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Message from the Editor-in-Chief

Hello from TOJDEL

TOJDEL welcomes you. It looks for academic articles on the issues of distance education and e-learning. It contributes to the development of both theory and practice in the field of distance education and e-learning and accepts academically robust papers, topical articles and case studies that contribute to the area of research in distance education and e-learning.

The aim of TOJDEL is to help students, teachers, academicians, scientists and communities better understand the development of distance education and e-learning. The submitted articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJDEL. It provides perspectives on topics relevant to the study, implementation of distance education and e-learning.

I am always honored to be the editor in chief of TOJDEL. Many persons gave their valuable contributions for this issue. I would like to thank the editorial board of this issue.

TOJDEL will organize IDEC 2018. IDEC (International Distance Education and E-learning Conference – www.id-ec.net) will be held between July 18-20, 2018 in Paris, France.

For any suggestions and comments on the international online journal TOJDEL, please do not hesitate to contact with us.

October 01, 2017

Editor-in-Chief,
Prof. Dr. Aytekin İŞMAN
Sakarya University

Table Of Contents

A SYSTEMATIC REVIEW OF CLOUD SECURITY CHALLENGES IN HIGHER EDUCATION

M.RAJESH

Assistant Professor, Department of Computer Science and Engineering,
KRS College of Engineering, Vandavasi, Tamilnadu, India.
rajesmano@gmail.com

ABSTRACT
Cloud computing brings for higher instructive foundation an extensive variety of advantages with new abilities to join in the instructive procedure. Notwithstanding, the cloud administrations are helpless against an assortment of security difficulties. One of the key difficulties that instructive establishments confront in embracing Cloud computing advances is a provisioning of a protected cloud foundation. In this paper, the creators find some cloud benefits in the instruction segment and talk about restrictions of fundamental cloud benefits and in addition highlight security challenges that organizations confront when using cloud innovations. The review was led in assortment instructive establishments to concentrate the perspectives of partners on the cloud security vulnerabilities and methodologies used to overcome. At long last, this paper gives benchmark proposals to stay away from security hazards proficiently when embracing Cloud computing in foundations of advanced education.
Keywords: Cloud Services, Deployment models, Benefits, Challenges, Risks

1. INTRODUCTION

Cloud computing plays an important role in improving the quality of education to achieve required performance by offering many benefits for education such as providing low-cost infrastructure, flexibility, scalability, collaboration, and ease-of-use. Furthermore, it allows users to store their critical information and access it on-demand from anywhere via the internet [1]. The cloud services and applications enable users to store and access their local data in the remote data center by using their personal computers, or mobile devices [2]. In higher educational institutions, the stakeholder term refers to anyone who has access to educational services, including students, lecturers, researchers, staff members, etc. Figure 1 shows the main stakeholders of cloud computing in higher educational institutions.

1.1 Cloud Deployment Models

Cloud computing deployment models were defined by the National Institute of Standards and Technology (NIST) and classified into four common modes; private, public, hybrid and community clouds [3].
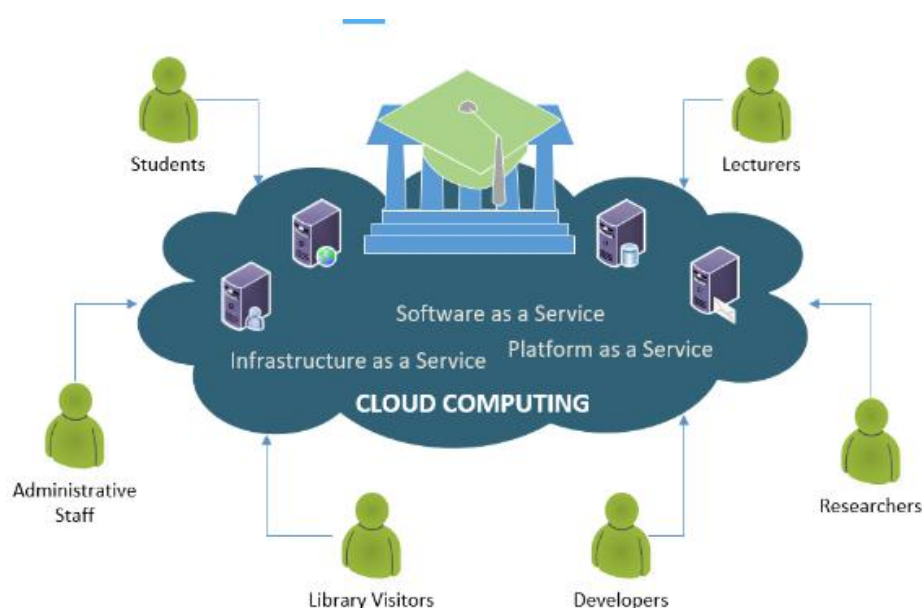
Fig. 1: Stakeholders of cloud in an educational institution.

Private cloud is deployed inside the boundary of the organization and is provisioned for exclusive use by specific consumers, its data and services cannot be accessed from outside of an organization. Public cloud is owned and managed by a business, academic, or government organizations that provide cloud services for open

use to the public. The hybrid cloud is a composition of both public and private clouds characteristics. In the community cloud, the infrastructure and services are provisioned for use by the specific community of consumers or among several organizations that have same mission or target. It can be operated and managed internally in the community or by a third party.

1.2 Cloud Computing Characteristics

According to the NIST definition, the cloud computing services entail about five essential characteristics; on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service. Here, we will discuss in details the fundamental education-based characteristics of cloud computing:

On-demand self-**service:** The diversity of users in educational institutions leads to a variety of functionality and performed operations. In this case, the stakeholder requires freedom to provision cloud services or resources that they wish to use whenever needed without requiring direct interaction with the service provider. Usually, the user online configures and manages resources under on-demand environment through a web-based self-service interface.

Broad network access: The cloud services and resources must be widely accessible from anywhere by heterogeneous platforms such as laptops, tablets, mobile phones, etc. This ubiquitous access is established using standard access mechanisms and protocol. To enable this level of access in educational sectors requires that services be tailored according to demands of different cloud users.

Resource Pooling: The cloud providers pool large-scale computing resources and services to serve multiple users separately on a logical level. This multi-tenant model relies on virtualization technology where resources are dynamically assigned and re-assigned according to cloud user demand. A multi-tenant environment is promoting location-independence whereby the user has no knowledge where data is being located or stored.

Rapid elasticity: The cloud services or resources provisioned to the user can be scaled up and down rapidly based on the user policy and requirements, with no impact on the application or any human interaction. In this case, different stakeholders in an institution like students, faculties, and administrative staff can access and employ resources as needed with exact capacity and at any time.

Measured services: The usage of cloud services or resources must be monitored, metered permanently by a performance with the pay-per-use feature. This report about resources usage is provided transparency for both the service provider and user.

Resiliency: Resilient computing is the ability to recover failure and disaster of cloud resources by using multiple redundant implementations of cloud services across physical locations. Multiple redundant sites support continuity and improve the reliability and performance of cloud computing processing. If any of cloud resources becomes deficient, other redundant resources are implemented automatically.

Cost effectiveness: The cloud services and resources are cost effective as compared to local infrastructure. Its costs are shared between multiple users from same or different locations.

1.3 Cloud Service Models

In general, three main types of services the user in the educational institution can gain when access cloud. Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) [4]. These services are built on the cloud upon each other as shown in figure 2.

In the SaaS model, users gain access anytime and from anywhere to applications provided and managed by the service provider. Currently, SaaS is considered the most interested for stockholders in education. Google Drive, Twitter, Dropbox, YouTube, and OneDrive are general examples of cloud-based services. Both Microsoft and Google provide some services that are suited for education such as Live@edu and Google Apps.

In PaaS, the service provider offers for developers development tools to build or customize their applications or services in the cloud independent of the platform to run. The best-known example of PaaS is the Google App Engine where a developer can install and customize their applications using Python language.
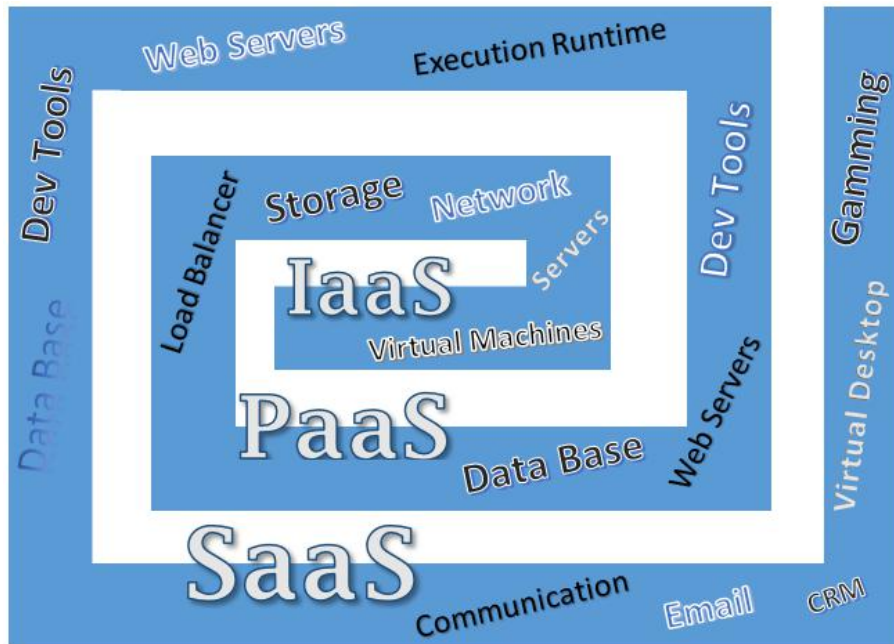
Fig. 2: Cloud service models.

IaaS is a self-service model, the cloud vendor allows developers to access, monitor and manage computing resources (processors, storage, networks, etc.) in the data center remotely, and use them to run own operating systems and applications. The big advantage of using IaaS is that it offers an on-demand data center without requiring you to purchase or install new expensive equipment. Amazon's Elastic Compute Cloud is one common example of IaaS.

1.4 Cloud Benefits in Educational Institutions
There are various advantages may be granted when adopting cloud computing technologies in higher education institutions. Some universities have adopted cloud computing in their programs for economic purposes, while other institutions use the cloud to provide scalable and flexible IT services [5]. The key benefits of cloud computing in education can be categorized according to stakeholders who use cloud resources and services in higher education institutions:

1.4.1   Benefits for students:
The first beneficiary of the cloud technology in the educational institutions must be students [6]. Some of the cloud benefits directed to students are reviewed:

- Cloud computing releases services for students with new capabilities that were not served well by traditional ways. Nowadays, the students can store anything electronically such as their schedule, class notes, reports and any other documents. Furthermore, they able to back up their files to the cloud and retrieve them when needed.

- Students can earn e-copy of textbooks and have access to quality learning materials of their courses. This solves the problem of the student's reluctance to gain textbooks due to their high-cost prices. Furthermore, cloud-based textbooks solve the problem of using outdated materials in many of institutions and allow students to access the most updated learning resources.

- The lab's applications and auxiliary resources that may be implemented on the Internet enable students to perform lab's tasks from anywhere and by low-cost personal devices. Therefore, the students do not need anymore to buy expensive hardware or install special software.

- Students have the opportunity to access the system easily at any time to get courses online, attend the online exam, and upload their assignments and projects through the cloud to the instructors.

- Real time collaboration between students themselves as a team or between students and their instructors on the other hand.

1.4.2   Benefits for faculty
The faculty also can get various advantages over cloud-based applications [7]:

- Cloud technology offers for instructors an easy and flexible platform to prepare their course tutorials, presentations, conferences, articles, etc.

- The faculty may be able to exchange experiences by establishing remote seminars to overcome the lack of skills among some faculty members.

- Providing opportunities for instructors to work from home and use their own devices to finish assignments, prepare on-line tests, grading, and scheduling.

- Collaboration with other instructors and sharing educational resources to avoid conflict and duplication of effort.

- Getting feedback from students about the educational process.

- Cloud provides for researchers a discussion area and accessibility to global computing resources and sufficient storage capacity.

Even though the great benefits of using cloud computing in educational institutions, there are some challenges that hinder the wide scale adoption of this technology in various sectors of the university. In the current circumstances, it is not easy to track the variety security issues in cloud computing environments.

The security issues are related mainly to three key requirements: confidentiality, integrity, and availability.

The confidentiality is defined as a set of rules that prevent unauthorized user from accessing sensitive information, while integrity is a way to protect data from being modified by unauthorized user and ensure that data are retrieved accurately and trustworthy, and the availability concerned with enabling authorized users to access data reliably when needed, especially during difficult circumstances and emergencies [8]. This study aims to address the key security challenges of adopting cloud computing in higher education institutions. The rest of the paper is organized as follows. The literature review is mentioned in the next section. Section III presents an overview of the security issues in the cloud service models. In section IV, the security challenges and risks are discussed. The survey results and discussion are presented in section V. Finally, section VI provides helpful recommendations to avoid security challenges efficiently for adopting cloud computing in higher educational institutions.

2. LITERATURES REVIEW

The security challenges and privacy issues are one of the main topics that recently researchers focus on for adopting cloud computing in education. The [9] explored the benefits of the cloud computing in educational institutions and advantages provided by the cloud. The authors in [10] address the general security issues related to the core technologies used in cloud computing, such as APIs, virtualization, Internet protocols, etc. in addition to discussing some cloud-specific issues which are introduced with the advent of cloud computing. In [11], software engineering and information systems design approaches was adopted to identify the generic principles of a cloud environment and control relevant vulnerabilities and threats. The authors in [12] proposed a framework aims to treat the security issues by establishing a relationship among the cloud service providers in which the data about possible threats can be generated based on the previous attacks on other providers. While [13] focuses on the lack of security considerations in Service Level Agreements and main security threats and vulnerabilities. The framework was developed based on collected information from security experts, practitioners, service providers and their clients. The systematic literature review and interviews with experts have been conducted in [14] to study security issues and challenges and identify gaps between the researchers' interests and what practitioners deem important. The authors in [15] paper reviewed the literature on challenges of adoption cloud computing in institutions and universities. The authors proposed an integrated reference model based on the challenges in the literature integrated with Technology Acceptance Model (TAM) to investigate the factors influence the users' attitudes and behaviours toward using cloud education services in universities. In [16] authors studied the challenges towards public cloud and possibility of replacing it with private cloud. In addition, they have described how to set up a private cloud in an educational institution and prove how private cloud solutions may increase the utilization of resources, minimize risks, and improve data security.

A methodological and theoretical study is presented in [17] to seek the views of key stakeholders on the issue of cloud information security within higher educational institutions in South African. The authors demonstrate the importance of trust as a cloud computing adoption factor. A trust-centric conceptual framework is proposed for understanding and evaluating cloud computing adoption in Higher Education contexts.

In [18] the questionnaire was conducted to explore the views of students towards cloud applications and services utilized in education. Factors that have an effect on the cloud adoption by higher education were identified in [19]. Significant factors were found in this context are; relative advantage, complexity, and data concern. In [20], the authors have described the demand for understanding the impact of cloud computing in computer

science higher education. A number of education strategies including key knowledge areas have been identified for teaching cloud computing.

The authors in [21] have identified three critical computing education categories and described the solutions towards some challenging issues. A SWOT analysis of the impact of the cloud computing on higher education methodologies has demonstrated in [22]. A SWOT analysis provides a helpful guide for higher education institutions when considering the migration to cloud-based systems. In [23], a five-phase strategy has been presented for adapting cloud computing in higher education. The authors have proposed a cloud computing architecture for higher education institutions containing the various deployment models, service models and user domain.

3. LIMITATIONS IN CLOUD SERVICE MODELS

This section focuses on some limitations related to cloud service models that disserve adopting cloud computing in higher educational institutions [24], [25], [26], [27].

3.1 Limitations in SaaS

Two key limitations may effect on deploying applications under SaaS model: data locality, and integrity. Generally, the user does not know where the service provider stores data and how can be assured that no one can modify it. The lack of trust between cloud user and provider is a critical issue that should be addressed when using SaaS.

As a result, to avoid data leakage in the educational institutions the computer center in the university may host the SaaS application on its own private server or deploy it on infrastructure services provided by trusted third-party provider such as Amazon, Google, etc. For these reasons, most of higher educational institutions involved in this survey are using a private cloud, rather than public or hybrid cloud as shown in figure 3.
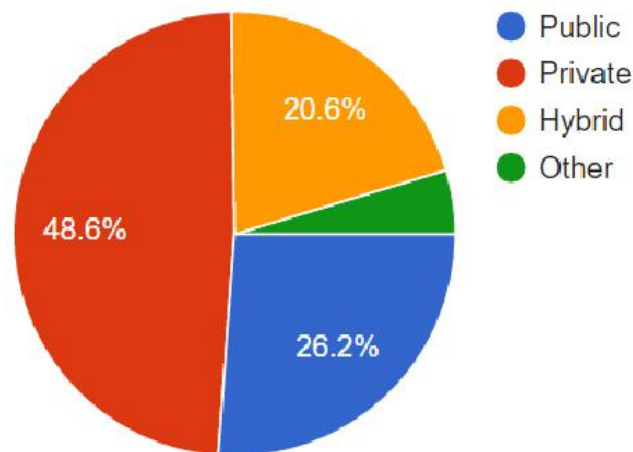
Fig. 3: Cloud models deployed in surveyed institutions

3.2 Limitations in PaaS

Although PaaS platforms provide flexibility for developers in educational institutions to accelerate development of new SaaS applications and migrate them to the cloud. However, the developers might face some challenges when using PaaS platforms. First, the cost is increased due to adding some new features enable developers to add and control own cloud-based applications.

Another serious problem that faces PaaS users is lock-in programming models and high-level services with the vendor who provides service. These models and services are depending on particular environment and need to be completely rewritten when migrating to another PaaS environment. This less portability reduces user's freedom to migrate to another platform.

On the other hand, despite the fact that developers are able to build and control their applications on top of the platform, but they don't know any think about security below the platform which still is assigned by the service provider.

3.3 Limitations in IaaS

Compared with first two service models, IaaS provides for user better control on security issues. The main factor should be considered the reliability of stored data in the provider's resources. The duty of IaaS model security is divided between service providers and their customers. The provider's responsibility involves main security controls such as physical and virtual environmental security. In turn, the cloud user is responsible for applying the suit security controls associated with software including operating system, developed applications and data.

Virtualization technology is a fundamental of IaaS model. In a virtualization environment, when users are utilizing the shared infrastructure resources, this may lead to a cross-tenant attack. In this case, the attacker gains root-level access and then penetrates most of the tenants' accounts in the cloud.

4.   SECURITY CHALLENGES AND RISKS

Organizers in education sector are wishing to use cloud services that are not radically different from those services that totally managed within their own centers. However, they are in fact facing a range of substantial new challenges. This section addresses the critical security and privacy-related challenges and risks in cloud computing. To understand and successfully address the cloud security issues and its challenges in higher educational institutions, we need to investigate various aspects of cloud challenges such as threats, risks, and attack models. Challenges in cloud computing are categorized into four main aspects; Network, Access control, Cloud infrastructure, and Data Security [28], [29], [30].

4.1 Network Security

In this category, we are discussing security-related issues of a transmission medium through which the user can connect to cloud infrastructure. Provisioning secure medium prevents leakage of sensitive information during transmission. The most security challenges are associated with the network used as long as cloud-computing operations are totally depending on networks by which the users migrate their data to cloud servers.

4.2 Access Control

Access Control includes important security issues such as authentication, identification, and authorization. Since authorized users have access to the cloud via Internet, this increases security risks in cloud computing. The insecure interface of the web application is vulnerable to expose an educational institution to unauthorized access. Furthermore, weak authentication mechanism might increase the possibility of an unauthorized access to data or services which are globally accessible and shared with other users through the multi-tenancy cloud. For this reason, using strong authentication mechanism is a basic and mandatory requirement for any cloud system to ensure the privacy of user information and data stored on a cloud provider's server.

The primary responsibility of the service provider is to protect cloud service and user data against unauthorized access. In current best practices, some good security solutions are recommended to avoid penetration such as VPNs technology, Privileged Access Management, Next Generation Firewalls, etc.

4.3 Cloud Infrastructure

This category entails issues related to the physical equipment used as a backbone for cloud infrastructure as well as the virtual software used to operate cloud resources. The cloud infrastructure involves main features of cloud service models and is particularly associated with virtualization environment. Virtualization is a fundamental technology used by cloud vendors to achieve multi-tenant architecture, where it divides the computing resources of cloud server into multiple execution environments [31].

