Dimensioning academic strategies and priorities with e-learning trends and technologies at the University of the Free State

Gabriel Kabanda

Zimbabwe Open University, 7th Floor Stanley House, Corner First Street/ J. Moyo Avenue, P.O. Box MP 1119, Harare, Zimbabwe.

E-mail: gabrielkabanda@gmail.com, kabandag@zou.ac.zw, gabrielkaba@yahoo.com. Tel: 263-4-251873/793008-9

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Abstract. The purpose of the research was to determine the strategies and priorities as an academic leader for creating a world-class academic university in terms of quality and impact of teaching and learning. The University of the Free State (UFS) is faced with the problem of relatively low scholarship throughput. The Xerox Excellence Model represents one of the early excellence pioneering models, and the EFQM European Excellence Model is a representative of international quality award model that informs customer service excellence. The status of the University of Free State (UFS) is analysed qualitatively using a research design based on Discourse Analysis, Laclau and Mouffe’s discourse theory, supported by Document Analysis of the Strategic Plan 2012-2016 and the Integrated Report for 2013. UFS is benchmarked against other top world-class universities. The recommended strategies hinge on sustaining momentum on excellence, broadening access, investing in Leadership Success, enhancing research capacity and learner support, and focus on institutional service excellence. Strategies and priorities identified are to be supported by the evolving future e-learning trends (MOOCs, micro-learning, OERs, etc.) and technologies (cloud-based learning, gamification, notification systems in LMS, SaaS authoring tools, HTML5, Tin can API, etc.). The global university performance of world-class universities are assessed across all of their core missions – teaching (the learning environment), research (volume, income and reputation), knowledge transfer (citations), industry income (innovation) and international outlook (staff, students and research).

Keywords: Learning, strategies, quality, excellence, service, discourse, technologies, e-learning, leadership.

INTRODUCTION

The landscape of higher education at a global level is characterised by the demand for higher education against the level of production of students by high schools, personalized students support services, and technological trends that support teaching and learning. Of great influence on this landscape are factors such as market driven progress, self funding of institutions due to dwindling government financial support, competition, internationalization in order for graduates to be employable beyond the national boundaries, and the advent of quality assurance. There is an increase in public accountability for higher education which compels institutions to demonstrate quality within the programmes and processes, including those provided online. The University’s vision and mission statements set out its aims for providing a high quality student learning experience. The learning and teaching strategy sets out the objectives for the development and enhancement of the curriculum and the student learning experience. Quality assurance is a systematic, structured and continuous attention to quality. The University’s Quality Assurance Framework supports these aims and objectives by specifying the responsibilities and procedures by which the standards of the academic programme and the quality of the student learning experience are managed, assured and enhanced. This paper is about dimensioning academic strategies and
priorities with e-learning trends and technologies at the University of the Free State.

The University of the Free State (UFS) was established in 1904, now 110 years old, and has over the years transformed progressively in identity, composition and relationship to society. UFS now has 33,000 students, 4337 faculty and support staff (of which 2587 are full-time and 785 are academics) and 7 faculties (Economic and management sciences, Education, Health Sciences, Humanities, Law, Natural and Agricultural Sciences, Theology) with 121 departments. The university has 3 campuses (Bloemfontein 84% of the students, Qwaqwa 13%, South campus 3%) and 51 satellite campuses in 69 locations. The student population represents 40 countries from among the 2,085 international students. As of end of 2013, UFS had 116 NRF-rated researchers and 3 SARChI Research Chairs, and 18 International Research Partnerships.

The vision of UFS is to be “A university recognized across the world for excellence in academic achievement and in human reconciliation” (UFS Strategic Plan 2012-2016, 2013). The university will pursue this vision through its mission by:

i) Setting the highest standards.
ii) Recruiting the best and most diverse students and professors.
iii) Advancing excellence in scholarship.
iv) Demonstrating in everyday practice the value of human togetherness and solidarity across social and historical divides.
v) Advancing social justice by creating multiple opportunities.
vi) Promoting innovation, distinctiveness and leadership.
vii) Establishing transparent opportunities for lifelong learning for academic and support staff.

