



## INNOVATIVE PEDAGOGIES IN INSTITUTIONS OF HIGHER LEARNING: BUILDING A BETTER FUTURE?

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### **Abstract:**

Today's graduates are engaged with the demands of the current knowledge age; the skills needed to succeed in life and the workplace in 21st century. This paradigm shift coupled with high demand for university education puts higher learning institutions in a crisis situation due to: enrolment pressure against static resources; demand for 21st century competencies in knowledge, skills and attitudes that correspond with needs of contemporary workplace, and the economic inflation. In Kenya, tuition costs have been escalating beyond the management of students from the average income families thus putting the students in significant debts of fee arrears, and declining completion rates. Also the universities are expanding drastically through opening of new satellite campuses all over the country to meet demand for higher education whereas; both human and teaching resources continually remain constraints in existing and new campuses. To arrest this trend, the universities are struggling to re-invent themselves to reduce costs whilst improving quality, utilizing the minimum resources, and increasing flexibility for students. Innovative pedagogy is a responsive system to address these growing demands while efficiently utilizes the limited resources. In this context, new technologies have enormous potential to effect changes and enable universities to meet broader range of learners' needs. The educators and policy makers have a duty to embrace the transformation. This concept paper therefore is informed by constructivism and ACTION models to base the argument on reinventions in Higher Learning Institution. The focus of the paper is on: impact of innovative pedagogy in learning, acceptance rate by the universities, implication for the future, and the challenges of using new pedagogies.

**Keywords:** innovative pedagogy, higher learning, constraints, constructivist and ACTIONS models, demand for higher education, flexibility for students, quality education

## Introduction

In recent years, the pedagogies associated with teaching and learning in higher education settings have been changed by increased use of ICTs as a means of energizing student learning (CfBT, 2012). It is therefore important for the university establishments to institute a recognized strategy, to valorize teaching and motivate and reward the professions involved in teaching activities, in order to bring teaching and research back into balance. The higher education sector is a prominent sector in introducing innovative approaches to the development of 21st century skills and Knowledge. Educational institutions and universities need to respond to the cycle of innovation and adapt their organization and pedagogies to serve: increasingly heterogeneous student profile, improve quality of teaching and learning, meet increasing student enrolment rates and maximize the utilization of available constraint resources (CfBT, *ibid*). The valorization of university teaching revolves around pedagogical development support programs or symposia (Jeanpierre, 2005). Innovative pedagogy is focused on higher education teaching excellence. It provides mechanisms to network with like-minded educators, gives opportunities to expand one's understanding and motivation for learner-centered instruction (Nabwire, 2014). In this time of economic enrolment challenge, it is essential to maintain the highest standards for institutions of higher learning and continue to increase the effectiveness of instruction and the depth of student learning as mitigation to existing constraints especially on cost effectiveness, efficient delivery, flexible learning, professional practices and creativity. These innovative approaches can be informed by the constructivism and ACTIONS models (Bates, 1990; Piaget, 1985; Dewey, 1897; Syomwene, et al 2015). To contextualize the key terms, this paper adapts the following operational definitions:

**Pedagogy** is the study of being a teacher or process of education. It explores the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to the other. The major pedagogical question is how to enhance student learning and meet the needs of various types of learners hence the use of innovative pedagogy in which the educator reinvents the principles and practices education to make learning more responsive to learners' needs thus the essence of humanizing pedagogy (Salazar, 2013). Innovative pedagogy has the responsibility to

prepare knowledgeable citizens, critical thinker, creative, problem solver, manage and analyze information (Bozalek, 2013; UNESCO; 2015)

**Innovation** is a new idea or a further development of an existing product, process or method that is applied in a specific context with an intention to create a value addition (Kirkland & Sutch, 2009). The paper weaves an argument on the innovative pedagogy at the universities underpinned by ACTIONS model in the following perspectives.

### **ACTIONS and Constructivist Models in Innovative Pedagogy**

Instructional media technology (IMT) suggests factors to consider when using instructional media technology in order to boost efficient teaching and learning. According to Bates (1990), ACTIONS are short form for the explanation of a set of fundamental responsibilities to inform the choice and use of instructional media technology (IMT) in classroom teaching context.

