8.1 Introduction to E-Coaching

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Terms of Use

Today’s challenge

Current discussion around the challenges:

In this area can be divided into five categories: learning styles and culture, pedagogical e-learning, technology, technical training, and time management challenges.

1. Learning style and cultural challenges

Everyone has their own learning style along with their cultural influences; the ones who are taught using their own learning style and taking into consideration cultural aspects of individuals will perform better academically (Sywelem et al., 2012). To achieve the best learning outcome it is desirable to have an understanding of students’ learning styles. Some students learn through interacting, some prefer learning through visual presentation, and some by listening to instructions and using written notes. This challenge has an implication on the learning outcomes and poses a serious issue for academics to understand the learning styles of their students in an e-learning environment

2. Pedagogical E-Learning challenges

Pedagogy is concerned with enabling the best way to achieve learning (Teo, 2006); if pedagogy is not considered then the desired learning outcome will not be achieved. Successful pedagogy requires the teacher to understand how students learn then design and deliver course materials, and mentor students appropriately, so that knowledge and skills are passed on.

3. Technological challenges

Technical challenge refers to development issues such as the bugs, the speed, the errors, functions and features not correctly working or do not work according to what academics require.

4. Technical training

Challenges training challenge refers to the training requirement that will enable academics to learn the e-learning features and functions correctly and to use them effectively. In reviewing e-learning literature, there are various criticisms of poor training provided by institutions to academics. Issues have been raised that include not enough training, inadequate training, training styles in use that do not fit academics personal preferences, lack of hands on practice, and also how to create materials according the pedagogical requirement was missing from the training scenario.

5.Time management challenges

Academics that use e-learning systems, face difficulties in managing their time. According to Reeder (2004) some of the “cyber culture values” are characterized by speed, reach and quick response.

Major challenge for the digital infrastructure

According to (NICI, 2015), energy access and high costs are a major impediment to Rwanda’s industry and services sectors. The country has low per capita electricity consumption relative to the east African community with only 13% of the population having access to electricity, moreover with power outages. Electricity generation costs are high as well as the feed-in tariff of power that currently stands at 112 Rwf/kwh for households and Rwf 102/kwh for industries, despite GoR subsidizing the utility. Rwanda’s electricity costs of $0.24/kwh, almost double that of its neighbors. 64% of businesses surveyed in the 2008 business investment climate survey cited access and cost of electricity as a major constraint. As Rwanda strives to increase electricity generation, ICTs can be leveraged to consolidate Rwanda’s energy sources in order to enable sustainable energy generation, transmission and distribution through a smart electricity grid and energy market design.

1. **Limited Access to Finance**: lending for ICT companies is constrained by costs and risks arising from several factors, including: lack of adequate collateral, crowding out by government bonds, asymmetrical information (caused in part by limited private credit registries), and inadequate skills to assess and manage risk. Limited lending can also be attributed to Rwanda’s low savings rate that currently stands at 8% of GDP. GoR should partner with financial institutions to establish special funding mechanisms to foster ICT industry growth.
2. ***Inadequate International Bandwidth***: Rwanda still does not have sufficient international bandwidth. Being landlocked, the country is very dependent on neighboring countries for connectivity, which greatly increases connectivity costs. More importantly, given that ICT is a competitive industry, this dependence could compromise Rwanda’s information security and business continuity. This can be remedied through other links to other sea cables such as those from southern Africa as well as satellite back up. Further, a virtual landing point can be established locally where telecommunication providers converge and acquire submarine capacity that can be distributed through their networks.

- ***Inadequate ICT Skills***: Rwanda has insufficient skilled personnel in the ICT field to drive ICT development. As such, more ICT professionals will be trained and developed to increase Rwanda’s ICT skills base.

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1. ***Low ICT Awareness And Usage:*** most Rwandans are still not aware of the available ICTs and their benefits. This is largely attributed to the lack of awareness, insufficient content relevant to the general population and limited rural ICT penetration. ICT in education, community development and public awareness initiatives will be implemented to increase ICT awareness among Rwandans.
2. ***Nascent Private Sector:*** Rwanda's private sector, particularly the ICT sector, is relatively small. It is mostly constrained by the high cost of accessing ICTs especially in rural areas, insufficient payment systems and a lack of innovation. Several initiatives will be implemented to foster ICT and ICT-enabled sector development including establishing a Technopole (an advanced ICT park), e-payment systems, a national access network to increase broadband penetration and internet affordability among others in order to foster both ICT and ICT-enabled sector growth.
3. ***Inadequate Information Security:*** Rwanda's cyber security needs to be reinforced to mitigate ever-increasing cyber threats. Cyber security awareness will need to be disseminated and public private institutional collaboration strengthened. Furthermore, a strong policy, legal and regulatory framework to ensure cyber security and compliance will be required.

- ***Limited interoperability of government systems:*** many government systems work in isolation of each other, which creates duplication and inefficient resource management. Most processes are to a large extent paper-based, which creates unnecessary delays. As such ICTs can be leveraged through e-government initiatives to further improve government operational effectiveness and efficiency, thereby improving service delivery to citizens.

NICI iii aims to address the above-mentioned challenges while improving Rwanda's ICT environment and accelerating services development.

Availability: Ensuring access by all citizens has been a mainstay of Rwanda's ICT policy, although there is still a substantial rural-urban gap, with the majority of mobile phones, landlines and internet access concentrated in Rwanda's capital Kigali. The national backbone is an IP/MPLS network, with a 10gbps capacity and 1gbps (upgradable) for each district. Currently, Rwanda has acquired international capacity equivalent to 2.5 GB connecting to the international routes however, this capacity is neither used properly nor accessed by all. A 2,500 km fiber optic backbone connecting all 30 districts of the country and 9 major border points; plus a Kigali metropolitan network connecting 3 districts and government offices, is already done, however the need to extend this network to all corners of the country is more apparent. By and large, the current networks: national backbone, Kigali metropolitan network and the wibro are located only within Kigali. This document does not constitute a government policy. It forms part of a presentation and should not reproduced without permission (Lima, 2012-2013).

Affordability: The greatest challenges that most developing countries are facing regarding bridging the digital gap is the affordability. Most of countries are market-led economies and correcting the market failures in ICT has been a problem to Rwanda as well. Most ICT tools especially equipment, are expensive for common people (Lima, 2012-2013).

Affordability	Rwanda	China
Fixed-telephone sub-basket ($ a month)	13.2	4.7
Mobile-cellular sub-basket ($ a month)	13.9	6.0
Fixed-broadband sub-basket ($ a month)	86.9	17.8

Source: The Little Data Book on Information and Communication Technology 2012(World Bank)

The ICT sector is facing a challenge of limited skillsets required for its sustainable growth. To date, in the framework of the national information and communication infrastructure (NICI) 2010 – 2015, some specific skills development projects have been designed to increase the number of specialized it-related industry, it project management and other set of skills required for the sector growth. However, these initiatives are still in early stages and have not yielded limited tangible results. Skills development remains at the heart of a sustainable knowledge-based economy. This challenge will continue to be addressed by the ministry of youth and ICT and all its partners during the next years. (Writer, 2013)

While there has been a surge of new range of business to citizens (B2C) services made mainly available by the telecom operators, banks and other ICT-enabled services, it has been noted that the rate of deployment of government to citizens (G2C) e-government services is generally done at a low pace and where available, systems and services not sufficiently used by the intended users. This translates into inefficient manual processes, delays in service delivery, long queues and bureaucracy, which in turn impose considerable burden to our economy. This challenge requires the development of a comprehensive e- government policy and strategy, which will be developed during the year 2013 but also an increased awareness of the existing online services.

