USE OF BLENDED LEARNING IN NIGERIAN EDUCATIONAL SYSTEM: OPPORTUNITIES, BENEFITS AND CHALLENGES

EZEKOKA, Gertrude & ANUM, Obinna Augistine
gertrudeezekoka@gmail.com&obinnaciousa@gmail.com
08063958944& 08062252689
Faculty of Education, Imo State University, Owerri.

Abstract
Learning is an inherently social process, and different strategies for effective learning can be implemented. Blended learning - a new era of technology is bringing promising prospects, accompanied by numerous new challenges for educators. Traditional methods, such as face-to-face teaching, are experiencing substantial transformations by utilizing these innovative technologies, many of which are instructional tools. This paper examined the term blended learning, its difference from E-Learning, its benefits, opportunities and challenges including: developing blended pedagogy, teacher support and professional development, technological challenges, student preparation/support and transition, unrealistic expectations, assessment considerations and culture and innovation.

Keywords: E-Learning; Blended Learning, Traditional method of learning

Introduction

The global and contemporary society involves dynamic, frequently unpredictable changes, which call for graduates' ability to interact fluently and to adapt to a variable social professional environment (Homer-Dixon, 2000; Singer, 2006). In the current contemporary world, the development of university education process is marked by the overwhelming influence of information technology. As a consequence, the learning process is adopted in an exquisite and dandified manner. Modern society globalization has led the labour market to the emergence of new professions, resulting in reconfigurations of specializations within universities and transformation of traditional classroom functions into integrated learning that encompasses the research needs. Classrooms today have received a significant overhaul with the inclusion of ICT and new learning pedagogies. Advancements in computing and multimedia technologies in education have resulted in an emerging breed of technologically proficient learners (Mai, as cited by Ambikai and Muhd 2015). Today's students are digital natives condoned by the transformative environment created by the advanced technology which is an efficacious mode for civilization and globalization.

Traditional methods of learning have been inspected and found wanting, for example in terms of the need for flexible thinking and technological implementation. Traditional classroom-based learning in which students are passive recipients of information provided by the expert, have in certain circumstances been replaced by e-learning. The implicit assumption behind moves to full e-learning is that e-learning is the best way to achieve educational improvement, in all subjects, for all students. New educational paradigms have emerged, with the learner seen as an active agent. One way of facilitating such activity is to make the learner the information seeker. Thus, most educational institutions aim to adopt e-learning with an assumption that this will reap greatest educational improvement. (Ruba and Woodcock 2014). This can be referred to as online learning or E-learning. In the early 1980s, the computer industry and multimedia organizations started to constitute e-learning as a reality (Charp, 1997). Companies and educational institutions were steadily hiring instructors to train their students. In higher education, teachers had just begun to use PowerPoint, a program that allowed people to create visually enhanced presentations. They were also able to play explanatory videos that could assist student learning during the class. This period was referred to as Computer-Based Training.

Online Learning according to Rosenberg (2001), or e-learning experience offers various possibilities in terms of relating information and instruction as vehicles to develop and preserve intellectual capital. E-learning is defined as instruction delivered on a digital device such as a computer or mobile device that is intended to support learning, be it self-study (asynchronous) or instructor-led e-learning (synchronous) (Clark & Mayer, 2011). Ellis (2004) believes that teaching through digital referencing may help the students to enlighten their info seeking, besides promoting knowledge extraction from multiple resources. Web 2.0 in education is one of the primary catalysts that motivate the seeking engine in teaching and learning process (Hicks and Graber, 2010). In contrast, Milson (2002) reported that many students simply took a path of least resistance when it came to gathering and working with information. Students sought to use sites that would yield the answer quickly, as opposed to examining a range of sites to pull together a more nuanced perspective. Similarly to Ambikai and Muhd (2015), students experiencing technology frustration might encounter initial disappointment in terms of technology's inherent ability to facilitate inquiry. In certain cases, the students did worse at the end-of-unit experimental result as traditional approaches. Ambikai and Muhd(2015) suggest that teachers must provide scaffolding to support and monitor students in using technology as a tool to facilitate inquiry.