Teachers and students are the focus in any teaching situation core players in instruction hence any model has to account the interaction between teachers, learners, and the learning process. The ACTIONS model therefore depicts that the presentation of the content within a given teaching environment influence the quality and depth of learning. Thus there are variables which influence both the presentation of the subject and the learning environment, such as the type of IMT used, infrastructure in place for use of IMT, competence of teacher educators in the use of IMT, institutional management strategies to support IMT and other factors may affect the effective use of IMT. All these variables are considered in the ACTIONS model. The theoretical formulation of the ACTIONS model focuses on making decisions about the use of educational technology and planning involved (Bates, 2003) gives a theoretical basis for the arguments on the use of educational technologies in higher learning. The decisions that will be made on use of innovative pedagogy fully rest with educators and policy makers in the universities who have a duty to reinvent the existing environment to accommodate the use of the innovative pedagogy.

The Constructivist model (Dewey, 1897; Piaget, 1985; Meyer et al, 1939) on the other hand fits into basing the arguments on best practices in classroom processes at any educational level. The model draws on holistic education, developmental modes of growth and learning, human potential movement, creative student-driven learning, lifelong learning and relearning, experiential and inquiry based learning, ethical and community based learning. The approach promotes learner- centered learning and emphasis on learner active involvement in construction of knowledge by;

communicating, inquiring, conceptualizing, reasoning and problem solving. It integrates differentiated instruction, making demands to account for individual differences and the needs of individual students (Isikoglu, 2009). The teacher on the other hand functions more of a facilitator who coaches, mediates, prompts, and helps students, evaluates and assess students' understanding and learning.

The reinvention in higher education (HE) teaching vary and can easily address many challenges in these institutions such as the surging student enrolments, constraint facilities, increased incompleteness rates, dropping quality of teaching/learning, and inflexibility in learning (Nabwire, 2014; Bates, 2003). These varied innovative approaches revolve around use of computers (web, internet, CAL, CBL, CMC), blended learning for independent and collaborative learning, teaching/learning intended to develop skills (personal, transferable, key, core, employable, communication and problem solving), team projects, group learning (cooperation and collaboration), student presentations (individual or group), interactive seminars or lectures, work-based learning, resource-based learning (packages, booklets), distance and open learning and peer tutoring- mentoring and assessment. Adaption of these approaches promotes interaction of learner-learner, and learner-teacher that is crucial in any learning environment. The interaction is facilitated by use of resources that include; Weblog, Edu-games, Virtual worlds, and video communication among others (Mwaka, et al (eds), 2014; McGill, et al, 1995; and Vanbuel, 1998).

Further collaborative learning is also implied in innovative pedagogy whereby the learner is offered opportunities through activities that help him reach the intended objective(s) through use of similar resources like Digital archives, Virtual classrooms, Social software, social networking, and Portfolio (Nabwire, 2014). The introduction of these technologies in classroom definitely leads to flexibility in learning that is acceptable humanising pedagogy rather than the pedagogy for the oppressed that is teacher-centred, rigid, limiting learning, and favours real time learning - synchronous rather than asynchronous (Vanbuel, 1998). The Asynchronous learning will be more enterprising as is more flexible, efficient with limited resources, motivating and adapted to modern technology, an approach that addresses 21<sup>st</sup> century learners' needs (ICWE, 2012). The Martini (Vanbul, *ibid*) Model, table1 illustrates this approach with respective resources and learner engagement in learning activities – see table 1.

Teachers should equip students with the skills that will enable them to be successful and productive citizens. This can be made possible by implementing innovation pedagogies (Republic of Kenya, 2010). It favors ICT integration process that promotes students learning in a collaborative way and encourages students' expression and creativity trying to take advantage of the potential offered by computers and other

ICT devices. This thinking diverts from traditional and education models, which focuses on passive learning in a transmission teaching strategy (Kaplun, 2009; Nabwire, 2014).

The aim of innovation pedagogy is to generate environment in which know-how inspired competitive advantage can be created by combining different kinds of know-how. When utilized, this edge provides opportunities for the whole society, as innovation and sharpening skills measures. Thus, innovation pedagogy is key in introducing new competitive advantages via know-how. In a multidisciplinary environment, it is possible to evoke regional innovations and increase entrepreneurship through research and development (Kantola, 2012))

In having social learning theories as a background, innovation pedagogy links university work together with the regional needs emphasizing the meaning of innovation competencies without losing focus on the study specific skills students must possess. Innovation pedagogy emphasizes the meaning of teamwork and multidisciplinary groups, as well as internationalization as main sources of innovations.

