(ICT)-Enhanced Teaching and Learning in the College of Human Sciences, University of South Africa

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ABSTRACT Over the past few years, we have seen the advent of Information and Communication Technologies (ICTs) transforming our conventional understanding of education, more specifically teaching and learning practices. While the introduction of ICTs have brought to the fore many optimistic benefits, such as improved lecturer-student interactions, and new mediums for designing innovative curricula, it has also posited a re-envisioning of the business models of higher education institutions (that is, face-to-face, online and hybrid models). Against this background, this paper aims to ascertain the nature of ICT integration in the College of Human Sciences at the University of South Africa and its prospects and challenges for a blended learning model (print and electronic). This paper employs a qualitative analysis, with a research sample of 132 academics randomly selected through an open survey. The findings indicate potential for the expansion of the teaching and learning environment through innovative use of varying technologies and the critical position of institutional infrastructure in addressing the challenges of the changing education landscape.

INTRODUCTION

The integration of Information and Communication Technology (ICT) tools in education has been at the forefront of the education sector in recent years[1]. One of the primary applications of ICTs in education, more specifically within the Open Distance Learning (ODL) context, is to support teaching and learning[2]. Chickering and Ehrmann (1996) contend that the integration of ICTs in teaching and learning can advocate "good practices" in terms of encouraging active learning, giving prompt feedback, emphasizing time-based tasks, communicating high expectations, and respecting diverse talents and ways of learning. The application of ICTs in teaching and learning has also enhanced the way we teach in terms of dissemination of knowledge (through videos, podcasts, simulations, etc.), online discussions (through social networks, text-based chat applications, instant messaging, virtual classrooms, etc.), and assessment strategies (for example, online laboratories, e-portfolios, etc.). However, with the "expansion" of the teaching and learning environment, Keppell and Ridell (2013) contend that higher education institutions face the "unavoidable challenge" of integrating the material world (knowledge/ content) and digital technologies with modern "relevant" pedagogies. This is further demonstrated by Ertmer et al. (2013) who contend that the integration of technologies in any teaching and learning process must take cognizance of the intrinsic "context-based factors" – that is, the diverse learner contexts (varying socio-economic backgrounds), the availability of technological infrastructure (more especially the issue of access and connectivity speed), and the type of content being designed and how it is delivered. This further brings to the fore the critical question of empowering academics to design learning spaces and resources that promote affective and cognitive educational interaction (see Kay et al. 2013; Tompsett 2013; Bevins and Scott 2012). Hence, Balaam (2013: 71) posits a "reorientation" to design that focuses on the needs, motivations, requirements and practices of the twenty-first century learner, and ideally to the context within which the learning interaction is taking place.

In terms of business models and organizational architecture, Tuomi (2005) contends that over the next decade, the practices of teaching and learning will undergo fundamental change as higher education institutions respond to global, social, political, technological and learning research trends. This is further substantiated by Baranauskas, Silva and Roberto (2013) who contends that the face of higher education is rapidly evolving to meet the needs of the twenty-first century learner. This transformation process articulates a duality of change – that is, both conceptually and technologically. Similar