The virtualization-based cloud is not safe due to multi-user shared environment, where all virtual instances are on the same physical machine. One of the virtualization security challenges faces cloud system is a lack of VM protection, because multiple VMs located on the same computer, you cannot put a hardware protection device such as a firewall between them. Another challenge is due to a dynamic environment where VMs are created, terminated, or moved to another place automatically, which make very hard to monitor traffic and determine if the attack is accruing [32]. Common attacks that might threaten cloud infrastructure are Theft-of-Service, DoS, Malware Injection, Cross-VM Side Channel, Phishing, Botnets, and VM rollback attack.

4.4 Data Security

Data Security risks constitute the biggest challenge for adopting cloud computing in higher education institution. Some institutions still prefer to store their critical data into own repositories instead of moving them to a remote cloud.

The cloud service providers have to prove to customers their ability to deal with various challenges related to data security. Several security issues have been identified and classified according to data states in the cloud: Data-at-Rest and Data-in-Transit [33]. Data at rest refers to the data stored in the cloud servers, which need to be protected and to validate that an unauthorized user has not altered the data stored in the cloud. Especially, when data stored far away with no physical control over it such as in public cloud.

In the state of Data-in-Transit, the possibility of data loss or leakage occurring is increased when travelling from one location to another. The major risk might face data security is the use of inappropriate encryption protocol and weak key in the cloud environment.

5. SURVEY RESULTS & DISCUSSION

In this section, we review and discuss the results obtained through the questionnaire conducted in variety universities that have adopted cloud computing. This data collection method is used to identify the point of view of stakeholders at universities on the cloud security vulnerabilities and approaches used to overcome. Faculty

members, Master students, and IT staff completed the questionnaire. Around 64% of universities covered by the survey are cloud beneficiary, whereas only 36% of them are cloud service provider.

We have noticed when reviewing the questionnaire responses that many of the respondents are not familiar with security risks that threaten their cloud or security mechanisms used to avoid. This indicates that those who responsible for cloud computing do not educate stakeholders about security issues related to their cloud computing.

The security-related survey consists of the following multiple-choice questions:

Q1. Which are the currently identified challenges regarding privacy and confidentiality in your cloud computing?

The responses on this question are Cloud as shown in figure 4. The result shows 22.4 % of respondents see that security issues related to virtualization represent a challenge to cloud computing, whereas 20.6% think that encryption method used in the cloud may be a real challenge. While a lower number of respondents have selected data outsourcing (14%) and legal issues (11.2%) as challenges for cloud computing in their universities.
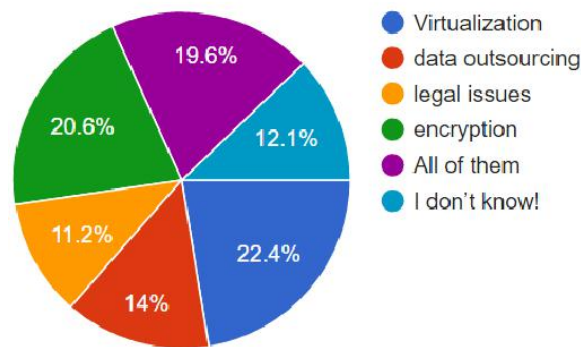
Fig. 4: Privacy and confidentiality challenges.

Q2. What are the common vulnerabilities that your cloud environment suffers from?

On this question, one-third of participants didn't have enough information about cloud computing architecture and vulnerabilities that might threaten their network, as shown in figure 5, while the rest of responses were Cloud among the specified common vulnerabilities as follow; weak authentication and authorization services (17.8%), poor key management and control (15%), and other vulnerabilities that selected in the same proportions.
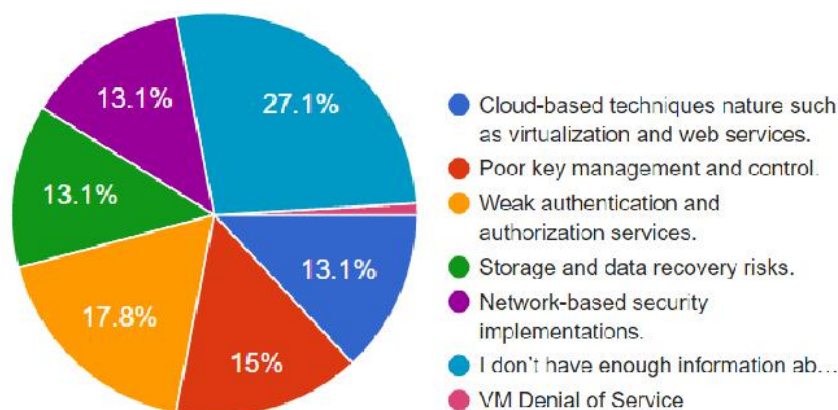
Fig. 5: Common vulnerabilities cloud environment.

Q3. Specify which of the following attacks threaten your cloud computing?

This question allows the participant in the questionnaire to select multiple answers for determining which threats or attacks might threaten their cloud platforms.

The result is shown in figure 6. The most serious security attack on cloud according to stakeholders' perspective is Denial of Service DoS (43.9%), then phishing (34.6%), and Theft of Service (30.8%).
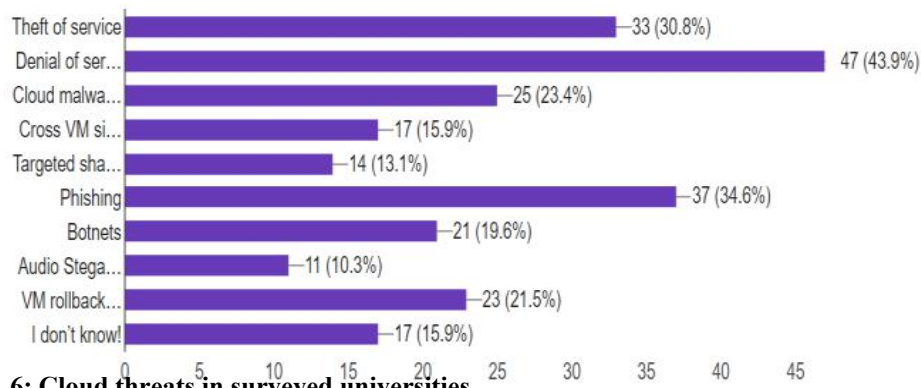
Fig. 6: Cloud threats in surveyed universities.

Q4. Select approaches that have been introduced by your institution to ensure security in cloud computing.

The figure below shows the distribution of protection mechanisms and approaches adopted by surveyed universities in order to protect data and cloud services.

The encryption and hash calculation methods are the most common solutions (25%) to assure the cloud security. Another suggested schemes such as secure framework (16.8%), proposed algorithm from literature (14%), recommended guidelines (13.1%), in addition to physical solutions like network isolation and firewalls. Finally, as was mentioned before, unfortunately, more than 25% participants in the questionnaire are not familiar with security approached and methods used in their universities to protect cloud and prevent any expected attack.
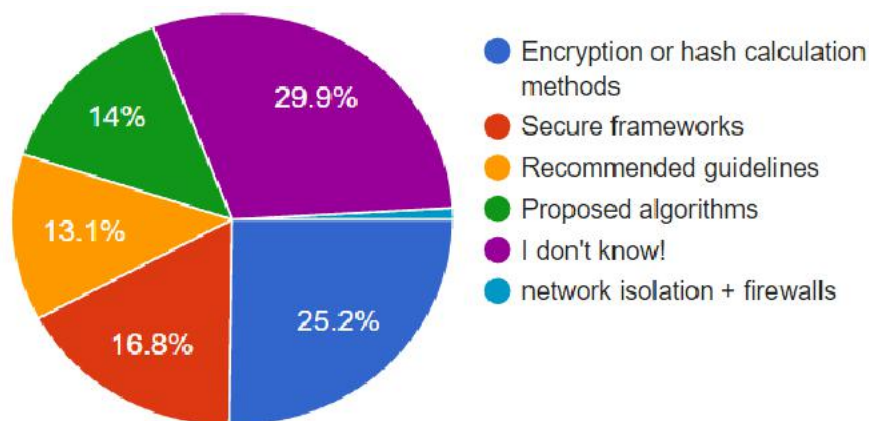
Fig. 7: Cloud threats in surveyed universities.

6. RECOMMENDATIONS

At the end of this study, a few baseline recommendations for cloud administrators within universities for adapting secure cloud computing are presented.

1. The first consideration is to educate the stakeholders adequately on cloud services used in their own network and provide them primary notifications related to security issues. It is recommended to follow security-related guidelines and standards for achieving secure environments such as NIST guidelines for security and privacy.

2. The institution's network must be prepared for cloud computing. This means the network equipment such as routers and firewalls should be configured with critical rules to make cloud network more secure and reach the expected performance. Additionally, setup up network isolation techniques like VPN, VLAN, etc.

3. Make sure that IT administrator able to control and manage cloud's items and services when concluding the contract agreement with the service provider.

4. An agreement with a third party to perform audits on a regular basis to monitor the performance and compliance of the service provider to the agreed terms.

5. Monitor periodically the performance of available cloud services and resources that have been launched and make a change as required. This procedure may reduce security threats and risks.

6. Applying a threat assessment strategy is an urgent requirement. Sometimes stakeholders were not aware of particular threats to cloud infrastructure. This requires finding a way to discover threats and avoid them before their occurrence. These measures should be taken specially to address potential internal threats.

7. Data and applications in the cloud environment must be classified based on their values according to their importance and sensitivity, not all data stored in the cloud are rated as top secure data. Remember that the use of security tools always effect on the system performance and efficiency.

8. Backup and recovery schemes must be provided to prevent data loss.

9. A proper authentication, authorization, and access security tools and mechanisms should be implemented and regularly monitored.

10. Provide suite strong encryption protocols and key management for data at rest, in transit, and on the backup state.

7. CONCLUSION

Cloud computing represents an opportunity for universities to take advantages of the enormous benefits of cloud services and resources in the educational process. However, the cloud users remain concerned about security issues that represent the major obstacle that may prohibit the adoption of cloud computing on a large scale. In this paper, the authors have provided an overview of cloud computing benefits for key stakeholders in the higher educational institution. The limitations of cloud service models were investigated in addition to challenges and risks threaten cloud computing. This study shows that the stakeholders are not familiar with possible security risks or procedures used to protect data or cloud application. Furthermore, it indicates that the most serious attacks might threaten cloud networks are Denial of Service (DoS) and phishing attacks. A comprehensive list of recommendations has been provided to avoid security risks efficiently when adopting cloud computing in educational institutions. In the future research, the security risks and challenges of virtualization technology will be covered in details to provide a secure infrastructure for IaaS service in the Educational cloud. In addition to focusing on improving QoS provided in cloud computing.

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ACCESSIBILITY REQUIREMENTS FOR PRIVATE U.S. ONLINE POSTSECONDARY SCHOOLS AND BENEFITS TO STUDENTS WITH LEARNING DISABILITIES: A LEGAL ANALYSIS AND REVIEW OF THE LITERATURE

Laura POLICAR
Independent Researcher & Educator
United States
policar4@gmail.com

Tracy CRAWFORD
University of Phoenix
United States
tracy.crawford@phoenix.edu

Melissa STOCK
University of Phoenix
United States
melissa.stock@phoenix.edu

Vita ALLIGOOD
Independent Researcher & Educator
United States
vita.alligood@gmail.com

ABSTRACT
While postsecondary online classes have become increasingly popular in the United States, they have also brought increased concerns about lack of access to online classrooms for students with learning disabilities. Title III of the Americans with Disabilities Act (ADA) does not address commercial websites, so no specific guidelines define how private online postsecondary schools can ensure accessibility. As a result, students with learning disabilities have varying degrees of access to private online college classrooms, and private postsecondary schools fear discrimination lawsuits resulting from the lack of accessibility. Many of these schools have voluntarily put measures in place to try to ensure that their online classrooms are accessible. Guidelines that many schools are voluntarily following include Section 508 of the Rehabilitation Act (Section 508), the World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG), and/or Universal Design for Learning (UDL). Accessible classrooms greatly benefit students with learning disabilities, empowering many to succeed without needing to disclose their disabilities or request specific accommodations. This article examines the current state of U.S. accessibility law as applied to private online postsecondary schools, identifies the most widely-used accessibility guidelines, and provides an overview of how students with learning disabilities benefit from accessible online classrooms.

INTRODUCTION
As postsecondary online classes have become increasingly popular in the United States, accessibility concerns for students with learning disabilities have also increased. Many people mistakenly believe that the legal accessibility requirements mandated by Title III of the Americans with Disabilities Act (ADA) for private online postsecondary schools extend to their online classrooms; however, this is not the case. In fact, the degree to which U.S. federal law requires the online classroom to be accessible to students with learning disabilities varies by jurisdiction, and federal law does not yet define the specific requirements that private U.S. online postsecondary schools must meet to ensure accessibility. This ambiguity has spawned multiple lawsuits as disability advocates seek to broaden the protection provided by federal anti-discrimination laws for students in online courses on behalf of people with disabilities.

As a result, many private U.S. online postsecondary schools find themselves in the position of trying to avoid lawsuits by taking steps to ensure accessibility to students with disabilities without being provided clear guidance by Congress or the Department of Justice (DOJ) for how to do so. The DOJ has indicated that it will not publish specific guidelines until fiscal year 2018 (Burke, Clapper, & McRae, 2016). In the meantime, some elements of online courses inherently provide a format that negates the need to request some specific accommodations while other aspects can remain inaccessible to students with learning disabilities, depending

upon the degree to which an individual private postsecondary school chooses to apply accessibility guidelines voluntarily.

This article provides an analysis of the current state of U.S. accessibility law as applied to private online postsecondary schools, an overview of accessibility standards that many private online postsecondary schools are voluntarily applying to the online classroom, and specific ways that students with learning disabilities benefit from accessible online classrooms.

LITERATURE REVIEW AND LEGAL ANALYSIS OF U.S. ACCESSIBILITY REQUIREMENTS

U.S. federal law requires postsecondary institutions to provide equal access to students with disabilities (Betts, 2013). However, no individual piece of federal legislation specifically requires private online postsecondary schools to ensure that their websites are accessible (Crow, 2008). Blanck (2014) stated that "U.S. disability non-discrimination law has yet to be applied systematically to web content equality for people with cognitive disabilities" (p. 30). As a result, while figures vary, literature published to date show that the number of accessible higher education websites is consistently low (Huss & Eastep, 2016).

If they receive federal funding, private U.S. online postsecondary schools are subject to the ADA as well as to Section 504 of the Rehabilitation Act, both of which prohibit discrimination on the basis of disability (Betts, 2013). However, because the ADA was enacted before the Internet became a staple in American life, website accessibility was not included in the statute (Crowley, 2013). Crowley (2013) explained the significance of Title III's application to websites:

"The ADA differs from other civil rights legislation—where a place of public accommodation is typically only prohibited from *denying* access to its goods or services on the basis of some characteristic—by requiring places of public accommodation *to affirmatively ensure* that individuals with disabilities have equal access to the goods or services." (p. 651)

In other words, if Title III of the ADA applies to the websites and online platforms of postsecondary institutions, then private U.S. online postsecondary schools have a legal duty to *proactively* ensure accessibility to students with learning disabilities.

To date, Title III has not been consistently applied to the Internet or commercial websites, which has resulted in a large segment of the population (those with disabilities, who account for roughly one-sixth of the U.S. population) being excluded from those websites (Areheart & Stein, 2015, p. 455). According to Briggs & Sass (2016), the number of U.S. individuals with disabilities that affect their ability to use web technology in is the millions. Despite this disparity, Areheart & Stein (2015) stated that "courts have essentially punted the issue [of commercial website accessibility] to Congress, leaving people with disabilities to hope businesses will be convinced of the justice or economic benefits of making their websites accessible" (p. 473).

While the DOJ indicated through an advisory letter over a decade ago that Internet services "deemed to be public accommodations" (which would include private online postsecondary schools) are subject to Title III of the ADA, it does not plan to provide guidelines for which specific services are subject to the ADA or how a private company can ensure website accessibility compliance until fiscal year 2018 (Burke et al., 2016, pp. 141 & 142). Areheart & Stein (2015) noted that the DOJ has yet to issue a ruling on mandatory Internet accessibility despite commentators requesting this for over a decade, and Crowley (2013) pointed out that despite issuing numerous other regulations regarding Title III, the DOJ has yet to address private website accessibility, nor has Congress taken action.

As a result, lawsuits and courts are shaping these requirements with different jurisdictions applying different standards (Burke et al., 2016). One landmark case that could directly affect private online postsecondary schools involved the video-streaming company Netflix. Two lawsuits were filed against Netflix for failing to provide captioning for streamed videos. The Ninth Circuit U.S. Court of Appeals affirmed the district court's dismissal of one case, ruling that because Netflix's business is not connected to a physical location (only transacts business over the Internet), it is not subject to the ADA (*Cullen v. Netflix*, 2015). However, a Massachusetts district court, which is in the First Circuit, ruled that a website can be subject to the ADA despite the company being solely Internet-based (*Nat'l Ass'n of the Deaf v. Netflix,* 2012). The parties settled out of court with Netflix agreeing to add captioning to all streamed videos and to pay $755,000 in attorneys' fees and costs (*Nat'l Ass'n of the Deaf v. Netflix*, Consent Decree, 2012). A legal requirement to add captioning to videos would likely be extended to private online postsecondary schools.

Additional settlements regarding Internet accessibility have taken place but are not binding on other businesses (Areheart & Stein, 2015). Because of "contradictions and conflicts in the operation of many of these laws and policies as affecting persons with disabilities," individuals with disabilities are having to advocate for themselves and challenge discrimination through lawsuits in their quest to seek changes in both law and policy in educational environments (Blanck, 2014, p. 28).

The appellate courts are split on the application of Title III to the websites of private businesses, which would extend to private online postsecondary schools. The Third, Sixth, Ninth, and Eleventh Circuits require "a nexus between an actual physical structure and the goods, services, or privileges provided via web technologies" before they will apply Title III to a private business' website to prevent discrimination against those with disabilities (Briggs & Sass, 2016, p. 42). However, the First, Second, and Seventh circuits "have declined to limit 'places of public accommodation' to actual physical places under Title III of the ADA" (Briggs & Sass, 2016, p. 43). Despite this broader interpretation, no appellate court has ruled that every website of every private businesses is covered by the ADA (Areheart & Stein, 2015), although it does appear that the trend is moving toward applying the ADA to commercial websites (Gallegos & Sealey, 2015).

Gallegos & Sealey (2015) noted that federal courts are addressing this issue in one of three ways:

- The ADA only applies to physical places, not the Internet (original view).
- The ADA applies to the Internet "so long as there is a nexus between the service and a physical place of public accommodation" (majority view) (p. 9).
- The ADA applies broadly, including non-physical locations, and regulates the Internet (minority view).

The U.S. Supreme Court has not heard any cases regarding whether the ADA applies to commercial websites (Gallegos & Sealey, 2015), so Title III is being applied differently to private companies' websites based upon jurisdiction. Those rulings would, by extension, directly affect private online postsecondary schools. As a result, college students with disabilities who are denied equal access to websites are receiving different levels of federal protection based upon which circuit has jurisdiction.

In 2015, the DOJ filed statements of interest in discrimination cases against postsecondary schools for failing to provide captioning on videos, indicating that the DOJ views "the online programming of private universities" to be subject to Title III (Burke et al., 2016, p. 149). Also in 2015, the DOJ was involved in a settlement agreement regarding massive open online courses (MOOCs), which provides further support that private online postsecondary schools are wise to ensure that their websites and online learning platforms are accessible to students with disabilities (Burke et al., 2016).

In addition to litigation concerns under federal law, Liburt, Corbett, & Del Castillo (2015) pointed out that businesses are also vulnerable to being sued under state laws that protect people with disabilities from discrimination when seeking access to websites. Yang & Chen (2015) noted that while state law is much more varied than federal law on website accessibility requirements, state requirements are typically written using one of the following guidelines:

- The ADA
- Section 508 of the Rehabilitation Act (Section 508)
- The World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG)

Yang & Chen (2015) noted that in most states, website accessibility laws apply to state entities and specifically exclude private entities, and state laws that do apply to private entities are typically limited in scope. Section 508, which is a federal law, specifically excludes private entities from its coverage.

Despite the varying interpretations of federal law, Gallegos & Sealey (2015) asserted that the ADA does, in fact, apply to websites, and Reindl & Linde (2016) advised businesses that have not made their websites accessible to do so soon to avoid increasing litigation risks. Reindl & Linde (2016) pointed out that advocacy groups are actively targeting businesses that only operate online as well as large businesses that have physical structures and inaccessible websites. Private online postsecondary schools, with or without a physical place of public accommodation, are wise to proactively ensure that their websites and online classrooms are accessible to avoid becoming the next target of a discrimination lawsuit.