Innovation pedagogy is practiced by different activating learning methods such as hatchery methods that produce study-specific and innovation competencies, and concurrently serves regional, national and international operators ensuring direct societal benefits (Lehto et al., 2011; Penttilä, 2013). It is a learning environment where students of different fields are daily in contact with each other and offer new interfaces for working. Such surroundings are known to be best when innovations are utilized. In addition, an innovative approach to teaching and learning are also needed as well as enthusiasm for trying new methods. In the context of innovation pedagogy, innovations are seen as an integral part of the process of constantly improving know-how as well as generating new sustainable ideas and practices applicable in working life (Kairisto-Mertanen, et al, 2011; Kantola, et al, 2012)

### **Justification for Using Innovative Pedagogies**

Changes in the working life and surrounding global environment necessitate that skills and attitudes matching the new requirements are consciously and systematically developed along with the students' knowledge bases (CfBT, 2012; Kocharov, 2015). Social and interactive skills, cultural abilities, understanding the prerequisites for working with customers, quality learning, preparedness for entrepreneurship, creativity and problem solving skills as well as tolerance for difference and uncertainty are the kind of attitudes and skills that a future professional should have (Kairisto-Mertanen, 2005; Kairisto-Mertanen, 2007).

Teachers' personal commitment to teaching and to their students is basically an individual's effort intended to improve learning. The innovation pedagogy therefore aims at enhancing the competence to achieve the objective of learning in all Institutions of learning (Kettlanen, 2009). Higher education supports the professional growth of an individual as well as takes into account the world of professionalism to address the dynamism in professional in contemporary world. This provides quality higher education, training and professional development to meet the needs of citizens, through innovative pedagogies like e-learning grounded in use of modern technologies.

Learning is currently moving out of the classroom to learner's environment, therefore it is important to recognize this paradigm shifts and adapt to the new demands. Application of innovative pedagogy is creating a more diverse higher education system by widening access and facilitating lifelong learning. Government and higher education (HE) providers are increasingly interested in the use of measures of student engagement, alongside the measurement of student satisfaction as a means of informing enhancement activities. Student engagement is internationally recognized as the key indicator to learning gains and student achievement in HE (Kairisto-Mertanen, 2011) as evidenced on 'high impact' pedagogical practices that foster engagement. But there is a need to promote this further and to direct research into fresh areas of practice and innovation. Universities are embarking on different pathways to ensure that their education systems have the capacity to respond effectively and efficiently to diverse economic and societal demands in a competitive world.

New modes of learning and teaching offer opportunities for reaching out to local communities and more personalized learning informed by better data. In traditional lecture hall settings, it is difficult for a teacher to follow the progress of each and every student. It is impossible to adapt the pace of the course to match individual needs. But with innovations, data can capture how students engage in the course, interact with other students and retain concepts over time. It can provide information on the learning process as opposed to just learning outcomes (Bozalek, 2013; Braskamp, 2006).

Developing educational partnerships is an important element of Kenya's strategy for cooperation with other parts of the world. Wide availability of quality education resources and the ability to adapt and customize these materials to specific circumstances, and languages, is providing a step-change in educational attainment levels, especially emerging economies. In an increasingly globalized world, and with the expansion of higher education provision in emerging economies (Kafwa, et al, 2015), Kenya higher education institutions need to develop a strong brand to ensure they remain competitive and relevant in attracting students, staff and international partners.

## **Impact of Innovative Pedagogy in Learning**

After devolution, Vice Chancellors and principals of universities in Kenya have learnt to manage a complex and a delicate combination of expectations of the roles of their institutions both from Kenyan government and devolved administrations. Universities need to respond to pedagogies that serve increasingly heterogeneous students profiles and improve the teaching and learning of variety of skills for innovation (Kafwa, *ibid*; UNESCO 2015). Across countries and in multiple occupational fields, the institution of higher education sector is a prominent sector in introducing innovative approaches to the development of 21st century skills demand. Despite of the fact that the universities have different governance and leadership, they must work in harmony, and there has to be a consultative and cooperative relationship. Learners acquire digital skills best when exposed to ICT at very young age as they increasingly use to explore and exploit the world of ICT and to craft that into knowledge (Republic of Kenya, 2010). “Giant Universities” admit most students who are techno savvy therefore the rate of innovation is high in these universities and students have positive attitude and interest towards their implementation and use. It offers the students potential to utilize learner - centered learning approaches as supported in constructivist teaching principles (Meyer, 1939). These technologies are transformative as they associated with new paradigm.

