Examining TESOL Teachers' Perceptions of Learning Management Systems in the States of Alabama and Mississippi

by

Asmaa Benbaba

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Approved by

James Witte, Chair, Professor of Educational Foundations, Leadership and Technology
Maria Witte, Associate Dean of the Graduate School and Professor of Educational Foundations, Leadership and Technology
Jane Teel, Assistant Clinical Professor of Educational Foundations, Leadership and Technology
Jamie L. Harrison, Associate Professor of Curriculum & Teaching

Abstract

The purpose of this study was to examine the influence of selected factors on the adoption of Learning Management Systems (LMSs) by Teaching English to Speakers of Other languages (TESOL) or English as a Second Language (ESL) teachers. Rogers' (2003) theory of Diffusion of Innovation was used to examine the characteristics of LMS among TESOL/ESL teachers using five main characteristics: relative advantage, compatibility, trialability, observability, and complexity. This study examined the relationships between characteristics of teachers, characteristics of innovation, and barriers influencing the adoption of LMS.

This was a descriptive and correlational study, participants were asked to complete a five Likert-scale online survey entitled TESOL/ESL Teacher's Perceptions of LMS (see Appendix A). A sample of ninety-nine TESOL/ESL teachers were selected and used for this study. Based on participants' response, more than half of TESOL/ESL teachers from Alabama and Mississippi reported that they were either in the implementation stage (32.3%) or the confirmation stage (36.4%). Seven percent had no knowledge of the innovation; 6% were in the persuasion stage; 7% were in the decision stage.

TESOL/ESL teachers perceived all of the five constructs (complexity, trialability, relative advantage, observability, compatibility) as moderate characteristics to the adoption of LMS. The characteristics that had higher values (ranging from 1 (low) to 5 (high)) were: complexity (M=4.07, SD=0.63), compatibility (M=3.86, SD=0.77), relative advantage (M=3.76, SD=0.77). The characteristics that had lower mean values included observability (M=3.68, SD=0.88), and trialability (M=3.64, SD=0.82).

The teachers perceived all of the five constructs (time concerns, planning concerns, financial concerns, technology concerns, and concerns about incentives) as moderate barriers to the adoption of LMS. The barriers that had higher values (ranging from 1 (low) to 5 (high)) were planning concerns (*M*=3.66, *SD*=0.90), concerns about times (*M*=3.54, *SD*=0.96), concerns about incentives (*M*=3.53, *SD*=0.91). Barriers that had lower values included technology concerns (*M*=3.47, *SD*=0.81), and financial concerns (*M*=3.48, *SD*=0.98).

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CHAPTER I: Introduction

Technology in Higher Education

Technology has played a key role in people's lives. Educators across disciplines are impacted by advanced technological approaches, especially in the classroom. Educators must continually identify new strategies and approaches to prepare students in globally connected societies (Suarez-Orozco, 2007). Technology is rapidly changing, and could be affecting the learning styles of students and the approaches instructors use for course delivery. Computers substitute chalkboards in traditional classrooms as smart boards, touch screens, and iPads have become a part of students' daily lives (Ronnkvist, Dexter, & Anderson, 2000). Technology continues to evolve and create new opportunities for educators and students. For example, online education can offer access to students who want to earn a degree but cannot attend face-to-face classes (Mehdipour & Zerehkafi, 2013).

Educators are called to teach online courses, which are often part of university curricula. Technology has allowed universities to reach new student populations as online enrollment growth has spiked, according to the National Center for Education Statistics (NCES) (2018). Time constraints and the challenge of balancing careers and family obligations with school are significant predicaments to overcome for adults who seek graduate degrees. Online education increasingly provides flexibility for students with such needs.