GUIDELINES USED TO ENSURE ACCESSIBILITY

Because Congress and the DOJ have not defined the specific requirements for ensuring that a website is accessible, private U.S. online postsecondary schools must seek out guidelines for how to provide accessible online classrooms. Many schools are voluntarily following one or more of the guidelines described below, none of which is legally required for private online postsecondary schools as of yet. By following any of these guidelines, schools are better able to ensure accessibility to students with learning disabilities, and they can use their voluntary compliance as a defense in a discrimination lawsuit.

Section 508

Section 508 is federal legislation that requires "federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities" (U.S. General Services Administration, n.d., para. 1). Because the DOJ enforces Section 508, some private online postsecondary schools choose to follow these guidelines as the DOJ could use those parameters for defining accessibility requirements for private businesses' websites in the future. Section 508 provides specific guidelines for minimum steps that must be taken to ensure a website is accessible to people with disabilities.

Note that Section 508 does not apply to the private sector, which includes private online postsecondary schools. However, many schools voluntarily comply with Section 508 so that electronic course materials and online classrooms and curricula are compatible with assistive technology and fully accessible to all students. Some of the tools that are used in this endeavor are the captioning of videos and ensuring that screen readers work with written materials (United States Access Board, n.d.).

WCAG

The international organization World Wide Web Consortium (W3C) has developed the WCAG, which are technical standards for creating web content that is accessible to people with disabilities (WC3, 2012b). WCAG is "the most widely used standard for providing guidelines for accessibility solutions and measuring their success" (Burke et al., 2016, pp. 166). Using WCAG is attractive for private online postsecondary schools because of their applicability to educational websites (Burke et al., 2016).

The WCAG are especially geared toward web content developers, and the W3C Web Accessibility Initiative provides extensive resources for writing HTML code and designing websites that are fully accessible. The WCAG advocates strategies such as the use of text alternatives or captions for audio, video, and images; presenting content that is compatible with assistive technologies, such as screen readers; ensuring that all functions are available through a keyboard; giving users control of timed elements, such as the ability to pause videos and presentations; ensuring that content is readable, understandable, and predictable; and more (WC3, 2012a).

Universal Design for Learning (UDL)

UDL "is a set of principles for curriculum development that give all individuals equal opportunities to learn" (National Center on UDL, 2014b, para. 1). It is predicated on the idea that human beings learn in a variety of ways and that most of these different ways of learning can be addressed through flexible approaches that result in curriculum that is accessible to all learners.

Some private online postsecondary schools follow UDL because of its ability to help ensure accessibility for students in the online classroom (Pittman & Heiselt, 2014). Schools can use UDL to design common templates to assist online instructors in keeping their classrooms accessible (Pittman & Heiselt, 2014). UDL includes accessibility strategies for students with disabilities, but it encompasses more than that to include all students with their individual modes of learning (e.g., auditory, visual, read/write, etc.).

The UDL guidelines are based on three principles that address multiple ways of learning. The first principle is to "provide multiple means of representation (the 'what' of learning); the second principle is to "provide multiple means of action and expression (the 'how' of learning); and the third principles is to "provide multiple means of engagement (the 'why' of learning)" (National Center on UDL, 2014a, sections 1-3).

The first principle addresses the needs of students with sensory or cognitive disabilities, ensuring that they are able to comprehend the curriculum. The second principle helps to ensure that students with physical or language

disabilities are able to communicate their ideas. The third principle seeks to help students to be able to engage with the curriculum in ways that are comfortable for them, such as with more or less structure and with more or less interaction with other students.

BENEFITS OF ACCESSIBILITY TO STUDENTS WITH LEARNING DISABILITIES

U.S. colleges and universities must provide reasonable accommodations for student disabilities. However, as explained by Community for Accredited Online Schools (2017), "there are limitations regarding what are considered 'reasonable accommodations.' A college or university is not required to make any modifications or provide any aid or services that would result in a fundamental alteration in the nature of a program" (para. 30). This is much more of a concern in a physical school setting. Many, if not most, of the accommodations considered difficult in a physical classroom are not even issues in the online classroom. The built-in accessibility inherent in online learning can eliminate the need to request accommodations.

Many of the built-in aspects of the online classroom automatically benefit students with learning disabilities— along with everyone else. The freedom to choose where and when to learn, as well as how to learn, puts the students in charge of their learning…often for the first time since elementary school. Countless students entering college have become used to parental intervention and are reticent to self-disclose disabilities, especially to professors they do not know, in an environment in which they are not yet comfortable.

"As society in general continues to perceive disability in a negative light, it is quite understandable that many students with disabilities are reluctant to begin important relationships by discussing their disability; and hence, they choose not to disclose their disability at all. This failure to disclose closes the door to the available disability support services and academic accommodations that might enhance their postsecondary success." (Timmerman & Mulvihill, 2015, p. 1613)

With online learning, this concern can be avoided. Students can use whichever learning modality they choose when information is presented in written, video, and audio form that are captioned and transcribed.

The hardware and software accommodations that tend to be accompanied by red tape and long wait times in traditional schools are an integral part of online classroom design. Students who learn online can set up their work and study areas to match their individual needs and preferences, enabling them to direct time and energy toward their studies. "In addition to the convenience, online learning offers students with disabilities some benefits in terms of flexibility that may not be as readily available in a [face-to-face] delivery format" (OnlineUniversities.com, 2017, para. 6). Many of these benefits mirror accommodations traditionally given to students in Kindergarten through 12th grade (K-12 students). The difference in an online college environment is that many students no longer need to request accommodations. The accessibility benefits everyone, whether or not they have any specific disabilities.

Simply being able to take breaks whenever a student wishes helps a student with attention-deficit hyperactivity disorder (ADHD), and the organization necessary within an online class (such as syllabi broken down by weeks, assignments, and concepts) can take the place of the separate schedules that help so many students with executive functioning, memory, and processing issues. Post-secondary student demographics are changing rapidly as more students with disabilities gain access to higher education. Due to the recognized need for accessibility,

"the emerging technologies have allowed educational institutions, educators, and students to achieve education on a much higher playing field – in a virtual learning environment... One reason for this increase in online enrollment is due to [the] online learning environment allowing for more barrier-free opportunities to education for students with disabilities." (Barrett, 2013, p. 56)

In this media-centric society, the desire and need for online learning is at an all-time high. However, as more academic content goes online, post-secondary schools are struggling to make their online courses accessible. With the likelihood that federal law will demand accessibility and that universities could be at risk for being found in noncompliance, it is more important than ever that online learning content be made accessible to students with disabilities (Burke et al., 2016). This frequently places choice, as well as responsibility, for accessibility options squarely in the hands of educators. According to Taylor (2016), "faculty need to take responsibility for both the technology that they choose to use and that which they choose not to use. Both decisions can have a significant impact on student accessibility" (p. 126).

The technology choices available when designing a universally accessible classroom are expanding exponentially. An Internet search turns up assistive technology options applicable to a variety of uses. The range of keyboard and mouse adaptations and alternatives, speech and alternative input methods, and vision and reading alternatives available is extensive and growing. When course designers make logical decisions about this technology, this simultaneously takes the burden off students with learning disabilities while giving them autonomy to choose how they will learn. "In human-computer interaction, computer accessibility (also known as accessible computing) refers to the accessibility of a computer system to all people, regardless of disability or severity of impairment" (Disabled World, 2015, para. 1). As this accessibility is equally available to all students, no stigma is attached to technological assistance.

Many of the same aspects of accessibility benefit students with a variety of learning issues. According to Heiman & Shemesh (2012),

"Given the variety of different ways to access to technology, [assistive technologies] provide students with [learning disabilities] with adaptive ways to compensate for their deficiencies, enabling them to gain access to previously inaccessible materials and information and lessening the academic barriers to reading, writing, information organization, and memory areas." (p. 315)

The organization built into an online class' syllabus makes it second nature for students to see course content in related blocks building upon each other.

Additionally, the structure of the syllabus highlights patterns, such as due dates for assignments falling on the same day each week or the same number of discussion posts being due each week. This encourages habits, such as logging in at the same time each day or visiting learning activities in a specific order. Many online classes begin with previews of the week's objectives as well as wrap-ups and reviews at the end of each week. The step-by-step instructions and, particularly, the ability to revisit all instructions and content reduce stress and often eliminate the need for extra time or organizational assistance. All of this is beneficial for the busy working student without specific disabilities; it is invaluable for those with dyslexia, ADHD, auditory or visual processing disorders, slow processing speed, or students with nonverbal learning disabilities or executive functioning issues.

An example is provided by Schaffhauser (2013): "For students who are dyslexic or who have trouble 'decoding' text, digital books or text-to-speech programs can read text to them while highlighting each word as it's read—in essence acting as a virtual special education aide" (p. 54). In the same vein, students with dysgraphia benefit greatly from working on a computer. Indeed, personal access to technology has opened new worlds for students with learning disabilities. The social and emotional benefits of having this technology integrated within an online classroom and used along with the rest of the class are immeasurable.

The universal design behind this technology extends much further. The assistive technology required for full access in a physical classroom also applies with online learning. Audio books, text-to-speech, speech-to-text, transcripts, and captioned videos all combine to give students a choice of how they want content delivered to them. Charts, illustrations, videos, and written material combine to reinforce key concepts, integrating valuable repetition while retaining interest. Assistive technology can help students with dyslexia develop more learning independence (Radovan & Perdih, 2016). Even students with dyscalculia, who often rely on manipulatives, may be adequately accommodated by the interactive educational gaming that is becoming part of the online learning experience. The accessibility built into online courses addresses a broad enough population to be almost virtually inclusive. Interestingly, gifted students, who are often also diagnosed with ADHD or other disabilities, frequently find the online learning environment simultaneously useful when dealing with disabilities and galvanizing for extrapolation of course content.

The motivational aspect of online learning should not be underestimated, and comfort with online classes is growing as quickly as the availability of assistive tools. The accessibility page on Microsoft's website includes links to an array of assistive technology products offering autonomy through alternative input devices, refreshable Braille displays, screen enlargers, magnifiers, readers, speech recognition, and more (Microsoft, 2017). Apple takes this even further, stating "the most powerful technology in the world is technology that everyone, including people with disabilities, can use" (Apple, 2017, para. 1).

Today's postsecondary students are often able to transition from their high school Individualized Education Plans (IEPs) to online learning naturally, as they are generally using similar technology on their own.

"Digital personal management tools offering image, audio, and video options are now available as apps for smartphones and tablet computers. In addition to students with intellectual disabilities, many ubiquitous tools for personal management as well as educational apps for managing assignments are available for use for students with learning and behavioral disabilities." (Peterson-Karlan, 2015, p. 65)

At times in a physical classroom, the needs of particular students may be in conflict. Some students with learning disabilities benefit from receiving the same information using a variety of modalities. Other students with learning disabilities may then find it difficult to concentrate as their needs require a more focused approach (Zentel, Opfermann, & Krewinkel, 2007). Both of these strategies may further impact students with visual or auditory impairments. An online environment removes the conflict as students have the autonomy to choose which tools they find most useful and comfortable, if and when they need them.

Educators are becoming increasingly aware of the educational potential possible through personalization in online classrooms. Throughout the evolution of distance learning, there has been more reliance on a variety of approaches, targeting learning styles and aptitudes of individual students. The availability of assistive technology expands the potential for even further individualization. When online classroom materials can be adapted for individual needs, they can empower all learners, including students with dyslexia, to more easily access the classroom content (Radovan & Perdih, 2016).

Yet as often happens with progress, each improvement brings accompanying concerns. Accessibility issues must be addressed within the course development and design. Individual instructors must be equally cognizant both of laws and of common sense approaches to ensure that teacher-created multimedia materials adhere to accessibility guidelines and are available to all students. Because of differences in the types of technology utilized within each school, and even within individual classes, students must thoroughly research the accessibility and comfort level of any online university before making any decisions. According to Barrett (2013),

"while not all instructors are educated or trained to work with students with disabilities, the use of technology can be quite helpful in this educational mission in order to bring this student population and instructor (and overall class) closer together during the learning process." (p. 57)

Teachers who are themselves adept at and experienced in using technology, such as full-time online professors, are more likely to understand and be proactive about ensuring that material is accessible to all students. As stated by Bennett-Bealer (2012), "the ever-expanding and constantly evolving storehouse of technology requires our vigilance as end-users to make sure that all students can easily access learning" (p. 39).

CONCLUSION

Online private postsecondary schools will likely continue to grow in size and number as more students seek out the convenience of an online classroom versus a traditional classroom, making the need for ensuring that online postsecondary schools have classrooms that are accessible to all students paramount. Specifically, students with disabilities see advantages to this type of environment, and with approximately 11% of undergraduate students reporting some type of disability (U.S. Department of Education, 2016, para. 9), it is important that online private U.S. postsecondary schools address the needs of this population. In addition, advocates of students with disabilities are calling for action from these schools to ensure accessibility for these students.

As laid out in this article, many online U.S. private postsecondary schools are following established practices (Section 508, WCAG, and/or UDL) to take action and ensure accessibility. These schools are likely to continue implementing practices that ensure accessibility of all online classroom material, both to be inclusive and to avoid potential lawsuits. Additionally, many elements of the online environment are already conducive to students with learning disabilities. The technology used in online postsecondary classes continues to evolve and advance with curriculum and interface designers focusing on designing materials that are readily available and accessible to all students. The next phase in ensuring online classrooms that are fully accessible to students with learning disabilities, however, will require the DOJ to define specific guidelines and mandate that all private online postsecondary schools implement them.

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DISTANCE LEARNING FOR MUSIC ARTS IN THAI HIGHER EDUCATION

Sayam Chuangprakhon
College of Music, Mahasarakham University, Thailand.
siam1215@hotmail.com

ABSTRACT
The purpose of this study is to study the elements of distance teaching and learning forms or curricula via internet network systems for the Bachelor of Music Arts degree in Higher Education Institutions in Thailand. The researchers have studied distance teaching and learning forms by way of collecting documents and related research in order to analyze and synthesize the elements of distance learning forms by means of the principles and theories associated with such forms via the internet network systems, particularly with regard to the concepts of distance teaching and learning forms for the Bachelor of Music Arts degree in Thai higher education institutions, and the principles and concepts of research and development as they relate to teaching and learning forms, the contexts of teaching and learning music programs in Thai higher education institutions, and the criteria for introducing a distance learning curriculum. The study finds that distance learning forms via the internet network consist of a number of inputs that influence achievement. These are as follows: 1) instructors, 2) learners, 3) contributing factors, 4) teaching and learning environments, 5) teaching and learning activities, 6) teaching and learning technologies, and 7) Music Arts curricula.

INTRODUCTION

Education is a process that involves social activities which are important foundations for helping human beings to behave and to develop the principle habits that allow them to live happily with other people. Furthermore, it helps human beings to develop themselves in various ways, and to obtain skills, knowledge, and capabilities that can be used to achieve a country's advancement. Education is a process that is inevitably changing all the time in line with the process of globalization; as a result, educational management needs to adapt to keep pace with changes in order that man can live in human societies happily. Education management in a knowledge – based society has focused on developing learners in such a way as to ensure that they have knowledge, competitive capabilities, and understand change. In addition, they are able to deal with critical thinking, inquiries, and engage in problem solving from various sources (Alghazo 2006). With the advancement of technologies nowadays, they have become a significant resource for education managing reform aimed at contributing to learners' learning (Adam 2005).

Therefore, educational managers should develop methods or instructional forms that comply with an national education development plan by means of technological progress applied to current situations. With information technologies and telecommunication systems developing rapidly, they have become important tools to support learning, especially in the light of published articles and research which deal with the development and creation of teaching and learning forms which offer many choices in terms of teaching and learning principles and theories. These sources indicate the need for the use of modern information technologies in order to promote learning throughout life. A key aspect is the use of distance learning systems via the internet. These involve new teaching and learning forms linked to rapid changes in the modern world in the 21st Century (Nilsook, Utakrit and Clayden 2014). Individuals who hope to be successful and to survive in the sustainable modern world have to be vigorous, strong, capable, display wide initiative, resourceful, knowledgeable, creative, and problem solving. In addition, they must be able to create learning processes by themselves throughout their lives (Ambrose et al. 2010; Trilling & Fadel 2009).

Distance education management via internet networks has been developed to introduce educational innovations in order to meet any country's educational demands, especially in developed countries such as the United States of America and the United Kingdom. This development aims to expand opportunities at a higher education level and support learners, both within and outside a country; furthermore, there are some programs aimed at providing educational services and training for working–aged people in order to enhance their skills and knowledge. In the case of Thailand, higher educational institutions have started developing increasing amounts of online teaching and learning systems. However, the development is still at an early stage. Many universities have introduced development plans. Distance teaching and learning management via the internet has lots of advantages, such as the utilization of management processes and efficient education provision, owing to the internet networks being flexible in terms of time, places, communication methods, applications, and allow the easy presentation of multimedia content (Mazza 2004). It provides tools for learning anywhere and anytime, facilitation for instructors and learners (Koohang and Durante 2003), and creating participation in operational, teaching and learning activities (Donlevy 2000). The management of distance teaching and learning via internet

systems is taking the potential and aspects of information technologies to help learners or students study everywhere, at anytime, using a range of materials and is for all (Burghstahler 2003; Wong and Trinidad 2004). The main components are the capability to connect the internet to distant learners in remote areas, various instructional media, instructors, learners, library facilities, support services, and other resources. In addition, curriculum development for learning needs to consider student-centered learning, a variety of digital media, and application through the internet with personal computers (Picciano 2001).

Teaching and learning management in music is an aspect of education which is contained in national teaching and learning systems in terms of elementary education, secondary education, and higher education from undergraduate to doctoral degree level. Music Arts in Thai higher education has opened up across the country. Many universities teach Music Arts including Chulalongkorn University, Mahidol Univesity, Srinakharinwirot University, Mahasarakham University, Khon Kaen University, Burapha University, Thaksin University, Silpakorn University, Kasetsart University, Rangsit University, Assumption University and Payap University. Even if computer and information technologies are important tools in teaching and learning, other educational technologies suitable for learners in each locality, culture, and which allow integration between online learning and class participation must be considered in order to ensure the maximum efficiency of an educational plan (Office of the National Education Commission 2001).

As of 2005, higher education institutions have been required to develop and launch programs in distance learning. They have to comply with the regulations for opening and operating undergraduate courses or curricula in distance education systems in order to promote lifelong education for people, encourage learners or students to have opportunities to learn by themselves, and to maintain the quality standards of higher education management. By virtue of sections 8 and 4 of the National Government Organization Act, B.E. 2546 (2003) of the Ministry of Education, in the distance learning system of A.D. 2005, the Minister of Ministry of Education, directed by the Higher Education Committee, declared that, in article 8 relating to higher education institutions managing distance learning, such institutions need always to develop distance learning completely, especially in terms of presenting technologies, supplementary and mainstream media, or the adequate use of integrated media, in order to ensure that learners would receive high quality educational services and, through the provision of high quality education, would be able to learn by themselves (Office of the National Education Commission) , based on the criteria of open and freely operating undergraduate courses within a distance education system.

Even though distance teaching and learning management via the internet is costly, operational forms and distance learning approaches which are obvious, appropriate and efficient, will be most useful. Consequently, the researchers have put forward many ideas and are interested in studying synthetic forms of distance teaching and learning management via internet networks. Whether or not learners and instructors are separate in terms of different time and places should not be a problem for learners when it comes to studying, talking, discussing, and interacting with one another and with instructors due to the use of efficient visualization via the internet networks.

THE PURPOSE OF THE STUDY
The purpose of the study is to examine the components of distance learning forms via internet networks as they apply to the Bachelor of Music Arts in Thai degree provided by higher education institutions in Thailand.