sentiments are echoed by Vajargah et al. (2010) and McAndrew et al. (2010) who concur that this duality in terms of new conceptual models of education and technological revolutions (for example, e-learning, mobile devices, cloud technology, etc.) offer the prospect of transformative change in higher education. In terms of conceptual and technological changes, Treadwell (2005) noted the following transitions: a) *Learning Context:* Historical context to a more personal context; b) *Access to Learning:* The traditional 5 days a week to 24/7; c) *Learning Access:* Institution based to anyone, anytime, anywhere; and d) *Teaching Approach:* From the traditional "sage on a stage" to a "guide" in knowledge construction. In addition, Doris (2012) contend that the integration of ICTs also have the potential to foster rich collaborative environments in terms of interactions between learners (peer-to-peer), interactions between staff, collaborative developments of teaching resources, creation of databases and information centers, and joint delivery of courses and programmes[3]. Likewise, the *2013 Horizon Report on Higher Education* articulates six key drivers of educational technology adoptions for the period 2013-2018. The first driver focuses on "openness" – that is, open data and open resources within domains of free, copyable and remixable content. The second driver focuses on Massive Open Online Courses (MOOCs), which are widely explored as "alternatives" and "supplements" to traditional university courses. The third driver focuses on the skills demanded by the labor market – that is, effective communicative skills, which also translate to the digital medium. The fourth driver highlights the importance of "learning analytics", which aid in the design and development of new course content and interfaces. The fifth driver highlights the critical changing role of the "academic" as learners begin to interface with non-traditional modes of learning. The sixth driver focuses on the shifting organizational architectures of higher education institutions to online learning, hybrid (face-to-face and online) and collaborative models.

Transitioning Teaching and Learning Environment at the University of South Africa

The transitioning of the University of South Africa (UNISA) from correspondence and distance education to an Open Distance Learning (ODL) institute saw many changes in the teaching and learning environment. While the current teaching and learning environment aims to be progressive, and advance its ODL character, there are still many academics that cling to teaching and learning practices that belong to the earlier modes of distance learning. The greatest challenge in the transitioning process has been how to bring everyone on board and not leave anyone behind. While this transitioning has enjoyed some degree of success in terms of individual lecturers actively engaging and exploring new ICT terrains to enhance the teaching and learning process (as commemorated in UNISA's 2011 Teaching and Learning Festival), it has become clear that a more comprehensive and structured approach is necessary to engage with the wider academic community. In terms of ICT-enhanced teaching and learning, the UNISA ODL Plan (dated November 2009) clearly articulates that there is a need to develop a conceptual framework and strategy for technology-enhanced teaching, learning and learner support.

To address some of these critical concerns and also to keep abreast with the broader ICT advancements, an ODL Task Team focusing on technology was setup. The task team proposed a five-year ICT plan, which aims at mapping the relationship and development between ICT and teaching and learning, to provide a framework for the integration of new technologies and ensure a systematic and systemic approach to integrating, supporting, and sustaining technological innovation in teaching and learning.

The focal points of this plan are as follows: to increase, sustain and support affordable, secure, supported and reliable access for students and staff to a range of appropriate technologies and software; to strategically differentiate between available and future technologies, and test and implement the operationalization of these technologies over a five-year period; design and develop a change management strategy to support the focal points of this plan; support the creation and use of Open Education Resources (OERs); and contribute to and support the institutional discourse and policy development on the social, ethical, legal and human use of technologies[4].

The plan further argues that by optimising the affordances of technology in teaching and learning at UNISA, it will serve an array of pur-

poses. Firstly, it will equip learners with the generic and ICT-specific skills for lifelong-learning relevant to making optimal and appropriate use of new technologies for conceptual understanding, personal development, and vocational/ professional competence. Secondly, the integration of new technologies will meet the needs and aspirations of current and future learners, while maintaining an appropriate balance of teaching media and methods, economies of scale, value for money and impact on increasing the effectiveness of teaching and learning. Thirdly, it will maintain study options for learners who do not have access to new technologies; and where at all possible, to increase their options of obtaining and sustaining their access to new technologies. Fourthly, it will maintain, support and continuously expand all modules offered at UNISA (undergraduate and postgraduate), in accordance with the South African Higher Education Qualifications Framework (HEQF), and the appropriate optimal use of technologies. Fifthly, it will postulate the use of new technologies in such a way as to minimise the investments learners have to make for their study while keeping abreast of current developments in technology. Sixthly, it will keep research on technologies for teaching at the leading edge; finding new ways to exploit the new and imminent technologies in the service of learners' needs. And finally, it will encourage and support staff and learners to use technology in innovative and effective ways in teaching and learning.