The Vision and Mission statements are desirous of attaining high scholarship throughput both quantitatively and qualitatively. The quality of research should reflect a high degree of impact and citation. The core values of the university are as follows, most of which are associated with advancing excellence in scholarship:

i) Superior Scholarship
ii) Human Embrace
iii) Institutional Distinctiveness
iv) Emergent Leadership
v) Public Service

The foundation of the University of Free State (UFS) Strategic Plan for 2012-2016 comprises the following three (3) key pillars:

1. The Academic Project - which is an uncompromising commitment to high quality university education (performance of students, performance of academics, academic distinction and campus academic culture);
2. The Human Project - Which is an unflinching commitment to racial reconciliation and social justice;
3. The Support Services Foundation - which is a firm belief in building academic and human achievement on a strong foundation of quality support services.

Dimensioning is the process of measuring the cubic space that a package or object occupies, that is, before an object is built, complete information about both the size and shape of the object must be available. This paper is about dimensioning academic strategies and priorities with e-learning trends and technologies at the University of the Free State.

Problem statement

The University of the Free State Integrated Report (2013) presented progress in most areas of performance of the university for the year 2013. The key issues of strategic importance arising from this report include the following concerns, which may be symptoms of the main problem:

1. UFS was unable to achieve the annual research output expected by the national Department of Education and Training (DHET) in 2013. There appears to be a drive for quantity for promotion and recognition purposes at the expense of quality in terms of significance and impact.
2. The university is concerned about achieving equity and diversity among the academic staff. Currently, imbalances were observed on gender and race, where very few females are Professors from the 785 academics, and of these 78% are white, in an environment where about 60% of the students are black.
3. There is need for more effective management systems in support of increased third stream funding. The University is surrounded by a poor rural community and non-performing mining sector, and this poses challenges in resource mobilisation at the local level.
4. The UFS now needs to deepen commitment to the realisation of the academic and human projects, which are 2 of the 3 key pillars of the Strategic Plan 2012-2016.

Scholarship is about academic achievement, erudition (knowledge acquired by study or research) or learning. UFS is faced with the problem of relatively low scholarship throughput, that is, the need to advance excellence in scholarship, and this is the main problem.

The University of the Free State is not yet a leader in terms of the university rankings in South Africa, among emerging economies and the world. The global university performance of world-class universities are assessed across all of their core missions – teaching (the learning environment), research (volume, income and reputation), knowledge transfer (citations), industry income (innovation) and international outlook (staff, students and
The modern workforce is now required to possess and amply demonstrate capability of adjusting and attaining investigative skills, thinking critically, working independently with others, and application of knowledge and skills to different situations and subject to constant change. A knowledge economy requires a scientific and technological literacy, critical thinking about sustainable economies, global competence, diverse cross-cultural leadership skills, and students who can learn how to learn and adapt to rapid change (Kabanda, 2013b). The conceptual framework for quality dimensions in higher education, which largely informs the quality assurance policy of a university, is dimensioned by tangible facilities, competence of the academics, learner support mechanisms, content that meets the minimum body of knowledge in a given field, and delivery efficiency. Access to quality education empowers learners to transform themselves and their social, environmental and economic reality toward greater sustainability. In its Second Decade of Education, the Education Division of the African Union defined a Quality Management goal of the African Union which is “To build and implement a sound quality management system in Africa” (http://au.int/en/dp/hrst/node). Besides the link between quality of education and economic performance, the growing concern on quality has been triggered mainly by cultural relevance, impact on population, poverty and HIV/AIDS, contribution to the development process in rural areas, life-long learning and achievement of MDG goals (Kabanda, 2013a). The ISO (2007) has defined their higher education (HE) quality criteria as:

i) Content and pedagogical method;
ii) Achievements and impact of the programme demonstrated by performance indicators;
iii) Connection of the programme to business, governmental and other stakeholder groups;
iv) Replicability of the programme, that is, whether it could be implemented elsewhere in the world; and
v) Visibility of the programme, in particular in the media.

