnaire personally. I am aware that I can discontinue my participation in the study at any time.

Signed: _____ Date: _____

Place: _____



UNIVERSITY of the
WESTERN CAPE

OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT

09 October 2012

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by:
Ms LA Isaacs (Education)

Research Project: Social constructivism and collaborative learning in social networks: The case of an online Masters programme in adult Learning.

Registration no: 12/8/3

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Private Bag X17, Bellville 7535, South Africa
T: +27 21 959 2988/2948 . F: +27 21 959 3170
E: pjosias@uwc.ac.za
www.uwc.ac.za

A place of quality,
a place to grow, from hope
to action through knowledge

Table 1: The Results of the residing countries of the Participants

¹ Names	Residing Country
Thomas	Australia
Nancy	Australia
Beryl	Australia
Helga	Australia
Sharon	Canada
Candy	Canada
Dennis	Germany
Marco	Japan
Gillian	Greece
Greg	The Czech Republic
Kenny	Peoples Republic of China
Daisy	Indonesia
Naomi	Malaysia
Maurice	Ghana

Table 2: The results of the Gender and Age of the Participants

Age	Number of Males	Number of Females
20 -29	1	1
30-39	4	3
40-49	1	1
50-59		3
59 +		

¹ Students were given Pseudonyms to protect their identity.

Table 3: The different Social Networks the participants used to communicate with each other.

Social Networks	Number of Students
E-Mail	14
Discussion boards	8
Wikis	2
Blogs	3
Chat rooms	6
Facebook	11
Twitter	2
Skype	3
MySpace	0
Flickr	0
Other :	
Dropbox	1
Evernote,	1
You Tube	1
Mendeley	1
Google Docs	1

Table 4: Roles participants fulfilled to complete group tasks

Roles	% of participants	Roles	% of participants
Initiator	64,2%	Collator	57.1%
Resource person	78.5%	Critic	35.7%
Scribe	42%	Coach & referee	7.14%
Timekeeper	35.7%	Editor	7.14%

Table 5 – Interaction in social networks & “chat” and learn in social networks

Question number	Question	Yes (%)	No (%)
2	INTERACTION IN SOCIAL NETWORKS		
2.6	Did you use social networks as an environment for learning?	78.5%	21.4%
2.7	Did you use social networks to enhance your learning in the Masters Programme in Adult Learning?	71.4%	28.5%
2.9	Have you changed your ways of learning as a result of your interaction with peers in social networks?	64.2%	35.7%
2.11	Have you developed new academic skills through interaction with your peers?	64.2%	35.7%
3	“CHAT” AND LEARN IN SOCIAL NETWORKS		
3.1	“CHAT” AND LEARN AND SUPPORT		
		Yes (%)	No (%)
3.1.1	Did you support your peers?	100%	0%
3.1.2	Which of the following kinds of support did you give?	% Participants	
	“give advice “	92,8%	
	“tutor”	28.5%	
	“refer to other literature”	78.5%	
	“ provide feedback”	78.5%	
	“consult’	42.8%	
	“refer to other sources i.e. video’s, films, books”	92,8%	

		Yes (%)	No (%)
3.1.3	Did you receive support from your peers?	100 %	0%
3.1.4	Which of the following kinds of support did you receive?	% Participants	
	“receive advice “	92,8 %	
	“tutor”	50%	
	“refer to other literature”	92,8%	
	“ receive feedback”	100%	
	“consult’	57.1%	
	“refer to other sources i.e. video’s, films, books”	100%	
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3.2	“CHAT” AND LEARN AND ESSAY WRITING	Yes (%)	No (%)
3.2.1	Has “chat” with your peers assisted you with essay writing?	85.7%	14.2%
3.2.5	Did you assist your peers with essay writing?	71.4%	28.5%
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3.3	“CHAT” AND LEARN AND GROUP TASKS	Yes (%)	No (%)
3.3.1	Has “chat” with your peers assisted you in completing group tasks?	85.7%	14.2%
3.3.5	Did you assist your peers with completing group tasks?	92.8%	7.1%
3.3.7	Did you fulfil different roles in completing group tasks?	92.8%	7.1%