ICT penetration, ICT awareness and literacy rate at community level remains at very low level. Generally, statistics show that citizens living in rural areas have a limited ownership of ICT devices, be it for computers, smartphones and TVs. This partially affects broadband uptake in the country. In addition, citizens (especially rural citizens) have a very limited awareness of how ICT can improve their productivity and socio-economic welfare. (writer, 2013)

The information and communication technology sector, including internet and broadband, has suffered from limited fixed-line infrastructure and high prices, but developments in the fixed network market are beginning to change this situation. (Gasore, 2019)

Barriers to Effective E-Learning

We can start to see how engineering education must change to adopt effective e-learning techniques.

A review of the literature found several lists of barriers to e-learning. Downey focused on the basics of cost of development and delivery, time to develop (including technological problems), and the lack of appropriate content. Dabbagh identified 1) issues surrounding course content, 2) technological assumptions, 3) logistical and implementation challenges, and 4) interfacing between face-to-face and on-line learning environments. Then the following barriers are identified and discussed:

1) Course content issues,

2) Adoption rate of new technologies,

3) lack of technological standards,

4) Costs associated with development, and

5) Infrastructure requirements.

1. **Course content issues:** Most implementations of e-learning take the “adjunct” approach, where electronic means augment the classroom experience. This means making course materials available to students through electronic means. For example, instead of uploading the same or similar version of the class meeting schedule, build a database with a drop-down box so the student can select a particular class meeting date and see all relevant information concerning that class meeting (e.g., topics, readings, assignments, exercises, related links).
2. **Adoption rate:** Although many effective instructional technologies have been in use for years, getting the university to adopt the technology is often a stumbling block. Of course, getting down the learning curve to use the technology more transparently is often a barrier.
3. **Changing technology:** Effective e-learning is hindered by a lack of technological standards. Distance learning has evolved through several phases of major changes in technology, and each phase has required substantial capital investments. Web-based courses, on the other hand, have a uniform platform for delivery (the World Wide Web), and somewhat uniform content development tools (e.g., software from macromedia, adobe, and Microsoft). Professors involved with distance learning have had to roll with the changes as new technologies were introduced. For the professor who is used to delivering the same content the same way (in the classroom, using overheads and/or a blackboard), making the move to a web-based course or compressed video represents a major time investment.
4. **Cost:** Cardean University estimates that they will spend around $1 million for each course they develop. Even the best-funded universities would balk at spending this amount. That’s why cardean was able to pull together some of the top names in business schools—individually, these schools could not afford to develop world-class on-line course materials. On the more local level, converting courses on-line or creating new on-line offerings requires new infrastructure, faster computers, new software, and the talent necessary to develop and support these new offerings.
5. **Infrastructure:** Many faculty wish to offer a portion of their courses in an e-learning format, but are stymied by their university’s infrastructure. Each technology has specific requirements that must be met on the origination side. For example, if a faculty member wants to send streaming audio and/or video over the internet, he or she will need to choose a content creation software package. To be effective in e-learning, colleges and universities need to have the necessary infrastructure in place. This includes equipment such as highly reliable servers; support personnel available 24/7, not just 9 to 5; web designers; high speed networks; incentives for faculty to participate in e-learning; and shorter cycle times on curriculum change processes. As can be expected there are many challenges faced by academics regarding the use and success of e-learning in an academic environment.

Recommendations for better e-learning

According to Nurul Islam, m. B. (2015),he found that the recommendations for better learning are the following:

1. Match technology to infrastructure, professor, and learning goals

As with any system, balance is key. The technology must match the professor’s abilities, needs, and learning objectives. The technology must also match the infrastructure of the organization offering e-learning.

Make sure that e-learning does not merely duplicate what is already being done, but rather that it integrates into the

learning experience and replaces some of what is traditionally done in the classroom (e.g., some discussions, distributing handouts, sharing related information).

2. Implement incentives to encourage use

Adoption rates among faculty vary. Faculty who are currently involved in e-learning generally do so for the following reasons: 1) they are early adopters of technology and like seeing how the new applications will work and possibly help them. 2) They are early in their careers and see e-learning eventually gaining a large “market share” of learning opportunities and therefore they want to get in on the technology early, before it’s mandated. If e-learning is to come of age, appropriate rewards should guide behavior toward the use of e-learning. Even nonfinancial incentives can motivate use of e-learning. College academic platforms such as WebCT and ecollege.com offer the professor the ability to easily set up on-line courses (or companions to courses). The process of putting a file on-line so students can download it is very easy, as is allowing students to access their grades in a secure format. Professors do not need to learn html or ftp to perform these tasks in one of these environments.

3. Build toward the future

When dealing with technology in an academic environment, the time constants do not match. Let me explain: decision making for capital equipment in a university can often consume a four-month semester or longer. In this four-month timeframe, the technology being tought often changes by the time authorization to purchase is obtained. So, we must look to the future when proposing any e-learning initiative. One-gigahertz processing speed, wireless networks, handheld functionality, and other innovations will be old news in a year or two. “Looking to the future” means reading the literature and scanning the product marketplace to stay up-to-date on what’s available now, what’s in development, and what’s scheduled for release..

4. Go outside the bureaucracy

As stated earlier, university decision making often lags behind the professor’s need. And, systems selected may not meet the user’s needs. So, take advantage of the internet’s strength and go outside the bureaucracy to obtain what you need. Here’s an example of one professor who did just that. This professor’s university adopted WebCT as their e-learning platform. However, there were many problems in upgrading to the new version (e.g., students’ names weren’t being pulled in to the system, some features were not operational) that the systems were essentially ineffective. This professor signed up for a free trial at a competitor and was up and running with students accessing content, grades, and downloading course materials with very little development time or hassle. Student names and e-mail addresses were easily loaded in from the university-provided files. In short, don’t wait for the bureaucracy to solve your problem; solve it yourself and save time, trouble, and delays.

5. Seek for constant feedback

With so many changes occurring in the e-learning environment, professors have many options. And, with these options come varying user experiences. Seek constant feedback from students on how well these features are working or not working and what features they would like added to the course. Networking with other professors and with vendors of e-learning technologies can be very helpful to gain visibility of what’s available, how to access it, and what works best —at least in a particular application. Several national conferences are held each year to assist faculty and university staff in this endeavor. Only by staying ahead and keeping in touch with the latest applications can you make the most effective use of e-learning technologies.

Recommendation for institutions and students

- Institutions should provide the initial structure to a student’s work, encourage self-direction and remain sensitive to the various learning styles.
- In this regard, the teacher should provide facilities that encourage learners to carry out research in order to ‘discover’ new knowledge through individualized initiatives and self-designed styles; individual or group tasks are guided by specific milestones.
- Students should construct their knowledge and solve problems as they view topics from multiple perspectives; they become autonomous managers of their learning and devise questions for which they seek answers from the World Wide Web (www). The learners, therefore, require the ability to not only self-search for knowledge from the www but also the skills to identify relevant knowledge for their specific purposes. Therefore the teachers’ role in guidance and counselling of learners is important, as the www is a network of both appropriate and inappropriate content.
- Institutions must develop ICT support mechanisms to proficiently deliver media-intensive learning in an inexpensive way and to support daily e-learning facilitation for both teaching staff and students. It is essential to improve the digital literacy of the users and to enhance the utilization of Moodle (or other eLearning platforms) as a learning management system (Alexis Harerimana N. G., 2017).
- The cost of computing should be reduced sufficiently for schools in many countries to be able to afford networks of computers and display monitors.
- The computer manufacturers must provide ‘educational ‘generic software for schools and colleges ‘bundled ‘with the networks being purchased, mainly chosen for the wider software market in commerce and industry; that is, word processing, spreadsheets, data base software, and graphics applications, which mostly displaced the previous educational software being used.
- The complex design of the ‘new’ software environments required much more understanding of human–computer interfaces, curriculum potential, and the wider learning context.
- The internet must became accessible for all schools and colleges widening its access in education; for example,

all schools in Africa should be modernized in order to encourage them to connect to the internet, and access learning resources and use e-mail.