Johnston (2004), cited in Otiso et al. (2012), posited that the aim for service excellence does not imply that organizations should continually and always exceed expectations; service excellence is to provide the customers with what they value in order to induce feelings of delight. Problem handling after conflicts may result in delighted customers. Excellent service falls into four categories, according to Johnston (2004), namely delivering the promise; providing a personal touch; going the extra mile and dealing well with problems and queries. The Xerox Excellence Model represents one of the early excellence pioneering models, and the EFQM European Excellence Model is a representative of international quality award model that informs customer service excellence (Kabanda, 2014). Successful service organizations constantly strive for higher levels of customer service. Modern customers are increasingly sophisticated, educated, confident and informed.

To encourage high performance in organizations, it is recommended that organizations consider the following strategies (Cook, 2008:268):

1. Integrating customer service as a key component of appraisals.
2. Instigating a programme of staff care.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>Location</th>
<th>Overall score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>University of Cape Town</td>
<td>South Africa</td>
<td>50.5</td>
</tr>
<tr>
<td>15</td>
<td>University of Witwatersrand</td>
<td>South Africa</td>
<td>39.8</td>
</tr>
<tr>
<td>21</td>
<td>Stellenbosch University</td>
<td>South Africa</td>
<td>36.2</td>
</tr>
<tr>
<td>45</td>
<td>University of KwaZulu-Natal</td>
<td>South Africa</td>
<td>28.0</td>
</tr>
<tr>
<td>78</td>
<td>University of Pretoria</td>
<td>South Africa</td>
<td>21.7</td>
</tr>
</tbody>
</table>

Table 1. World University Rankings for BRICS and Emerging Economies 2014.
3. Encouraging upward or 360-degree appraisal.
4. Rewarding complaint-free departments.
5. Devising non-monetary awards such as plaques and badges.
6. Developing bonus schemes linked to attainment of quality service.
7. Holding formal presentations and thank you for service heroes.
8. Developing prize schemes based on feedback from customers.
9. Instigating good manager awards based on staff feedback.
10. Instigating internal customer service awards for the quality of service provided internally.
11. Recognizing the efforts of service teams rather than individuals.
12. Conducting surveys among employees to develop a suitable motivational scheme.
13. Holding company-wide competitions to encourage service improvements.
14. Regularly reviewing and publishing the results of motivation schemes.
15. Training all managers in performance review techniques.
16. Encouraging regular feedback and review sessions between managers and their staff.

The Xerox Excellence Model represents one of the early excellence pioneering models, and the European Excellence Model is a representative of international quality award model that informs customer service excellence (Kabanda, 2014). The Xerox Business Excellence Model defined excellence as being certified with a high score on the following six excellence criteria, where the excellence criteria 1-5 were called enablers (Dahlgaard-Park and Dahlgaard, 2006). When people provide customer value this leads to good business results. The Xerox Business Excellence model is illustrated in Figure 1. Each of the following enablers is heavily dependent on ICT for information flow and optimal
Figure 2. The EFQM European Excellence Model. Source: Dahlgaard-Park and Dahlgaard (2006).

One of the most used models in Europe for self-assessment and strategic change is the EFQM Excellence Model, which is based on following 8 fundamental concepts (Dahlgaard-Park and Dahlgaard, 2006), and uses nine criteria as shown Figure 2:

1. Results orientation,
2. Customer focus,
3. Leadership and constancy of purpose,
4. Management by processes and facts,
5. People development and involvement,
6. Continuous learning,
7. Innovation and improvement,
8. Partnership development and public responsibility.

The first five criteria on the left are the enabler criteria: 1. Leadership, 2. People, Policy and Strategy, 4. Partnerships and Resources, 5. Processes. The four criteria on the right of the enabler criteria are the result criteria: 6. People Results, 7. Customer Results, 8. Society, 9. Key Performance Results. The European Foundation for Quality Management (EFQM) model was developed by Sheffield Hallam University in 2003.

The recommended model for e-learning is the Frame Model (Koole, 2009), which is illustrated in Figure 3. The advantages of mobile learning (Koole, 2009) are:

1. Wireless, networked mobile devices can enable learners to access relevant information when and where it is needed at various locations.
2. The ability to access a variety of materials from anywhere at anytime can provide multiple cues for comprehension and retention.
3. Learning within specific contexts can provide authentic cultural and environmental cues for understanding the uses of information which may enhance encoding and recall.
4. Well-implemented mobile education can assist in the reduction of cognitive load for learners. While it is difficult to determine how to chunk information, differing patterns of presentation and amounts of information can potentially help learners to retain, retrieve, and transfer information when needed.