The Adoption of Innovative pedagogy is transformative change which must have a positive effect while improving instruction; it does not constitute the solution to a problem, but demands activity and originality ((Solon, 2007). As universities embrace the devolved systems of governances, fear abound as to what measures have been put in place to ensure university and colleges run effectively while it is apparent that devolution has been to design and decentralize decision making and resources to various universities. It is indisputable therefore that the universities are not equal in terms of capacity and thus cannot be expected to grow at the same pace. This has brought disparity among the graduates from different universities with same courses. Weak universities need time to run effectively and apply innovative pedagogy. What emerged instead was transfer pedagogy (Vanbuel, 1998) in which existing approaches to teaching and learning in higher education were applied to the digital environment.

Here the lecturer remained the expert delivering his content through the medium of handouts and the lecture methods.

Waves of these technologies, mass production and now computers have brought creative and disruptive forces that restructured the economy and rippled throughout social institutions and practices. ICT and knowledge creation have eclipsed manufacturers as primary productive factor. Many economies have shifted from

provision of material goods and service to the provision of information and knowledge (Kamakar et al, 2007).). Innovative pedagogies such as e-learning, Computer Assisted Instruction (CAI) have refocused communication trend, information sharing and simulation of business processes. They need to adapt to students' characteristics and respond to their development, this is an inherent aspect of pedagogy. Education is not a service for a customer but an on-going process of transformation of student (Braskamp, 2006)

Innovative pedagogies such as e-learning provides quality enhancement as a result of shared, high-quality learning materials and more creative and individualized pedagogical approaches. Students are unique, and so is the way they teach (Mwaka et al (eds), 2014). Therefore, the teaching tools used in universities and colleges should cater for individual ways of learning, with the student at the center. Some of the students learn better and faster with the help of interactive media that incorporate images, graphics, videos and audio elements than with none. Others will prefer static text and numbers in different measures. Technology in the classroom can combine all of these for a personalized learning experience for each student, based on each student's strengths. As well as improving the effectiveness of learning, such adaptation to individual needs can also have a significant effect on the reduction of drop-out. The flexibility inherent in this type of provision can also enable quick adaptability to the ever-changing needs of the labor force and emerging skills gaps (CfBT, 2012, Kocharov, 2015).

### **Universities Acceptance of Innovative Pedagogy**

It is widely accepted across the international higher education sector that innovative pedagogy such as e-learning, blended learning, computer based learning, distance and open learning, student presentation among others are enabled by use of particular ICTs. The use of ICT in the innovative pedagogy offer students, teaching staff and institutions, flexibility in terms of time, place and pace at which learning and teaching may occur (Bates & Pools, 2003). Educators assert that knowledge is no longer necessarily viewed as being helped by experts whose role is to deliver information to students. Rather knowledge is viewed as socially constructed and mediated through many digital and non-digital forms. The use of internet for example in higher education is increasingly positioned as reshaping the world of knowledge through its socio technological practices (Hannan, 2005).

In this context, teachers' wish will be always how to identify and foster the key tenants of innovation. If the focus is on producing innovators, not subject matter,



experts, then how might this shift the teaching approach? Key to university success is innovation but this is never taught in education or at workplace. What is needed are leadership and talents to strategize and drive innovation. By identifying and fostering the key tenants of innovations, universities are able to focus on producing instructional innovators, not subject matter experts (Kitahara, & Hannay, 2008). By shifting our teaching and learning approaches, it is a matter of risk-taking, curiosity and activity in instructional activities. Innovative pedagogy is a process of providing a platform for adjusting our own teaching methodologies to nurture and promote innovation and creativity (Mwaka et al (eds) 2014; Unesco 2015)

Lecturers have accepted innovative pedagogies up to 85% because it enhances critical thinking (Kitahara, & Hannay, 2008). Assignment in any content area that requires students to use information retrieval and evaluation skills is promoting students practice using critical thinking which is crucial for knowledgeable society (Gross & Lathem, 2012). Universities are often concerned with issues of student retention, both in students' levels and classroom rates, and the amount of knowledge a student gains and maintains in a course. There is a general consensus among lecturers that improving students' critical thinking skills is a major goal for institutions of higher learning. However there are also some disagreements that the educational system has not performed well in consistently producing critical thinkers. In fact, research suggests that traditional classroom instruction has little impact on students' critical thinking skills. It is also evident that thinking skills is possible, but requires explicit, deliberate instruction in critical thinking (Solon, 2007).