Online education uses software tools and content that are designed to store information and provide access for both faculty and students. To make better use of the software tools and content, management skills are needed (Walker, Lindner, Murphy, & Dooley, 2016). One way to manage software packages is through the Learning Content Management System (LCMS) (Walker et al., 2016). Many schools and academic institutions have large learning material that are used for several courses in different formats, which could benefit from the use of LCMS. LCMS are environments in which software engineers can create, store, reuse, and manage interfaces from a database. These platforms allow educators to distribute class content to students, upload content material, prepare assignments and exams, engage learners in discussion forums and manage distance classes (Romero, Ventura, & García, 2008).

Statement of the Problem

English is the most commonly spoken second language, with language learners exceeding 1.5 billion (Bently, 2014). English instructors play an imperative role in shaping the future of English language learners. Learning English is paramount to gaining access to higher education, specifically in the U.S. for degree seekers who are also non-native English speakers. English faculty are called to reimagine new ways to meet the high demands of English language skills for a broader learning population. In order to reach a larger population, technology through the use of online teaching has become a standard education delivery method. New technologies for online learning have become available to teach English online. This phenomenon challenges universities to select a Learning Management System (LMS) that serves the specific needs of its instructors (Walker et al., 2016).

TESOL instructors' adoption of an innovation in the online education environment relies on their attitudes and perceptions (Sezer, 2016; Tabata & Johnsrud, 2008). Online education is associated with constantly changing technologies, and English instructors must stay informed on the latest developments in teaching (Kopcha, Rieber, & Walker, 2016; Marzilli, Delello, & Marmion, 2014). In universities in the United States, LMS is widely used and instructors are called to incorporate this technology into their curricula. More than 90% of colleges in the United States have adopted LMS (Islam, 2013; Waheed, Kaur, Ain, & Hussain, 2016).

Despite the high adoption rate of LMS, many challenges are faced in the adoption and diffusion processes. Successful education not only relies on the use of technology, but also on encouraging research on the adoption of LMS among teachers and faculty who also need the freedom to experiment with technology and take full advantage of innovative approaches (Clark & Clark, 2008). Research should initially attempt to understand faculty perceptions of LMS, since these are the learning interventions that provide access to online learning services (Christensen & Eyring, 2011).

Purpose of Study

As learning technologies continue to gain enormous popularity in higher education, this study examined Teaching English to Speakers of Other Languages (TESOL) or English as Second Language (ESL) teachers' perceptions about Learning Management Systems (LMSs) in online teaching. Teachers are the primary LMS users and they can affect the success of online education. Therefore, the purpose of this study was to understand the influence of personal factors on the adoption of LMS by TESOL/ESL teachers. Rogers' (2003) theory of Diffusion of Innovation was used to examine the levels of adoption of LMSs among TESOL teachers following five main attributes: relative advantage, compatibility, trialability, observability, and complexity.

Research Questions

To examine TESOL teachers' perceptions of Learning Management System (LMS), the following questions were used in this study. The research questions included:

1. What are the selected individual characteristics of TESOL or English as a Second Language (ESL) teachers in the states of Alabama and Mississippi?
2. What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers' (2003) stages in the decision process of innovation (no knowledge, knowledge, persuasion, decision, and implementation)?
3. What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?
4. What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in online teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?
5. What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers'(2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?
6. What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS).

Theoretical Framework

For this research, the theoretical underpinning was drawn from Everett Rogers' (2003) Diffusion of Innovation. Rogers (2003) stated that "an innovation is communicated through certain channels over time among the members of a social system" (p. 5). Getting people to adopt a new idea requires some mediums of communication, according to Rogers (2003). Since innovation is a new idea, it pushes individuals to exchange information in order to understand its meaning and then decide if they want to share it. This process often involves a degree of uncertainty that is generated from the absence of predictability of a clear structure and reliable information regarding the innovation.

Rogers (2003) noted that an individual "shifts from knowledge of an innovation to forming an attitude towards the innovation, to a decision, and to confirmation of this decision" (p. 170). He explained that the perceptions of innovation were determined by how the adopter would rate it. For instance, in the knowledge stage, individuals are passive regarding exposure to a piece of knowledge that is related to an innovation. The knowledge stage occurs through communication channels and messages. Saaksjarvis (2003) argued that individuals have a common reason to refrain themselves from messages that inform about an innovation. When adopters decide they do not need certain technological innovation, they simply do not move to the selection phase eventhough an innovation could entail at least one value.