MATERIALS AND METHODS

A qualitative research methodology was used. The research design was discourse analysis supported by document analysis. Laclau and Mouffe’s discourse theory was the most thoroughly poststructuralist approach.
Discourse analysis can be used as a framework for analysis of national or institutional identity to explore the significance of national identity for interaction between people in an organisational context such as a workplace. All discourse analytical approaches converge with respect to their views of language and the subject (Jorgensen and Phillips, 2002). Discourse theory aims at an understanding of the social as a discursive construction whereby, in principle, all social phenomena can be analysed using discourse analytical tools. A discourse is understood as a fixation of meaning within a particular domain (the knots in the fishing-net). A nodal point is a privileged sign around which the other signs are ordered; the other signs acquire their meaning from their relationship to the nodal point (Jorgensen and Phillips, 2002). A nodal point in political discourses is 'democracy' and in national discourses a nodal point is 'the people'. In medical discourses, for example, 'the body' is a nodal point around which many other meanings are crystallised. Signs such as 'symptoms', 'tissue' and 'scalpel' acquire their meaning by being related to 'the body' in particular ways.

Discourse, then, can be understood as a type of structure in a Saussurian sense – a fixation of signs in a relational net. Thus the discourse is a temporary closure: it fixes meaning in a particular way, but it does not dictate that meaning is to be fixed exactly in that way forever.

Discourse theory suggests that we focus on the specific expressions in their capacity as articulations: what meanings do they establish by positioning elements in particular relationships with one other, and what meaning potentials do they exclude? Individuals are interpellated or placed in certain positions by particular ways of talking. In discourse theoretical terms, the subjects become positions in discourses (Jorgensen and Phillips, 2002). Discourses always designate positions for people to occupy as subjects. For instance, at a medical consultation the positions of ‘doctor’ and ‘patient’ are specified. Corresponding to these positions, there are certain expectations about how to act, what to say and what not to say. The understanding of identity in Laclau and Mouffe’s discourse theory can be summarised as follows (Jorgensen and Phillips, 2002:43):

i) The subject is fundamentally split, it never quite becomes ‘itself’.
ii) It acquires its identity by being represented discursively.
iii) Identity is thus identification with a subject position in a discursive structure.
iv) Identity is discursively constituted through chains of equivalence where signs are sorted and linked together in chains in opposition to other chains which thus define how the subject is, and how it is not.
v) Identity is always relationally organised; the subject is something because it is contrasted with something that it is not.
vi) Identity is changeable just as discourses are.
vii) The subject is fragmented or decentred; it has different identities according to those discourses of which it forms part.
viii) The subject is overdetermined; in principle, it always has the possibility to identify differently in specific
situations. Therefore, a given identity is contingent – that is, possible but not necessary.

In summary, some of Laclau and Mouffe’s concepts of discourse theory are useful as tools for empirical analysis in this research from this context:

i) Nodal points, master signifiers and myths, which can be collectively labelled key signifiers in the organisation of discourse;
ii) The concept of chains of equivalence which refers to the investment of key signifiers with meaning;
iii) Concepts concerning identity: group formation, identity and representation; and

Discursive practices – through which texts are produced (created) and consumed (received and interpreted) – are viewed as an important form of social practice which contributes to the constitution of the social world including social identities and social relations. It is partly through discursive practices in everyday life (processes of text production and consumption) that social and cultural reproduction and change take place. It follows that some societal phenomena are not of a linguistic-discursive character. The aim of critical discourse analysis is to shed light on the linguistics-discursive dimension of social and cultural phenomena and processes of change at the university. Discourse encompasses not only written and spoken language but also visual images.

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. Analyzing documents incorporates coding content into themes similar to how focus group or interview transcripts are analyzed. In this case the Strategic Plan 2012-2016 and Integrated Report for 2013 were analysed.

RESULTS AND DISCUSSION

Discourse analysis using the Laclau and Mouffe’s discourse theory, supported by document analysis of the Strategic Plan 2012-2016 and Integrated Report for 2013, were analysed in this research. Generally, excellence is attained through focus, discipline and hard work. Benchmarking against other world leading universities was done.