Two critical concerns emerge in the implementation of this plan. The first concern embodies the readiness of each college, school, department or subject specialist. The second concern embodies the appropriateness of choice of technology to the learner profile and demographics; the South African HEQF level of the module; assessment strategies; the skills-set and access to technologies of learners; and the contribution of the choice of technologies to the achievement of module and programme outcomes.

Objective of the Study

The objective of this paper is two-fold, that is to firstly assess the nature of ICT integration in the College of Human Sciences at UNISA; and secondly identify the prospects and challenges rising from such integration. Hence, this paper aims to articulate a discourse which captures the voice of the "academic" as opposed to the "learner"[5]. The proceeding sections of this paper are presented as follows: methodology, results and discussion, and conclusion and recommendations.

METHODOLOGY

A survey research design was used, whereby questionnaires were administered to all academics within the College of Human Sciences. The questionnaire was administered using an open source online survey tool known as *Kwik Surveys* (<http://www.kwiksurveys.com>). An invitation to complete the survey was sent via the office of the Executive Dean to all School Directors and Chairs of Departments within the college to be forwarded to academic staff members within their respective departments, as well as an invitation extended to all academic staff members within the college via UNISA's internal communication service. To ensure accuracy and negate any duplication of responses, Internet Protocol (IP) addresses were captured and filtered.

The following eight questions formed the basis of the survey:
1. Personal Details: Name and Department (Optional)
2. What Information and Communication Technologies (ICTs) are you currently using in your teaching?
3. How often do you use ICTs in your teaching?
4. Briefly explain how you use ICTs in your teaching.
5. What challenges have you encountered in your use of ICTs for teaching?
6. List any positive contributions made by the integration of ICTs in your teaching practices.
7. List any negative contributions made by the integration of ICTs in your teaching practices.
8. If you are currently not using ICTs in your teaching, briefly provide a reason (for example, lack of skills, resources, time, etc.).

Classification of Respondents

A total of 130 academic staff members completed the survey. The total responses comprised
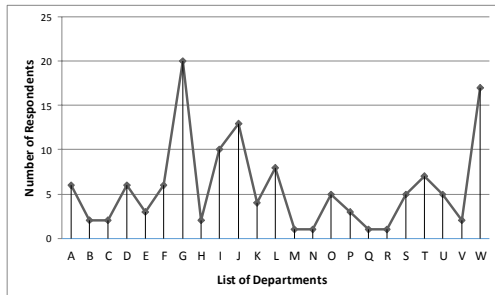
Fig. 1. Classification of respondents

fair representation from the three schools in the college, vis-à-vis School of Arts (59 respondents), School of Humanities (26 respondents), School of Social Sciences (28 respondents), and Anonymous (17 respondents)[6]. This composition is further broken down into the respective departments, which can be seen in Figure 1 and Table 1.

Table 1: Classification of departments

Symbol	List of department and number of respondents
A	African Languages (6)
B	Afrikaans and Theory of Literature (2)
C	Anthropology and Archaeology (2)
D	Art History, Visual Arts and Musicology (6)
E	Christian Spirituality, Church History and Missiology (3)
F	Classics and World Languages (6)
G	Communication Science (20)
H	Development Studies (2)
I	English Studies (10)
J	Health Studies (13)
K	History (4)
L	Information Science (8)
M	Linguistics (1)
N	New Testament and Early Christian Studies (1)
O	Old Testament and Ancient Near Eastern Studies (5)
P	Philosophy and Systematic Theology (3)
Q	Political Science (1)
R	Practical Theology (1)
S	Psychology (5)
T	Religious Studies and Arabic (7)
U	Social Work (5)
V	Sociology (2)
W	Anonymous (17)

RESULTS AND DISCUSSION

Types of ICTs and Number of Users

The types of ICTs integrated in teaching and learning varied across the college. MyUnisa (a Sakai based Learning Management System currently employed at UNISA) had the majority of users with a total of 114. However, many indicated that they supplemented this with other unconventional tools, such as blogs, wikis, social networks, etc. The top five ICT tools excluding myUnisa were DVDs (42), Social Networks (36), YouTube (23), Audio and Podcasts (22), and Open Educational Resources (20). The current statistics illustrate an array of ICT tools used to supplement the teaching and learning experience within UNISA. It should be noted that while MyUnisa had the largest number of users, the degree of usage varied from "minimum" activity (such as logging on to monitor student activity) to "active" interaction and engagement with students in discussion forums and blog sites.

