

# STRATEGIES FOR IMPROVING LIBRARY EDUCATORS' SKILLS AND COMPETENCIES FOR EFFECTIVE VIRTUAL TEACHING AND LEARNING

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## Abstract

This study examined the strategies for improving library educators' skills and competencies for effective virtual teaching and learning. It discussed the concept of virtual teaching and learning. It revealed various strategies needed to improve library educators' skills and competencies for effective virtual teaching such as: enhancement of communication skills, improvement of technological literacy, promotion of computer and internet skills, developing the teacher's ability to use interactive online whiteboard, improvement of time management skills, etc. It also examined notable technologies and applications for virtual teaching such as google classroom, zoom, interactive whiteboard, etc. The key benefits of virtual teaching and learning as highlighted by the study includes: increased flexibility of time, increased flexibility of location, information sharing, online resources, among others. It highlighted the barriers to virtual teaching and learning such as: access to technology, access to the Internet, lack of motivation from students, technical issues, ability to use technology, etc. The study recommends that teachers should assess whether the students have reliable access to technology; set clear measurable goals so that students have something to focus on, government should also play their own role by providing each student with access to personal computers with internet connectivity, among others.

**Keywords:** strategies; library educators; skills; competencies; virtual teaching; virtual learning; online learning.

## Introduction

Over two decades ago, the Internet has significantly changed how we communicate with one another as well as how we access, share and facilitate information. The issue is no longer one of how to use technology to teach, but one where teachers acknowledge the way the world is

already developing, and understand the significance of online teaching and the role that collaboration and online engagement plays in student learning and their future workplace environment.

Traditionally, library educators have been expected to serve as role models as they lead classroom discussions, instruct, engage and provide leadership and guidance to their students. However, over the past two decades, the role and function of the library educator has changed drastically due to economic, technological, and educational factors. Anunobi and Emezie (2016) opined that global boom in the desire for university education accompanied with the advent of information and communication technologies redefined pedagogical approach to teaching and learning. Education metamorphosed from the traditional physical environment to virtual platforms commonly known as e-learning. The latter is designed to provide the learner with opportunities in synchronous or asynchronous forms.

In any event, the area of online instruction has started to attract more and more students, as well as more instructors. In order to meet this growing demand for better qualified online instructors, many library schools have had to rethink their recruiting, hiring, and training efforts. Thus, there is a growing need to offer better quality online teacher training to current and potential online instructors to better enable these instructors to meet the ever-changing need of their online learning populations (Barrett, 2010).

No longer are library educators focusing on teaching just students in a traditional classroom setting, they must also concentrate on teaching students from different locations. To do this, they require skills and competencies. The term skills and competencies are often used interchangeably; however, they are not synonymous. A major difference between skills and competencies is that of scope. Skills are specific to a task, while competencies incorporate a set of skills with abilities and knowledge. Skills are just one of the three facets that make up a competency. The other two are knowledge and abilities. In essence, teaching does not only require skills in engaging students in any type of classroom setting, it also involves abilities and knowledge on the use of new technologies through the implementation of live interactions, video chatting and messaging with multiple students.

Hence, this paper focuses on strategies for improving library educators' skills and competencies for effective virtual teaching and learning. There is need for the educators to possess a broader set of skills and competencies in order to ensure learner success. Such skills which are needed for effective virtual learning include communication skills, computer and internet skills, technological literacy skills, ability to use interactive online whiteboard, time management skills, etc.

### **Concept of Effective Virtual Teaching and Learning**

With the great demand for virtual learning, a large number of terminologies and definitions have been used to describe it. Examples of the terms that are commonly used to describe virtual learning include e-learning, online learning, cyber learning, Internet learning, distributed learning, web-facilitated learning, web-based learning, distance learning, computer-based learning, resource-based learning, and technology-based learning (Ally, 2008; Anohina, 2005; Moore, Dickson-Deane, & Galyen, 2011; Moore & Kearsley, 2011; Rudestam & Schoenholtz-Read, 2010). Even though the term has been used to represent different things, different words have also been used to describe the same phenomenon. This is necessary because virtual learning means different things to different people. So this paper tends to ignore the minor differences and treats these terms as synonymous.