California Institute of Technology (Caltech), with only 2,231 students and whose motto is “The truth shall make you free”, has won a total of 33 Nobel Prizes from its alumni and staff, and 70 have won the United States National Medal of Science or Technology. There are 112 faculty members at Caltech who have been elected to the National Academies and the university had an endowment of US$1.85 billion in 2013. Harvard University, whose motto is “Truth”, has an endowment of US$32 billion as of June 2013, 4,671 academic staff, 21,000 students, 2,400 Professors and has produced 150 Nobel laureates.

Oxford University has 22,166 students from its 38 constituent colleges and several departments, endowment of Pounds 4.03 billion, motto “The Lord is my Light”, and produced 27 Nobel laureates. Stanford University has 15,877 students, 2,043 academic staff, endowment of $18.7 billion, motto “The wind of freedom blows”, and 1,995 Professors.

The following strategies and priorities are recommended for consideration for academic leadership with respect to quality and impact on teaching and learning at UFS, as shown in Table 2.

The recommended future e-learning trends of the global e-learning industry worthy of consideration are shown in Table3 (http://elearningindustry.com/future-elearning-trends-and-technologies-in-the-global-elearning-industry).

The e-learning trends are associated with the following rapidly evolving technologies shown in Table 4. The four forces that will rock the waters of e-Learning in the future are: Cloud, Social, Mobile and Information.

CONCLUSION

The purpose of the research was to determine the strategies and priorities as an academic leader for creating a world-class academic university in terms of quality and impact of teaching and learning. The Xerox Excellence Model is recommended as customer service excellence model. Strategies and priorities identified are to be supported by the evolving future e-learning trends and technologies. The global university performance of world-class universities is assessed across all of their core missions – teaching (the learning environment), research (volume, income and reputation), knowledge transfer (citations), industry income (innovation) and international outlook (staff, students and research). The academic strategies for attaining high scholarship throughput, as an academic leader for creating a world-class academic university in terms of quality and impact of teaching and learning, are as follows and will need to be supported by e-learning trends and technologies:

1. Sustaining momentum on excellence
2. Broadening access
3. Investing in leadership success
4. Enhancing research capacity and learner support
5. Focus on institutional service excellence.

By 2020, higher education will be quite different from the way it is today. There will be mass adoption of teleconferencing and distance learning to leverage expert resources. Significant numbers of learning activities will move to individualized, just-in-time learning approaches. There will be a transition to "hybrid" classes that combine
Table 2. Recommended strategies and priorities for academic leadership.

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Academic priorities</th>
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<tbody>
<tr>
<td>Sustaining momentum on excellence</td>
<td>1. Integrated Excellence Model&lt;br&gt;1. Academic Excellence&lt;br&gt;Excellence in teaching/learning, research productivity, highest standards, innovation&lt;br&gt;2. Institutional Excellence&lt;br&gt;Institutional Scorecard, branding, accountability, distinctiveness, effectiveness, etc.&lt;br&gt;3. Co-Curricular Excellence&lt;br&gt;• Satisfaction rates and Participation rates&lt;br&gt;• Enrollment and Learner retention&lt;br&gt;4. Individual Excellence&lt;br&gt;• Certifications, licensure, Educational credentials, etc.&lt;br&gt;• Performance Reviews and Achievement of growth goals&lt;br&gt;• Professional Development participation&lt;br&gt;5. Service Excellence&lt;br&gt;• Learner and constituent satisfaction&lt;br&gt;• Retention, Reputation and Feedback&lt;br&gt;• Support services&lt;br&gt;6. Institutional quality assurance&lt;br&gt;a) Reinforcing the Quality management system quality dimensions&lt;br&gt;• Tangibles, competence, attitude, content, delivery and reliability&lt;br&gt;• ISO certification&lt;br&gt;b) Enhancing the QA Framework, often coordinated by a Quality Assurance (QA) Committee or Unit:&lt;br&gt;• External Reference Points with the Regulatory Authority&lt;br&gt;• Programme regulations and academic policies&lt;br&gt;• Examination Boards and External Examiners&lt;br&gt;• Senate programme approval processes&lt;br&gt;• Programme and Course/Module review processes&lt;br&gt;• Collaborative programmes with Associates, Affiliates and other partners&lt;br&gt;• Student involvement in Quality Assurance and Learner Support</td>
</tr>
<tr>
<td>Broadening access</td>
<td>1. Programme mapping of relevancy to the community or nation&lt;br&gt;2. Strengthening Learning and Teaching Systems&lt;br&gt;3. Monitoring and Evaluating Quality Factors&lt;br&gt;4. Competition dynamics&lt;br&gt;5. Equitable access and social justice&lt;br&gt;6. E-learning trends and technologies, e.g. MOOCS, OERs, etc.&lt;br&gt;7. Resolving Funding constraints</td>
</tr>
<tr>
<td>Investing leadership success</td>
<td>1. Synchronised Thinking&lt;br&gt;Harness all the thinking power of the organisation&lt;br&gt;2. Soul Matters&lt;br&gt;Build the spirit, values and character to thrive&lt;br&gt;3. Right Team, Right Stuff&lt;br&gt;Get the mix of structure, technology, people and training right&lt;br&gt;4. Dynamic Manoeuvre&lt;br&gt;The fastest way to achieve decisive advantage at least cost&lt;br&gt;5. Mission Management&lt;br&gt;The art of delegation and empowerment&lt;br&gt;6. Command the Campaign&lt;br&gt;The art and science of successful strategy&lt;br&gt;7. Ride the Tiger</td>
</tr>
</tbody>
</table>
Table 2. Contd.