The integration of unconventional tools are symbolic of the advent of Personal Learning Environments (PLEs) that are challenging the way education is perceived within the confines of higher education institutional firewalls (see Liber and Johnson 2008: 1-2). This posits a critical question for developers of learning management systems (such as Sakai, Moodle, Blackboard, etc.) on whether to keep these systems restricted or open to much more collaborative platforms. This inevitably compels higher education institutions to rethink the presence and function of learning management systems as they transition from mere administrative platforms to more interactive learning platforms (for further discussion see Bra et al. 2013: 133-160).

Frequency of Use

As illustrated in Figure 2, most academics (58 respondents) indicated that they access the learning management system or alternative
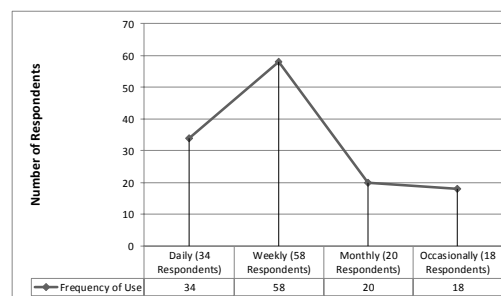

	Daily (34 Respondents)	Weekly (58 Respondents)	Monthly (20 Respondents)	Occasionally (18 Respondents)
Frequency of Use	34	58	20	18

Fig. 2. Frequency of ICT use by academics

teaching and learning platforms weekly. 34 respondents indicated daily and 20 respondents indicated monthly. The 18 respondents indicating "occasionally" also indicated that they only access the respective platforms when the need arises to engage with students or to give feedback on assignments or activity tasks. Two critical factors impinging on the frequency of use are (1) the burden of increased workload and administrative tasks that curtails space for interactive engagements with innovative platforms and (2) the extent of internet accessibility, which is often restricted to access at the institution and within working hours. Simpson (2012: 14-15) noted that one of the critical challenges impacting the success in online and distance education is the nature of learner support, which can be categorized as "academic" and "non-academic". Academic support entails defining the course territory, explaining concepts, exploring the course, feedback – both formal and informal assessments, the development of learning skills, as well as extending the boundaries of the course. Non-academic support consists of advising learners, giving feedback and assessment of non-academic aptitudes, organizing learner support and advocacy for learner funding, which is critical within the South African socio-economic context. The merging of these dual responsibilities and the increased number of learner intake restricts active engagement in online platforms, and limits the time needed to engage with the creative exploration of educational technologies, especially in an environment where educational technology is fairly new (see Spencer 2012: 478-500).

Method of ICT Integration in Teaching and Learning Practices

In addition to the frequency of use, a critical question is the method(s) employed in the integration of ICTs within the teaching and learning praxis. As noted above, the integration of ICTs within the College of Human Sciences and within the broader academic context of UNISA is fairly new. Hence, one finds an array of methods being deployed, with each method testing the feasibility of its application, in terms of yielding greater learner interaction and increasing the learner throughput rates. Figure 3 and Table 2 demonstrates these varying methods.
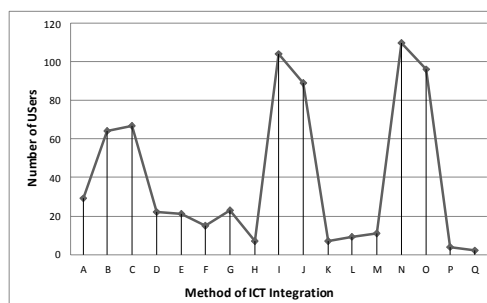