Means, Toyama, Murphy, and Baki (2013) define virtual learning as learning that occurs entirely (purely online learning) or partially (blended learning) through the Internet. This means that virtual learning is highly supported by the use of Internet. Succinctly, Ally (2008) describes virtual learning as a learning experience that allows for growing, acquiring knowledge, and constructing personal meaning by providing access to learning materials through the Internet; interacting with the content, instructor, and other learners; and obtaining support during the learning process. Developing an online material is not a matter of taking materials from your traditional course and putting them online. You will need to plan your approach carefully by pairing existing lesson materials to complementary content presentation styles (slideshows,

videos, text, etc.) and developing a feasible production and release schedule. It involves careful planning and designing process to engage students in an online environment.

Virtual teaching therefore refers to activities that are carried out online whereby the teacher and learners are physically separated (in terms of place, time, or both). It is a form of instruction which involves the use of the Internet and other related technologies to deliver, support, and enhance learning and assessment. . The instruction most commonly takes place in an online environment. It allows teachers and students to communicate, interact, collaborate and explain ideas. Teaching in an online environment requires specific sets of skills (competencies). Today's global economy requires teachers that are educated, highly skilled, and technologically literate.

Paloff and Pratt (2001) assert that online teaching necessitates moving beyond traditional pedagogy to adopt new, more-facilitative practices. The quality of virtual teaching depends on the proper use of digital technologies to engage the students meaningfully in a virtual classroom. A virtual classroom is an online teaching and learning environment where teachers and students can present lesson materials, engage and interact with one another, and work in groups together. The key distinction of a virtual classroom is that it takes place in a live, synchronous setting. Online coursework can involve the viewing of pre-recorded, asynchronous material, but virtual classroom settings involve live interaction between instructors and participants. Virtual classrooms are undoubtedly much easier for students to learn new subjects and skills. A virtual classroom enables students to access quality teachers anywhere on the planet so long as they both have a reliable internet connection. This can break down most of the common barriers to synchronous learning: cost, distance and timing. Teachers are therefore, expected to know how to design and deliver an effective virtual teaching. They need to be exposed to techniques and methods needed to make virtual teaching work successfully.

Levy (2003) concurs that although the principles of designing virtual and traditional classroom courses are similar, “instructors need training and support to be willing to adopt this

new teaching paradigm and need to be cognizant of how the details of their course will be implemented in the new environment”

Virtual teaching can come in three forms:

- **Computer-Based:** Instruction is not provided by a teacher; instead, instruction is provided by software installed on a local computer or server. This software can frequently customize the material to suit the specific needs of each student.
- **Internet-Based:** This is similar to *computer-based* instruction, but in this case, the software that provides the instruction is delivered through the Web and stored on a remote server.
- **Remote Teacher Online:** Instruction is provided by a teacher, but that teacher is not physically present with the student. Instead, the teacher interacts with the student via the Internet, through such media as online video, online forums, e-mail and instant messaging.

Many scholars and educators believe that online learning can be an effective tool in combating the rising cost of postsecondary education by spreading the cost of a class over a much larger number of students compared to the traditional setting, dividing the cost by tens or hundreds of thousands of students as opposed to dozens (Bowen, 2013; Bartley & Golek, 2004; Jung & Rha, 2000; Tucker, 2007). Therefore the effectiveness of virtual learning lies on its improved perception of learning among students.

### **Strategies for Improving Library Educators’ Skills and Competencies for Effective Virtual Teaching and Learning**

As stated earlier, designing an effective virtual classroom is not a matter of taking materials from your traditional course and putting them online. Library educators will need to plan their curriculum carefully by pairing existing lesson materials to complementary content

presentation styles (slideshows, videos, text, etc.) and developing an effective feedback mechanism in order to engage the students meaningfully.

The following strategies are needed to improve library educators' skills and competencies for effective virtual teaching:

**1. Enhancement of Communication Skills:** Creating an efficient and effective virtual classroom requires library educators to develop exceptional communication skills. Volchenkova, et al. (2019) argued that online education offers great opportunities and instruments not only to support learning visually but also to acquire communicative skills in an interactive form through socializing in networks and forums, exchanging feedback, video-conferencing and sharing educational products.

A virtual learning environment requires clear, concise instruction. Educators experienced in face-to-face classroom instruction methods may need to develop stronger written communication skills. Skills for using graphics, videos and digital audio files for communication with students are essential.

**2. Improvement of Technological literacy:** Library educators will also have to develop skills and knowledge specific to Web-based educational systems. They should be able to demonstrate proficiency in these six areas:

- Full knowledge of accessibility requirements for technology in online instruction.
- Ability to evaluate Internet resources.
- Understanding aspects of copyright privileges and violations.
- Modeling and monitoring proper etiquette and generally accepted online use policies.
- Designing and implementing appropriate lesson plans for online students.
- Ability to troubleshoot minor technical issues and refer to technical support personnel when necessary.