CONCEPTUAL FRAMEWORK
The researchers have defined a conceptual framework based on the principles and theories involved in distance teaching and learning management via internet networks that relates to Music Arts' conceptual management for the Bachelor of Music Arts degree in Thai higher education institutions, according to the criteria and standards that exist for Thai higher education programs (Rodmunkong, Wannapiroon & Nilsook 2015). The framework also incorporates the principles and concepts of research and development of instructional forms, teaching and learning contexts for Music Arts in higher education institutions in Thailand, and the criteria for opening distance education programs.
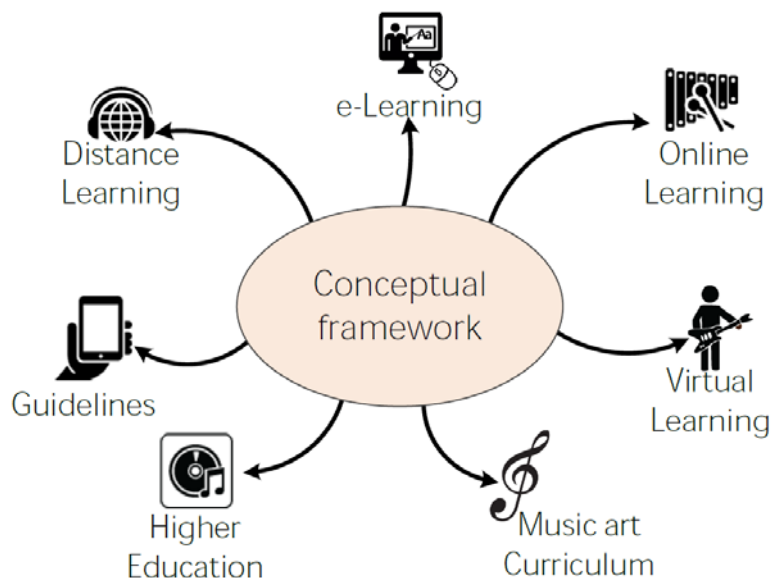
Figure 1. Conceptual Framework

THE SCOPE OF THE STUDY

This study aims especially at an examination of distance learning management via internet networks for the Bachelor of Music Arts degree in Thai higher education institutions. The researchers have synthesized the documents based on the principles and theories relating to distance teaching and learning management via internet networks for Music Arts' conceptual management in terms of the Bachelor of Music Arts in Thai higher education institutions, the principles and concepts of research and development associated with instructional forms, the teaching and learning contexts for Music Arts programs in the case of 5 higher education institutions in Thailand, and the criteria for opening a distance learning program. Jointly, this will be the basic data used to define guidelines for developing distance teaching and learning forms via internet networks with regard to Music Arts' conceptual management for the Bachelor of Music Arts degree in Thai higher education institutions in the future.

RELATED DOCUMENTS

Bates (2005, pp. 8-9) expressed the view that distance education is another learning approach rather than a learning philosophy by which learners could study at a convenient time and in a chosen place (the homes, office, or study center) without being in front of an instructor. Furthermore, technologies were important components that strongly influence distance education.

Distance education is the concept of educational management that responds to the philosophy of lifelong learning. This is considered to be important in life, in as much as it is open education and expands educational opportunities to individuals in such a way as to meet their needs and to allow continuous development throughout their lives (Piriyasurawong and Nilsook 2010). In Company with advanced information technologies, a variety of distance education approaches have been introduced both at the present time and will be introduced in the future. It is the educational approach which helps humans experience sustainable prosperity and lessens the limitation in terms of time, place, teaching and learning activities, teaching and learning technologies, and the various communication channels chosen. Though learners and instructors live in or work in different places, technological systems and current modern information technologies are able to help convey the substance of the area of study and encourage learners to study mainly by themselves. Having investigated related documents, especially in terms of the meaning of distance education, there are various terms used relating to distance education such as distance education, distance teaching and learning, distance learning through the web, and distance learning via electronic media. Whether or not words or phrases are used indicates the same meanings (Keegan 2013; Moore 2013; Moore & Kearsley 2011; Schlosser, Simonson & Hudgins 2009).

Generally, the forms of distance learning management via internet network systems consist of 3 types (Wong and Trinidad 2004):

1) Type I features media supplementing traditional distance learning and which strengthens self–directed learning. Learners or students have an opportunity to choose media and activities that best suit their needs; moreover, learners may choose to study via internet networks within their accommodation.

2) Type II is like type 1 but with the addition of such features as holding a videoconference using computers which place stress on interaction, criticism, creative knowledge, and learners' reflective thinking.

3) Type III supplements the other two types, particularly in participating in teaching and learning during a formal class. Media comprise of images, animation, audio, video, and multimedia or hyperlink.

Even though distance learning via internet networks can provide real benefits, the application in reality may lead to problems. According to Falowo (2007), there may be a number of problems:

1) Learners' Problems: there may be many problems for learners such as a lack of tools or equipment, poor internet connections, lack of guidance and motivation, poor communication between learners and instructors, learners and learners, lack of support, bad experiences, lack of experience, and difficulty in accessing systems.

2) Instructors' Problems: instructors' problems include them being anti-distance learning, copyright laws, lack of an ability to create programs or courses, lack of skills in information technologies, training, and time for communication issues.

3) Management Problems: there are management problems such as a lack of infrastructure availability, support agencies, support systems, personnel, insufficient budgets, and inadequate technologies and network systems.

Khan (2005, pp. 12-18) presented a conceptual framework for e-Learning, in which he categorized the systematic factors of electronic educational management into 8 dimensions: Institutional, Management, Technological, Pedagogical, Ethical, Interface Design, Resource Support, and Evaluation as shown in Figure 2.
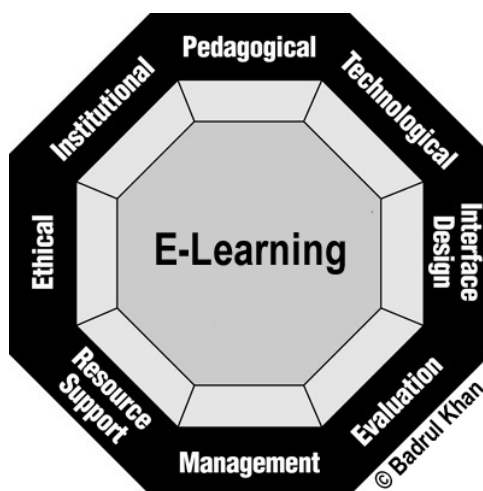
Figure 2. Khan's Distance Learning Management Framework

The Bachelor of Music Arts in Thai Higher Education Institutions in Thailand

1) In terms of the context for Music Arts, the researchers have highlighted the Bachelor of Music (B.M.) degree and find that the course structure is in accordance with the criteria of the Office of the Higher Education Commission (OHEC), which specifies that various subjects are no fewer than 120 credits and subjects for the Bachelor of Music Arts degree are divided into 3 categories as follows:

General Education Course. This contains the university's core subjects with regard to which all students are required to complete at least 30 credits. It consists of General Education, Language Courses, Science Courses, and Social Sciences and Humanities courses.

Specific Course for the Bachelor of Music Arts degree. These focus on specific subjects for the degree, and comprises required and elective courses. Specialized courses, divided into 2 aspectual courses, are a theoretical course and a practical one.

Free Elective Course. This is a group of subjects from which learners are able to choose and study what they desire.

2) The scope of the course stresses the need for students or learners to study musical knowledge both in theory and practice from a basic level to an advanced one. This includes such features as learning the principles of music, music history, music theory, music analysis, harmony arranging, music composition, solo instrumental performance, and ensemble performance, which are studied in regular classes involving both learners and instructors (face-to-face).

3) The duration of the higher education progam is not less than 4 academic years, but no more than an 8 academic years. Therefore, the Bachelor of Music program concentrates on learners or students studying music

theory, developing practical instrumental skills in terms of both solo practice for any instrument and in a music ensemble. Learners or students are able to create musical works, study morality and ethics in professional music, learn integration by means of research processes and other musical creations. Currently, programs are taught in a regular classroom in which instructors and students are required to meet one another in the classroom or face-to-face. After they have graduated, students can choose a wide variety of professions, such as being musicians, music producers, composers, working in the music business, music researchers, related people in music cultures, and sound engineers.

Based on the master plan of the Ministry of Education for the use of information and communication technologies in education, criteria for opening the distance program (2007 – 2011) have been developed. The Ministry of Education sets the direction for ICT development and its vision; that is, learners and instructors and educational personnel take such ICT advantages as accessible services, fully ethical and potential studies, and ICT competency based on international standards.The mission is for the development of the use of ICT in order to improve the quality and effectiveness of learning, the effectiveness of educational management, ICT graduate production and quality improvement to ensure national development. Consequently, distance education development plays an important role in developing a country when associated with the vision and the mission of the Ministry of Education. The Ministry of Education announced the criteria for opening and operating a Bachelor of Music Arts degree in terms of a distance learning system in 2015.The higher education institutions which are required to introduce this program must act in accordance with the announcement of the Ministry of Education regarding the 2015 criteria for introducing and operating a Bachelor of Music Arts distance learning degree , with the aim of encouraging long life education for people and to offer learners the opportunity to study on their own and to maintain the quality as set out by of higher education management standards by virtue of sections 8 and 4 of the National Government Organization Act, B.E. 2556 (2013).

For related research and for the acquisition of a development framework with regard to distance instruction in music, the researchers studied various pieces of research as that of Jianhua, Zho, Akahori & Kanji (2001) which was consistent with a model regarding design and learning together through the web. This system was entitled WebICL, and the design emphasized flexibility and learning together in order to facilitate students' learning under various learning environments through networks. The model design contains 6 aspects: Registering, Learning Group, Knowledge Learning, Teacher Role, Evaluation, and Tools.

With regard to educational planning and program development, the work of Escoffery, Cam and others (2005) was studied, especially with regard to the planning and program development of electronic distance education. This work related to a public health course delivered by Emory University, USA. It presented a model focusing on mainly giving priority to the support of instructors and learners. The eight major aspects considered were institutional support, course and teaching, participant management, library and educational resources, assessment, services, supporting technologies, finance and facilities, and educational program management.

In terms of online education management in universities, there has been a great deal of related research such as that of Allen and Seaman (2005), who studied online education in the United States of America. The survey was conducted in over 1,000 colleges and universities, and found that e-learning education had spread into higher education institutions in terms of the number and diversity of subjects and programs such that they have become an important part of higher education. Organizing instructors for teaching e-learning did not have an adverse effect given that colleges and universities calculated the ratio of instructors to special instructors for e-learning instructional management. Likewise, in terms of management of teaching in the classroom or face-to-face, the survey results indicated that it was clearly likely that e-learning was part of the long-term strategies of leading higher education institutions. The number of e-learning learners was increasing at a satisfying rate, but not much like a number of last year's. An increasing number of learners for this year came close to that of last year (with an annual increase of approximately 360,000 students). For this year, the growth rate of growth in terms of the number of students is approximately 18.2% . Generally, the educational managers believe that an e-learning subject provides equal quality with regard to any subject in the classroom; furthermore, students are satisfied that an e-learning subject is equivalent to learning that subject in a regular classroom. Educational leaders believe that an e-learning subject requires more effort on the part of the instructor and also more discipline on the part of the students. In the view of educational institutions, online courses or subjects need be developed more (Gulatee and Nilsook 2014).

As a result, prior documents and research data have acted as guidelines for the researchers studying the composition of distance learning forms via internet networks. Teaching in music education which has been introduced in many higher education institutions in Thailand involves a new kind of educational management approach in order to further develop Thailand's education.

RESULTS

This study aims to study the components of distance learning forms via internet networks in the case of Music Arts in Thai higher education institutions. In order to obtain the results with regard to distance learning forms via internet networks as they relate to Music Arts in higher education institutions in Thailand, the researchers studied distance learning forms by collecting documents and undertaking related research in order to analyze such forms. They found that there were many distance learning forms. Documents and related research were studied and synthesized in terms of the main theories and aspects as follows:

      1. The theory of distance learning management
      2. The theory of distance learning via internet networks
      3. The theory of distance learning types through the web
      4. The theory of teaching and learning publically through the web
      5. The theory of virtual classroom forms
      6. The context of teaching and learning in higher education in Thailand
      7. The Bachelor of Music Arts degree in higher education institutions in Thailand
      8. The criteria for introducing a distance learning program.

Documents were then synthesized and the researchers summarized the components of distance learning forms through internet networks as shown in Figure 3:

Distance Learning for Music Art in Thai Higher Education
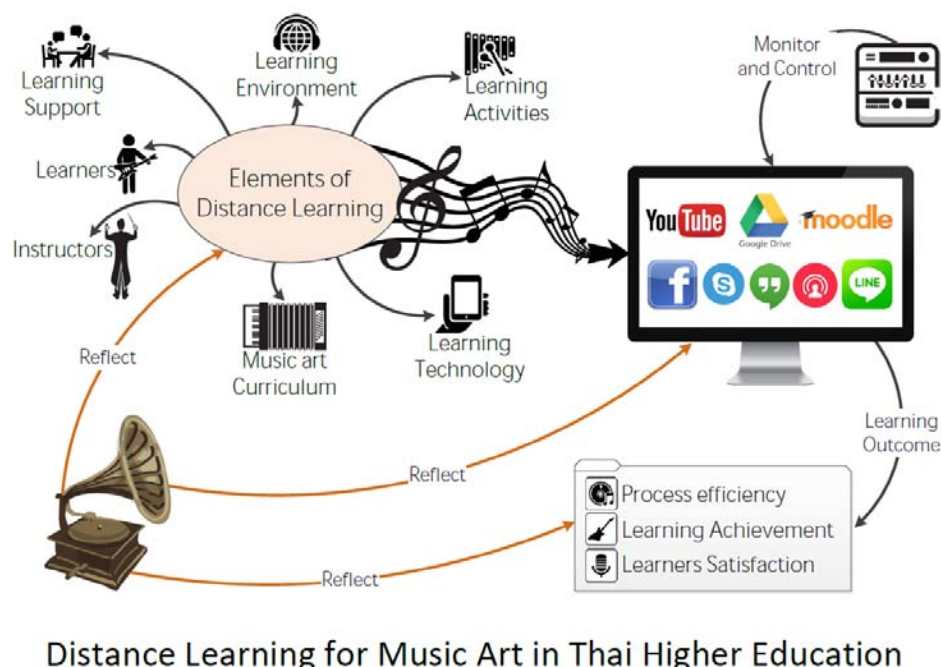
Figure 3. The Components of Distance Learning for Music Arts in Thai Higher Education

Figure 3 has demonstrated the components of distance learning for Music Arts provision in Thai higher education. They are important to help any organization to achieve its goals successfully; furthermore, they are a part of a systems approach, published in various circles as well as an academic ones. A systems approach is the concept utilized to contribute to things being in order to reach desired goals. It depends on the classification to distinguish 7 main components which are the input factors that lead to achievement:1) instructors, 2) learners or students, 3) contributing factors, 4) teaching and learning environments, 5) teaching and learning activities, 6) teaching and learning technologies, and 7) Music Arts Curriculum.

      1) Instructors throughout the internet networks are the main factors that influence success in terms of teaching and learning. The instructors' roles and responsibilities are changing, and they are required to have those characteristics which particularly facilitate distance teaching and learning activities. The instructors need the capability of providing instruction, skills, intelligence, the understanding of materials taught well, and knowing various teaching methods through creating activities to create a relationship with one another, linking the relationship between learners, and decreasing distance limitations.

      2) Learners or students using internet networks are required to have particular characteristics that will result in achieving individual success. Their personal properties are distance learning quality, learning

capabilities, good attitudes, high self-responsibility, high self– discipline, high self– control, studying material in advance, seeking more knowledge all the time, regular interaction with friends and instructors, and adjusting self–learning behaviors. Essential for encouraging self–study, learners are required to have knowledge, skills for utilizing technologies via internet networks, and ability to engage in two-way communication.

      3) Contributing factors for distance teaching and learning via internet networks are crucial because they are facilities which bring about teaching and learning efficiency with regard to human resources, learning sources, related technologies, budgets, and personnel development.

      4) Teaching and learning environments with regard to internet networks are extremely crucial to the effectiveness of distance learning, as well as the arrangement of teaching and learning environments which are classified into 3 aspects: physical, academic, and psychological environments.

      5) Distance learning activities via internet networks refer to two–way communication, not only with regard to content presentation but also in terms of creating interaction between learners and instructors. The instructors determine the scope of distance learning activities via the internet network. Such educational management requires certain activity attributes and surroundings that allow access to the learners' minds, given that the learners and the instructors are distant from one another.

      6) Teaching and learning technologies via internet networks involve unique media features: a transferable feature, a production system, and ease in accessing information. Distance learning technologies are distance learning forms and management. These are modern and show 2 features: main and supplementary media by way of utilizing modern technology tools, based on the evolution of innovation and technology.

      7) The Music Arts Curriculum via internet networks should be appropriate to distance learning and directly useful to the participants. Likewise, learners must be able to explore materials from either general sources or using easily reachable information technologies via internet networks.

Teaching and learning procedures involve distance teaching and learning arrangements, distance teaching, assignments, and distance learning evaluation, all of which are very important for teaching and learning management. These depend on various media and technologies to encourage learners to achieve self – learning (Wannapiroon & Nilsook 2012) which is directly related to the learning management system, communication between learners and instructors, and between learners using knowledge sharing through such social networks as Facebook, LINE, Instagram, Google Hang Out, Youtube, Facebook Live, Google Drive and Cloud (Anupan, Nilsook and Wannapiroon 2015). Music Arts requires students to engage in musical instrument practices, either solo and in an ensemble. Performances can be similarly displayed through live broadcasts on the above-mentioned social networks. Participants are able to evaluate performances in other ways; moreover, a control mechanism or another approach is to be employed in order to controll and monitor procedures to ensure that they are effective, so as to evaluate all aspects of procedures. The results of distance learning have been analyzed and synthesized to find defects, and in order to improve and adjust Music Arts programs to achieve international and national standards (Nilsook and Wannapiroon 2014).

An output is a result which derives from performances. If the result meets a defined goal, it means that the system is effective. However, if the result does not meet such a goal, it means that a system is defective. It is advisable that procedures or input factors, which are the causes of effects, should be improved. Desirable outputs relate to the effectiveness of the teaching and learning processes used, learners' achievement, and learners' satisfaction. All these aspects are evaluated as feedback factors and provide data stemming from analyzing relationships between an output and a goal. This consists of feedback data which can be used to improve processes and input factors, consistent with a particular output and goal. Such a distance learning management approach provides feedback results that will be employed for the subsequent improvement of Music Arts.

CONCLUSION

With regard to the study of the components of distance learning forms via internet networks for Music Arts in higher education in Thailand, the researchers have studied the contexts of teaching and learning management with regard to the Bachelor of Music Arts degree in higher education in Thailand. The sources that were studied included the analysis of documents and related research. Such contents or materials included those relating to teaching and learning management for a Bachelor's degree in higher education in Thailand, the principle and concept of distance teaching and learning management, the principle and concept of researching and developing the forms of delivery, and the contexts of those higher education institutions which deliver the Music Arts program.

The results of the study into the components of distance learning forms via internet networks indicate that there are various distance teaching and learning forms. The researchers synthesized documents and related research into 2 concepts: distance learning – managing concepts, and distance e – learning via internet networks. The development of distance learning forms via internet networks for the Bachelor of Music Arts degree in Thai

higher education possesses 4 elements: 1) instructors, 2) learners or students,3) supporting factors or learning support, 4) teaching and learning environments, 5) teaching and learning activities, 6) teaching and learning technologies, and 7) the Music Arts Curriculum.

Table 1. The dimensions of the components of distance learning forms for the degree of Bachelor of Music Arts in higher education in Thailand

Dimensions of Distance Learning	Description
Instructors	Instructors are the main factors that affect success in teaching.The instructors are required to have knowledge, teaching capabilities, skills, intelligence, understanding of materials taught well, and awareness of various teaching methods.
Learners	Learners are required to have good attitudes, high self- responsibility, high self–discipline, high self– control, the ability to constantly seek for more knowledge, technologies-utilizing skills via internet networks, and the ability to engage in two – way communication.
Learning Support	Learning support factors are facilities which bring about teaching and learning efficiency in terms of human resources, learning sources, related technologies, budgets, and personnel development.
Learning Environments	Learning environments are physical, academic, and psychological.
Learning Activities	Learning activities refer to a two–way communication, not only for material presentation but also for creating interaction between learners and instructors.Such educational management should possess activity attributes and surroundings that allow access to learners' minds, given that the learners and the instructors are distant from one another.
Learning Technologies	Learning technologies develop according to the evolution of innovation and technology. Main and supplementary media are utilized and shown through modern technology tools.
Music Arts Curriculum	The materials should be directly beneficial to learners. They can search for any material from a range of accessible sources through the internet network system.