Diffusion, according to Rogers (2003), is "a kind of social change" (p. 6) occurring in the structure of a social system. The rate of diffusion is linked with how adopters perceive a specific innovation and the individual characteristics they have (Rogers, 2003). The perceived attributes of an innovation are, therefore, a good explanation of the rate of adoption that happens over a specified timeframe. There are five attributes of innovations that affect the rate of adoption and impact the speed of its diffusion: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability.

The above five attributes were used to develop questionnaires for educational purposes. For instance, Holloway (1977) designed Likert-type scale items to create his questions around

Rogers' characteristics of diffusion. He measured the perceptions of high school principals using the five characteristics of Rogers' Diffusion of Innovation (Holloway, 1977). Similarly, Moore and Benbasat (1991) designed fifteen scale Likert-type scale items to measure the characteristics of information technology. Innovations that are perceived to have low complexity and high relative advantage, observability, trialability, and compatibility can diffuse quickly (Moore & Benbasat, 1991).

There are, however, factors that can negatively impact the attributes of an innovation, which are also called barriers of an innovation. Figure 1 shows five barriers to the adoption of an innovation in this study, which are time concerns, financial concerns, technology concerns, planning concerns, and concerns about incentives. According to Rogers (2003), individuals are classified into five types of adopters: (1) innovator, (2) early adopter, (3) early majority, (4) late majority, and (5) laggard (Rogers, 2003). The figure also shows the theoretical framework for the diffusion of LMS adopted from Rogers (2003). Understanding university educators and their attitudes towards technology and innovation will encourage faculty's participation in technology (Tabata & Johnsrud, 2008).