Fig. 3. Method of ICT integration in teaching and learning

Figure 3 and Table 2 depicts the current trends of ICT integration within the College of Human Sciences, but are also indicative of higher education institutions that are fairly new to the integration of ICTs in teaching and learning. The list of methods (cf. Table 2) can be further grouped within the following main categories: (a) academic administration (this entails the general recording of marks for formal and informal assessment); (b) additional teaching materials (supplementary course materials in the form of additional readings, websites and multimedia support); (c) enhancing communication (announcements on activities, due dates, synchronous and asynchronous communication between lecturer and learner, and mobile text notifications); (d) student support (feedback on

Table 2: List of methods of ICT integration in teaching and learning

Symbol	List of methods and number of respondents
A	Academic administration (29)
B	Additional learning materials (64)
C	Additional multimedia support (67)
D	Announcements (22)
E	Assessments (21)
F	Assignment marking tools (15)
G	Direct communication between lecturer and student (23)
H	Discussion classes (video and satellite) (7)
I	Discussion forums/ Discussion boards (course content-based) (104)
J	Formal tuition materials (89)
K	Maintain a general presence on myUnisa (7)
L	Marketing activities (9)
M	SMS notifications (11)
N	Student feedback (academic content) (110)
O	Student support (non-academic) (96)
P	Supplement discussion classes (4)
Q	Tutorial groups/ Postgraduate supervision via tools such as Skype (2)

assignments, discussion forums, as well as general non-academic support etc.); (e) marking tools (this is fairly new and offers a platform for online marking); and (f) marketing tools (use to market courses to students).

While the dominant methods of ICT integration in teaching and learning are student feedback on assignments and tests, as well as the use of discussion forums to facilitate online discussion, the level of ICT deployment in the College of Human Sciences is still fairly limited. From the statistics above, the integration of ICTs in the College of Human Sciences merely serves to supplement the print-based learning experience. The full potential of the integration of ICTs in teaching and learning praxis in terms of "online facilitation" and "assessments" are yet to be explored. In essence this posits a pedagogical shift that embraces ICTs more effectively and strategically. This is further supported by Ertmer et al. (2013: 13) who postulate that the design of assessments is an important factor in the design of the teaching approach as it influences the actions and approaches learners take to studying, which is enhanced by technological affordances that present "new opportunities for rapid and radical changes in assessment". In addition, traditional assessment practices that are of individualistic types have been challenged by the integration of ICTs which prompt collaborative and cooperative activities that facilitate collaborative peer-support outcomes (cf. Ertmer et al. 2013: 12).

Challenges Encountered with the Integration of ICTs in Teaching and Learning Practices

As noted in Figure 4 and Table 3 that the greatest challenge confronting the successful integration of ICTs in teaching and learning pertains to the issue of "infrastructure". Without the adequate ICT infrastructure to support the pedagogical transition, academics are inclined to confront various problems. This features strongly in the College of Human Sciences with 384 respondents indicating their disdain towards the inadequate infrastructure. The major concerns focus on the current learning management system (myUnisa) and issues with server capacity. The frequent downtime and disruptions with connectivity has impacted both academics

and students. One of the important outcomes emerging from this study is the inability of academics to distinguish between challenges with the learning management system and that of the server. When problems are encountered with the server, which affects the learning management system, academics vent their frustrations at a learning management system that is not working. This has resulted in a "ripple" effect with many academics opting not to use the learning management system. Thus, Xavier et al. (2013) contend that issues pertaining to ICT infrastructure have the ability to obstruct any progress, and particularly in Africa to foster a digital divide in the education sector with its western counterparts.
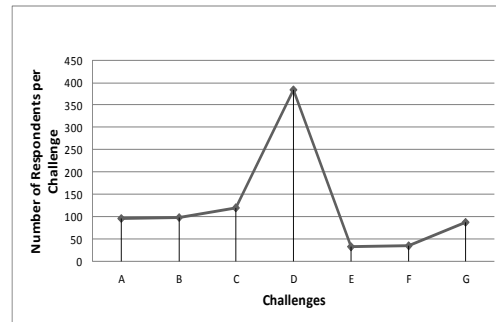