The use of technology in education contributes a lot in the pedagogical aspects in which the application of ICT will lead to effective learning with the help and supports from ICT elements and components (Jamieson-Procter et al., 2013).

**3. Promotion of Computer and Internet Skills:** Educators must not be computer wizards to have the qualification to conduct virtual teaching. To get started, all you need to have are the following basic computer and internet knowledge and skills:

- Setting up folders and directories on a hard drive
- Proper use of word processing software: cut, copy, and paste; minimize and maximize windows; save files
- Handle email communications including attachments
- Use a browser to access the Internet

Ezziane (2007) opined that computer literacy also involves understanding computer characteristics, capabilities, and applications as well as the ability to implement this knowledge in the skillful, productive use of computer applications to individual roles in society. Computer literacy is one of the most important skills a person can have in today's competitive environment

**4. Developing the teacher's ability to use interactive online whiteboard:** The online whiteboard is just as important, if not more important, to the virtual classroom. This is because it provides a shared focus point and enables teachers and students to collaborate on learning projects. Smith et al. (2005) and Saltan and Arslan (2013) argue that the ease of operation of IWBs plays an essential role in users' attitudes towards their general use. Both teachers and students can only effectively use IWBs if they own the desired attitude.

Library educators can structure their lessons by embedding learning materials (pdf, video, audio files) directly into the whiteboard. The online whiteboard enables teachers and students to interact much more collaboratively and not just rely on video/voice. A whiteboard helps teachers and students get "on the same page. Students can write/type/draw on the actual page and

typically save for future review. Embedding saved materials into the whiteboard enriches the learning experience, encourages student participation, makes it more efficient for teachers to switch between related concepts, engages more of the learner's senses and is just more fun. These are all important aspects of a "student-centered" learning approach, proven to be more effective than the old-school "instructor-led" pedagogy.

**5. Improvement of Time management skills:** Time management is even more critical in virtual learning environment than in a traditional classroom. Information on the internet changes frequently. Library educators must be able to evaluate information and update library materials as necessary to ensure students have timely, relevant information. In addition, instructor feedback should be provided to students as soon as possible. Assignments should be graded within one week of submission. Providing a rubric with appropriate feedback for assignments encourages students to review their work and ask questions about subject material as the class progresses.

**6. Possession of Assessment and Evaluation skills:** Library educators must be able to evaluate student's performances accurately. Educators will take roll by monitoring access to the class, reviewing discussion posts and grading assignments. New methods for identifying learning difficulties and other factors that affect academic performance are necessary in a digital education environment.

**7. Developing the ability to teach students to apply the concept:** Some students may experience difficulties retaining information learned through a virtual platform. An effective virtual educator must have sufficient skills to develop engaging course curriculum that motivates and encourages students to participate fully. Interactive components, timely, relevant supplemental readings and group activities reinforce retention. Library educators must develop skills to help students fully engage according to individual learning abilities. Students' academic success depends on skilled, highly motivated teachers in both traditional and virtual classrooms.

### **Applications for Virtual Teaching and Learning**



Virtual teaching is becoming the new normal for many schools. This is especially true temporarily with schools affected by COVID-19, but it may be a lot more permanent depending on how social distancing guidelines progress. There are various applications which can be used to conduct effective virtual teaching. Notable among these applications includes:

**Google Classroom:** Google Classroom is a free collaboration tool for teachers and students. It is a free web service developed by Google for schools that aims to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Google Classroom was announced on May 6, 2014, with a preview available for some members of Google's G Suite for Education program. It was released publicly on August 12, 2014. Google Classroom integrates docs, sheets, slides, gmail, and calendar into a cohesive platform to manage student and teacher communication. Students can be invited to join a class through a private code, or automatically imported from a school domain. With this code, teachers can create an online classroom, invite students to the class then create and distribute assignments.

**Zoom:** Zoom is a cloud-based video communications app that allows you to set up virtual video and audio conferencing, webinars, live chats, screen-sharing and other collaborative capabilities. When people are talking about Zoom, you'll usually hear the following phrases: Zoom Meeting and Zoom Room. A Zoom Meeting refers to a video conferencing meeting that's hosted using Zoom. Meanwhile, a Zoom Room is the physical hardware setup that lets companies schedule and launch Zoom Meetings from their conference rooms. Zoom allows library educators and students to have one-to-one chat sessions that can grow into group calls, training sessions and webinars for internal and external audiences, and global video meetings with up to 1,000 participants and as many as 49 on-screen videos. The free tier allows unlimited one-on-one meetings but limits group sessions to 40 minutes and 100 participants. This is a powerful platform that the library educators can utilize to engage their students in an online setting.