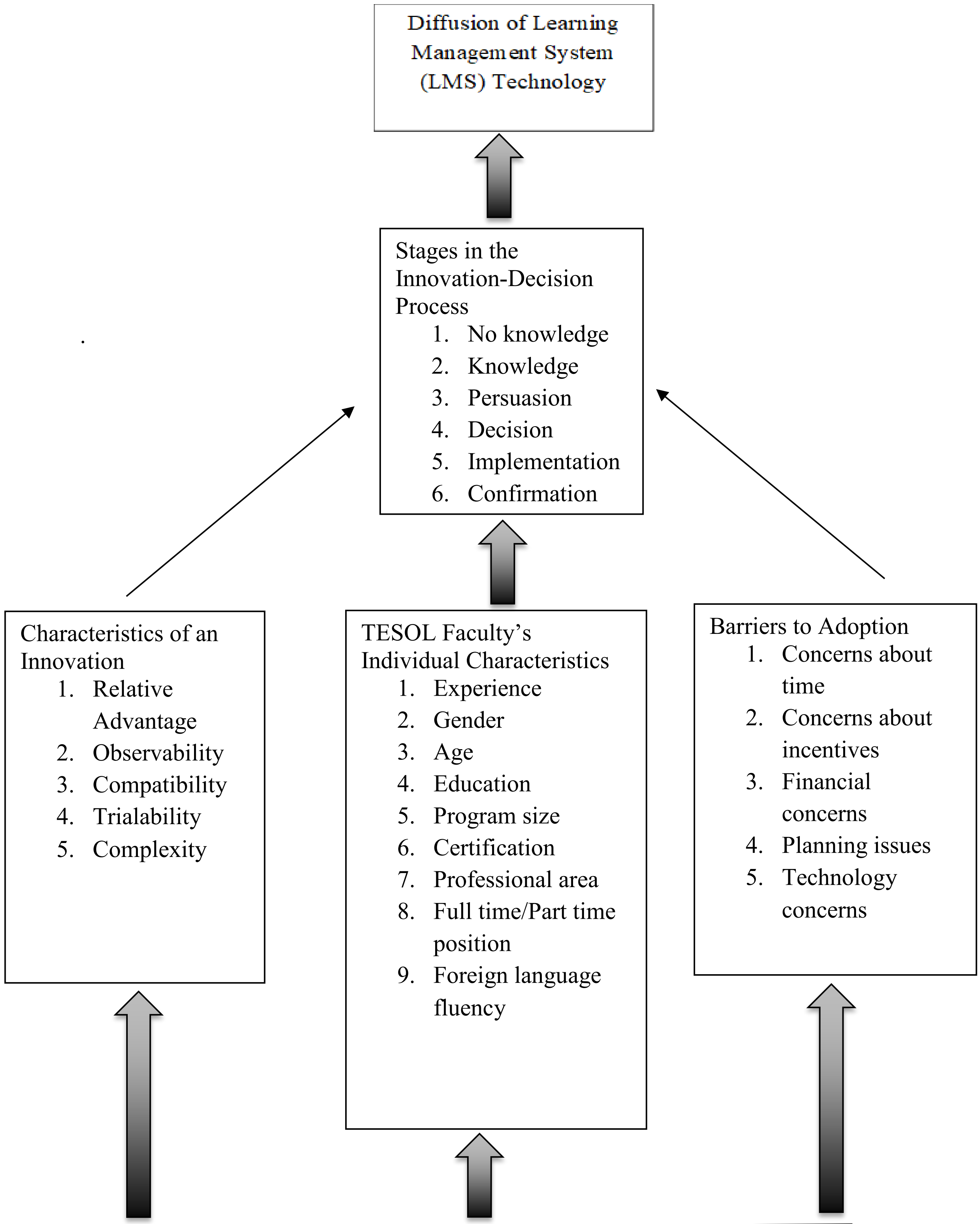

Figure 1. *Theoretical Framework for the Diffusion of LMS. Adopted from Rogers (2003)*

Significance of the Study

The pervasiveness of technology in education and the efforts of schools to provide learners with more interactive skills has increased the need to promote teacher's performance to adopt a set of innovative teaching approaches and tools, including LMSs. Teachers are called to adopt LMS in their instruction without being consulted about the compatibility of the technology with their teaching objectives, a situation that often creates a divide between pedagogical and technological interests (McLain, 2017). Hence, it is central to understand the influence of the factors that can satisfy diverse needs in teaching and encourage the incremental adoption of LMS by teachers of online TESOL (Almarashdeh, 2016). The desired outcome of the study was to assess teachers' perceptions of LMS in TESOL or ESL context.This study examined the possible barriers and characteristics of LMS as perceived by TESOL teachers from the states of Alabama and Mississippi. In order to update their toolkits, universities purchase LMS packages to maintain the best practices of keeping institutions technologically up-to-date. However, the costs of these new systems are high and it is often difficult to monitor how they impact users. Assessing effectiveness towards the use of LMS is relevant for TESOL/ESL teachers due to the diverse nature of English Language Learners (ELLs) who require learning a foreign language for educational purposes.

Limitations

This study focused on trending technological innovation. Hence, it is possible that participants were still developing their perceptions of the characteristics and barriers of LMSs. However, the data will offer an essential platform for measuring the long-term diffusion of LMSs. Another limitation was geographical.This study was limited to participants in the two states of Alabama and Mississippi. Participants in the study were recruited from three categories, namely TESOL/ESL teachers who teach in Intensive English Programs (IEPs), colleges, and public schools.

Assumptions of the Study

The following assumptions were made for the purpose of the study:

1. Adult Teaching English to Speakers of Other Languages (TESOL) or English as a Second Language (ESL) teachers provided honest demographic information while taking the survey.
2. Diffusion of Innovation is a reliable theory to explain the perceptions of TESOL/ESL teachers of Learning Management System (LMS).
3. The instrument was suitable to measure TESOL/ESL teachers' perceptions about characteristics and barriers of LMS.