Ambikai and Muhd (2015) viewing the e-learning process takes one on a never-ending journey of exploration. E-learning includes web-based courses, computer-mediated communications and multimedia enhanced delivery medium, which has the potential to make the learning process an active one. In the past, academic literatures have indulged in discussions for e-learning and blended learning (Graham, 2005; Garrison & Kanuta, 2004, and Graham et al., 2003). However, technology enhanced learning has been ignored to a certain extent. Technology and the ease with which it can be accessed have changed the way we live and work. Today's students will not only compete with students that sit next to them, but also with their peers from across the globe. The world has truly become "flat" and, for students to compete in this new reality, they must develop the skills to use technology appropriately and ethically to enhance their learning.

Technology became embedded in instruction practically from the time it was invented. But with the meteoric expansion of the Internet and its utility in instruction, the difference between blended learning and learning online must be clarified, as they are often used simultaneously to explain the same model. It is believed that instruction provided completely online is a different kind of model and should not be confused with blended learning. In addition, blended learning includes multiple technologies, not simply online technology. There are compelling reasons to differentiate the two models. For most students switching from an in the-classroom education to a complete online education program is not necessarily a good alternative. Students, especially elementary age students, benefit from classroom structure, age-appropriate activities and information, a sense of community that a public school offers, and an interaction with peers, teachers, education support professionals, and other members of the education team. These integrated processes constitute the focus of this paper review which is centred on blended learning.

To have a clearer view on the definition of blended learning, we would examine the classroom and the teachers. Historically, classroom teachers have used a range of learning activities and resources to assist learners to achieve learning objectives. Face-to-face presentations, visual material, paper-based assessments, online research and group activities have been the mainstay of classroom teaching for many decades. More recently mobile technologies and collaborative Web 2.0 tools have expanded opportunities for learning. Blended learning is really no more than a combination of all of these approaches. For some teachers, blended learning is describing what they've been doing successfully for years: that is, using a range of resources and activities to provide individualized, student-centred learning experiences for their students. The real difference today is the unparalleled access to the internet with its rich sources of information and services and more importantly, the connectivity it offers students and teachers, particularly the ability to create online communities and support networks. In addition, there is a growing use of mobile

technologies such as flip cameras, voice recorders, mobile phones and GPS devices extending learning beyond the classroom walls. For other teachers, blended learning represents a challenge. They are not comfortable with nor do they fully understand the technologies and media that their students use every day, or the potential that these can offer their learners. To assist teachers in implementing blended learning activities, this paper reinforces the concept that blended learning comes in many guises and isn't a "one-size-fits-all" educational solution.

Definitions of blended learning range from the very broad where practically any learning experience that integrates some use of ICTs qualifies, to others that focus on specific percentages of online curriculum and face-to-face instruction. Most people agree that blended learning combines teaching and learning methods from face-to-face, mobile and online learning and that it includes elements of both synchronous and asynchronous online learning options. The integration of new mobile technologies and online media is proving highly effective in helping schools meet the expectations of 21st century learners while addressing the challenges of limited resources and the special needs of many students. However, not everyone is happy with the term blended learning. Oliver and Tingwell (2003) in their article "Can blended learning be redeemed?" argue that blended learning is ill-defined and muddled as a description of particular forms of teaching with technology. They argue that the term blended learning may be redundant and gratuitous, as the practice of mixing traditional classroom methods with technology is widespread. This summary acknowledges that a broad continuum of definitions exists and that its definition will continue to evolve in the literature as new technology and associated skill sets emerge.