**Interactive whiteboard:** An interactive whiteboard (IWB), also known as SMART boards or digital whiteboard is a large touch sensitive display screen that connects to a computer and

projector. It is a tool that allows multiple people to engage in a collaborative experience using a touchscreen to take notes, annotate content, and more. This is the next generation whiteboard collaboration platform for online tutoring, classroom usage and team collaboration. These boards if properly utilized will allow library educators to integrate the traditional chalkboard with modern technologies including computers, overheads, projectors and televisions. This is a very powerful tool for virtual teaching. To operate the interactive whiteboard, the teacher/instructor controls it directly from the screen in the same way a mouse is used to control a computer. Interactive whiteboards also have many multimedia functions, such as Internet access, images, sound and video files. These features allow the user to enhance and provide content that is interactive, dynamic and engaging.

**KAHOOT:** Instructional games are gaining acceptance in the classroom. Kahoot is a free online game-based learning platform, used as educational technology in schools and other educational institutions. It is a game-based technological solution for virtual learning. Library educators can use Kahoot to create game-based quizzes, discussions, and surveys. The game design is such that the players are required to frequently look up from their devices. The gameplay is simple; all players connect using a generated game PIN shown on the common screen, and use a device to answer questions created by a teacher. These questions can be changed to award points. The creator can choose, whether the player can get 0 points, up to 1000 or 2000. The points the player gets are calculated on up to how much can the player get and how long it takes the player to answer. The sooner the player answers, the more points they get if the player answers correctly. Points then show up on the leaderboard after each question. This can be done by introducing content, then using Kahoot to see what students understand and have them explain why the answer is correct. Students learn more from a game than from any other forms of learning.

### **Key Benefits of Virtual Teaching and Learning**

**1. Increased flexibility of time:** Learning and teaching can occur at times that are more convenient and productive for both students and teachers. Students can work at their own pace

within a given framework and the online learning and teaching engagement process can be broken into smaller more frequent portions of time, with an opportunity for reflection in between.

**2. Increased flexibility of location:** Learning and teaching can take place in any location (home, office, while commuting, etc.) and can include students and teachers from diverse geographical locations.

**3. Information sharing:** Virtual teaching provides opportunities to access and share information more easily and readily. Teachers and students are able to join online communities of practice based on their area of interest rather than their geographic location.

**4. Online resources:** Virtual education provides access to a greater depth and breadth of online resources and information.

**5. Diverse and enriching experience:** Online education can enhance the student learning experience by providing opportunities for cross-disciplinary and cross-cultural collaborations. This learning experience can occur at a local, national or international level, and can be enriched by increased interaction and engagement, peer feedback, and group work skills.

**6. Access, equity & disability:** Virtual teaching provides a mechanism for equal opportunity amongst students and teachers living with a disability, or who have accessibility difficulties that restrict their ability to attend a face-to-face class.

**7. Digital information literacy:** Virtual teaching develops digital literacy skills that are increasingly required in contemporary society and workplace environments.

### **Barriers to Virtual Teaching and Learning**

Notwithstanding numerous benefits of virtual teaching and learning, there are many challenges hindering its successful implementation. These include:

**Access to technology:** In some instances, students and teachers may be limited in their regular access to reliable or appropriate technology. Some of them don't even own computers or may be sharing a computer or mobile device within one household. Students or teachers may also only have limited access to required software necessary for effective virtual learning

**Access to the Internet:** Not all students and teachers have regular or reliable access to the Internet. In many cases Internet access may be limited to dial-up speed, or there may be a capped monthly usage on their Internet which can restrict their ability to access or engage with information

**Lack of Motivation:** Switching from traditional classroom and face to face instructor training to computer-based training in a virtual classroom makes the learning experience entirely different for students. Their resistance to change doesn't allow them to adapt to the online learning environment. This is one of the most challenges that virtual learning instructors face.

Hartnett (2011) describes motivation in online learning a complex phenomenon that is mostly affected by individual traits and specific contexts. Online teaching is a whole lot of work, and sometimes as an instructor, it's hard to know exactly how to start. For students, motivation is hard to maintain when you don't have to face your instructors in person. After enrolling in virtual learning lessons, many learners fall behind and nurture the idea of giving up, as difficulties in handling a technological medium also seem insurmountable.