Definition of Terms

The following glossary of terms was developed to ensure readers' understanding of how concepts were used throughout the study

Alabama-Mississippi Teaching English to Speakers of Other Languages (AMTESOL): AMTESOL refers to an organization that was founded in 1982, and has been open to anyone who interested in or involved in the teaching and administration of programs in English as a second or foreign language.

Compatibility: "the degree to which an innovation is perceived as better than the idea it supersedes" (Rogers, 2003, p. 15).

Complexity: "the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 2003, p. 16).

Diffusion: "is the process by which an innovation is communicated through certain channels over time among the numbers of a social system" (Rogers, 2003, p. 11).

English Language Teaching (ELT): ELT refers to the history of English Language profession of instructing speakers of other languages in U.S. and the language teaching methods it entails.

English as a Second Language (ESL): ESL refers to English as a second language learning and instruction of English in countries where English is spoken as an official language to learners whose first language is not English.

Innovation: "an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 2003, p. 12).

Intensive English Programs (IEPs): refer to college based intensive English programs, which provide full time instruction to international students seeking to attain proficiency level in the four skills (writing, grammar, reading, and listening).

Learning Management Systems (LMSs): Hall (2001) describes Learning Management System (LMS) as "software that automates the administration of training events. All Learning Management Systems manage the log-in of registers users, manage course catalogs, record data from learners, and provide reports to management. The term Learning Management System is now used to describe a wide range of applications that track student training and may or may not include functions such as: Authoring, Classroom management, Competency management, Knowledge management, Certification or compliance training, Personalization, Mentoring, Chat, Discussion boards" (Sejzi & Aris, 2013).

Observability: “the degree to which the results of an innovation are visible to others” (Rogers, 2003, p. 16).

Online Learning: “Online learning is an open and distributed learning environment that uses pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction" (Dabbagh & Kitsantas, 2005, p.15).

Relative advantage: “the degree to which an innovation is perceived as better than the idea is supersedes” (Rogers, 2003, p. 15).

Teaching English to Speakers of Other Languages (TESOL): TESOL International Association defines the acronym TESOL as “a professional activity that requires specialized training”. The term “is also used to refer to TESOL International Association, as well as its signature event, the annual TESOL international convention” (TESOL International Association, 2019).

Trialability: “the degree to which an innovation may be experimented with on a limited basis” (Rogers, 2003, p. 16).

Summary

The integration of the Learning Management System (LMS) technology has become a major focus in the education field (Chang, 2008). Changing the mediums of course delivery can also bring with it a shift in educational practices that requires more investigation in teachers’ satisfaction and perceptions. The present study sought to examine Teaching English to Speakers of Other Languages (TESOL) or English as a Second Language Learner (ESL) teachers’ perceptions of LMS. The study drew upon the theory of Diffusion of Innovation, a reputable theory initiated by Everett Rogers (2003). According to Rogers' innovation theory, five characteristics of innovation can determine its adoption: relative advantage, compatibility, complexity, trialability, and observability. The study was significant because it sought to promote teachers' performance by understanding the possible barriers and characteristics of LMS.

CHAPTER II: Review of the Literature

Introduction

This chapter provides a review of the literature that was used as a foundation for this study. Research studies have covered much of the work on the perceptions of Learning Management Systems (LMSs) among instructors. With the adoption of LMS tools by several higher education institutions, teachers can start sharing their experiences, and this increasingly draws the interests of researchers from a variety of disciplines. The chapter discusses the major phases of the history of Teaching English to Speakers of Other Languages (TESOL) education and its adoption of the approaches and the tools of the time. Then, the chapter provides a historical development of the LMSs that are most popular and commonly adopted by educational institutions. Specific focus is also given to the theory of Diffusion of Innovation, its characteristics, and barriers. Rogers' (2003) Theory of Diffusion of Innovation is considered as the framework of this study.