It was recognized that schools, colleges, and teachers needed to have much more training to take up and incorporate the use of e-learning in their teaching.

Conclusions

We discussed E-learning usage and implementation, identified challenges and made recommendations. There is a paucity of research on the use of social software for academic purposes in Africa as compared to developed world. We recommend the SS approach to promote learning activities that improve the learning process. According to the technology adoption model (talentlms, 2020) system adoption is influenced by attitudes, perceived ease-of-use, perceived usefulness and user behavioral intentions. Therefore, institutions should ensure that these factors are positive for the successful adoption of E-learning. In the future, we will survey instructor at tut and other SA institutions to measure the improvement in technology usage and also in Africa as continent. We will experiment with social software as a tool for learning to determine how it influences learning at SA institutions.

In brief, regarding to the benefits of e-learning and it like development of the country in all sectors such education, business, health etc. Even though there is invention of e-learning and it in Africa as whole continent, it’s not yet on sufficient due to different obstacles include poor digital infrastructures (poor connectivity, lack of computer and other related electronic devices), which hinders the development of Rwanda and Africa in general .

Therefore governments should invest a certain percentage of country’s budget in this sector to increase the knowledge based economy.

Distinguishing E-Teaching, E-Learning and E-Coaching

Definition of Terms

E-Teaching

The alternative to face-to-face or conventional education is electronic teaching (e-teaching). Sanford (2020) describes it as an online teaching method in which no physical intervention of instructors and students is necessary. At the time of the teaching process, participants are located in several separate locations. It entails using information and communication technology (ICT) to interact and work with learners to accomplish instructional goals effectively. In literature, the notion of e-teaching is not widely discussed as often as e-learning is. As the back end of e-learning, e-teaching involves the technical mix of content experience, pedagogy, knowledge from/through multiple media outlets, and the use of learning theories to accomplish both formal and informal instructional goals.

As suggested by Ali (2018), E-teaching can include asking students to search for items online before the next class and providing forums for students to share their thoughts. To Klement et al. (2014), e-teaching puts together all the preferred modes of instruction into what is referred to as VARK (Visual, Aural, Reading/Writing, and Kinaesthetic). It requires the use of interactive tools that enable students to create and process knowledge in their own space and speed. Lytvynova and Pinchuk (2018) state that ICT encourages teaching and learning autonomy, produces constructive learning incentives, enhances learning consistency, strengthens evaluation practices, and improves record-keeping of educational achievements.

The facilitator of E-teaching is the E-teacher. Hoskins (2010) states that an E-teacher must be a good teacher called to the honourable career of molding young/unknowledgeable minds and with the requisite broad or technical knowledge. Also the E-teacher must be familiar with ICTs, including their continuing dynamism, to be readily influenced by necessary adjustments and scaling.

However, it should be noted that E-teaching is not synonymous with online teaching, the latter being a branch of the former, in which E-teaching can be carried out both in a face-to-face setting and at a distance. In contrast, online teaching frequently does not require face-to-face contact. For E-teaching, though, it is necessary to connect electronically because Internet resources are essential for the E-teacher. Ultimately, since it is one of the leading development areas within the education profession, E-teaching is an essential component for every educational institution to consider.

E-Teaching Tools	**E-Teaching Platforms**
Podcasts	World Wide Web (WWW)
Video clips using hyperlinks, projectors	Learning Management System (LMS)
Use of electronic books (e-books)	Skype
Open educational resources (OERs)	WhatsApp & Zoom

E-Learning

The E-learning concept emerged in the mid-1990s when the Internet started to gain popularity (Garrison, 2011), and computer-based learning and web-based learning were included in the application of E-learning. E-learning, also known as web-based learning, is defined as the versatile and simple delivery of education through the use of the Internet to promote individual learning or organizational success (Clarkand Mayer, 2011, Maqableh et al., 2015).

E-learning is the use of ICT to provide academic knowledge where teachers and students are distanced by location, time, and/or both to improve the educational experience and performance of the students (Keller et al., 2007; Tarhini et al., 2016). E-learning is described by Horton (2011) as a series of instructions given via all electronic means, such as the Internet, intranets, and extranets. Thus, people can now take care of their own lifelong learning by overcoming the constraints of time and space (Almajali et al., 2016; Bouhnik and Marcus, 2006; Fletcher, 2005; Obeidat et al., 2015).

Sharma and Kitchens (2004) observed that E-learning entails learning through web-based training services, such as virtual colleges and classrooms, allowing remote communication and distance learning aided by technology. E-learning plays a vital role in educational growth in every country, according to Ally (2005). It creates opportunities for developed nations to increase their academic progress. In addition, it also allows the new generation of teachers to develop their teaching pedagogy skills. E-learning enables organizations to provide all staff with training regularly; upgrade training content when necessary; minimize travel expenses to outside training facilities; and provide workers with training on-demand, at any time and everywhere (Burgess & Russell, 2003). Papanis (2005) claimed that E-learning offers all participants in the learning process with innovative teaching at a reduced cost, improved access to learning, and

strong accountability.

In their study, Sangrà, Vlachopoulos and Cabrera (2012) indicated, that E-learning definitions from the literature focus on four different elements and categories, which are: 1) technology-driven, 2) delivery-system-oriented, 3) communication-oriented, and 4) educational-paradigm oriented. The table below presents details of all four categories and their definitions.

Category	Definition	Source
Technology-Driven	"E-learning is the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for the face-to-face meetings by online encounters."	Guri-Rosenblit, (2005)
	"E-learning is distance education through remote resources."	Marquès, (2006)
Delivery-System-Oriented	"E-learning is the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media."	Koohang & Harman, (2005).
	"E-learning is an online education defined as the self-paced or real-time delivery of training and education over the internet to an end-user device."	Lee & Lee, (2006).
	"E-learning is the delivery of a learning, training or education program by electronic means."	Li, Lau & Dharmendran, (2009).
	"E-learning is defined as education delivered, or learning conducted, by Web techniques."	Liao & Lu, (2008).
Communication-Oriented	"E-learning is education that uses computerized communication systems as an environment for communication, the exchange of information and interaction between students and instructors."	Bermejo, (2005).
	"E-learning is learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the web"	González-Videgaray, (2007).
	"E-learning is the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services, as well as remote exchange and collaboration."	Alonso et al., (2005).

Educational-Paradigm-Oriented	"E-learning is a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery."	Aldrich, (2005).
	"E-learning is defined as information and communication technologies used to support students to improve their learning."	Ellis, Ginns & Piggott, (2009).
	"E-learning refers to educational processes that utilize information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities."	Jereb & Šmitek, (2006).

E-Coaching

E-Coaching is also known as online coaching, remote coaching, web coaching, cyber coaching, digital coaching, I-Coaching, distance coaching, and virtual coaching. E-Coaching, previously referred to as virtual coaching, plays a critical role in producing efficient teachers through advanced online bug-in-ear (BIE) technology. E-Coaching is described as a relationship in which the practical instructional abilities of one or more individuals are actively and eventually strengthened by online experiences with another person (Gallant & Thyer, 1989; Hess, 1980). E-Coaching does not require onsite delivery, unlike face-to-face supervision or elbow coaching (Rock, Zigmond, Gregg, & Gable, 2011).

The word E-Coaching is also used interchangeably with virtual coaching, distance coaching, online coaching, remote coaching, etc. Although the E-Coaching debate is new, there is an apparent lack of agreement about its meaning. For example, Clutterbuck (2010) refers to E-Coaching as a developmental interaction that is conveyed by e-mail and maybe augmented by other media. An alternate definition considers E-Coaching to be a technology-mediated coach-customer relationship to promote customer development (Hernez-Broome, 2010). E-Coaching is described by Hernez-Broome, Boyce, and Whyman (2007) as "two-way communication between a mentor and mentee that is enabled through the use of technology, particularly computer-mediated communications (CMC) such as e-mail and online chat or threaded discussion" (p. 6).