<table>
<thead>
<tr>
<th>Enhancing research capacity and learner support</th>
<th>Seize the moment and exploit opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic (centres of excellence) clusters for a community of scholars</td>
<td></td>
</tr>
<tr>
<td>2. Research chairs and research capacity building</td>
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<tr>
<td>3. Library e-resources</td>
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<tr>
<td>4. Academic advising and First Year Academy support</td>
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<tr>
<td>5. Market demand dynamics responsiveness to courses and knowledge creation</td>
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</tr>
<tr>
<td>6. Stimulating educational collegial environment with promotion of research-based teaching and learning</td>
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<td>7. Providing high quality continuous professional development opportunities and blended learning</td>
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<td>8. Recognising and rewarding excellent teaching and support</td>
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<tr>
<td>9. Digital learning environment, e.g. Blackboard LMS</td>
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<tr>
<td>10. Recruitment and retention of students and academics</td>
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<tr>
<td>11. Human embrace and Emergent leadership</td>
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</tbody>
</table>

Table 3. Top 8 future e-learning trends of the global e-learning industry.

<table>
<thead>
<tr>
<th>E-learning trend</th>
<th>Observation and impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massive Open Online Courses (MOOCS) are the hottest trend right now in e-Learning</td>
<td>This flexible and diverse concept sounds simple -online videos of real-life lectures and other flexible and diverse concepts are used to enroll even up to 50,000 students per course. Harvard, MIT, Caltech, Berkeley and Princeton, have succeeded in this bandwagon. Invest in blended learning using the flipped class room model, which is getting wildly popular all over the world, by the way.</td>
</tr>
<tr>
<td>Credits and fees for MOOCs</td>
<td>Some MOOCS are free and others low cost, but the cost structure varies depending on the business opportunities around MOOC.</td>
</tr>
<tr>
<td>Micro-Learning, or in other words mini bytes of learning content</td>
<td>This trend is growing in popularity where learning content is only taken in small chunks, e.g. Five minute videos, one page documents, focused lessons, small chunks of information, and other flexible activities that will be easily incorporated in a busy person’s daily life, to accommodate lighter the cognitive load.</td>
</tr>
<tr>
<td>The importance and greater recognition of informal learning</td>
<td>Accessibility and availability of social media tools Use of free learning resources, e.g. podcasts, videos, blogs, webinars, etc.</td>
</tr>
<tr>
<td>The role of the instructor will change with Open Educational Resources (OER)</td>
<td>These are freely accessible documents and media, quite often written by the world’s best authorities on any subject and sector, often used wisely, creatively and effectively to support learning in or outside the traditional classrooms. The role of the traditional educator will be transformed.</td>
</tr>
</tbody>
</table>
Table 3. Contd.

| The concept of research will be upgraded | Due to the changing role of the instructor/educator, tedious publications, worn lectures, and absence of updated material may soon come to their very end. |
| The majority of students will be overseas | Distance learning may the same or even better level of education, and so there no longer need to study in another country. Although the experience won’t be the same but the cost savings will be substantial. |
| Growing influence of learning communities | Learning communities are multifaceted and are known to provide extended classroom practice, curriculum enhancement, student tasks, engagement of students, teachers and administrators, etc. They support learning, promote collective creativity and shared leadership, and unite learning groups with shared values, vision and practices in a global perspective. |

Table 4. Top 7 future e-learning technologies of the e-learning industry.