**Technical issues:** Most times, educators and students are not provided with the high bandwidth or the strong internet connection that virtual teaching requires. Also, they lack knowledge of know what support to look for when technical issues arise. Türel and Johnson's (2012) revealed that technical problems become a major barrier for teachers. These problems include low connectivity, virus attack and printer not functioning. Though the internet is a wonderful and necessary resource for online learners, it can also cause problems. Without a strong internet connection or high bandwidth, online learning becomes nearly impossible, and keeping up with technical requirements of virtual learning can be daunting.

**Ability to use technology:** Some technologies and tools require training. In some instances, technical training may not be readily available to students or teachers. Many of them cannot operate basic programs such as Microsoft Word and PowerPoint and therefore are not able to handle their files. Furthermore, many students find fixing basic computer problems troublesome, as they have no knowledge in this area. According to Ertmer et al. (2012), the most commonly cited reason for lack of technology implementation in the classroom is inadequate professional development and training. However, technological proficiency is a must for following online courses, as it enables students to manage their assignments and courseware in an organized manner without struggling.

**Isolation:** Studies have shown that many students are discouraged over the lack of engagement with a teacher in the virtual classroom. Goncalves and Trunk (2014) found that students who felt isolated and neglected in campus faced grave obstacles in pursuing academic success, which may cause them to eventually choose to withdraw from their studies. When boredom sets in, the students check out.

**Information overload:** In many instances, the amount of information provided online can have a tendency to become overwhelming and confusing if not properly managed. It can be difficult for students and teachers to discern which are relevant or important.

## Recommendations

In order to overcome the barriers to effective virtual teaching/learning, the following recommendations were made:

**The teacher should assess whether the students have reliable access to technology** before he/she even start. Not every home will always have a reliable internet connection or readily available device for students to use. An initial email, message or text to parents will give them the opportunity to flag these issues so that you can prepare to accommodate such students ahead of time.

The teacher should set **clear measurable goals** so that students have something to focus on. He/she might consider gamified apps and programs as another way to increase motivation. These apps are designed for student engagement in independent environments.

Government should also play their own role by providing each student with access to personal computers with internet connectivity. Not every home can afford these gadgets for their children. This will go a long way to arouse interest in students and makes them readily available for virtual teaching.

Technical problems are one of the main stumbling blocks of online training. Very often, there are compatibility issues (with operating systems, browsers or smartphones). To overcome this challenge, teachers should choose online courses that do not require much internal memory or a high-speed internet connection. Attention should also be paid to the sound quality (an issue that is often neglected) and be sure to try out the lesson on several smartphones, browsers and operating systems.

Learning from home can be lonely. Without the buzz of the classroom setting and the company of their peers, it's no surprise that some students can begin to feel a strong sense of isolation that slowly erodes their desire to learn. In order to solve this, the teacher should coordinate virtual group activities using chats, discussion boards or cloud tools for collaboration. It's necessary for the teacher to show your face and let students hear your voice, using video or audio recordings.

The major challenge in virtual learning is the overwhelming nature of online resources. In many instances, the amount of information provided online can have a tendency to become overwhelming and confusing if not properly managed. Therefore, the teacher should know how to filter this array of online resources and organize it in such a way that it will be useful for the students.

## **Conclusion**

Virtual teaching, being the latest way of education, is already having a fair show despite posing challenges for both teachers and students. In a virtual environment, the teacher is often referred to as the instructor or moderator, someone who monitors the activity of a virtual classroom to ensure that students log in and complete assignments on time. Assignments are graded and feedback is given via e-mails, messages and occasional video chats. There are no personal one-to-one meetings, discussions concerning materials or interactions with the teacher as there are in a regular classroom setting. While teachers need to put in intensive work and time to design the instruction, students need to equip themselves with technical proficiency to decode the lesson material. Switching from traditional classroom and face to face interaction to computer-based learning in a virtual classroom makes the learning experience entirely different for students. Students with a “traditional” mindset find it difficult to adapt; however, they need to accept the new learning circumstances with an open mind and heart. Understanding the benefits of virtual learning and even discussing them with their peers may change this mindset and better prepare students for virtual classes.