Technologies for E-Coaching consist of advanced telecommunications and multimedia tools that enable synchronous and asynchronous communication through ordinary telephone lines and high-speed cable connections to desktop computers or wirelessly through cell phones and other mobile devices (Gunawardena & Mclsaac, 2004). Technological E-Coaching modalities include the following: (1) telephone communication; (2) visual communication; (3) text-based synchronous communication; and (4) asynchronous text-based communication. E-Coaching includes tools for synchronous interactions, contact and reflection (in real-time), and asynchronous (time-delayed) tools (Headlam-Wells et al., 2006). From the above definitions and in all three cases, it can be observed that one crucial element that runs through them is the use of computer-based technology, and it also does not necessarily require that both parties meet face-to-face.

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What is E-Learning

E-Learning Environment

“E-Learning”

Mathetics (=science of learning, subjective didactic) vs. *Didactics* (=science of teaching, objectiv didactic) (Eichelberger; Laner et al., 2010, p. 63)

Definition of E-Learning

= Merge of educational processes with digital technologies

- Blended Learning: mix of face to face and digital remote learning
- Online Learning: digital Learning

(Kergel, Heidkam-Kergel, 2020, p. 2)

Advantages & Disadvantages of E-Learning

- Advantages:
  - The participants do not depend on time and space, more autonomy (time management)
  - online seminars parallel to daily life → immediate application in daily working processes
  - diverse learning offers → focus on one topic or individual topics
  - collaboration with others → new insights, contacts, enrichment
- Disadvantages:
  - Need of good self- & time-management (often a hindrance)
  - lack of Presence → no interaction with the others, easier to step behind, to avoid visibility
  - a knowledge shared is a knowledge doubled → only if cooperation (based on previous experience)
  - need of courage to say something, harder in virtual space
  - responsibilities for learning process are not clear
  - motivation doesn’t last until the end
  - technology is a hindrance, if participant is not familiar with

Learning competency

Definition of Learning competency (Born 2014, p. 12f.)

- knowledge, capacities, skills, abilities and attitudes that are necessary for individual and cooperative learning processes - can be developed and optimized through learning.
- includes: 1) technical skills; 2) methodological skills; 3) social skills and 3) self-competence
- Self-competence especially important: possibilities for motivation, organisation & controlling cannot be copied from face-to-face teaching need of individual responsibility, self-organisation

1. Access/motivation:
   1. Help pages, contact via e-mail/phone open to public
   2. Frustrating, in case of problems/difficulties

2. Online Socialisation
   1. Present – perceive – orientation (on the platform)
   2. Useful: attractive entrance into the topic, arousing interest; efficient & fast support
   3. Where appropriate, face-to-face seminar for introduction

3. Exchange of information
   1. Perception of possibilities for information & communication
   2. Indication for support, FAQ & content related suggestions

4. Joint knowledge construction
   1. Forming of working groups – learning with and from one another

5. Development & transfer, Self-organisation
   1. Role of instructor changes to role of supporter and learning colleague

The Participant:

(Born, 2014, p. 7f.)

- Ideal Characteristics: Discipline, Endurance, Motivation, Power, Cooperativeness, self-confidence, self-esteem, knowledge, ideas, brain
- Participant as Co-producer of the learning success: quality and learning success are based on active role of participants
- Participant is dealing with two worlds: personal life & virtual learning space

→ Participants in the focus → Task of teacher: support them in order to guarantee their learning success

Team members of online-seminars:

- Seminar manager
  - Responsibility for all action in the three phases: Preparation – Implementation – Evaluation
  - Organisational frame of the seminar: content related and didactical conceptualization, course material
  - Coordination of the team's internal cooperation
- Moderator or teletutor
  - Co-responsibility for the communication and cooperation in the seminar groups
  - Co-participation in achieving and verify the learning goals
  - Reflection of the learning and working process together with seminar manager
  - Definition and implementation of measures for intervention
- Expert
  - Bring in expert knowledge for the seminar's content
  - Joint development of course (teaching/Learning) material
  - Ready in the background for questions and more information
- Supporter
  - Responsible for the technical frame, technical implementation of the wishes pronounced by seminar manager and experts
  - Support for the handling and utilization of the learning platform

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Gaps and Challenges of E-Learning

Most African countries have inefficient ICT-related infrastructure such as electricity, telecommunications, computers and trained personnel. A survey carried out by the AVU revealed that internet connectivity in tertiary institutions in Africa is inadequate, expensive and poorly managed (Twinomugisha, Magochi & Aluoch, 2004). Therefore, the three pillars of the ICT revolution, that is, connectivity, capacity and content, are yet to be realized in Africa.

In today's world, a new level of commitment is required in order to educate the young generation and e-learning perhaps emerges as an important tool of imparting knowledge and information. The challenge, however, is to provide a suitable means to disseminate disparate information in a dynamic, open and distributed e-learning environment. While there still exists some uncertainty about its role in education and professional training, there is a growing concern about the issues and strategies of e-learning that may be faced by both providers and learners of e-learning in future. E-learning is here to stay as the fast changing pace of technology, the shortening product development cycles, lack of skilled personnel, competitive global economy, the shift from the industrial to the knowledge era (mathai & arumugam, 2016). E-learning becomes more and more important. Reasons are the paramount importance of knowledge, life-time learning, globalization and mobility. Having a great e-learning strategy and great programs is just no guarantee of success. Without a clear and well thought out implementation strategy and plan, the e-learning efforts will most likely fall far short of the goals, learners' needs, and management expectations.

Problems that characterize traditional international education, such as recognition of qualifications, also apply to e-learning. But because the very nature of e-learning includes distance and technological aspects, these issues may be more easily overcome (truong, 2016).

Key challenges arise while implementing E-learning in Africa

With education being seen as a key foundation for Africa's development, e-learning has the potential to play a pivotal role in the transformation of the delivery of quality education across the continent. To achieve the level of scale required in the delivery of quality education, Africa needs to leap forward and maximize on the potential of e-learning in creating innovative learning solutions. The education delivery approach in Africa has to shift from one that is highly dependent on physical infrastructure such as schools and colleges, physical learning materials, and in class education delivery to one that makes extensive use of interactive education technology. Progress has been made over the past decade and according to a report by ambient insight, Africa has the highest growth rates in e-learning in the world for four out of the five self-paced eLearning products and services, including packaged content, custom content development services, cloud-based authoring tools, learning platform services, installed authoring tools, and installed learning platforms.

Despite the progress that has been made, there are three central challenges that continue to exist which hinder effective implementation of E-Learning in Africa.

1. *Internet access / connectivity:*

Without access to the internet many eLearning projects in African countries are throttled before they even begin. U.N. broadband commission reported that 8 of the 10 countries with the lowest levels of internet availability in the world are in sub-Saharan Africa. The 8 countries are Ethiopia, Niger, Sierra Leone, guinea, Somalia, Burundi, Eritrea, and south Sudan. Internet penetration in all 8 countries is less than 2 percent of the population. Providing all the students with internet access is a very expensive proposition for most African governments and this is more so in the case of rural centers and remote areas, where internet connections are bound to be erratic, if available at all. The countries that lead in e-learning on the continent and that have had the largest levels of foreign and local investments in this sector have the advantage of better than average internet access and connectivity. South Africa's peak connection speed was measured at 16.8 mbps in the first quarter of 2015, giving it a world ranking of 112th.