DISCUSSION

From studying data obtained from analyzing and synthesizing documents and undertaking related research, the researchers identify the issues to be discussed, especially with regard to the factors that influence success in terms of distance learning via internet networks. There are 7 elements as follows:

1. Instructors: such professionals are an important factor that influences distance learning via internet networks. The instructors are those individuals who make teaching and learning systems interact and move. They are like couriers who take messages to the learners. Therefore, instructors are required to obtain knowledge skills, communication skills, and technology transfer skills. Similarly, the instructors must meet the learners' needs, and the learners must be able to understand most of their learning experiences (Babb, 2011) . While teaching, instructors have to obviously communicate to the learners (Penn Stage 2008)

2. Learners: this factor appears in every distance learning step. The learners are required to be knowledgeable in the effective use of modern information technologies. In addition, they are likely to prefer online communication and to have the capabilities to do many things at the same time, such as distance learning as well as a more routine approach. Consequently, distance learners, at present, are the leaders who utilize information technologies to develop their potential. Learners'significant features are personal responsibility and a strong work ethic (Piyapimonsit, Srifa and Nilsook 2010).

3. Learning Support: such support effectively facilitates teaching and learning, the development of personnel resources, learning sources, related technologies, budgets, and personal development. For budgets, adequate availability and coverage are somewhat necessary (Brown 1994).

4. Learning Environments: these are physical, academic, and psychological in nature. Computers and modern information technologies should be sufficient for the application under consideration. Computer laboratories should be available and should be linked with high speed internet networks so as to be able to respond to learners' individual needs in the classroom. The classroom should be soundproofed and private in order to allow learners to concentrate on learning. In addition, the learners' psychological readiness is crucial in that it helps learners concentrate and to focus on distance learning via internet networks by themselves.

5. Learning Activities: this involves a two–way communication process to present materials and create an interaction between learners and instructors. Activity forms and atmosphere arrangements must be set in such a way as to access learners' minds, because learners and instructors are distant. Lin and Kelsey (2009) stated that learning together might be a technique to enrich the interaction between learners and instructors,

enhance learning efficiency, and improve learners' understanding. Likewise, learners have to be patient when it comes to learning more.

6. Learning Technologies: tools for learning management and several online social networks can be employed and supported to stimulate learners to engage in learning processes together, such as webboard, chat, and online social networks. In addition, interactive multimedia are the most efficient media for reflecting on learners' needs because they are able to convey learning by presenting several information sources, promoting learning experiences, and creating exciting interaction (Wands & Blanc 2001).

7. Music Arts Curriculum: this is a crucial factor because materials include theories and instrumental practice. Theories should be materials that encourage learners' analysis, and which can act as to be an approach to the development of instrumental practice skills for their professional development. The Music Arts curriculum has to arrange appropriate activities within a limited time scale in any semester, and encourage learners to apply learning technologies that will be directly useful to the learners' way of life. Learners are able to explore materials from a number of knowledge sources via accessible internet networks. The curricula can meet communities' needs and those of a country as well. Designing and choosing quality should be suitable for online learning (EAQA 2005; Kocur & Kosc 2009; Masrom et al. 2008; Mosakhani & Jamporazmey 2010; Selim 2005, 2007), enhance interest, and stimulate learners' interaction (Penn State 2008).

SUGGESTIONS

Instructors and learners' behaviors in real situations in terms of what humans do before and after mainly should be studied, while distance learning via internet networks for a Bachelor of Music Arts degree in higher education in Thailand is being operated, to be existent to facts. Modern technologies should be studied to determine a more expansive view, and should be employed to develop distance learning forms or courses via internet networks to ensure that the Bachelor of Music Arts degree is efficient and effective in the future.

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MAJOR DROPOUTS REASONS OF STUDENTS IN E- LEARNING INSTITUTIONS OF PAKISTAN

Darakhshan Muslim
Department of Education, Virtual University of Pakistan, Lahore

Syed Muhammad Muslim Raza
Department of Mathematics and Statistics, Virtual University of Pakistan, Lahore.

Syeda Aneeqa Touseef
Department of Management Sciences, Virtual University of Pakistan, Lahore.
Corresponding author Email: razamuslim4@gmail.com

ABSTRACT
The E learning institutions are providing most effective way of education with many Socio-Economic benefits. In developing countries of Asia, people have limited financial resources whereas major portion of population is living in backward rural areas. Due to limited resources, the only solution is E learning (EL). Pakistan is also facing many problems for promotion of education in backward rural areas; therefore, Higher Education Commission of Pakistan has provided funds to different universities for starting EL (e.g. UMT, Gomal University etc.). The EL study system has its own challenges. One of the biggest challenges is how to retain students and to minimize the dropouts. There are many factors that are playing a vital role in dropout of students in EL institutions. The purpose of this paper is to highlight major factors/reasons behind the student dropouts in Pakistan, their trend in upcoming years and how to minimize/control these factors. The study also includes the analysis of dropout students in a leading EL university of Pakistan.
Keyword: Higher Education Commission, Trend, Factors.

INTRODUCTION
E learning (EL) and distance learning is quickly gaining ground around the world (Glickman, 2002; Shop.org, 2001). In many developing countries, E learning is considered as a method to train qualified workers in their own socio cultural contexts but still EL programs have a number of drawbacks such as high dropout rates and lack of individualized supervision (Bernard & Amundsen, 1989 ; Blay, 1994 ; Bourdages & Delmotte, 2001 ; Brindley, 1987 ; Fredda, 2000 ; Garrison, 1985, 1987 ; Morgan & Tam, 1999 ; Powell, Conway & Ross, 1990 ; Scalese, 2001 ; Visser, 1998). There are many challenges that developing countries face, starting with access to adequate technologies so that students can enroll in the programs (Oladele, 2001; Intsiful, Okyere & Osae, 2003; Selinger, 2001; Tunca, 2002; Bakhoum, 2002). In such circumstances, the question arises as to whether EL is really an effective way of education for developing countries. The purpose of our study is to highlight the major factors/ reasons behind the dropouts of the students in the EL instituuions and their trends in the future. We have based our findings based on the case study of a leading EL institute of Pakistan.

METHOD
We apply a mixed-method approach, including:
 (1) An online questionnaire targeting students who had left EL program
 (2) Online data base information of dropout students.
 We performed analyses using SPSS 19 and MS Excel 2010 of the data. The results obtained are discussed in the next section.

RESULTS AND DISCUSSION
The analysis of the data obtained from different sources is given below:
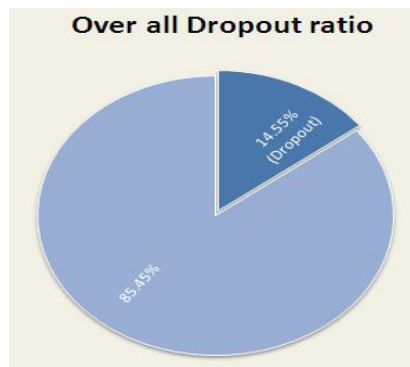
The figure 1 shows the overall dropout ratio is 14.55% .
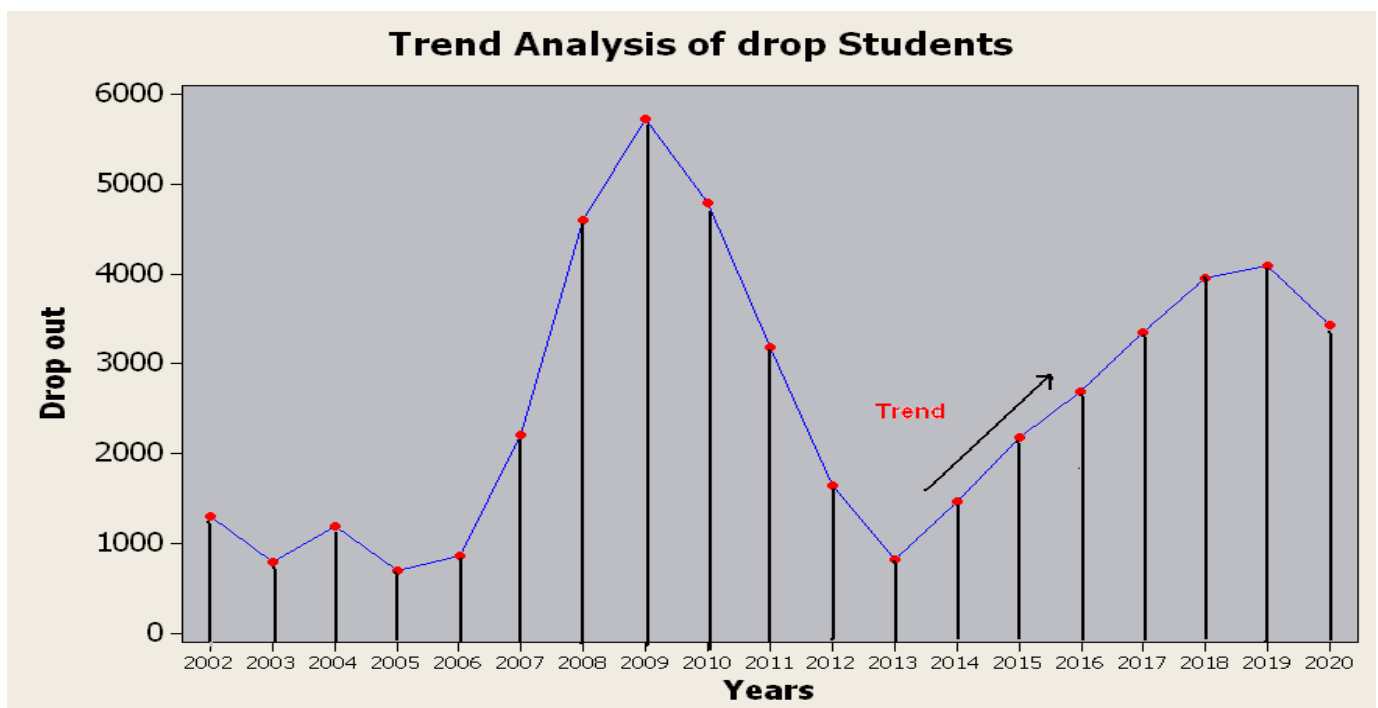
Reasons Why Students Left EL
- Majority of Students Leave EL due to Domestic and Personal Problems
- Lots of Students Leave EL due to Financial Problems
- Some Students Leave EL due to Job Restriction
- Many Students Leave EL due to Time Problems
- Some Students Leave EL due to not Satisfied with EL System
- Thousands of Students are inactive due to different reason
- Lots of students are freeze their semesters
- Lots of Faculty members not take interest in Students queries
- Study material and video lectures are not updated
- Very Poor performance of EL Own Campuses
- Some Students Leave EL due to Different Reasons.
- Some Students did not mention any reason
- Due to Illness
- Leave Pakistan etc.

Major Dropout Reasons
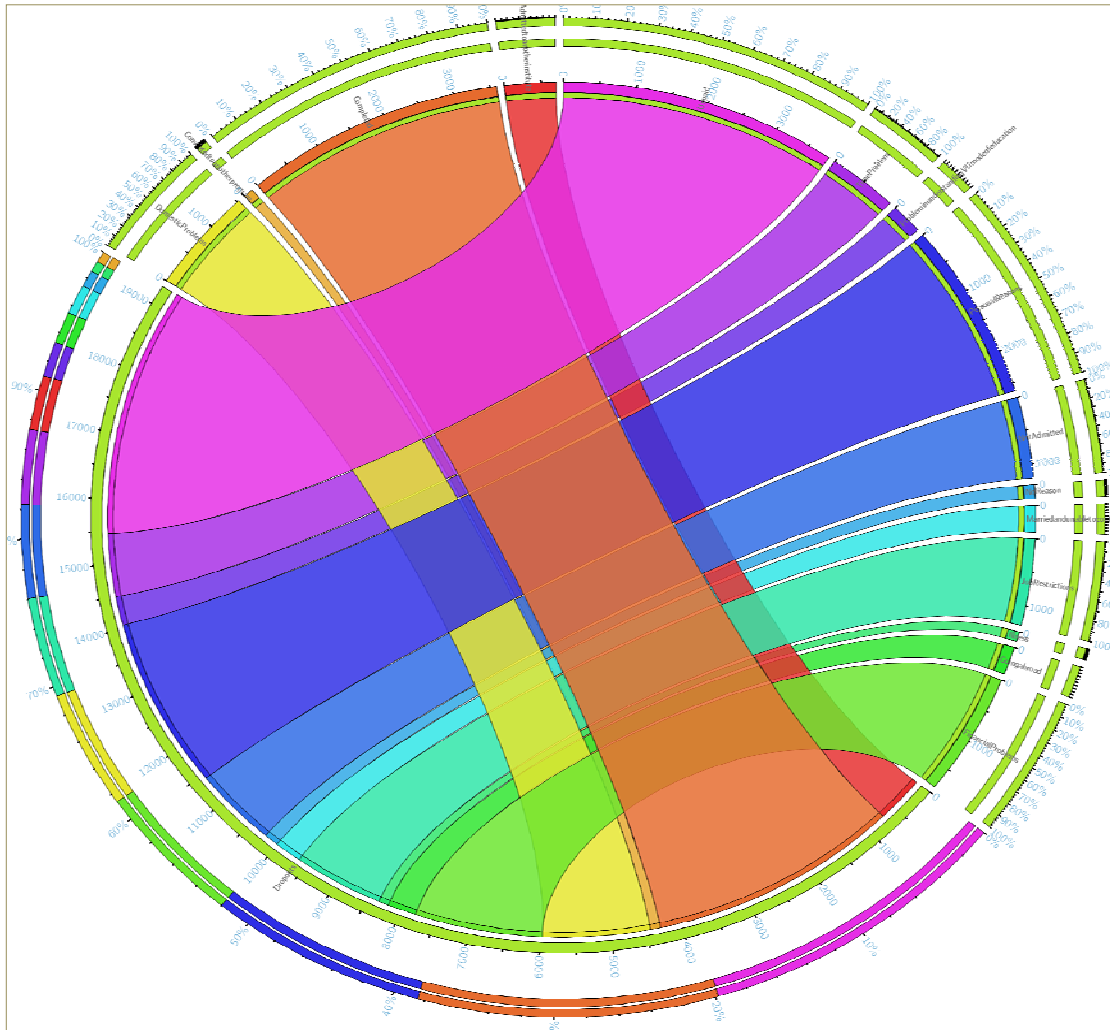
Figure 3

The figure 3 shows the Circos chart in which the width of the ribbon shows the number of dropout reasons where as the most common reason is unpaid dues.
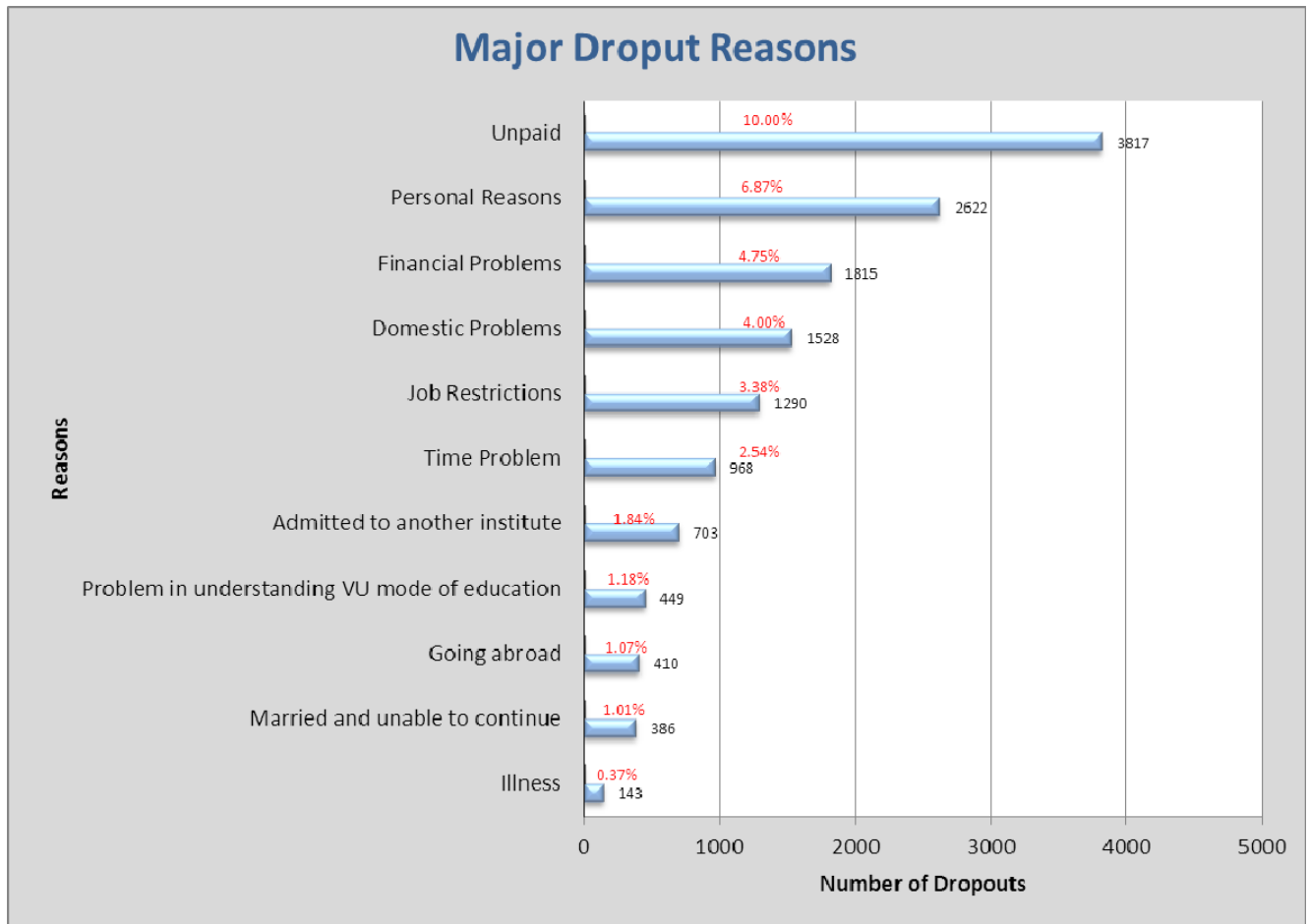
Figure 4
Figure 3 and 4 shows top major reasons for dropouts at EL.

Top 10 Reasons of Dropouts are:
1) Unpaid dues
The highest dropout reason is the unpaid fee. Unpaid fee means student was unable to pay their required dues on the due dates. This continuous unpaid status ultimately put them in the drop out list. The actual reason behind this is not disclosed properly.

2) Personal Problem
Almost seven percent of drop outs quoted that it was their some personal reason due to which they cannot pursue their studies. These personal reasons are undisclosed. Generally, we observe that when students do not want to show their *actual* reason or confused about things or have poor communication then they tend to choose mixed options. The "personal reason" is the safer one.

3) Financial problems
Affordability is an important reason to pursue or drop the higher studies. Students initiate the admission for 2 or 4 year program on some assumption. But due the inflation, poor budgeting, or other pressing finical obligation, they find it difficult to bear the burden of their studies.

4) Domestic Problems
Domestic problem is another good reason for leaving the studies. It includes the hurdle of distance between home and institute, unavailability or poor connectivity of internet at home, no family support, family illness or crisis or parents' migration to another city.

5) Job restriction
One of the flexibility of online and distance education is that students can continue their studies during job. But it is also observed that many institutes do not encourage their employees for further studies. Even many students

cannot open their online video lectures, handouts and EL emails in the offices. Such restriction leads to frustration and quitting the study.

6) Time problem
Students who take admission face problems to manage time for studies. Every activity in life need some time and focus. Poor time management, no clear prioritization of activities and many other compelling routines and life challenging leave any time for their education. So, they postponed (dropout) studies with the hope that when circumstances will be better, they will do it again.

7) Admitted to another institute
Students may get admissions in multiple institutes and due to the burden of multiple tasks cannot their studies properly. Resultantly, they have to leave their studies.

8) Problem in adopting the online mode of education
There is always an ongoing debate on the comparison of online and traditional mode education. The main point to be noted is that online education should not be treated as the *replacement* of traditional education, rather it is an alternative way of education and both systems of education have their own strengths and limitations. The voices from the traditional arena is raised that students face problem in distance learning education but the facts tell us that the students who leave EL just due to its mode of education are less in number. This shows that very large majority have no issues in the adoption of this mode of education.

9) Going abroad
Few students and/or their families move to abroad for personal or professional reasons and these students find it difficult to carry on studies. Although the online education is free from borders and we have a number of students who moved abroad and still continued education from the foreign country.

10) Got married and unable to continue
Marriage is an important life event which brings many happiness in life but it may cause a study break for few students, especially females tend to discontinue their studies due to in-laws' restrictions, moving to new city or other family obligations.