Fig. 4. Challenges encountered with the integration of ICTs in teaching and learning

Another critical challenge indicated by the results is the lack of an ICT-culture (121 respondents) linked with the lack of appropriate staff development (87 respondents). Both challenges have a major impact on the human resource development within the College of Human Sciences. The training of staff to be proactive within an innovative education environment requires a refocusing of budgets and a reprioritization of training needs. However, as noted earlier that

Table 3: List of challenges with the integration of ICTs in teaching and learning

Symbol	List of challenges and number of respondents
A	Access issues (96)
B	Administrative issues (99)
C	ICT culture issues (121)
D	ICT infrastructure issues (384)
E	Pedagogical issues (32)
F	Policy issues (35)
G	Staff development issues (87)

the integration of ICTs in teaching and learning is fairly new in UNISA and hence, 99 respondents have indicated that one of their challenge is the immense overload of administrative matters (non-academic) that does not afford them the opportunity to explore new technological innovations.

The issue of "access" has also posed a critical challenge for academics within the College of Human Sciences. While the institution has largely focused on the discourse of student access, issues of staff access have been pushed to the periphery. In envisaging learner access to the institution to be 24/7, issues of staff access needs to be refocused.

The challenge pertaining to "policy" as indicated by 35 respondents, is a crucial matter. With the integration of ICTs, many of the current institutional policies need to be revisited. In addition, the move towards a much more "open" environment also challenges higher education institutions and particularly UNISA to rethink its approach on "copyright" materials that are placed outside the institutional firewall and thereby producing content that is more in line with current notions of "openness" –that is, Massive Open Online Courses (MOOCs).

The above challenges epitomize the critical concern of "context". As noted by Ertmer et al. (2013: 11) "context" shapes the method of ICT integration in teaching and learning, as well as epitomizes the needs of the market (in this sense the labor needs). However, this can be further expanded to illustrate the socio-economic and cultural context in South Africa, which impacts the way ICTs are integrated into the higher education environment by refocusing on the "contexts" in which higher education institutions function.

Positive Contributions with the Integration of ICTs

While there are many challenges with the integration of ICTs in higher education, one cannot ignore the several positive contributions, which illustrate the potential impact of such integration. These positive contributions can be seen in Figure 5 and Table 4.

As noted above by 15 respondents, the integration of ICTs in teaching and learning allows for teaching to varied learning styles. This creates a teaching and learning space where all
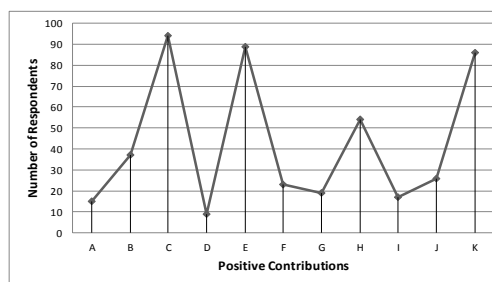

Fig. 5. Positive contributions with the integration of ICTs in teaching and learning

learners have an equal opportunity to succeed (cf. Carlson, Lively and Nicholas 2013). In essence Carlson, Lively and Nicholas (2103) contend that the integration of ICTs allow learners to work at their own pace and have the physical assistance that may be needed through synchronous and asynchronous modes of communication. In an ODL context, one of the critical challenges is the "distance" between the lecturer and learner. As noted above, the integration of ICTs closes this gap on two levels (a) increases lecturer and learner interaction (89 respondents) and (b) increases peer-to-peer support (17 respondents). Thus in an ODL context, ICT offers the potential to decrease the gap and foster a change in the anomaly of individuality as opposed to collaborative learning (cf. Balaam 2013).