Leadership plays an important role in innovation development. However, attitude and values of the teachers are vital as these increases or decreases the rate at which it is being used (Bates & Pools, 2003). The innovative pedagogies depend on the opportunities open to innovators in allowing them to engage in transformational activities. Studies on use of technology (Ganesan et al.2002; Knight & Twowler, 2001) demonstrate that teaching and learning depends on institutional policies and academic leadership. In universities, establishment of educational policies can influence the importance accorded to teaching. Innovative pedagogies substantially improve student learning in a situation of interaction and interactivity, it is often described as everything which is not lecturing and is believed to bring change and reform.

Currently ICT integration has received special emphasis in the education bill (Republic of Kenya, 2010). The expectation is to see the learning institutions churning out highly skilled personnel who are innovators and creators of knowledge. This kind of graduates will drive the economy using latest technologies competing globally in production of new knowledge and products. Teachers adapt their instructional

practices and educational systems to be more effective and the reason why they struggle to innovate instructional media. The role of the teachers have shifted from being subject matter experts who transmit information to acting as a facilitator of student learning. Current reforms emphasize teachers develop student's capabilities in problem solving, teamwork, learning to learn and reflective thinking.

### **Challenges of Using Innovative Pedagogies**

There are many barriers that prevent lecturers from using new pedagogies in the classroom. The majority of reasons are similar to the barriers preventing learners from using any type of technology in their learning method. Time constraints, lack of equipment and the fear of trying something new are some of the problems experienced by the lecturers in trying to implement innovative pedagogies. There are various innovative pedagogies that universities can explore to address some of the barriers in innovative pedagogy (Kirkland, & Sutch 2009). These are new forms of teaching and learning which can be used to explore and interact with the world, and guide lecturers and policy makers in productive innovation. Such approaches are numerous yet have not had a profound influence on education, for example, massive open social learning that benefits a lot online learning (Campbell, 2012). The main aim is to engage thousands of students in productive discussions, share experience and build on their previous knowledge. A challenge to this approach is that these learners typically meet online for a short period of time.

Within higher education, new technologies have enormous potential to effect change. They enable universities to meet a broader range of learners' needs, adapting traditional teaching of face to- face to online learning (blended learning) possibilities that allow individuals to learn anywhere, anytime. They also create openings to engage in new kinds of collaboration and offer opportunities to distribute resources more effectively (Vanbuel, 1998). Given the societal and economic potential that can come from harnessing technological innovation in higher education, it is imperative that Kenya takes the lead in this arena. But many universities are not yet ready for this change – and governments have been slow to take the lead. While there are instances of innovation, the landscape is fragmented, various barriers prevent widespread uptake, and fully-fledged institutional or national strategies for adopting new modes of learning and teaching are few and far between (Kirkland, & Sutch 2009).

Innovators take on extra work to learn new skills that may be unpopular with the other staff. Such innovators take risks with their own careers so long as it can improve the quality of their teaching. Change in higher education is thus driven by a number of

forces including demands of employers, government policy initiative and attempts by lecturers to meet changing needs of students and to reflect the changing nature of their subject matter. On these efforts, there are several opposing forces amongst universities, within the universities and even within departments (Bates & Pools, 2003). Innovation in pedagogy only takes place when the teacher feels a great degree of security within the learning environment/culture that recognizes the need for change and has encouragement from relevant authorities.

Low esteem of teaching and learning, lack of recognition and interest by colleagues and people in authority are some of the issues which affect innovation. Institution or other policies and action plans lagging firm directions that preclude individual initiative (Hannan, & Silver, 2000). There is excessive bureaucratic procedure for approval support and resources that the user must undertake in order to access the media, numerous quality assessment procedures that inhibit risk-taking, yet the current innovative pedagogy aligns to desirable global trend of a shift from teaching to learning. It takes on a key position in the fundamental institutional change in higher education sector to shift to interaction pedagogy.