<table>
<thead>
<tr>
<th>E-learning technologies</th>
<th>Explanation and implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. M-Learning with a native app</strong></td>
<td><strong>Mobile learning</strong> is not e-learning in a mobile device, since the proper content conversion requires skillful instructional design and development skills. The differences between mobile web apps and native apps is that the latter requires development for multiple platforms, i.e. specific operation systems and machine firmware, the application is stored locally on the device, and user data can be stored on the device, in the cloud, or in both. The continuous development of mobile devices, which are equipped with digital compasses, dual cameras, incredible audio, etc., coupled with their obvious advantage of mobility will lead e-Learning to a whole new level.</td>
</tr>
<tr>
<td><strong>2. Cloud-based learning</strong></td>
<td>Cloud-based learning has a dual effect; on a school level and on a corporate level. One-time downloads and installs of course materials will no longer be the default methods of obtaining a course’s content. Providers will be able to offer cloud-stored individual e-Learning modules, or even full e-Learning courses as packets that can be purchased and downloaded on demand. On the other hand, the increasing demand for affordable, global training will be addressed by cloud-based technology, which will streamline corporate training processes and create tailor-made solutions for smaller businesses. People are building “a school in the cloud”.</td>
</tr>
<tr>
<td><strong>3. Use of game-play mechanics for non-game applications, aka Gamification</strong></td>
<td><strong>Gamification</strong> is not a new trend, but rather one that will certainly evolve. It’s a powerful tool that enables technological innovation, develops student/learner skills, crafts behaviors and enhances problem solving. <strong>Gamification</strong> has proven to be an invaluable instrument to improve employee performance, upgrade education, customer engagement, as well as personal development. Its possibilities and applications are endless.</td>
</tr>
<tr>
<td><strong>4. SaaS authoring tools</strong></td>
<td>SaaS is basically enterprise software hosted in a cloud, which translates to easily downloadable software, virtual updates, massive savings in costs and time, etc. It is envisaged that more than 45% of all software will be SaaS by the year 2023 (MintJutras, 2014).</td>
</tr>
<tr>
<td><strong>5. Notification systems in LMS</strong></td>
<td>These systems begin to become the core of distributed mobile and omnipresent learning support.</td>
</tr>
</tbody>
</table>
Table 4. Contd.

6. They are used to draw attention to important events, give instructions and information, raise awareness regarding various activities, or to directly and instantly provide information related to the user’s training/learning material.

They are used to draw attention to important events, give instructions and information, raise awareness regarding various activities, or to directly and instantly provide information related to the user’s training/learning material.

"Improved JavaScript performance will begin to push HTML5 and the browser as a mainstream enterprise application development environment in 2014" (Gartner, 2014). The benefits include, but are not limited to, better performance, multimedia and connectivity.

7. HTML5

"In 2013 of the top 1 million websites worldwide, there was a 100% increase in the use of HTML5 compared to 2012." (BuiltWith.com, 2014)

7. Tin Can API, aka xAPI

This enables the collection of data about a wide range of learning experiences a person goes through, and relies on a Learning Record Store. Tin Can API has innumerable practical implementation aspects and will evolve even further, revolutionizing the way we learn, creating more personal and richer learning environments.

Conclusion

The future of e-Learning is bright. All we have to do is encourage new e-learning methods to flourish and older e-learning techniques to evolve.

online learning components with less-frequent on-campus, in-person class meetings. Most universities’ assessment of learning will take into account more individually-oriented outcomes and capacities that are relevant to subject mastery. Requirements for graduation will be significantly shifted to customized outcomes.

REFERENCES


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