Table 4: List of positive contributions with the integration of ICTs in teaching and learning

Symbol	Description of positive contributions and number of respondents
A	Allows for teaching to varied learning styles (15)
B	Flexibility – Work anytime and anywhere (37)
C	Improves student access to knowledge (94)
D	Increases pass rates (9)
E	Increases lecturer-learner interaction (89)
F	Increases focus on content design (23)
G	Increases profile of academics (19)
H	Increases learner participation (54)
I	Increases peer-to-peer support (17)
J	Recreation of the classroom environment (26)
K	Reduces distance and allows asynchronous communication (86)

Ninety-four (94) respondents indicated that the integration of ICTs improves student access to knowledge. This illustrates a change in the role of the lecturer from being the custodian of

knowledge production to a facilitator and guide in where knowledge can be accessed. This shifting role is also indicative of "flexibility", learners learn when and where they choose, which also implies some degree of flexibility on the lecturer (in terms of not being office bound or working during mere office hours).

A further 26 respondents indicated that the integration of ICTs recreates a virtual classroom environment within an ODL context. This allows students to virtually interact with the lecturer as well as peers. On a psychological level, distance learning shifts from a journey of being alone to a journey of collaborative learning (cf. Balaam 2013). However, this also epitomizes the notions of redesigning learning spaces as indicated by 23 respondents. The traditional methods of teaching and learning packed within old learning theories are not appropriate for the 21st century learner. In order to truly harness the power of ICTs in teaching and learning, one would need to relook at the way content is structured.

Negative Contributions Made by the Integration of ICTs

While the integration of ICTs in teaching and learning has brought to the fore many positive contributions, this research also highlights some of the negative contributions with its integration (specifically within the ODL context at UNISA)

a) 56 respondents indicated that the integration of ICTs in teaching and learning disadvantages students who are already in a disadvantaged position. These students have limited access to the internet as well as technology. Hence, these students cannot participate nor benefit from online activities and it is impossible to record and send all online interactions in print form to these students.

b) 12 respondents indicated that the integration of ICTs loses the human element which is desired by many students as well as lecturers.

c) 16 respondents indicated an increase in cost due to the integration of ICTs. Students and lecturers experience an added cost. Some respondents added that the University encourages ICT integration at the cost of the lecturer.

d) 9 respondents indicated that online visibilities of lecturers, who cannot use ICTs / are struggling with its use, are portraying a poor image of the institution.

e) 12 respondents indicated an increase in concern over intellectual property rights and copyright infringements. The lack of knowledge pertaining to these issues leaves many academics demotivated in the use of ICTs.

f) 19 respondents indicated that the integration of online uncontrolled open spaces has increased criticism of Unisa and academics.

g) 47 respondents indicated that the integration of ICTs in teaching and learning is time consuming. It implies duplication to accommodate students who do not have access (print and online). Secondly, due to the array of ICT platforms and the low level of student participation in MyUnisa, lecturers are finding that they need to duplicate the information on all other social platforms used (such as Facebook, Twitter, etc.)

h) 82 respondents indicated that dysfunctional ICTs impedes on teaching and learning progression. The shift in dues dates for online submission of assignments etc. and the closeness of the exam dates in a semester as induced added stress on lecturers. This also impedes on quality of teaching.

i) 15 respondents indicated an increase in workload as student participation increases online. Students demand responses on time.

j) 18 respondents indicated that with the advancement of ICTs, constant training is needed and there is a lack of time.

k) 2 respondents indicated that the integration of ICTs has resulted in technophobia. This is an area that needs to be carefully reflected on. Many academics do experience a sense of fear which is met by overwhelming stress while engaging with the unknown.