Blended learning is realized in teaching and learning environments where there is an effective integration of different modes of delivery, models of teaching and styles of learning as a result of adopting a strategic and systematic approach to the use of technology combined with the best features of face to face interaction. Blended courses (also known as hybrid or mixed-mode courses) are classes where a portion of th e traditional face--to--face instruction is replaced by web--based online learning. McGee and Reis (2012) point out that while there is no absolute agreement within higher educat ion on the exact make-up of a blended course, institutions generally use "blended" (or related te rms) to refer to some combination of oncampus class meeting and online activities. Graham, He nrie, and Gibbons (2014) concur that "models adopting the (combining online and face--to face instruction) definition are the most prominent in the research" Blended learning is a pheno menon subjected to much ongoing research. Additionally, Dziuban, Picciano, Graham and Moskal (2016) have edited a new collection of research on blended learning as a sequel to the two lan dmark books previously published. Nevertheless, practical questions often predominate in the min ds of teachers and designers new to blended learning. For instance, how much of the face--to-face instruction must be replaced by online coursework? This question will vary greatly by class, discipline, and learning objectives. The Sloan Consortium (a professional organization dedicated to postsecondary online learning) defines blended learning as a course where 30%--70% of the instruction is delivered online. While this is a useful guideline, it may not be suffi cient to cover every blended learning configuration.

A blended learning model incorporates the best aspects of both face-to-face and online instruction:

- Classroom time can be used to engage students in advanced interactive experiences.
- The flexibility and convenience of the technological/ online portion of the course can provide students with multimedia-rich content at any time of day, wherever the student has Internet access.
- Early evidence suggests that a blended instructional approach can result in learning outcome gains and increased enrolment retention.

- From the above views, blended learning can best be described as the integration of different teaching methodologies, the application of technology and the face to face delivery approach to the learners.

According to Griffith University (2010) Blended learning is about effectively integrating ICTs into course design to enhance the teaching and learning experiences for students and teachers by enabling them to engage in ways that would not normally be available or effective in their usual environment, whether it is primarily face-to-face or distance mode. In many cases the act of "blending" achieves better student experiences and outcomes, and more efficient teaching and course management practices. It can involve a mix of delivery modes, teaching approaches and learning styles. Advances in technology provide new opportunities for teachers to design and deliver their courses in ways that support and enhance the teachers' role, the students' individual cognitive experiences, as well as the social environment; three key elements in successful learning and teaching. Blended learning technologies can:

1. Broaden the spaces and opportunities available for learning;
2. Support course management activities (e.g., communication, assessment submission, marking and feedback);
3. Support the provision of information and resources to students;
4. Engage and motivate students through interactivity and collaboration.

So it is not just about using technology because it is available; blended learning is about finding better ways of supporting students in achieving the learning objectives and providing them with the best possible learning and teaching experiences, as well as supporting teachers in their role (including the management and administration of courses). Of course, the integration of blended learning in courses will naturally vary according to such factors as: discipline, year level, student characteristics and needs, course or program learning objectives, as well as the academic's approach to teaching,

Examples of blended learning

1. Managing the marking, entering and releasing of grades for a course with over 700 students using an online grade centre in creating efficiency and accuracy for multiple markers and the course convener by reducing double handling, while giving students flexible and timely access to their results and feedback.
2. Delivering a lecture to on and off campus students simultaneously using an online virtual classroom tool helps to create a sense of community for the whole group and reduces workload for the lecturer by presenting only once.
3. Small group problem based learning activities are managed more effectively and efficiently within a large class by using an online collaborative workspace, allowing for greater transparency in group work assessment as well as providing an archive of resources for current and future students.
4. Weekly online practice quizzes to support lecture and textbook material using automatic marking functionality producing immediate and automatic feedback to individual students about their understanding

A current report suggests that, "the push toward blended learning is motivated by two factors: A huge industry out there 'that's dying to make money,' and the idea that in the long run this will save money on teachers—a claim that so far does not have research to substantiate it." Other research recommends that small scale blended learning pilots are necessary to determine the value and success of the proposed program. They caution that without pilot testing, "…this is a very costly, large-scale experiment on our children." But whatever the rationale, most researches reveal that a clear and consistent teacher presence is essential to the "blending" of technological/online resources within class time.