CONCLUSION AND SUGGESTIONS
This paper highlights the major dropout reasons in an E-Learning institution of Pakistan. The same types of problems are being faced by other EL institutes. By conduction same type of studies we can elaborate the major reasons of student dropouts and overcome these reasons.

Some suggestion for the major dropout reasons are given below:
An "early alert" program: If a distance learning student hasn't been responding the first few weeks of the course the instructor can pass on the student's name to the computerized system. The student then get e-mail in which we can try to find out the reasons for inactivity and offer him helping solutions. Just like in the recent elections, recorded voice VOIP messages can also be send to students to engage and help them.
Not enough money: The financial burden on students to seek higher education is only growing. Many will drop out because they can't simultaneously manage payments, working, and trying to perform in EL.
- Scholarship to those who gained excellent marks in
- Give semester wise fee concession to those who top the previous semester
- Kinship base fee reduction

Peer tutoring: In conventional education system, the students always get valuable help from senior students. Students who did well in a course in the previous semester can be engage by an instructor to be a peer tutor in the course. The peer tutors help juniors with specific assignments, answering frequently asked questions, and take care of basic student needs in order to free up the instructor's time.

A student success course: A success course can be introduced by focusing on various aspects of online education, "teaching learning skills", "time management skills", and "life skills".

Students need to feel integrated into the program and the institution. A sense of belonging as a student, whether traditional or distance learner, has been shown to be an important aspect in retention, and responsiveness to student's needs is a large determinant in a student feeling like they are part of a course. Intuitively we can assume that if students are not engaged and do not perceive themselves as an integral part of their environment they will likely choose to leave that environment and seek one where their needs are met.

Online Support 24/7: In traditional education it would not sufficient to have a computer technical support desk that is only open during normal university hours. Most online students are working during non-traditional times and may need support in the evenings or on weekends. With that said, there sources (in this case staffing) must be made available to meet the unique needs of distance learners.

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THE ATTITUDES AND EXPERIENCES OF FOREIGN LANGUAGE TEACHERS ENGAGED IN DISTANCE STUDY PROGRAMS IN SERBIA

Marina Djukic Mirzayantz
German teacher, Singidunum University, Belgrade, Serbia
djukicmarina@hotmail.com

ABSTRACT
The introduction of distance learning study programs represents an innovation in a country's educational policy. In Serbia, distance education is still in its infancy. Although some higher education institutions have recognised its importance, few of them have included foreign languages in their distance study programs. This paper attempts to reply to the following questions: 1) Are foreign language teachers in Serbia technically and methodically trained for distance language teaching? 2) Are they satisfied with the achievements of their students who learn foreign language at a distance? 3) Do they support the introduction of new measures, and if so, which ones, in the aim of improving distance language learning? The conclusion drawn is that foreign language teachers in Serbia do not have sufficient knowledge and skills for the successful implementation of distance language study programs. Faculties in Serbia whose distance studies programs include foreign languages have a great responsibility in terms of the organisation of appropriate training for foreign language teachers. On the basis of the presented position, directions for improvements to current practice are proposed.

INTRODUCTION
There is wide agreement among practitioners in the field of distance language teaching that there are differences between teaching in a traditional classroom and at a distance, and that there is a need for new teaching approaches and teaching skills (Sun, 2011, pp. 428). Foreign language (L2) teachers who teach in distance learning environments for the first time face unfamiliar tasks and responsibilities. According to White (2003, pp. 68), there are three broad areas that are unfamiliar to them: (1) new forms of communication and interaction in distance environments, (2) the need for new kinds of awareness and skills, and (3) the scale of processes in distance language learning. In an attempt to provide a pedagogical framework for distance language teaching skills, Compton (2009, pp. 82, Figure 2) indentifies three major skills areas: (1) technology in distance language teaching, (2) the pedagogy of distance language teaching, and (3) the evaluation of distance language teaching. Each of these areas is further broken down into three levels of expertise: novice, proficient and expert. Pedagogically, Compton asserts that a novice instructor must learn and possess knowledge of: (1) strategies for distance community building and socialising, (2) strategies to facilitate communicative competence and online interaction, (3) language learning theories for distance language learning, (4) curriculum design frameworks for distance language learning, and (5) strategies for distance language assessment. Bearing this in mind, training is an important aspect of learning how to teach distance language courses.

Even though it is enabled by the Law on Higher Education (*Zakon o visokom obrazovanju Republike Srbije*, 2012), a small number of faculties in Serbia implement distance study programs, and only some of them offer a foreign language. Evidence of teacher preparation for distance language teaching is difficult to find in the Serbian literature. This study, therefore, helps address this gap by exploring how L2 teachers in Serbia engaged in distance degree programs actually teach in this field and what their attitudes and experiences are. The research will offer answers to the following questions:
    (1) Are L2 teachers technically and methodically trained for work in the virtual environment?
    (2) Are they satisfied with the achievements of their distance language students?
    (3) Are they in favour of the introduction of new measures, and if so, which ones, in the aim of improving L2 distance teaching?

METHODS AND PROCEDURE
A survey of L2 university teachers engaged in distance study programs was carried out between June and December 2014. The research encompassed faculties from the University of Belgrade (the Faculty of Organisational Sciences), Singidunum University (the Faculty of Tourism and Hospitality Management, the Faculty of Business, and the Faculty of Informatics and Computing) and the Metropolitan University (the Faculty of Information Technology), whose distance studies programs are accredited by the Commission for Accreditation and Quality Assurance (*Vodič* 2014). A questionnaire was sent to these faculties via e-mail and 21 teachers responded. Hence, those teachers who showed an interest participated in this research (Table 1). The sample can be considered sufficiently representative considering the small number of L2 teachers engaged in distance study programs.

Table 1: The distribution of L2 teachers in different universities engaged in distance teaching

Which L2 do you teach?	Belgrade University		Singidunum University		Metropolitan University		TOTAL	
	N	%	N	%	N	%	N	%
English	1	4.75	6	28.7	2	9.5	9	42.9
Italian	0	0	4	19	0	0	4	19
French	1	4.75	2	9.5	0	0	3	14.3
Spanish	0	0	3	14.3	0	0	3	14.3
German	0	0	2	9.5	0	0	2	9.5
TOTAL	2	9.5	17	81	2	9.5	21	100

The data were gathered by means of a questionnaire which the author designed for the purposes of this research. The questionnaire consists of 16 questions divided into three parts: (1) questions which encompass basic information about the teachers as well as the training method for L2 distance teaching; (2) questions referring to the teachers' attitudes to certain aspects of L2 distance teaching; (3) questions related to proposals for the improvement of L2 distance teaching.

DATA ANALYSIS AND DISCUSSION

As presented in Table 1, the majority of the respondents are teachers of English (42.9%), followed by much smaller numbers of teachers of Italian (19%), French (14.3%), Spanish (14.3%) and German (9.5%). This data is not surprising considering the fact that following the adoption of the decision to introduce foreign languages as a subject, the majority of faculties in Serbia opted for English only, considering that as sufficient (Ignjačević, 2014). Singidunum University pays great attention to learning not only English, but also other foreign languages. They have the status of compulsory elective subjects, which means that the students of all three of the aforementioned faculties, regardless of whether they enrol in traditional or distance studies, in addition to the compulsory subject of English, also have to learn one more foreign language and they can choose between German, French, Italian or Spanish. That is the reason why the teachers from Singidunum University are the most represented in the research (81%).

The research showed that for their work in the virtual environment the majority of the teachers (90.5%) use the Moodle platform, while the remaining 9.5% use the Oracle platform (Table 2). This information confirms the fact that the majority of faculties in Serbia implement Moodle for distance study programs (Radić-Bojanić, 2012).

All of the respondents confirmed that they had been trained in the technical competences required for the use of the aforementioned platforms and that the institutions they work in had provided them with such training.

As regards methodical-didactical competences (Table 3), 57% of the teachers have been trained in the domain of computer-assisted language learning (CALL). This fact shows that more than half of the respondents are aware that the use of computers in our modern teaching practice is becoming increasingly present, as well as that teaching foreign languages in the virtual environment demands specific pedagogical and methodological knowledge and skills. It can also be seen from their answers that the teachers have gained additional knowledge and training through professional development seminars organised by cultural centres/institutes, professional conferences, scholarships (*Eteacher scholarship US Department of State*), and the biggest number cited the use of the professional literature (Table 4).

Table 2: The most used platforms

Which platform do you use?	Teachers	
	N	%
Moodle	19	90.5
Oracle	2	9.5
TOTAL	21	100

Table 3: The teachers' professional training in the CALL domain

Have you had professional training in CALL?	Teachers	
	N	%
Yes	12	57
No	9	43
TOTAL	21	100

Table 4: Types of professional training

How have you improved your knowledge in this field? The teachers' free answers	Teachers	
	N	%
Professional literature	7	58.3
Seminars organised by foreign cultural centres	6	50
Conferences	3	25
Seminars organised by the Institute for the Improvement of Education in Serbia	1	8.3
Scholarships	1	8.3

It is interesting that none of the respondents have undergone training in distance language teaching methodology, because such training was not provided. This shows that those faculties which implement distance study programs in Serbia neglect the importance of training L2 teachers in distance teaching methodology, guided by the logic that mastering the technical tools is sufficient. For the genuine improvement of distance L2 teaching, higher education institutions in Serbia need to organise professional seminars which will provide L2 teachers with the required knowledge and skills from this field of CALL.

The fact that 43% of the teachers (Table 3) have not undergone professional training in the CALL field could be interpreted with the assumption that this group of teachers were not interested in the implementation of computers in L2 teaching, i.e. by force of circumstances, they were assigned distance courses. It is also possible that such teachers have the desire to expand their knowledge, but are prevented from doing so because of their financial situation.

All of the teachers have participated in the creation of teaching materials for their subjects, and have done so mainly by using Word, PDF, PowerPoint and programs for designing e-tests (Figure 1). Just over half of the sample have used tools for designing dictionaries, and only one third have implemented forums and audio programs for recording and editing (for instance, Audacity). Very few teachers (14.3%) have also used wiki, and only one teacher has used a chat room or other similar tools (Skype), while blogs were completely neglected.

It is difficult to identify the reasons why some tools are used less than others. It may be assumed that the teachers are either not informed about their possibilities (43% did not have any kind of training) or have failed to implement the teaching techniques, ideas and activities which they learned at professional development seminars, or have not implemented them for objective (overburdening with teaching obligations in traditional studies and extracurricular activities, large numbers of students, lack of technical equipment, the non-applicability of seminars in practice) or subjective reasons (personal insecurity, resistance towards new technologies, discontent with their salaries).

Figure 1: The use of tools for the creation of teaching materials
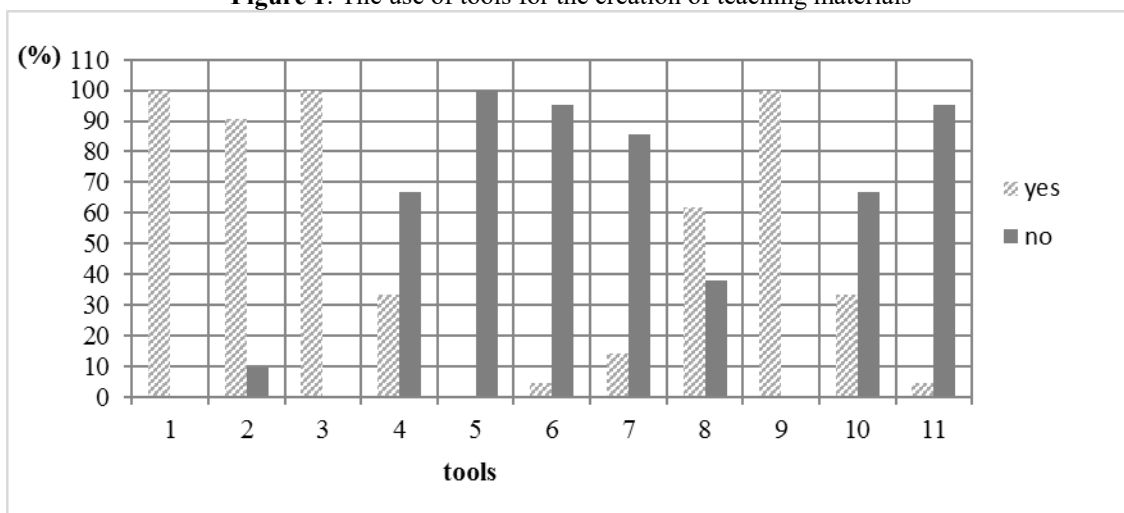
Note:
1. Word
2. PDF
3. PowerPoint
4. Forum
5. Blog
6. Chat room
7. Wiki
8. Tools for designing dictionaries
9. Programs for designing e-tests
10. Audio programs for recording and editing
11. Other tools

As regards language skills and linguistic competences, all of the teachers agreed that the online teaching material on the platform enables them to develop vocabulary, grammar and reading comprehension skills, and more than half claim that such material also facilitates the development of listening skills (Figure 2). The majority of the teachers (71.5%) believe that pronunciation and speaking skills cannot be developed on the platform. These views may be linked to the teachers' responses to the previous question. Namely, only one teacher uses Skype and chat rooms (the tools needed for the achievement of synchronous oral and written communication), and one third use audio programs for recording and editing (the tools needed for the creation of pronunciation exercises or audio presentations). It seems that the teachers mostly use the content plus support model for distance language teaching. In this model, the course package is mostly print-based, with some audio and video material, and may be accessible either in hard-copy or on the web (White, 2003, pp 219). Occasional correspondence and online interaction are used as supplements to the textbook content.

Figure 2: The teachers' agreement on the possibility of the development of language skills and linguistic competences on the platform
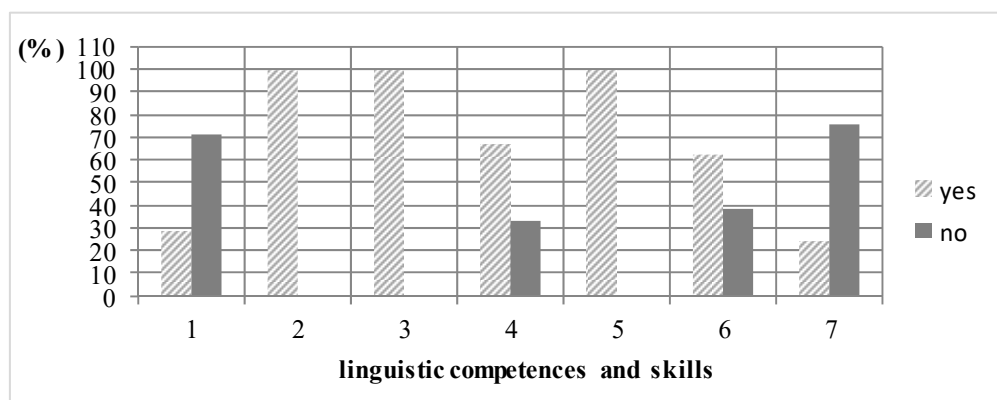
Note:
1. Pronunciation
2. Vocabulary
3. Grammar
4. Listening
5. Reading
6. Writing
7. Speaking

Numerous empirical studies (Grgurović, Chapelle & Shelley, 2013; Levy & Stockwell, 2006) have shown that all language skills and fields can be developed through the use of computers. However, Levy and Stockwell (2006, pp. 190) warn that we should not be misled by claims that the implementation of some technologies (for instance Skype) will automatically lead to the desired results (e.g. the development of oral communication). Only carefully prepared materials (generated as the fruit of long experience) and knowledge of the advantages and limitations of the use of certain technologies can make distance L2 learning meaningful (Goertler & Winke, 2008, pp. 243). For that reason it is recommended that institutions for the compilation and testing of language teaching materials on platform engage experts (trained in the development of digital teaching content), because for many L2 teachers, who with very little or no experience take on distance teaching, the new roles which the virtual environment inevitably entail could present a source of frustration and discontent (Sánchez-Serrano, 2008, pp. 160).

Most of the teachers (81%) expressed satisfaction with the teaching content on the platform, 14.4% expressed total satisfaction and 66.6% were mostly satisfied (Table 5). The answer "yes and no" (19%) could be interpreted as referring to a group of teachers who do not have a clear position regarding this issue.

Table 5: The level of the teachers' satisfaction with the teaching content on the platform

Level of satisfaction Are you satisfied?	Teachers	
	N	%
Not at all	0	0
Mostly not	0	0
Yes and no	4	19
Mostly yes	14	66.6
Fully	3	14.4
TOTAL	21	100

Although we could say that the results are favourable, the teachers' satisfaction should be taken with a certain degree of caution. The teachers might have given protective answers. It is known that the researched faculties have only relatively recently introduced distance learning programs, and the teachers thus lack experience in designing online teaching content. Because of the absence of adequate training in distance language teaching methodology, the teachers probably did not recognise the problems which may arise in this type of teaching, and therefore could not be self-critical. Although distance education is both contemporary and significant, it is still an innovation in the Serbian education system, and there are almost no glottodidactic empirical research studies in this field in Serbia.

All the teachers believe that L2 distance teaching should be improved through the introduction of new measures. In their answers to the question concerning which measures should be proposed (Figure 3), almost all of them (90.5%) emphasised that professional development training organised through seminars at their faculties would be of particular importance for the quality of L2 distance teaching. Apart from that, 81% of the teachers believe that for successful L2 distance teaching it is important that part of the teaching is carried out in a traditional way, i.e. in the classroom. Also, two thirds of the teachers (66.5%) agree that in order to achieve higher quality teaching, more teachers should be engaged in designing the teaching materials on the platform and more frequent consultations with students should be organised. More than half of the teachers (57%) think that students who lack discipline in keeping up with the teaching content on the platform and the fulfilment of their obligations should be penalized. 52.3% of them would like better cooperation with those colleagues who provide technical support. Almost one third (28.5%) propose more frequent testing of students, the engagement of more e-teachers within one subject and the establishment of smaller student groups within the platform. 19% of the teacher support a change of the platform and a reduced curriculum. Only 9.5% proposed other measures, which were the introduction of audio and video conferences and some form of supervision, i.e. a professional team which would encourage, criticise and direct the teachers' work.

Figure 3: Measures proposed for the improvement of L2 distance teaching
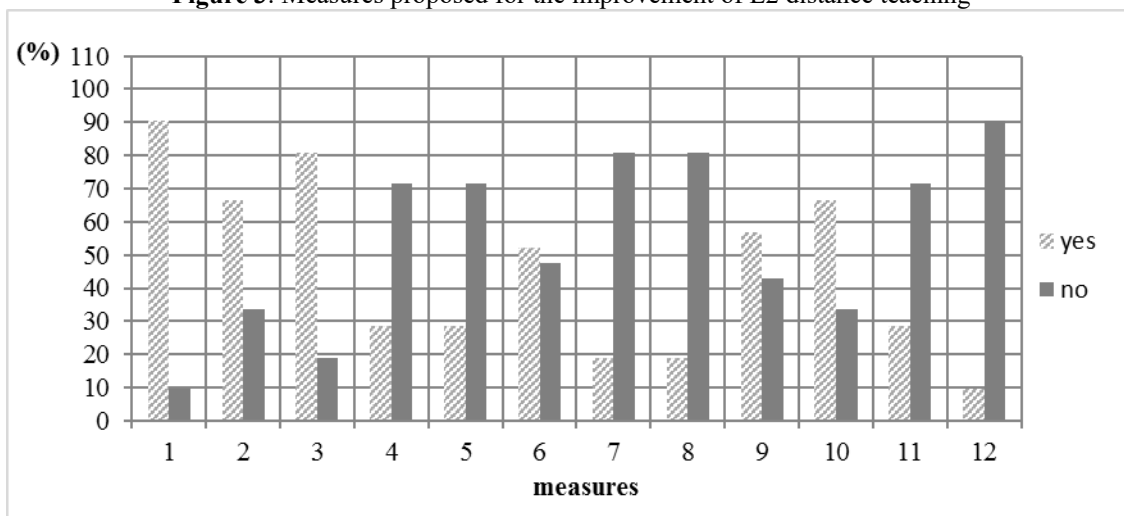
Note:
1. The organisation of professional development seminars/workshops in the institution where I work
2. Organising more frequent consultations with students
3. Combining traditional and virtual teaching concepts
4. More frequent testing of students
5. The establishment of smaller student groups
6. Better cooperation between teachers and technical support staff
7. Change the platform
8. A reduced curriculum
9. Penalizing students
10. The engagement of more teachers in the development of the teaching materials on the platform
11. The engagement of more e-teachers for one subject
12. Other measures

In response to the question as to whether work with students in the virtual environment motivates them, 43% of the teachers answered affirmatively and 57% negatively (Table 6). Both groups were tasked with selecting the motivational and de-motivational factors in the table, and with highlighting the most important factor.