Kenya currently leads in Africa with regards to internet connectivity with the highest bandwidth per person on the continent, the fastest speeds, and some of the lowest internet costs (foster & graham, 2015). International companies such as google, IBM, and Microsoft have set up offices in Kenya and made concerted investments in education in the nation as a result. In Kenya –home to IBM's Africa research lab and a state-of-the-art innovation center– IBM is partnering with the Kenya education network (KENET) to deliver advanced hands-on certification courses to faculty and students of 50 Kenyan universities over kenet's broadband network. Microsoft has also partnered with intel east Africa and the Kenya private schools alliance, to launch the 4afrika youth device program, which provides a bundle of affordable devices, educational applications, online services, data plans, and smart financing to Kenyan learning institutions (Guerriero, 2015). On the other hand, based on Rwanda utilities and regulatory authority (RURA)'s recent report, Rwandans who use internet have reached 52.1% of the population; which is 6.1 million, in the last quarter of 2018 that covered September to December (mehta, 2018).

2. *Availability of locally developed content and curriculum online:*

Content development is a critical area that is too often overlooked. Academic institutions in Africa have not made the level of investment needed in developing local content that is aligned with national curriculums and that can be utilized for eLearning (acedo & hughes, 2014). The majority of tertiary institutions still use textbooks from the United Kingdom and the USA and there has not been a consistent drive to develop local content. Given the unique facets of Africa, the diversity of languages and culture and the continent's specialized needs, there is a great opportunity for African countries to develop targeted plans for content development. A large proportion of the educational software produced in the world market is in English. For African countries, such as Swaziland, where English language proficiency is not very high, especially outside urban areas, this represents a serious barrier to eLearning. There are significant challenges in terms of language patterns and local language usage (especially in serving the youngest populations), and as such there is a need for locally developed content.

3. *Training and professional development:*

Teachers on the continent have been brought up in education systems with limited technology and they find it difficult to utilize technology to engage and support learning. There is a great emphasis that needs to be made for teachers to understand that technology is not replacing them, but rather it is an enabler that will enhance their work. A huge challenge is to develop and implement training and professional development for teachers so they may embrace teaching with technology and understand the benefits of teaching with technology as a way to advance the academic outcomes of students. Partnerships with private entities play a key role in building the skills of teachers in ICT. In south Africa, Microsoft has trained over 31,000 teachers and school leaders on ICT integration with the aim of enhancing teaching and learning and having an impact on nearly 4 million learners. Over 800 trainers from the South African department of education have been trained to roll out, scale and sustain the Microsoft partners in learning program (de vries, 2016).

Different challenges related to the implementation of E-learning system in higher learning institutes:

Lack of systemic approach to ICT implementation: integration of ICTs in the functions of any organization is a complex process that needs to be fully conceptualized and defined from the beginning. However, this is not the case in many higher learning institutions in developing countries as most of them have embraced the ICT integration process without clear plans to guide the way. The institution ICT policy and strategic plan should be defined to provide a framework for the development and implementation of specific ICT projects. Moreover, considerations of some issues are requires such as (I) ICT infrastructure already in place; (ii) ICT skill levels in the institution; (iii) number of staff and students in each department and projected growth; (iv) academic management process: curriculum development, assessment methods and administration; (v) cost-effectiveness analysis (including hidden costs) and the choice of proper technologies for the needs of the institution; and finally (vi) staff development in new technologies (Cameron and Ulrich ,1986).

Awareness and attitude towards ICTs: it is important for all stakeholders in the institution to know the existing ICT facilities and services and their importance in relation to their specific tasks. However, according to Tusubira and Mulira (2004), there tends to be some vague knowledge about ICTs, some interpreting them as simply advanced technologies that require a lot of money and very advanced skills. They are not appreciated as a means of creating efficiency. Lack of awareness goes along with attitude. Positive attitude towards ICTs is widely recognized as a necessary condition for their effective implementation (Woodrow 1992).

However, the university is facing great challenges with limited classroom space, as well as applying the use of modern technology in teaching and learning. The university is considering the implementation of e-learning for some courses or programmes so the students can follow the courses from a distance and engage in a dynamic learning process and knowledge construction through e-learning. It is against this background that the need to develop e-learning becomes especially relevant. The university is situated in a rural region. For some programmes, part-time students do not stay on campus and therefore travelling to the campus for courses becomes a major challenge.

Administrative support: administrative support is critical to the successful integration of ICTs into teaching and learning processes. Administrators can provide the conditions that are needed, such as ICT policy, incentives and resources. The commitment and interest of the top management and other leaders at every level is the most critical factor for successful implementation of ICTs. Dwyer et al (1997) emphasize that for the integration of ICTs to be effective and sustainable, administrators themselves must be competent in the use of the technology, and they must have a broad understanding of the technical, pedagogical, administrative, financial, and social dimensions of ICTs in education.

Transforming higher education: many institutions fail to integrate ICTs into teaching and learning because they are using ICTsto replicate their traditional practices, content and control. Their plans appear to be driven by ICTS and not by pedagogical rationale and focus (Ehrmann 1995). However, effective integration requires a transformation process where all stakeholders are involved to re-examine their existing structures and practices, as pointed out by bates (2000: 13), if universities and colleges are to successfully adopt technologies for teaching and learning, many more than minor adjustments in current practice will be required. Indeed, the effective use of technology requires a revolution in thinking about teaching and learning. Part of that revolution necessitates restructuring universities and colleges – that is, changing the way higher education institutions are planned, managed and organized.

Educational-paradigm-oriented definitions:

- "E-learning is defined as learning facilitated by the use of digital tools and content that involves some form of

interactivity, which may include online interaction between the learner and their teacher or peers.

- “E-learning is the use of new multimedia technologies and the internet to improve the quality of learning by facilitating access to resources and services, as well as remote exchange and collaboration .
- “E-learning is a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery.
- “E-learning is defined as information and communication technologies used to support students to improve their learning.

Differences between eCoaching and eLearning (Kotelnikov V, 2020):

E-learning (Teaching)	e-Coaching (Coaching/Facilitating learning)
Helps you learn a specific subject	**Inspires** you, helps you identify and define your specific**goals**, and organize yourself to attain them
Helps you learn functions you've never done before	Helps you apply yourself personally in new ways
Passes knowledge to you	Helps you unlock your true potential and generate innovative ideas
Gives effective answers	Asks effective questions
Concentrates on the depth of knowledge; develops your functional excellence	Concentrates on the width of knowledge; develops your cross-functional excellence
Facilitates vertical in-depth thinking	Facilitates lateral **creative** thinking, develops capabilities for building new connections and looking for wider solutions
Curriculum-based; a journey with a fixed destination	A continuous journey; never-ending**improvement** process
Learning for the future; helps to develop knowledge reserves	Provides just-in-time (JIT) knowledge that can be applied immediately

Online Teaching vs. Offline Teaching:

Online Teaching incorporates the use of internet to deliver study material to students in the form of video tutorials, presentations and texts. The primary objective is to dispense knowledge to students and enable them to learn at their own pace and convenience. Offline teaching refers to the conventional classroom teaching where both teachers and students need to be physically present (Naman W. et *al*, 2020).

Advantages of offline teaching over online teaching:

In offline learning being face to face allows more participation and activity based on traditional forms of education. Traditional education requires students to develop a sense of discipline and responsibility. Learners can gain an understanding of the subject content and make connections between them in real time. If a student doesn’t understand what is being taught, they can immediately gain clarity by asking their teacher. Through all the interaction in the class, students learn how to behave socially and they understand how to handle responsibility. Online learning is totally technology dependent. One requires decent internet connection for completing the online tasks. If the computer doesn’t work properly, it becomes difficult to submit time bound assignments. This all doesn’t happen with offline learning. But anyways, offline learning is a time-consuming process.