The teacher:

1. Facilitates learning, even within an online environment
2. Develops student-centred courses—not traditional lecture-based classes
3. Organizes online learning to contain small-group activities and team projects where students must collaborate
4. Communicates clear expectations for students where activities and assessments should account for different learning styles and best practices are implemented
5. Prepares for the challenges of online instruction and the use of all kinds of technology, and is proficient in the content area

A teacher in an effective blended learning environment would:

1. Use modern information, communication, and learning tools
2. Promote online dialogue to deepen the learning experience
3. Use adaptive technologies to meet individual needs
4. Assist students with speech impairments, e.g., computers that speak through speech synthesis, and text messaging-equipped mobile phones
5. Use effective written communication
6. Collaborate with students online to further student participation
7. Understand how the content management system (such as the "Cloud") works and how they can help facilitate the learning

Blended course have proven to be among the most popular choices for students at institutions w here they are offered (Olson, 2003 cited in Drysdale, Graham, Spring, and Halverson, 2013 and Kaleta, Garnham, and Aycock, 2005). At first glance, this popularity seems intuitive because ble nded courses allow students and faculty to take advantage of much of the flexibility and conven ience of an online course while retaining the benefits of the face--to--face classroom experience. Ezekoka (2015) also agreed that the use of blended learning can also potentially elicit another good practice principle, which is to give prompt feedback, as blended learning usually involves online interaction. However prompt feedback depends on how frequently the instructor and students use the relevant online platform.
Although fully online learning has become well established in higher education in Nigeria , many institutions appear to be struggling with conceptualizing and implementing blended learni ng. Yet, where blended courses have succeeded, they have most often done so when strategically aligned with an institution's mission and goals. The development and delivery of blended course s can be used to address a variety of institutional, faculty, and student needs.

For universities, blended courses can be part of a strategy to compensate for limited classroom s pace, as well as a way to think differently about encouraging faculty collaboration.
For faculty, blended courses can be a method to infuse new engagement opportunities into establi shed courses or, for some, provide a transitional opportunity between fully face--to--face and fully online instruction.
For students, blended courses offer the conveniences of online learning combined with the social and instructional interactions that may not lend themselves to online delivery (e.g., lab sections or proctored assessments).

- inclusion of more differentiated/personalized instruction
- increased access to resources, experts and learning opportunities
- more authentic and student driven tasks being incorporated into the curriculum
- higher student engagement

- greater opportunities for collaboration (especially beyond the classroom and involving the wider school community)
- exposure to a wide range of Web 2.0 technologies and acquisition of contemporary literacy skills
- better access to infrastructure and, anytime, anywhere learning

If an institution's blended learning strategy can be designed to address the needs and dynamics of all three constituencies (institution, faculty, and student) simultaneously, then blended learning can become a powerful force for institutional transformation. As cited in the U.S. Department of Education's (2010) "Evaluation of Evidence--Based Practices in Online Learning: A Meta--Analysis and Review of Online Learning Studies," "Students in online conditions performed modestly better, on average, than those learning the same material through traditional face--to--face instruction" and, notably, "Instruction combining online and face--to--face elements had a larger advantage relative to purely face--to--face instruction than did purely online instruction"

Not only do students perform better in blended courses, but the electronic resources inherent in the modality offer other advantages as well. For example, student performance analytics can be used to study and better understand student learning. Data analytics can also identify students who need early intervention, thus increasing retention. The online tools available in blended courses can also significantly enhance student engagement, ensuring that all students participate in course discussions and benefit from collaborative learning. When properly implemented, blended learning can result in improved student success, satisfaction, and retention. For instance, the University of Central Florida has consistently seen such results over the 17 years of their own blended learning initiative. Since beginning this initiative, as of the end of the 2015--2016 academic year, UCF has delivered 10,941 blended course sections containing 394,962 student registrations and generating 820,492 semester credit hours.