### References:

- Albrahim, F. A. (2020). Online teaching skills and competencies. *The Turkish Online Journal of Educational Technology* (19) 1
- Ally, M. (2008). Foundations of educational theory for online learning. In Anderson, T. (Ed.), *Theory and practice of online learning* (pp. 15-44). Edmonton : AU Press.
- Anohina, A. (2005). Analysis of the terminology used in the field of virtual learning. *Educational technology & society*, 8(3), 91-102
- Anunobi, C. V. & Emezie, F. (2016). A Paradigm Competences and Library Services for E-Learning: A Proposal for Librarians in Developing Countries.
- Bajpai, V. K. & Margam, M. (2019) ICT Skills and Competencies of Library and Information Science Professionals working in College Libraries, University of Delhi: A study. *Library Philosophy and Practice (e-journal)*. 2275 Accessible at <https://www.researchgate.net/publication/332552909> *ICT Skills and Competencies of Library and Information Science Professionals working in College Libraries University of Delhi A study*
- Barrett, Bob (2010). Virtual teaching and strategies: Transitioning from teaching traditional classes to online classes. *Contemporary issues in Education research* (3) 12.

- Bowen, W. G. (2013). *Higher education in the digital age*. Princeton University Press.
- Bartley, S. J., & Golek, J. H. (2004). Evaluating the Cost Effectiveness of Online and Face-to-Face Instruction. *Educational Technology & Society*, 7(4), 167–175.
- Ciccione, A. and Hounslow, L. (2019). Re-envisioning the role of academic librarians for the digital learning environment: The case of UniSA Online. *Journal of University Teaching & Learning Practice* 16
- Ertmer, P.A. et al. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education*, 59, 423-435.
- Ezziane, Z.** (2007). Information Technology Literacy: Implications on Teaching and Learning. ***Educational Technology & Society***. 10(3):175-191
- Goncalves, S. A., & Trunk, D. (2014). Obstaclesto Success for the Non-traditional Student in Higher Education. *Psi Chi Journal of Psychological Research*, 19(4), 22-34.
- Hartnett, M. (2011). Examining motivation in online distance learning environments: complex, multifaceted, and situation-dependent. *International Review of Resarch in Open and Distributed Learning*, 12(6), 20-38
- Jamieson-Proctor, R. et al. (2013). Development of the TTF TPACK Survey Instrument. *Australian Educational Computing*, 27(3), 26-35.
- Jung, I., & Rha, I. (2000). Effectiveness and Cost-Effectiveness of Online Education: A Review of the Literature. *Educational Technology*, 40(4), 57–60.
- Levy, S. (2003). Six factors to consider when planning online distance learning programs in higher education. *Online Journal of Distance Learning Administration* 4(1). Retrieved June 27, 2020, from <http://www.westga.edu/%7Edistance/oidla/spring61/levy61.htm>.
- Means, B., Toyama, Y., Murphy, R. & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1-47.
- Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same?. *The Internet and Higher Education*, 14(2), 129-135.
- Moore, M. G., & Kearsley, G. (2011). Distance education: A systems view of online learning. Cengage Learning
- Palloff, R. M., & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching*. San Francisco: Jossey-Bass.



- Rudestam, K. E., & Schoenholtz-Read, J. (2010). *Handbook of online learning*. Thousand Oaks, Calif. : SAGE Publications, 2010.
- Saltan, F., & Arslan, K. (2013) Teachers' Perception of Interactive White Boards: A Case Study. *Mersin University Journal of the Faculty of Education*, 9(2), 353-365.
- Smith, H. J., Higgins, S., Wall, K., & Miller, J. (2005). Interactive whiteboards: boon or bandwagon? A critical review of the literature. *Journal of Computer Assisted Learning*, 21(2), 91-101.
- Tucker, B. (2007). Laboratories of reform: Virtual high schools and innovation in public education. *Education Sector Reports*. Retrieved from [http://heartland.org/sites/all/modules/custom/heartland\\_migration/files/pdfs/28154.pdf](http://heartland.org/sites/all/modules/custom/heartland_migration/files/pdfs/28154.pdf)
- Türel, Y. K., & Johnson, T. E. (2012). Teachers' Belief and Use of Interactive Whiteboards for Teaching and Learning. *Educational Technology & Society*, 15(1),381–394.
- Volchenkova, Ksenia N. et al. (2019). Mastering Interpersonal and Virtual Communication Skills of the Education Process Participants in E-learning. *International Conference on Quality Management, Transport and Information Security, Information Technologies (IT&QM&IS)*. DOI:[10.1109/ITQMIS.2019.8928453](https://doi.org/10.1109/ITQMIS.2019.8928453)