Pros and Cons of online teaching (Naman W. et *al*, 2020):

Pros of online teaching	Cons of online teaching
• You can learn whatever and whenever you want.	• You cannot interact face to face.
• You can learn at your own place, anywhere.	• Online classes increase personal responsibilities.
• You can learn with technical skills.	• In Online classes students, faculty and other doesn't have the same opportunities to make network connections.
• *There is less pressure in online classes*	• *In Online classes, you will need to in charge of your own education*

All about E-Learning Tools

Terms of Use

Authoring Tools

Introduction

New technologies are changing the way we produce and deliver digital learning – with elearning authoring tools becoming an increasingly popular choice. _Understand a bit more about the 12 favorite authoring tools on the market in 2020. Plus, find out: What is an authoring tool? What can you achieve with one? Then assess your options!

What is an authoring tool? An authoring tool is a piece of software that enables the creation of digital content. This could be as simple as creating a Microsoft Word document, or as complex as a graphic design tool. A piece of authoring software allows the user to generate and manipulate multimedia objects for the content's intended purpose.

Authoring tools also come with their own range of supported elearning formats, including SCORM (1.2, 2004), xAPI/TinCan, HTML5, AICC, cmi5 and LTI. See our detailed article on SCORM vs. xAPI for more info.

Electronic learning, or commonly known as e-learning, is among the earliest applications of web-based technology (Azhari, 2015). E-learning is defined as the delivery of learning using purely internet and digital technology (Al-Busaidi, 2013.

The best authoring tool for you will depend on a range of factors, including:

- Your technical expertise
- Whether you want simple or more sophisticated learning experiences
- How much content you need to produce and manage
- Your translation requirements
- If you are a sole author or work with a wider team
- Your budget

Favourite authoring tools

1. **CANVAS**
2. **MOODLE**
3. **Elucidat** – Helps big employers drive down the cost business-critical training
4. **Adobe Captivate** – Gives experienced authors the power to create high-quality content
5. **Articulate Storyline** – Ideal for individual users who prefer PowerPoint, with an added layer of customization
6. **Articulate Rise** – Users with access to Articulate 360 can produce simple elearning courses fairly quickly
7. **Gomo** – Best for experienced learning designers that are not looking for advanced customization
8. **Lectora** – Gives traditional, capable authors an effective tool for producing HTML5 content
9. **Adapt** – Designed for technical authors who are looking to design bespoke HTML5 authoring through back-end design
10. **DominKnow** – Perfect for teams whose focus in on responsive screen capture and software simulation
11. **Easygenerator** – Authoring software designed for small teams who need to produce simple content, fast
12. **iSpring Suite** – Desktop PowerPoint- based tool that's a great option for novice learning designers who don't have to worry about updating content regularly
13. **Evolve** – Built for teams who need to collaborate together and don't mind putting in the time to learn how to use it
14. **Brainshark** – Easy to use authoring tool targeted at sales teams. Ideal for those looking to create coaching

E-Learning context - Rwanda and the World

Rwanda Context

Here in Rwanda there are different tools and methods used by regarding to the University and their ICT infrastructure.

Tools and method used in elearning among RWANDA Universities.

Public university

1. University of Rwanda (UR) College of Agriculture and Veterinary Medicine (CAVM) -**MOODLE**
2. College of Arts and Social Sciences (CASS) -**MOODLE**
3. College of Business and Economics (CBE) -**MOODLE**
4. College of Education (CE) - **MOODLE**
5. College of Medicine and Health Sciences (CMHS) -**MOODLE**
6. College of Science and Technology (CST) -**MOODLE**

Public integrated polytechnics and colleges

1. Gishari Integrated Polytechnic (GIP) -**MOODLE & YOUTUBE**

Comparison to the current top 10 World universities

Top 10 universities in the World

10. **University of Chicago**
    E learning tools used are:
    edX,ZOOM,
    COURSERA,
    CANVAS,
    PANOPTO (RECORDIN LECTURES).

9. **Imperial College London**
    E learning tools used are:
    Ponopto(lecture recording),
    Blackboard learning app (virtual learning)
    Turnitin (plagiarism detection)
    WebPA(peer assessment)
    Mobius
    Piazza
    Virtual learning

8. **UCL (University College London)**
    E learning tools used are:
    Moodle
    Turnitin

7. **University of Cambridge**
    E learning tools used are:
    Canvas
    Moodle
    Skype classroom
    Flip
    Padlet
    Kialo
    Adobe Express
    Canva
    Pixton
    Visme

6. **ETH Zurich (Swiss Federal Institute of Technology)**
   E learning tools used are:
   Ilias
   Moodle
   Elba tools

5. **California Institute of Technology (Caltech)**
   E learning tools used are:
   Coursera and edx
   Moodle
   Zoom
   Gradescope
   Google hangouts
   Labarchives

4. **University of Oxford**
   E learning tools used are:
   Weblearn
   CANVAS

3. **Harvard University**
   E learning tools used is:
   CANVAS

2. **Stanford University**
   E learning tools used are:
   CANVAS
   COURSEWORK

1. **Massachusetts Institute of Technology (MIT)**
   E learning tools used are:
   CANVAS
   STELLAR

Assessing Elearning Method/Models used In Africa Especially In Rwanda And Related Challenge

Assessment for e-learning requires effort on the part of the educational com- munity to propose methods, strategies, and procedures in order to achieve effective and efficient processes (Bulut 2019).

Most African countries have inefficient ICT-related infrastructure such as electricity, telecommunications, computers and trained personnel. A survey carried out by the AVU revealed that internet connectivity in tertiary institutions in Africa is inadequate, expensive and poorly managed (Twinomugisha, Magochi & Aluoch, 2004). Therefore, the three pillars of the ICT revolution, that is, connectivity, capacity and content, are yet to be realised in Africa.

The problem in Africa is generally not just the near absence of e-learning programmes but also the inability of students to gain access even to the few that do exist.

The average African university has bandwidth capacity equivalent to a broadband residential connection available in Europe, pays 50 times more for their bandwidth than their educational counterparts in the rest of the world, and fails to monitor, let alone manage, the existing band- width... . As a result, what little bandwidth that is available becomes even less useful for research and education purposes (Steiner, Tirivayi, Jensen & Gakio, 2005).

There are many reasons for encouraging e-learning in Africa. According to a study by Prakash (2003), access to education in the developing countries is limited with less than 5% of students in tertiary education compared to the world average of 16%. The demand for education in Africa exceeds the ability to deliver and is not offered to significant portions of the population. This inadequacy of access to higher education in Africa is evident from the number of students who seek universities. For instance, in 2003, Kenya was reported to have sent 12 000 students to foreign universities of which 7,000 went to India and 5,000 went to Europe and the United States (Mutula, 2003). However, African students are beginning to expect education to emphasise the process of learning rather than the content as the ‘shelf-life’ of information is limited because of rapid innovations (Carroll, 2006). Increasingly, students expect technology to have a significant role in their learning as the demand for courses offered by the African Virtual University (AVU) increases (Juma, 2003a).

In Rwanda the **method/model** used in E-Learning for most of all universities is**BLENDED LEARNING.**

Defining E-Coaching

This chapter provides you with information to get your E-Coaching started.

What is E-Coaching?

Definition of E-Coaching

Coaching, of course, is about purposeful interactions between a coach and the person or persons being coached. E-Coaching moves the process online and expands the possibilities. Some e-coaches call what they do “distance coaching,” “distance mentoring,” or even “telementoring.” What’s interesting here is that online experiences and tools are the fundamental way of supporting the coaching relationship.

The concept of e-coaching can be defined as the practice of coaching through technology (Kamphorst, 2017). For example a human coach uses technology as a mode of communication to get information about a coachee’s behavior or to give feedback. Or more specifically according to (Ribbers & Waringa, 2015) as: “E-coaching is a non-hierarchical developmental partnership between two parties separated by a geographical distance, in which the learning and reflection process is conducted via both analogue and virtual means.”