Blended learning aims to incorporate the best aspects of face-to-face classroom learning experiences with the best of mobile and online learning experiences. This allows:

1. An increase in learning outcome measures and lowering of attrition rates compared to fully online courses (Dziuban, Hartman & Moskal, 2004)
2. An opportunity for students to practice technology skills in navigating online course materials and creating their own digital content for assessment
3. An increase in student-teacher and student-student interaction through the use of communication tools like discussion forums, blogs and shared web content on the electronic whiteboard
4. The ability to reserve face-to-face time for interactive activities, such as higher-level discussions, small group work, debates, demonstrations, or lab activities. For students, the appeal of blended learning includes:
5. Flexibility and the freedom to learn anytime, anywhere
6. Some level of control over the pacing of their learning. Difficult concepts can be reviewed as often as necessary
7. More engaging content that they can create and use their own initiative, and networks to shape
8. The opportunity to engage and draw on expertise that would otherwise not be available to them without costly travel, such as virtual conferencing with zoo/museum/galley staff or virtual excursions to overseas historical or culturally significant landmarks.

The trial projects have identified a number of challenges for teachers and students to implementing blended learning strategies: developing blended pedagogy, teacher support and professional development,

technological challenges, student preparation/support and transition, unrealistic expectations, assessment considerations and culture and innovation. Teaching using a blended approach can be challenging for some as it may require the acquisition of different teaching skills, re-designing the curriculum and the inclusion of new teaching and learning opportunities, managing the learning content both online, in-class and beyond the classroom walls, and preparing students to work in blended modes. Most negative feelings towards blended forms of learning tend to be generated by poorly designed approaches. It takes a great deal of thought and careful planning to deliver a quality learning experience regardless of the mode of delivery (Idaho Digital Learning Professional Development, 2009). Adopting a blended learning approach must start with a re-examination of the intended learn outcomes? The teacher needs to design learning activities that support these intended learning outcomes, personalize or differentiate learning and then integrate these activities effectively with the required assessment tools. Teachers should prepare their students for the blended learning style and discuss the new roles and responsibilities. Some students won't be used to working independently or may be unfamiliar with some of the technologies, so support mechanisms will need to be put in place for these students.

Feedback from the trials indicated that the capacity for teachers to incorporate new technologies into teaching and learning programs may be limited without an expanded time commitment, and better support from IT staff and additional professional development. Professional development options to be considered include adding new competencies to the curricula, assessment schemes more suited to blended delivery, and graduate training to encourage blended teaching and learning approaches across all curriculum areas. Other options might include motivating and/or rewarding teachers for the innovative use of blended learning approaches to improve student outcomes plus support from peers and technical experts. Teacher training needs to include and refine competencies of teachers in taking on a more facilitative role: skills such as questioning, creativity, observation, differentiation/scaffolding, and facilitating collaboration and networking opportunities and especially in understanding of and imparting of knowledge of online protocols (such as cyber ethics and intellectual property). Support for teachers can often come from peers. The Overcoming ICT Barrier in the Seven Hills Cluster (2010) project allowed the teachers from each school to communicate more effectively, and to plan curriculum tasks together, where previously they would only meet on cluster days or on an ad-hoc basis. Some teachers in these trials were able to pair up with literacy and Ultranet coaches, as well as cultural partners (zoo, museum, Gallery, State library experts) to achieve better outcomes from blended learning projects.

Access to devices is generally a major issue in the Nigerian education system, as schools are not provided with a grant to enable them to purchase devices. However, even schools where government provides, the grants are not sufficient to support one-to-one access. Teachers are however handicapped to employed techniques to enable devices to be shared - by having class sets and using rotations and/or by sharing device functionality through headphone splitters or interactive whiteboards, or assigning collaborative tasks that require sharing. Teachers in Nigeria who have embraced blended learning as innovative teaching methodology have pointed out that technical support is not generally available and it is becoming an issue because devices are becoming more expensive, teachers are not offered professional development and most schools don't have allocation of funds for technical support. Both students and teachers acquired more knowledge of the devices through personal development. Collaborative teaching reduced the reliance on one teacher problem-solving technical issues. Access to technical assistance and ICT training opportunities remains the outstanding issue for some educators in the Nigeria system.