The above negative contributions illustrate the challenges emerging in a transitioning teaching and learning environment. These concerns focus mainly on issues pertaining to the institutional context. As noted in my introductory comments, the integration of ICTs in teaching and

learning not only challenges the teaching and learning practices but has a greater bearing on the organizational architecture of the institution. In order to address many of these negative contributions, the College of Human Sciences will need to re-envision its understanding of "daily" business.

Reasons for the lack of ICT integration in Teaching and Learning Practices

While only 16 respondents indicated that they do not use ICTs, other respondents not using an array of ICTs also opted to provide feedback. These reasons were centered on the lack of access in terms of internet and relevant technology, lack of 'faith' in ICTs, lack of skills, lack of time due to work overload, lack of interest due to stifling policy restrictions, and many emphasized the lack of student participation. These concerns have been addressed earlier; however, if these challenges are not addressed effectively, they will have the effect of pushing lecturers away from the integration of ICTs in their teaching. This will in effect disadvantage their learners.

CONCLUSION

As noted earlier in the *2013 Horizon Report*, the integration of ICTs in the education environment is set to change the face of higher education over the next five years. While higher education institutions such as State University of New York, Maryland University, and Cornell University, etc. have been embracing these changes, higher education institutions in Africa have been facing a bigger challenge of addressing the digital divide. This study focuses explicitly on UNISA, which is the largest ODL University on the continent providing a service for more than 350 000 students. The objective of this paper was to (a) assess the nature of ICT integration in the teaching and learning practices in the College of Human Sciences at UNISA and (b) to identify the prospects and challenges rising from such integration.

The investigation has revealed that while there are many challenges pertaining to the institutional context, many lecturers are exploring creative ways of integrating ICTs in their teaching and learning practices. This is giving rise to the increase adaptation of Personal Learning Environments, which are free, open and uncontrolled spaces. The second finding reveals that the broader institution needs to revisit its current organizational architecture and business model and thereby revisit issues of access, staffing development, infrastructure and curriculum design (more specifically the design of learning spaces).

RECOMMENDATIONS

This paper recommends that the College of Human Sciences should open up discussions for an 'unbundled' Learning Management System (LMS), which can be simple and serve merely as a navigating tool to the more "common" Web 2.0 open platforms. Secondly, that the College of Human Sciences explore options for mobile learning platforms, which will facilitate the challenges of access and flexibility. Thirdly, that the College of Human Sciences explore new creative pedagogies and learning theories that can foster varied learning styles in new creative learning spaces. Fourthly, that the College of Human Sciences refocus its budget priorities to increase development and the construction of an ICT culture among lecturers. And finally, that the College of Human Sciences urgently initiate talks with the institution on expanding its server capacity to prevent the negative contributions articulated by many staff members.

NOTES

1. In the context of this paper, 'Information Communication Technology' refers to a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information (see Blurton 2004).
2. The Commonwealth of Learning defines 'Open Distance Learning' as a way of providing learning opportunities that is characterized by the separation of the teacher and learner in time or place, or both time and place; learning that is certified in some way by an institution or agency; the use of variety of media, including print and electronic; two-way communications that allow learners and tutors to interact; the possibility of occasional face-to-face meetings; and a specialized division of labor in the production and delivery of courses (see The Commonwealth of Learning 2011).
3. See Rich, Robinson and Bednarz (2000: 264-265) for a more elaborate discussion on the use of ICTs in teaching and learning geography in higher education.
4. See *UNISA ICT-Enhanced Teaching & Learning Strategy 2011-2015* – Prinsloo, P. Information in this section is based on the 5-year proposed ICT

plan for teaching and learning. It is used in this brief to provide some insight into the transitioning UNISA environment in terms of ICTs in teaching and learning.

5. *Conventional* = MyUnisa (Learning Management System); *Unconventional* = Personal Learning Environments, such as social networks, etc.

6. The option to remain 'anonymous' was added on the basis that some respondents may not be willing to participate if they were forced to disclose their identity.

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