### **Implication of the Future**

Twenty first century life is marked by rapid and constant change. Our students will be faced with the need to continually learn to adapt to new contexts, expectations and technologies throughout their lives. To be successful they will have to know how to successfully navigate shifting careers, learning new jobs, role and relationships in progression. They will have to transform broken systems and organizations and create new ones that are more effective, hopefully, and socially just. Today's lecturers must facilitate the learning process of 21<sup>st</sup> century student in their quest for personal and professional growth as well as fulfill growing demands for higher education (Kettunen, et al 2013).

In Kenya, the entry grade to universities is C+ and above, this has given students leeway to join universities as privately sponsored students hence rising in population. To meet this challenge, lecturers must undergo a paradigmatic shift in their view of the teacher - learner relationship. They must cast off their role of sage on a stagier and don the new role of servant lecturer one who effectively supports, manages and guides his students (Hannan, 2005). Their work extends beyond their specific content expertise because there is greater reliance on course instructor to achieve learning goals. In the past, it was assumed that effective university lecturers held the qualifications of: content

expertise, engagement in professional activities, remains current in their fields of experiences and had ability to perform and conduct research (Arreola, 2006).

Today's lecturers are willing to play a greater role in nurturing and shaping their students' personal, professional and academic growth. To do so successfully requires a paradigmatic shift in their view of appropriate teacher student relations. They must serve as expert, nurturer, a facilitator of learning and a counselor (Gear, et al, 2009). In innovative pedagogy, the teacher leads the students' academic and professional growth by providing varying forms of guidance (Braskamp et al., 2006). In this case, the guidance is tailored towards each individual student's highest priority needs. It also requires that the focus be shifted to the needs of the students rather than on the opportunity for the teacher centered stage teaching (Kitahara & Hannay, 2008). Part of this shift includes switching from teacher centered to learner-centered teaching methods (Knowles et al., 2011). It is a transformative change which must have a positive effects whilst innovation allows instruction to be improved leading to citizens who are knowledgeable. It does not constitute the solution to a problem but demands creativity and originality (Solon, 2007; Hannan, 2005). The high education in Kenya is monitored and steered by a Commission for University Education (CUE) to ensure standardization and quality control at the institutions. The Pedagogical implications are that traditional approaches may no longer be appropriate modes of engaging with information and working towards the construction of knowledge in learners.

Certainly application of ICT as one of innovations in HE plays a key role in facilitating learning and enhancing education. Innovative pedagogy encourages teachers to share more their expertise and experience in ways beyond the mere exchange of information. Learning is beyond the mere exchange of information rather is based on research and new skills which society expects students live. This approach is rooted in constructivism (Piaget, 1985; Meyer, 1939) in promoting learner centered approach and an emphasis on communicating, inquiring, conceptualizing, reasoning and problem solving. Innovative pedagogy is a learning approach focused on the development of innovative competencies, defining assimilation of knowledge, production and use in a creative manner that explains innovations. Innovation competencies are learning outcomes linked to attitudes, knowledge and skills needed for the successful innovation activities.

## **Conclusions**

Universities need to respond to pedagogies that serve increasingly heterogeneous students profiles and improve the teaching and learning of variety of skills. Innovative

pedagogy is aligning to global desirable trend of a shift from teaching to learning with instructors and institutional policy makers taking key position in its implementation. It is changing roles of the learners and teachers and at the same time reshaping the society through socio technological practices and working towards the construction of knowledge and understanding. The educators and policy makers have a professional duty in pedagogical transformation to shape it for the purpose it stood to provide.

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**Annexure: Tables**

**Table1:** Any Time, Any Place Model of Learning: The Martini Model

SYNCHRONOUS			
<b>L O C A L</b>	<b>Same Time Same Place</b>	<b>Same Time Different Place</b>	<b>R E M O T E</b>
	Chalkboard	Educational TV	
	Overhead projector	Video Conferencing	
	Slides	Audio Conferencing	
	Text	Computer Mediated Communication	
	Video and audio tapes	Satellite Seminars/Keynotes	
	<b>Resource-based Learning</b>	<b>Internet and WWW</b>	
	Multimedia CD-ROM	Electronic Mail	
	Computer Aided Learning	Video Streaming	
	Texts, Simulations	Video on Demand (VOP)	
Video and audio tapes	Virtual Learning Laboratory		
<b>Different Time Same Place</b>	<b>Different Time Different Place</b>		
ASYNCHRONOUS			

Source: Vanbuel, 1998 in Mwaka et al (eds) 2014