Another challenge related to technology is the pervasive access the technology affords. Although the flexibility to learn online and from a distance provided by blended learning is perceived as advantageous, the pervasive access may also be invasive to learner's personal lives. For some, the online component results in more time devoted to study, and less to personal concerns. This can lead to participants feeling overwhelmed and tired. Ezekoka(2015). It's not only the teachers who need support for the transition to a

blended learning environment. Students also need preparation and support for the transition to becoming more independent learners and self-managers. Support for Students – the role of the wider workforce including paraprofessionals. Díaz and Entonado (2009) noted that the important role of teachers in blended learning is in "facilitating of the teaching/learning process, combining the explanation of theoretical contents with activities, and encouraging interaction". Students also required additional assistance in understanding internet protocols especially those of cyber safety and intellectual property. Intercultural understanding was also an area that required guidance. Students can also engage expert non-teachers (paraprofessionals) to assist with specific content teaching, for example scientists, especially through the use of Web 2.0 technologies. Ezekoka(2015) citing Poon(2013) suggests that students enrolled in blended courses can sometimes have unrealistic expectations. The students sometimes assumed that fewer classes meant less work, had inadequate time management skills and experienced problems with accepting responsibility for personal learning. Students in such courses as also reported feeling isolated due to the reduced opportunities for social interaction in a face to face classroom environment. Ezekoka(2015)

Assessment Considerations

- The way in which teachers assessed student outcomes in these blended learning projects changed, for example:
- Reflection was encouraged, so students could go back to revisit their products such as podcasts and refine them
- Teachers were able to assess many more skills than just traditional literacy (e.g. reading, writing) in activities such as digital story creation e.g. group work, media literacy and technical editing skills
- Technologies that enabled frequent feedback (online quizzes) allowed for differentiated intervention
- Engaging students in creating their own podcasts, films and games allowed teachers to assess deeper conceptual thinking and creativity
- Monitoring using ICT was often instantaneous and timely, offering immediate opportunities for remedial action
- Collaboration and peer review became part of the formal assessment using ICTs especially through blogging, discussion boards and film making, and this encouraged better performance
- Assessment criteria in these projects were also more transparent to students (possibly due to the use of rubrics), raising expectations in performance
- The public nature of students" work and having an authentic audience (through blogging, web pages, online chat etc) made students more aware of social etiquette, the need to present better products and encouraged healthy competition between students raising academic achievement.

Culture and Innovation

The system and cultural influences on student performance, teacher practice and device access were profound. Student's shows support by showing interest in the learning, providing encouragement/ assistance, and by creating an expectation that there would be a flow-on effect across the school. This raised expectations, empowered teachers and students, contributing to better outcomes. An Innovative Culture, A culture that encouraged innovation is typical for the success of these blended learning projects. In general the culture must be accepting of change and risk and looked to overcome issues and to challenge students to do better.

Conclusions

In this study we considered the meaning of blended learning , opportunities, benefits and challenges associated with blended learning. Blended learning is more than just a hot new trend in

education—it's the way classrooms of the future will work. The concept behind blended learning is to take the best elements of in-person classroom instruction and online instruction and combine them. In a blended classroom, students attend classes in person and watch lecture videos or complete online activities. By combining online and in-person elements, educators today are creating the best learning environment possible through blended learning. Blended learning has become extremely popular in higher education settings. Blended classrooms allow greater flexibility for students and can encourage non-traditional students to pursue higher education. This approach also saves teachers time, as they can record a lecture one time and use it indefinitely, rather than delivering the same lecture to multiple classes each semester. Although there are challenges in the use of blended learning, efforts should be made towards overcoming these since blended learning has numerous benefits.