With upcoming new technologies one of the parties could be potentially of artificial descent. This approach could foster the self learning abilities of students and relieve/support lectures. Some of these E-Coaching Systems can be found in Health (Banos & Nugent, 2018) and lifestyle (Yousuf et al., 2018) applications.

Conclusion

To conclude there are two interpretations of E-Coaching:

1. The usually coaching in a digital way supported by information and communication technology
2. A coaching approach through an artificial coach implemented in E-Coaching Systems

The first one can be supported through known technologies such as online conference tools (e.g. Zoom, Skype, Hangouts etc.), Chat Systems (e.g. Whatsapp, Rocket.Chat, Slack, Mattermost etc.) and collaboration tools (e.g. Basecamp etc.). These applications enable coaching sessions without the need of a face-to-face interaction. The second understanding is harder to implement and lacks the human flexibility to switch topics. There are approaches which foster specific fields of interest like fitness, health/nutrition or social skill coaching but the adaptability to other use cases are very limited.

First prototypically Research has been done to flexibilise the architecture behind AI Coaches but nevertheless if the needed application is not already available to build one from scratch is a resource intensive task.

Terms of Use

E-Coaching Systems

What is Coaching?

Coaching, of course, is about purposeful interactions between a coach and the person or persons being coached.

E-Coaching moves the process online and expands the possibilities. Some E-Coaches call what they do “distance coaching,” “distance mentoring,” or even “telementoring.” What’s interesting here is that online experiences and tools are the fundamental way of supporting the coaching relationship.

E-Coaching is the practice of coaching through technology. In this very broad sense, this means that if a human coach uses technology as a mode of communication (e.g., to get information about a coachee’s behavior or to give feedback), this is considered E-Coaching. Consequently, it could be argued that the communication systems that human coaches and coachees use to communicate in this practice are types of “e-coaching systems” (Bart A., 2017).

E-Coaching System by Kamphorst (2017)

An E-Coaching System is a set of computerized components that constitutes an artificial entity that can observe, reason about, learn from and predict a user’s behaviors, in context and over time, and that engages proactively in an ongoing collaborative conversation with the user in order to aid planning and promote effective goal striving through the use of persuasive techniques (Kamphorst, 2017).

Features of E-Coaching Systems (Kamphorst, 2017):

1. The system will need to have **social ability** in order to engage in an ongoing conversation with the user. This conversation is crucial for establishing and maintaining a collaborative relationship between user and system.
2. As coaching requires repeated interactions between user and system, the system should be **designed to be credible**, i.e., to be perceived as having expertise and being trustworthy.
3. In order to stimulate ideas and action, and to assess whether a person’s goals are consistent with that person’s life values, the system will need to be in some relevant sense context-aware (for more on the importance of context for e-coaching systems.
4. In order to ask questions that are pertinent to a specific situation the user is in or will be in, and to develop and maintain the trust that is needed for a customized, collaborative coaching relationship, the system will need **the ability to ask questions, give feedback, and offer advice that is tailored to the individual user**. For this, the system will need learning abilities to build up and maintain a personalized user model.
5. The system will need **to have information on which to base its questions and recommendations,** which means it will need to be able to interface with (different types of) data streams (e.g., direct user input, but potentially also measurements of physical activities, mood self-reports, sleeping patterns, etc.)
6. **The system has to be proactive** in order to initiate interactions with the aim of stimulating action or reflection. For example, the system could invite the user to reflect on his or her commitment to a particular goal, or warn the user at suspected moments of weakness. For this type of proactiveness, prediction of user behavior is key.
7. If the system is to be successful in supporting behavior change, not as a mere instrument, but as a coach, it needs to have some notion of what a behavior change trajectory looks like. For this, it needs to **operate on some type of model of behavior change** cf. the COM-B model and the COMBI model.
8. In order to support users in setting themselves up for behavior change success, the system needs the **ability to guide its user in a process of future-direction.**

Educational Coaching

Teaching-Learning Concepts

How E-Teaching should be done/what should be taken into consideration

The lecturer should be engaged in the developing of learning materials. According to Yengin et al., 2010 tools for designing Learning Materials includes:

- Audio recording tools: The lecturer can record audio, convert tapes and records into a digital file, edit MP3 files, mix sounds together and change the sounds dynamics in the recordings with a number of available audio recording tools.
- Program Image Editing: There are a number of software's that are available to enable lecturers edit images. Lecturers can use this tool to create – edit graphics and photo file for their lessons. They create and modify many of the known digital photo file.
- Screen recording: Most of the e-learning lessons may need some screen recording because lecturers need to show something to the students in their desktops. Also with screen, recording lecturers can have tutorial and presentation on how to use software applications
- Emails, blogs, wikis, e-portfolios, animation, video links. For the lecturer to use this they need to be very innovative. For instance, Blogs or individual platforms are gradually being adopted by innovative lectures to share educational materials, visuals, exercises and assignments to students.
- Wikis have originates from the concept of Wikipedia. It allows students to read, add or edit materials posted by the lecturer. This thus allows for interactions between students and lecturer. The material may be presented in form of text, tables, visuals, photographs etc. A teacher constructs a wiki on any specific area and therefore ideal for teaching a diverse of subject area.
- Video links provide links – This is commonly used by lecturers teaching in specialized units to supplement the regular form of teaching.
- E-blackboard - The blackboard platform is ideal because it allows for online discussion between learners and the lecturer. Either the lecture or the student can initiate a discussion or pose a question that allows for student interaction.

E-Learning Strategies

Strategies use in e-learning should strive to make the lesson very interactive more when it comes to giving feedback to the students. The system should be able to allow for discussion forums. This will not only allow feedback from the lecturer, the students will also have some good feedback from his/her peers because they can have time to think on the responses and time to construct a good question or feedback. The lecturer should also be trained on methods of motivating and encouraging student's interaction.

- E mentoring - This strategy can encourage learners to reach out to the lecturer for online professional assistance from the lecturer.
- E structured group activity-this allow learners to learn in structured groups electronically in the form of structured group discussion
- Peer learning groups
- Role play
- Seminars

References:

Yengina,I., Karahocab, D., Karahoca, A., Yücelb, A., (2010): Roles of teachers in e-learning: How to engage students & how to get free e-learning and the future. Procedia Social and Behavioral Sciences. 2: 5775–5787

Systemic Coaching

What is systemic coaching and how can it be used in educational settings?

Terms of Use

Systemic Coaching - Theory

Origin

Systemic counseling concepts have their roots in the family therapy tradition of the 1950s. Since then, the systemic approach to counseling has continued to evolve in many places and in many minds. The so-called Milan Group (Selvini, Boscolo, Cecchin, Prata), which began working with families and couples in the 1960s and developed new forms of systemic intervention, and the representatives of the Heidelberg School (Stierlin, Retzer, Schmidt, Simon, Weber) have played an enormous role in this development.
Today, systemic concepts are used not only for counseling and therapy of families, but also for counseling other social systems, such as teams, companies or even individuals. Likewise, systemic counseling concepts are used more and more in areas such as social work, administration and politics.
In the development of systemic concepts many borrowings from different branches of science have been incorporated, e.g. from biology, medicine, cybernetics, communication theory, information theory, game theory, general systems theory, chaos theory and constructivism.