Table 6: Teachers' motivation to work in the virtual environment

Does working in the virtual environment motivate you?	Teachers	
	N	%
Yes	9	43
No	12	57
TOTAL	21	100

Out of a total of 43% of motivated teachers, the majority (88.8%) like to experiment with new technologies (Figure 4). 77.7% of the teachers selected the following four factors: working with new technologies encourages personal creativity, enables the creation of interesting practice exercises of a traditional type, encourages students to work independently and provides detailed feedback information. Receiving positive comments from students motivates two thirds of the teachers (66.6%), and the possibility to create tasks which cannot be implemented in traditional teaching motivates every other teacher (55.5%). Praise from faculty management and their colleagues is significant for four teachers (44.4%) and additional payment for only one teacher (11.1%).

Figure 4: Motivational factors in working with students in the virtual environment
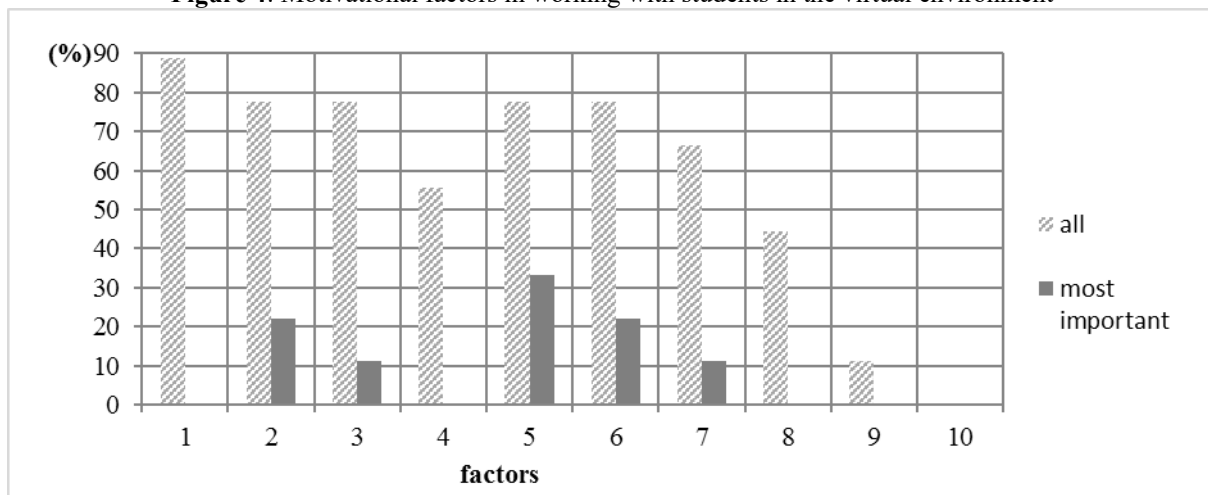
Note:
1. I like to experiment with new technologies
2. I can create more interesting practice exercises
3. I can create activities which encourage students to work independently
4. I can create tasks which I cannot implement in traditional teaching
5. Work with new technologies promotes my own creativity
6. I can provide detailed feedback information
7. I get positive comments from students
8. I am praised by the faculty management
9. I get additional payment for my work
10. Other factors

Most of the teachers (33.4%) appraised work with new technologies as the most significant factor because their implementation allows them to express their personal creativity in designing teaching content. The creation of interesting practice exercises and the possibility of providing each student with detailed feedback share second place (22.2% of the teachers selected those factors), while the creation of activities which encourage students to work independently and positive feedback from students rank third (11.1%). Some teachers justified their answers with the following comments:

"The use of new technologies encourages creativity and innovation not only in distance teaching, but in teaching in general."

"New technologies are changing and improving from day to day. This gives teachers access to new, modern material. The development of new technologies increases the possibilities for teachers to develop and improve and make their teaching more contemporary."

"It motivates students and provides teachers with detailed insight into their students' knowledge."

"With regular communication with students I can respond to their questions and dilemmas in detail, as well as carefully check and mark each task."

Out of a total of 57% non motivated teachers, the majority of them (75%) believe that in the virtual environment students develop only some language skills and that there is an imbalance between the effort invested in designing the teaching content and the results (Figure 5).

Figure 5: De-motivating factors in working with students in the virtual environment
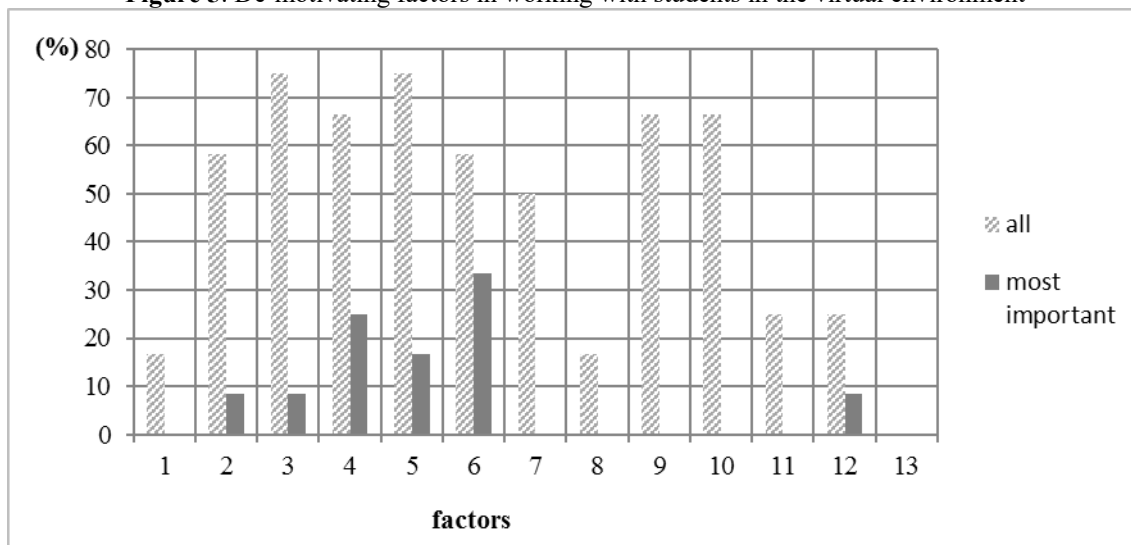
Note:
1. I feel insecure when working with new technologies
2. The creation of online content takes up too much time
3. There is an imbalance between the effort invested and the results
4. I achieve better results from traditional teaching
5. The students develop only some language skills
6. I cannot establish direct contact with my students
7. I cannot provide detailed feedback
8. I get negative comments from students
9. The students' lack of discipline
10. I feel overburdened with teaching and extra-curricular obligations
11. I am not praised by the faculty management
12. I don't receive additional payment for this work
13. Other factors

The questionnaire shows that two thirds of the teachers (66.6%) are not motivated because they believe that they achieve better effects through traditional teaching, are overburdened with teaching and other work obligations at their faculties and because the students are not disciplined in keeping up with the teaching content on the platform and the fulfilment of their obligations. The fact that the creation of online content takes up too much time as well as the difficulty of establishing direct contact with their students had a negative influence on 58.3% of these teachers. Half of them pointed out the impossibility of providing their students with detailed feedback, and 25% the lack of praise from faculty management and their colleagues, as well as the lack of additional payment. A feeling of insecurity when working with new technologies and receiving negative comments from students were aggravating factors for two teachers (16.6%).

The most important de-motivating factors were estimated in the following way: the impossibility of establishing direct contacts with students (33.4%), the impression that better effects are achieved through traditional teaching (25%), and the view that only some language skills can be developed in the virtual environment (16.7%). Each of the following factors was marked as the most significant by one teacher (8.3%): the creation of online content takes up too much time; the imbalance between the effort invested in the creation of teaching materials and the results; the lack of additional payment. The teachers justified their answers with comments:
 "Since the teachers' motivation in the classroom is primarily the feedback from students, I believe that greater and more frequent communication with students is essential. Such communication would make it much easier to learn those language skills which it is not possible to improve on the online platform."
"The platform, e-mail and new technologies serve as help, but I believe that without contact and other methods they do not achieve significant results."
"It would be desirable for teachers to be engaged in distance studies only, i.e. for the scope of their other engagements to be reduced, so that they can give their students more quality time, which would, by combining distance teaching and traditional approaches (the verbal aspect of learning), enable students to best master the curriculum."

"Since I didn't have any training, I invested a great deal of time at home and spent too much time preparing materials, and therefore I believe that any additional work should be paid."

"Creating a document, transferring it to the appropriate format, placing it in the database, then on the platform, is a process which lasts longer than the preparation of certain units. The living word, feedback and the spontaneous development of speech are all very important in language teaching. It is through students' reactions that you find out how interesting the class is for them, as well as the subject matter."

"All my distance students come to classes, when they already have that possibility; sometimes the data from the platform just disappears."

The teachers' answers coincide with the claims presented by Sánchez-Serrano (2008, pp. 160), that L2 distance teaching involves a great deal of invested time, which is mostly spent on designing and evaluating activities, synchronic verbal and written communication and administrating online courses (because of the constant communication between teachers and each student separately). In addition to the aforementioned, L2 distance teaching faces one more serious problem. Namely, a teacher's love for his subject and the enthusiasm which is reflected in his face or his movements and explanations is not so easily recognisable in the virtual environment (Levy & Stockwell, 2006, pp. 203). Consequently, 81% of the teachers advocate blended or hybrid learning, which would best overcome the aforementioned weaknesses.

In response to the question as to whether distance students know more or less then students who study in a traditional way, 62% of the teachers replied that they know less, 38% that there is no difference, and no teacher said that they know more (Table 7). The teachers probably reached their conclusions by comparing their students' grades in tests.

Table 7: Teachers' estimations of the knowledge of distance students compared with students enrolled in traditional studies

Do your distance learning students know more or less than students following traditional studies?	Teachers	
	N	%
Less	13	62
More	0	0
There's no difference	8	38
TOTAL	21	100

Spanish teachers who follow the same program in virtual and traditional studies (Sánchez-Serrano, 2008, pp. 158) have a completely different impression. They all agreed that there is no difference in the knowledge of distance learning students and those who study in a traditional way. How much students will learn depends primarily on their willing to learn. The author's dissertation, which considers two distance elementary German courses, the first to be offered at Singidunum University in Serbia, gave a more exact answer to this question (Đukić Mirzayantz, 2016). The purpose of the study was to determine whether there were significant differences in the achievements of the students in the distance courses (the experimental group) and those in the traditional courses (the control group). The conclusion is that a statistically significant difference was shown only for testing listening comprehension, where the students attending traditional courses achieved better results. For all the other subtests (reading comprehension, writing and speaking skills), both groups were statistically equal.

Table 8 shows that 38.1% of the teachers are mainly satisfied with the achievements of their distance learning students, 14.3% are mainly dissatisfied, and 47.6% are indecisive.

Table 8: Level of satisfaction with distance students' achievements

Level of satisfaction Are you satisfied?	Teachers	
	N	%
Not at all	0	0
Mostly not	3	14.3
Yes and no	10	47.6
Mostly yes	8	38.1
Fully	0	0
TOTAL	21	100

The data that almost half of the interviewees do not have a clearly defined position regarding the presented claim can be explained by the assumption that the teachers are satisfied with their students' achievements if we take into consideration the context of distance studies, which in their case excludes or significantly reduces any chances of interaction. However, their grades in exams probably failed to meet the teachers' expectations. This is why it is important to encourage L2 teachers, who are included in distance studies, to carry out research in which they would study the achievements of their distance learning students, the level of their satisfaction with the course, their motivation, the time invested in learning, organisational factors as well as numerous other factors which influence students' achievements because, as Goertler and Winke stated (2008, pp. 254): „By knowing the success and failures of others who have already embarked on developing hybrid or distance learning courses, others can follow in their footsteps but avoid making some of the same mistakes".

CONCLUSION

In this paper we investigated L2 teachers' attitudes and experiences with their distance language courses at faculties in Serbia and pointed out some potential improvements to the field. The data show that the surveyed L2 teachers entered the distance language teaching field without enough information. The training provided by the faculties to the participants was only technological, that is, related to how to use the tools on the platform. This could be the reason why more than half of the participants are not motivated for work in a distance setting. The most de-motivating issue for this group of teachers is that they are unable to develop all language skills on the platform and there is an imbalance between the effort invested in designing online teaching contents and their effects. The majority of the motivated teachers see advantages in the implementation of the platform in: the possibility to create more interesting practice exercises of a traditional type through the use of multimedia technologies, the possibility to create activities which encourage students to work independently, the opportunity for personal creativity in designing teaching content, the possibility to provide detailed feedback to each student individually.

In addition to recognising the significance of proper professional training, the majority of participants believe that distance learning should be replaced with blended learning, and that more teachers should participate in designing online teaching materials in cooperation with IT programmers. More than half of the teachers support the sanctioning of students who lack discipline in keeping up with the teaching content on the platform and the fulfilment of their obligations, which shows that this is a common phenomenon with this student population. Only two teachers suggested other, exceptionally useful measures – the introduction of audio and video conferences and some sort of supervision, i.e. an expert team which would encourage, criticize and direct the teachers' work.

The impression gained is that the quality of L2 distance teaching is not uniform, which proves that L2 distance learning in Serbia still represents an innovation and is in the testing phase. Such a situation leads to the conclusion that only timely planning and the adequate training of teachers will help us to avoid the numerous difficulties which accompany distance education. Issues such as course design, how the content is delivered, socialization, active participation, collaboration and evaluation must play a major role in distance L2 teacher training programs.

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YOUTUBE AND SKYPE MODES OF VIRTUAL LEARNING PERFORMANCE IN RELATIONS TO COGNITIVE STYLES OF STUDENTS

Ananta Kumar Jena
Assistant Professor
Department of Education, Assam University,Silchar-788011,Assam,India
Email: akjenaaus@gmail.com

Monisha Deka
Ph.D. Scholar
Department of Education, Assam University,Silchar-788011,Assam,India
Email: deka.monisha@gmail.com

Munmi Barman
M.Phil. Scholar
Department of Education, Assam University,Silchar-788011,Assam,India
Email: munmibarman12@gmail.com

ABSTRACT
The study aimed to find out the relationship between cognitive styles, YouTube learning and Skype learning performance of secondary school students. For that purpose, the researchers randomly selected 20 students from two 9th standards of two English medium secondary schools of Silchar Town, Assam, India to conduct the experiment. Quasi Experimental Design based on Regression Analysis used to assess and relate the effects of variables. 10 class IX students of school 1 was counted as the YouTube learning Group, and 10 class IX students of school 2 was assigned for Skype learning. It resulted that perceiving, feeling, introversion and intuition has the hierarchical significant relationship with YouTube learning performance, however, extroversion, sensing, thinking, judging, has no significant relationship with YouTube learning performance. It also resulted that judging, thinking, sensing, extroversion has no hierarchical relationship with Skype learning performance.
Key words: cognitive styles, skype, virtual learning performance, YouTube

INTRODUCTION
Now, we are living in the knowledge based global world where there is a rapid advancement of science and technology. In fact, communication and technology plays a dominating role in almost all the sectors of human life like: business, industry, bank and education etc. Information and Communication Technology (ICT) refers to all the technologies through which people can communicate with others across the world. ICT plays an important role in education also. It makes the teaching-learning process better, interesting, and manages time, and helps to clarify the concepts in the easier way (Gurol, Kayisli, Basal, 2010). Online learning provides knowledge, skill and competency through Wikipedia, Wikimedia, pdf file, html file, video-conferencing, and mobile-conferencing, and through Skype (Chen & Xu, 2003). Virtual learning is a system of delivering learning materials to students via the web or recorded audio and video lectures. This system includes assessment, students direct participation, student tracking, collaboration and communication tools. Virtual learning environment allows participants to learn or acquire knowledge in a collaborative, co- operative learning activities and interactions (Dascalu, Bodea, Moldoveanu, Mohora, Lytras, de Pablos,2015). Virtual learning environment includes a course syllabus, pre- requisites registration, skilful mentor or instructor, and distant learning applications, and this normally includes materials such as copies of lectures in the form of text, audio/video presentations and the supporting visual presentations (Johannesen, 2013). Virtual classroom includes different types of communication system, multi- dimensional communication process, threaded discussions, chat – rooms, twitter, Skype, wikis, blogs, 3D visual learning spaces in reading (Dascalu & Trăuşan-Matu, 2015). Such type of reading needs collaboration and co-operation of students to share the information among each other. Literature found that recently, virtual learning models, teacher- educators, and researchers are using in their classroom (Jena, 2015a). Wei & Chou (2015) found that online learning improve the achievement of the students and it effects directly the perception. However, Nam (2014) argued that online co- operative learning is a constructive controversy, it trusts with more effectiveness then constructive controversy for student achievement. Face-to-face and on-line learning has significant effect on student's achievement (Zhan and Mei, 2013). Similarly, Cevik, Haslaman,& Celik, 2015   found that online collaborative learning activities help to solve problem and develop solving skills. In fact, achievement and emotion affect students' decision for online learning and participation, interaction and academic achievement are highly related with virtual or online learning environment (Tempelaar, Rienties, and Giesbers, 2015).

YouTube and Skype modes of virtual learning
Literature found that the integration of YouTube learning in school has so many barriers and challenges (Fu, 2013) and this influences teachers' perceptions and confidence (e.g. Koc, 2005)**.**Contrast to the above result it was found that teachers' attitude towards technology could significantly predict students classroom performance (e.g. Kohler & Mishra, 2008; Palak & Walls**,** 2009. Moreover, Sang, Valcke, Braak, and Tondeur, 2010; Senapati, 2004 found that pre- service teachers are highly constructive but their depth of content knowledge is not sufficient to teach unless and until they are not using technology in the classrooms. YouTube, Wiki and online animation enhances real learning and high achievement with long retention (Yilmaz-Soylu & Akkoyunlu, 2002). A healthy learning environment is only possible through online collaborative YouTube learning which effects the academic achievement of students. (Jena, 2013) found that smart classroom is better for low – achievers and high- achievers than traditional classes. Chen, Chang, Chien, Tijus, and Chang (2015) found youtube and power-point presentation has significant effects on the achievement of the learner. Similarly, using interactive white-board in teaching and learning through smart classroom, establish teacher – students' attention towards getting meaningful learning. In these literatures, it was very difficult to determine that whether YouTube assisted learning environment has certain effects on achievement of the learners or not. Literature found virtual learning environment assisted by ICT is a significant tool for collaborative learning. The concept of virtual learning is a recent 21st century term engages students through online YouTube, online Wikipedia, and online animation, audio & video lectures**.** Pearson & Trinidad, 2005 found that youtube and conferencing are the instruments for refining the design of virtual learning environment and it has significant effect on learning performance. Similarly, (Andrews & Haythornthwaite, 2007) introduced e- learning in the general classroom found positive effect of achievement on learners. Virtual learning is a flexible learning environment runs through technology in classroom where teacher is a facilitator in learning and students are responsible for their own learning. Contrast to the above literature, it is found that virtual learning has no high confidence in demonstration or in a practitioner environment. It is very difficult to determine virtual learning over traditional approach. Almekhlafi (2006) found that computer assisted learning has positive effect on achievement. (Jahanbakhsh, 2012) found virtual learning environment has positive effect on learner's collaborative learning. (Greenberg & Zanetis, 2013**)** conducted a study entitled the impact of broadcast and streaming video in education. The found a powerful impact of student retention of information and on student engagement. Morgan (2014) found technology has unprecedented impact on achievement. In this virtual learning environment, online YouTube is a new way to consume, create and share information's (Christopher, 2011). Engaging the YouTube Google–eyed generation in teaching and learning engage students in desired practice to get high retention and achievement, online animation model is also effective over traditional approach (Jena, 2015b)

Learners' Cognitive Styles and Learning Performance
Cognitive style is the psychological dimension represents the consistency of individual's manner of cognitive functioning, particularly with respect to information acquiring and information processing (Ausburn & Ausburn, 1978). Similar, to him, Messick(1976) defined that cognitive styles are the stable attitudes, preferences, or habitual strategies of individual's modes of perceiving, remembering, thinking, and problem solving skills. Witkin, Moore, Goodenough, and Cox (1977) characterized that cognitive styles is the individual differences in the way of people perceive, think, solve problems, learn, and relate to others. Investigators thought that cognitive style could be a better predictor of an individual's success in a particular situation than general intelligence or situational factors. In the field of industrial and organizational psychology, cognitive style considered a fundamental factor determining both individual and organizational behaviour (e.g. Sadler-Smith & Badger, 1998**;** Streufert & Nogami, 1989; Talbot, 1989**)** and a critical variable in personnel selection, internal communications, career guidance, counselling, and conflict management (Hayes & Allinson, 1994). In the field of education, researchers have argued that cognitive styles have predictive power for academic achievement beyond general abilities (e.g., Sternberg, Grigorenko, & Zhang, 2008). Literature found that cognitive style is the factors, which affect the academic achievement of university students (Tinajero, Maria, Margarete, Jose, Paramo, 2012). The researchers like Altun& Cakan,2006 found that cognitive style directly affect the learners' leaning performance and it has a positive relationship with achievement. Contrast to this, Al –Salameh, 2011 found that cognitive style and its relationship with gender when comparable to the achievement found no statistical significant difference. Rao (2014) found that academic achievement in Mathematics is related to cognitive style reveals significant differences. Studies conducted by (Jantan, 2004**;** Sarmah, 2015) found that cognitive style has significant relationship with achievement, gender and age of the learners. Hayes, Allinson, Hudson, & Keasey, 2003 found learning style has significant effect on collaborative learning experiences. Tulbure, 2012 found that there exist significant differences between two groups of pre-service teachers in relation to learning styles, teaching strategies and academic achievement. Tabatabaei & Mashayekhi, 2013 found cognitive style tendencies did not show significant differences in relation to achievement and gender. In the above discussion and literature review, it is very difficult to assume the relationship between independent variables and dependent variable. The effect of ICT assisted virtual learning environment how plays effect on

achievement and its relationship with learning style and cognitive style of learners cannot be pre-determined. That is why the researcher has undertaken the study to assess the relationship between real learning performance and cognitive style of students. There is also not sufficient literature found whether virtual learning has significant effect over traditional approach and how the learning performance was related with cognitive style of students is not predictable.