Recommendations

From the above discussion, blended learning can be more effective if the suggested views are integrated

1. Training of teachers and students in the relevant ICT skills
2. Familiarity with Web 2.0 tools and other ICT gadgets
3. A commitment to collaboration and student-centred learning that should underpin the languages program
4. Sufficient class access to the internet and relevant hardware especially in our secondary schools
5. Sufficient time for professional learning, program planning and resourcing

References

Ambikai, S.T & Muhd I. M. (2015), Blended Learning the Contemporary Learning Environment Impinge Students' Learning Preference. International Journal of Business, Humanities and Technology Vol. 5, No. 4;

Charp, S. (1997) Some reflections. the 30-year history of computers in education). [Technological Horizons in Education]. T.H.E. Journal, 24(1), 8-s11.

Clark, R. C. & Mayer, R. E. (2011). E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning. (book)

Díaz, A.L, & Entonado, B.F. (2009), Are the Functions of Teachers in e-Learning and Face-to-Face Learning Environments Really Different?" Educational Technology & Society, 12 (4), 331–343.

Dixon T. H (2000), The ingenuity gap: Facing the economic, environmental, and other challenges of an increasingly complex and unpredictable world, New York: Knopf,

Drysdale, J.S., Graham, C.R., Spring, K.J., and Halverson, L.R. (2013). An analysis of research t rends in dissertations and theses studying blended learning. The Internet and Higher Educa tion, 17, 90-- 100. http://dx.doi.org/10.1016/j.iheduc.2012.11.003

Graham, C.R., Henrie, C.R., and Gibbons, A.S. (2014). Developing models and theories for blend ed learning research, In A.

Graham, C. R. (2005). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), Handbook of blended learning: Global perspectives, local designs (pp. 3-21). San Francisco: Pfeiffer Publishing.

Griffith University 2010.Griffith Institute for Higher Education. www.griffith.edu.au/gihe ISBN: 978-1-921760-24-2 ©

Hicks, M., Reid, I. & George, R. (2001), Enhancing on-line teaching: Designing responsive learning environments, The International Journal for Academic Development, 6 (2), pp. 143–151

Idaho Digital Learning Professional Development , Idahopd.org (2009) Challenges of blended learning https://sites.google.com/a/idahopd.org/blended-learning/challenges.

Ezekoka, G. K. (2015). Blended Learning in National Open University of Nigeria (NOUN) Prospect and Constraints. *International Journal of Innovation and Research in Educational Sciences.* 2(6) 2349-5219

McGee, P. & Reis, A. (2012). Blended course design: A synthesis of best practices. Journal of Asynchronous Learning Networks, 16(4). Retrieved from http://onlinelearningconsortium.org /sites/default/files/jaln_v16n4_1_Blended_Course_Design_A_Synthesis_o f_Best_Practices.pdf

Oliver M. & Tingwell K. (2003) „Can Blended Learning Be Redeemed?" (elearning, vol 2) http://www.luispitta.com/mie/Blended_Learning_2005.pdf

Picciano, A. and Dziuban, C. (2007). Blended learning: Research perspectives. Needham, MA: Sloan Consortium of Colleges and Universities.

Picciano, A., Dziuban, C. and Graham, C. (2014). Blended learning: Research perspectives, volume 2. NY: Routledge.

Picciano, C. Dziuban, and C. Graham (2016.), Blended learning: Research perspectives, volume 2 . NY: Routledge.

Robison, R. (2005). The business of online education: are we cost competitive? In Elements of Quality Online Education: Engaging Communities, edited by J. Bourne and J. C. Moore, pp. 173–181. Needham, MA: Sloan Consortium.

Rosenberg, M. J. (2001). E-learning: Strategies for delivering knowledge in the digital age.

Ruba A. H & Andree, W (2014). Blended learning: Issues and Concerns. Coventry School of Art and Design, Coventry University, CV1 5FB, Coventry, UK p;1.

U.S. Department of Education. (2010). Evaluation of Evidence--Based Practices in Online Learning: A Meta--Analysis and Review of Online Learning Studies, Washington, D.C. Retrieved from http:// www2.ed.gov/rschstat/eval/tech/evidence--based--practices/finalreport.pdf