Description of the systemic approach

The basis of the systemic approach to consulting is a system-theoretical worldview. The term "system" is derived from the Greek and in the original sense of the word means "put together".
A common definition for system is: "a set of elements or objects together with the relationships between these objects and their characteristics" (Hall & Fagen, 1956).
As can be seen in the ecosystem, for example, if just one link in the food chain is wiped out, there are serious consequences for the whole system. That is, almost any intervention in a system has an impact on the whole system. So it is always a matter of interactions between the various elements of the system in question.
The systemic approach to consulting makes use of this idea of interactions by applying it to persons, groups, organizations, situations, processes, problems or conflicts. The individual is therefore not considered in isolation, but always in the context of his environment/system.
The epistemological basis of systemic thinking is constructivist philosophy. It is connected with names like Heinz von Foerster, Gregory Bateson, Humberto Maturana and others.
The core question of constructivism is in which way people actively participate in the construction of their own world of experience. Since we as humans are dependent on developing concepts or "maps" about the world that make it easier for us to find our way around, it can always happen that we confuse these concepts/maps with reality.
Systemic counseling tries to do justice to the fact that in addition to different maps and constructions of reality, people also have different needs, desires, character traits, fears, likes, dislikes, abilities, limitations, visions, memories - in short, perspectives. Consequently, people can perceive something completely different in the same situation and therefore derive different conclusions and decisions.
By using the so-called "multi-glasses principle", the systemic approach to consulting makes use of these different perspectives to make those involved more aware of the situation. More awareness, in turn, expands the possibility space. The possibilities of choice increase and thus the condition for change arises.
Systemic counseling techniques thus arise from the question of how people in social systems create reality together, what premises underlie their thinking and experience, and what possibilities there are to question and disturb these premises. In the counseling situation, it is important to note that people are almost always "biased" and see themselves or their own mental constructs and projections everywhere first. Since this is also true for the consultant, it is useful for the consultant to be aware of his own reality constructions again and again, as well as of the fact that the consultant's attempts at explanation, theses and impulses are part of the systemic events.

Important aspects of the systemic-oriented consulting work

- Circularity - Every behavior of every participant is at the same time cause and effect of the behavior of the other participants
- Communication - How does communication take place or not take place?
- Context - In which context are phenomena, problems, situations considered? Who determines this context?
- Constructed reality - What reality does the client construct? What reality does his environment construct?
- Patterns and rules - What rules exist in the system and how are phenomena described in this system, i.e. how are they given meaning through explanations, evaluations, conclusions and what conclusions are drawn from them?

Goals of the systemic coaching

The goal of systemic coaching is to work out the individual plans as well as the personal competencies of the client, to reflect them in a professional or private context and to lead them to integration.
Further goals of systemic coaching are to open the client to alternative patterns of thinking, perception and interaction

in order to enable new behavioral options as well as to initiate and accompany learning and renewal processes in order to make people in systems and/or systems more survivable, successful and efficient. Ideally, systemic interventions can promote more mutual understanding, tolerance and mindfulness.

References

This page is based on Information material of Institut für Bildungscoaching & Nicolai Albrecht

Principles and Guidelines of Systemic Coaching

Principles

“Everything has consequences” (everything is interconnected – we live in systems)

- Only the coachee decides what is good or what helps
- Solutions are only stable, if all stakeholders support the decision
- Solutions and competencies are more important than problems

This means for the educational context, that the student (coachee) fixes e.g. his/her own learning goals. The teacher or other involved persons (stakeholders) need to be consent with the fixed goals.

Guidelines

1. The Coach works in the reality of the coachee.
2. The Coach needs a "commission" for the coaching before starting.
3. The expectations need to be clarified.

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Course of a (systemic) coaching session

The course of a systemic and solution oriented coaching session that is described in the following can be compared to a conversation you would have in a travel agency. The goal is similar: The client wants to get *somewhere*.

The overview of the course:

1. YES-Setting
2. Concern - why are you here
   - What is your objective
   - Expectations - job clarification (of coach)
3. Goal description
   - possible: *miracle question*
4. Solutions in the past
5. Scaling
6. Valuable observations
7. Invitation to experiment (=homework)
8. Final words
9. END - this is really the end, every other topic/question will be discussed in the next session

YES-Setting

This is the "welcoming part" of the coaching session. The important and name-giving aspect of this part is, that the coach creates an attitude within the coache that says "YES!". The saying yes can be achieved via different options:

- The coach welcomes the coachee and presents him/herself with name
- The atmosphere is welcoming, pleasant and reassuring
- Small-talk about topics where both agree, means where the coachee can respond with YES: e.g. "The weather is warm/rainy" or "How did you get here - the traffic is X."

Besides, in this first part, the coach can start to get to know the coachee by asking him questions about positive things (resources question), e.g.:

- What are you proud of?
- What gives you pleasure?
- What comes easily to you?
- What do others say you are good at?

These questions help to reveal the resources that lay in the coachee and that may be useful afterwards during the solution finding process, where the coach can refer to the answers given here.

Already at this point, the coach focuses on the competencies of the coachee and not on the problems.

Solutions are more important than problems.

At the end, before continuing with the concerns of the coachee, the coach has the possibility and should clarify his/her role and that he/she will interrupt when necessary. This way the coachee does not feel caught off guard when the coach has to interrupt the talking of problems, in order to e.g. orientat him/her towards solutions.

Concern

After the YES-Setting, the coachee can tell why he/she is here, in this coaching.

What is your concern - Why are you here?

Since we don't want to focus on problems, the coach needs to make sure, that this part is short and does not pass 5 to 10 minutes. The content in form of problems is not so relevant. In case the coachee looses him/herself in describing the problem, the coach should intervene and bring the coachee back on track through questions that relay on the original question.

Objective

Part of explaining the reason if doing the coaching is to describe where the coachee wants to get.

What is your objective - What should be different?

This can be one smaller or bigger objective. Generally, objectives cannot be too big, since they are the foundation of motivation.

Expectations

A very important issue that needs to be clarified at the beginning are the expectations of the coachee towards the coach.

What do you expect from me?

Without a concrete "job clarification" it is not possible to offer counsulting/coaching.

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Tools of Systemic Coaching

Open Questions

In order to receive proper input from the coachee, the coach should use open questions (what, where, when, who, etc.). This allows the coachee to give more detailed answers.

Alternative questions (X or Y) or closed questions (answer can only be yes/no) should be avoided.

- *Where are you right now?*
- *What is your goal? How can you describe it?*
- *What should be different?*
- *How did you get there?*
- *What is a first small step to achieve X?*

Goal description

Goal description (in detail) is the baseline for (self)motivation.

Imagine, the goal is reached …

What is different?

What do you do now?

How do you feel?

What are you thinking?

How will others react?

→ Needs are clearer

→ Benefit of the goal is clear (→ motivation!)

→ Visualisation of goal works like a self-fulfilling prophecy

→ Feeling of longing to get there

→ First ideas for solutions may appear

Goal needs to be fixated on a paper (in the words of the coachee!)

Scaling

Scaling is useful for reflection of what has been achieved, of where we are now, to identify next small steps.

Terms of Use

On a scale from 0 10 …

- *Where are you right now?*
- *How can you describe it?*
- *What should be different?*
- *How did you get there/ to (2)? (coping)*
- *What could be a first small step to achieve (3)?*
- *If X had been successful, where would you be?*
- *What is the difference between (2) and (7)?*

→ Probability of doing something, evaluation of sessions, steps to do

Goal orientation

0 10 (scale)

- *Where are you right now?*
- *What is your goal? How can you describe it?*
- *What should be different?*
- *How did you get there/ to (2)? (coping)*
- *What could be a first small step to achieve (3) / the goal?*
- *If X had been successful, where would you be?*

If working with teams: **Need of a common goal for cohesion.**

Coping

Before applying this tool, the past situation has to be described. For this, please use "Goal description" (see above).

The tool of Coping helps to identify solutions you had already in the past for (smiliar) situations that can be reactivated.

Reactivate solutions from the past

- *How did you get there?*
- *How else?*
- *Which of your qualities / capacities / competences were involved in this success?*

References

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