Objectives of the study
H_1) To study the relationship between cognitive styles and YouTube learning performance of secondary school students.
H_2) To study the relationship between the cognitive styles and Skype learning performance of secondary school students.

1.12.0 Hypotheses of the study
H_1) cognitive styles hierarchically significantly relates with the YouTube learning performance of secondary school students.
H_2) cognitive styles hierarchically significantly relates with the Skype learning performance of secondary school students.

METHODOLOGY
Participants
The population of the present study involved all the secondary schools of Silchar Town, India and all the secondary students studying in Class IX. The present study was a Quasi-Experimental Design assessing the effect of independent variable (*i.e. virtual learning*) on dependent variable (*i.e. learning performance*) in relationship with the independent variables (*i.e. cognitive styles& learning styles*). For that purpose, the researcher had randomly selected two English medium secondary schools of Silchar Town. Similarly, out of more than twenty-five secondary schools having five thousand students, the researcher had randomly selected 20 students to conduct the experiment.

Design of the study
The present study is a *Quasi Experimental Design* based on *Regression Analysis* to assess and relate the effects of independent variables (*i.e. youtube and skype like virtual learning, & cognitive styles of secondary school students*) on dependent variables (*i.e. learning performance*). To minimizing the effect of *extraneous variables*, the researchers used *ANCOVA and Multiple Hierarchical Regression Analysis* and random sampling techniques. The findings of the study will generalize upon the whole population. The researchers randomly selected two secondary schools from all the secondary schools of Silchar. 10 class IX students of school 1 was counted as the YouTube learning Group, and 10 class IX students of school 2 was assigned for Skype learning. There was no control group. Before instruction, a cognitive style questionnaire administered and after instruction achievement test was administered among both the group of students. The overall design of the study showed in the Box 1.

Table 1 Design of the study

Sl.	Group	Pre Intervention Test	Treatment	Post Intervention
1	YouTube learning Group (n=10)	Cognitive Style Questionnaire	YouTube in virtual learning	Achievement Test
2	Skype learning Group(n=10)	Cognitive Style Questionnaire	Skype in virtual learning	Achievement Test

Instrumentation

Achievement test in Geography

The researcher developed an achievement test on Geography for Class IX by following all the standardized criteria. The contents were selected after discussing with the school administration and accordingly the blueprint was developed. It is proposed that a 25 mark multiple-choice items having a correct response, two wrong responses and a strong distracter framed for each item followed by measuring the correction of guessing, item difficulty, and item discrimination power. The reliability (Split-half r=,82 & Cronbach α=.81) and validity (Content Validity Ratio=.78) estimated during the standardization procedure.

Table 2 Tool specification

Material	Achievement test on geography having short, long, multiple choice types items. Each multiple choice type items have four options and out of this one correct response and other three are good distracter.
Scoring	1 point for each correct response
Administration	Flexible
Norms	Percentile norms available
Reliability	
Split-half	r=.82
Cronbach alpha co- efficient	r=.81
Validity	
Content	Lawshe(1975) developed a formula termed the content validity ratio:CVR=$(n_e$—N/2)/(N/2) where CVR = content validity ratio n_e =number of SME panelists indicating "essential" N= total number of SME panelists. This formula yields values which range from +1 to -1; positive values indicate that at least half the SMEs rated the item as essential. The mean CVR across items may be used as an indicator of overall test content validity. Here, the CVR=.78
Usability	
Availability	Sample available to administer the tool
Ease of use for tester	no
Range of use	no
Time limit	No time limit is given for the test. However, most of the students finish it within 10 minutes.

Cognitive Style Questionnaire

Cognitive style questionnaire has eight dimensions measuring (i.e. *extraversion, introversion, sensing, intuitive, thinking, feeling, judging and perceiving*) like factors. Each dimension has eight different items (having two options) to assess the cognitive styles of the students. Factor analysis technique used during the standardization of the items. Accordingly, content validity ratio (CVR=.81) and reliability coefficient (Cronbach α=.85) of the tool was determined. See the tool specification in table1.

Table 3 cognitive style tool specification

Standardization	
Material	Cognitive Style Questionnaire (Deka & Jena, 2015) has eight dimensions (i.e. Extroversion, Introversion, Sensing, Intuition, Thinking, Feeling, Judging and perceiving) like Kirton's model of Cognitive Style.
Scoring	01 point for each correct response of the item
Administration	Flexible
Norms	Percentile norms available
Reliability	
Internal consistency (Cronbach Alpha)	α=.85
Guttmann's Split-half	r=.66
The inter-item correlation ranged from	.66-1
Factor analysis	Factor analysis was calculated for extraversion found .91, introversion .94, Sensing .73, Intuition .78, Thinking and Feeling 1, Judging .92 and Perceiving .91.
Principal component analysis	Principal component analysis used in the extraction method where the initial Eigen values ranged from 1.152 to 52.53
Validity	The validity coefficients, with English version of this instrument was estimated on a sample of 200 students of secondary classes
Criterion: concurrent	The concurrent validity of the tool (Cronbach, 1990; Cronbach & Meehl, 1955) has been supported in the form of positive correlations
Construct : convergent	The construct validity of the tool (Cronbach, 1990; Cronbach & Meehl, 1955) has been tested in several studies, showing

	moderate correlations (0.40-0.65)
Usability	
Availability	Sample available to administer the tool
Ease of use for tester	no
Range of use	no
Time limit	No time limit is given for the test. However, most of the students finished it within 10 minutes.

Procedure of experiment and data collection
The recent study was YouTube and Skype assisted activity based experimental study, where there is no control group.

Activity I- YouTube in virtual learning
Class IX students of school- III counted as the YouTube learning group. Before instruction, in a training session, the researchers advised the participants on how to run the YouTube, how to search the YouTube, and on how to pause, stop or forward the video. No further training was provided to the participants and followed by that, a cognitive style questionnaire was administered. Participants were grouped and each group has laptop with high-speed internet accessibility to search the video on geography. The formal virtual learning instruction was provided up to three months through YouTube to complete the course. After the end of the instruction, a test on geography was administered to assess the learners' performance.

Table 4 lists of hyperlinks used during YouTube learning on geography

Name of the chapters	Virtual Learning Intervention	List of hyperlinks
India – Size and Location	Location,Size,India and the World, India's Neighbours	YouTube https://www.youtube.com/watch?v=VuDbizd_W6k&index=1&list=PL1vNLZF5gfweFN0ps77y2jdFp7hTxl2sK https://www.youtube.com/watch?v=VhdbwB_9YYM https://www.youtube.com/watch?v=gbRtv3egXYs https://www.youtube.com/watch?v=kO7KpL5lFoQ https://www.youtube.com/watch?v=tGqo37fpEN0 https://www.youtube.com/watch?v=IWK0qEFF8-8 https://www.youtube.com/watch?v=YGgYiGwZnuE
Physical Features of India	Plate Boundaries,Major Physiographic divisions, Himalayan Mountains,Northern Plains Peninsular Plateau,Indian	YouTube https://www.youtube.com/watch?v=GFeRHBbJu8&index=2&list=PL1vNLZF5gfweFN0ps77y2jdFp7hxl2sK https://www.youtube.com/watch?v=vEQUl7LGxoY https://www.youtube.com/watch?v=IdZak_mUwf0 https://www.youtube.com/watch?v=G_h-NuSvcE8 https://www.youtube.com/watch?v=PDrMH7RwupQ
Drainage	Drainage patterns, Himalayan rivers, Peninsular rivers, role of rivers in the economy, river pollution	Online YouTube https://www.youtube.com/watch?v=96irIFmvIng&index=3&list=PL1vNLZF5gfweFN0ps77y2jdFp7hTxl2sK https://www.youtube.com/watch?v=uI78xoEkm0c https://www.youtube.com/watch?v=96irIFmvIng https://www.youtube.com/watch?v=jyBvwYdvP1o https://www.youtube.com/watch?v=Xpmv0YLMyo4
Climate	Climatic Controls, Factors affecting India's Climate, Indian Monsoon-its onset and withdrawal, Seasons, Distribution of Rainfall, Monsoon as a Unifying Bond	YouTube https://www.youtube.com/watch?v=SH1SMnwKJTI&index=4&list=PL1vNLZF5gfweFN0ps77y2jdFp7hTxl2sK https://www.youtube.com/watch?v=SH1SMnwKJTI https://www.youtube.com/watch?v=fHm4fD9IVrQ https://www.youtube.com/watch?v=4_QT5XpUSw8 https://www.youtube.com/watch?v=pTrJC7_nKkA

Fig-1 YouTube activity plans

You Tube Activity Plan – 1

1   Subject – Geography
2   Class – IX
3   Topic – India – Size and Location
4   Concept – Location

Goals and objectives - During and after the YouTube learning, students will....

➢ Understand the   concept of India, its size and location
➢ Understand concept location.
➢ Understand the latitudes and longitudes

Pre requisites: - Before beginning in India's location, the student should have some knowledge that can fit to the new concept.

Materials and Resources: -

➢ YouTube software, Smart classroom, Internet, Text book

Guiding question for this concept: -

➢ Explain the concept of location.
➢ Discuss where India located is.

Lesson out lines and procedure: -

Read page 1 on concept location in your text book. Choose the important key concepts from them and from the video played pause it, forward, backward mode learn them properly.

Activity II- Skype in virtual learning

Class IX students of school- II was counted as the Skype or video conference-learning group. Before instruction, a special training assigned to the participants, on how to attend the video lectures of the experts. Followed by that, a cognitive style questionnaire administered among the participants to know their cognitive styles. Everyday participants attend the Skype, imo and Google duo assisted video-conferencing lectures in a high-speed internet-accessibility lecture hall. The formal Skype, imo and Google duo assisted video-conferencing lectures was provided was continued up to three months till the completion of the course.

Fig 3.3 screenshot of the videoconferencing learning and lesson plan

Skype learning Activity Plan – 2
1   Subject – Geography
2   Class – IX
3   Topic – India – Size and Location
4   Concept – Location

Goals and objectives - During and after the YouTube learning, students will....
➢ Understand the inter connectedness of concept India's size and location
➢ Understand concept size and location

Pre requisites: - Before beginning in India's location, the student should have some knowledge that can fit to the new concept.

Materials and Resources: -
➢ Skype software, Smart classroom, Internet, Text book
    Guiding question for this concept: -
➢ Where is India located?
➢ Discuss the size and location of India

Lesson out lines and procedure: -
Read page 1 on concept location in your text book. Choose the important key concepts from them and from the video played pause it, forward, backward mode learn them properly.

Analysis and results

H1 cognitive styles hierarchically significantly relates with the YouTube learning performance of secondary school students.

Table 1.1 Mean and SD of cognitive styles and YouTube learning performance of secondary school students

	N	Mean	Std. Deviation
YouTube learning performance	10	18.70	4.296
Extraversion	10	19.10	3.900
Introversion	10	15.90	3.900
sensing	10	18.80	4.367
Intuition	10	21.20	4.367
Thinking	10	17.00	3.266
Feeling	10	23.00	3.266
Judging	10	16.50	2.915
Perceiving	10	18.50	2.915

Table 1.2 R, R^2, and Adjusted R of cognitive styles and YouTube learning performance of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	1.000ª	1.000	1.000	.076	1.000	7125.313	4	5	.000

a. Predictors: (Constant), Perceiving, Feeling, Introversion, Intuition
b. Dependent Variable: YouTube posttest

Table1.3 ANOVA of cognitive styles and YouTube learning performance of secondary school students

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	166.071	4	41.518	7125.313	.000ᵇ
Residual	.029	5	.006		
Total	166.100	9			

a. Dependent Variable: YouTube post-test
b. Predictors: (Constant), Perceiving, Feeling, Introversion, Intuition

Table 1.4 Unstandardized Coefficients (β), Standardized Coefficients Beta and t of cognitive styles and YouTube learning performance of secondary school students

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.643	.237		167.201	.000
Introversion	-.378	.033	-.343	-11.612	.000
Intuition	-.598	.039	-.608	-15.189	.000
Feeling	-.207	.025	-.157	-8.163	.000
Perceiving	.135	.022	.092	6.066	.002

a. Dependent Variable: YouTubeposttest

Table 1.1 depicts the descriptive analysis resulted from the Mean and Standard Deviation of cognitive styles and YouTube learning performance of Secondary School Teachers. YouTube learning performance resulted Mean= 18.70 and Standard Deviation= 4.29. Similarly, cognitive styles of extraversion (M =19.1 and SD=3.9), Introversion (M=15.9 and SD=3.9), Sensing (M=18.80 and SD= 4.36), Intuition (M=21.20 and SD=4.36), Thinking (M=17 and SD= 3.26), Feeling (M=23.0 and SD= 3.26), Judging (M=16.50 and SD= 2.9), Perceiving (M= 18.50 and SD= 2.91).(See table 1.4) Cognitive styles on the basic model R=1.000, R_2 =1.00 and adjusted R^2(1.00) resulted significant relationship with perceiving, feeling, introversion, intuition where unstandardized co-efficient for introvert (β =-3.378 P<.05), intuition (β = -.598 P< .05), feeling (β = -.207 P< .05) and perceiving (β= .135 P< .05) resulted hierarchical significant relationship with YouTube learning performance.(See table 1.2, 1.4) The ANOVA of cognitive style and YouTube learning of Secondary School Students was significant (F= df 4/5) (7125.313 P< .05) (See table 1.3)

H_2) cognitive styles hierarchically significantly relates with the skype learning performance of secondary school students.

Table 2.1 Mean and SD of cognitive styles and Skype learning performance of secondary school students

	N	Mean	Std. Deviation
Skype post-test	10	18.60	4.274
Extraversion	10	19.10	3.900
Introversion	10	15.90	3.900
sensing	10	18.80	4.367
Intuition	10	21.20	4.367
Thinking	10	17.00	3.266
Feeling	10	23.00	3.266
Judging	10	16.50	2.915
Perceiving	10	18.50	2.915

Table 2.2 R, R^2, and Adjusted R of cognitive styles and Skype learning performance of secondary school students

					Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.997a	.993	.988	.468	.993	186.229	4	5	.000

a. Predictors: (Constant), Perceiving, Feeling, Introversion, Intuition
b. Dependent Variable: Skype posttest

Table 2.3 ANOVA of cognitive styles and Skype learning performance of secondary school students

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	163.304	4	40.826	186.229	.000b
Residual	1.096	5	.219		
Total	164.400	9			

a. Dependent Variable: Skype-post-test
b. Predictors: (Constant), Perceiving, Feeling, Introversion, Intuition

Table 2.4 Unstandardized Coefficients (β), Standardized Coefficients Beta and t of cognitive styles and Skype learning performance of secondary school students

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	39.957	1.454		27.474	.000
Introversion	-.808	.200	-.737	-4.043	.010
Intuition	-.103	.241	-.105	-.426	.688
Feeling	-.564	.155	-.431	-3.627	.015
Perceiving	.358	.137	.244	2.619	.047

a. Dependent Variable: Skype post-test

Table 2.1 depicts the descriptive analysis resulted from the Mean and Standard Deviation of cognitive styles and Skype learning performance of Secondary School Teachers. Skype learning performance resulted Mean= 18.60 and Standard Deviation= 4.274. Similarly, cognitive styles of extraversion (M =19.1 and SD=3.9), Introversion (M=15.9 and SD=3.9), Sensing (M=415.90 and SD= 4.36), Intuition (M=21.20 and SD=3.26), Thinking (M=17 and SD= 3.26), Feeling (M=23.0 and SD= 3.26), Judging (M=16.50 and SD= 2.9), Perceiving (M= 18.50 and SD= 2.91).(See table 2.4) Cognitive styles on the basic model R=.997, R_2 =.993 and adjusted R^2(.988) resulted significant relationship with perceiving, feeling, introversion, intuition where unstandardized co-efficient for introversion (β =-808 P<.05), intuition (β = -103 P< .05), feeling (β = -.564 P< .05) and perceiving (β= .358 P< .05) resulted hierarchical significant relationship with Skype learning performance.(See table 1.2, 1.4). The ANOVA of cognitive style and Skype learning of Secondary School Students was found significant (F= df 4/5) (186.229 P< .05) (See table 2.3)

FINDINGS AND DISCUSSION
The study claimed that the impact of YouTube learning performance in relations to cognitive styles was significant among the secondary school students. It is found that perceiving, feeling, introversion and intuition has the hierarchical significant relationship with YouTube learning performance. However, extroversion, sensing, thinking, judging, has no significant relationship with YouTube learning performance. The finding of the study is highly supported by (Tinajero, Maria, Margarete, Jose & Paramo, 2012) but these researchers (Altun & Cakan, 2006) did not support the result. Like YouTube learning performance, Skype learning performance is also related with cognitive styles. It is found that Cognitive Styles have a hierarchical significant relationship with students Skype learning performance but judging, thinking, sensing, extroversion has surprisingly no hierarchical relationship with Skype learning performance. This result was supported by Hayes, & Allinson (1994), and it was rejected by (Hayes, Allinson, Hudson, & Keasey, 2003). YouTube learning in Indian context needs lots of improvement as it was seen in the European and American continents. (Zheng, Niiya, & Warschauer, 2015). The use of digital technology in classroom helps to improve the standard of education (Putjorn, Siang, and Deravi, 2014). The variables in the present study like thinking; judging, sensing, and extraversion were found to be not related with the YouTube learning performance, and Skype learning performance. Therefore, the researchers guessed that such variables as thinking; judging, sensing, and extraversion were not related with the YouTube learning and Skype learning performance.

CONCLUSION
The present scenario of YouTube learning and Skype in the classroom of Indian needs improvement more as comparable to the other advanced countries of the world. It is found that YouTube learning is given importance only in some schools or any particular areas whereas other areas are not benefited with. In underdeveloped and developing countries students are not getting YouTube and Skype like instructions rather, lack of knowledge of the teachers' to handle the technology does not provide more benefit to the students. It is the duty of the government, to take necessary precaution in this regard, especially in those remote and backward areas where technology is far to be reached. Now YouTube and Skype technology and its accessibility is not much expensive, but if we apply these many students can learn at the same time together in a same place. For making successful YouTube learning in the classroom, teachers should train and they should have the necessary knowledge to run the equipments, then students and policy makers would realize the benefits of using such techniques in the classroom. Students should accept the technology assisted learning rather just sitting and listening to the teacher may not be benefitted. It is also the duty of the teacher to make the students skilful in operating the devices properly, so that they themselves can see and learn the study materials whenever they want learn these. In this way, both the teacher and student will be benefited, as this will help them to grow their content knowledge, and have a better and clearer view about all the topics to be discussed.

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