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Historical Perspectives on TESOL Education

Teaching English to Speakers of Other Languages (TESOL) is the acronym that refers to a professional community and an entire field. The TESOL organization is based in Alexandria, Virginia, USA, and has more than 13,500 members belonging to 140 countries (Canagarajah, 2016). The TESOL community is made up of a diverse population of teachers, researchers, administrators and curriculum developers who focus primarily on enhancing English language learning, be it either English as a Second language (ESL) or English as a Foreign Language (EFL).

According to Alatis (1987), there was some misunderstanding concerning the responsibility of TESOL as a professional organization. Since TESOL's mission was to ensure excellence in English language teaching to non-native speakers, it often made the TESOL board question other educational institutions that offer certificates as well as other teaching services using the name of TESOL but not in alliance with the mission and the values of the organization (Alatis, 1987). This example reflected the fact that TESOL has historically been associated with several abbreviations, including TESL, ELT, and TEFL. Alatis (1987) argued that since the start of TESOL as an organization in 1966, it has exercised its role as an international professional organization whose job consisted of helping those who were concerned with teaching English as a second or a foreign language similar to TESL and TEFL.

Nevertheless, TESOL education has always been an interdisciplinary field of study that has had some phases of fluctuations and shifts over history. At the level of trajectories of pedagogy, research, and theory, the association of TESOL teachers made several important decisions before it could build an identity and a profile for itself that was different from other existing organizations, namely Linguistic Society of America and the Modern Language Association (Canagarajah, 2016).

English Language Teaching (ELT) is the broader professional enterprise which was part of TESOL's history. ELT was established in 1753 when Bejamin Franklin called for a policy of Americanization via education. He was aware of the role of English to serve political needs of the time (Cavanaugh, 1996). Based on Canagarajah (2016), the profession of English teaching has had a non-linear evolution and was shaped by the pressing needs of the time, mainly commercial needs. Although pedagogy played a role in the traditional English classroom and contributed to the evolution of the English teaching profession, historians have distinguished three key phases in the evolution of TESOL: commercial purposes, the advent of modernism, and post-modernism. These phases were influenced by the particularities of the social, political, cultural scenes of the time as well as the methodology, and classroom approaches (Alatis, 2005; Canagarajah, 2016).

The early phase of ELT was driven by commercial purposes, and it started around the 1500s. It was characterized by the need for practical instructional methods to teach non-native English speakers. Due to an increased trade between renaissance European states, the specialist field of English Language teaching emerged with the aim to offer functional methods of instructions to adults in order to help strengthen commercial, political and diplomatic transnational relationships. Since the 17th Century, the industry of the time needed to prepare productive workers and that was a significant reason why ELT was booming (Pennycook, 2007). At the turn of the 18th Century, the leaders of ELT were the refugees in Britain. That is to say, bilingual teachers were teaching English to protestants escaping persecution. Hence, commerce and communication were the main features that characterized the early formative phase of ELT, which was reflective of mobility and empowerment to language learners (Howatt & Widdowsson, 2004).

The second phase of ELT has known a shift to modernity. This era influenced the framing of the idea of TESOL (Canagarajah, 2016). This phase draws upon the modernist philosophy, which calls for objectivity and detachment from the inquiry in order to get accurate, scientific results that can be generalized. Modernists views ELT in isolation from politics, history and society of the time (Canagarajah, 2016).

Modernist values such as objectivity and empiricism have influenced the profession of TESOL in many ways. Objectivity in science or empirical research helped TESOL teachers to shift from grammar translation to the audiolingual method. The latter method focuses mainly on teaching structural patterns, using vocabulary in context, supporting learning with audio-visual aids, and focusing on pronunciation in foreign language teaching (Kramsch, 2014). During the era of modernism, it was assumed that empirical research would yield the universal learning stages as well as the processes that would allow teachers to develop pedagogies that can be effective in all contexts (Kramsch, 2014).

However, this systematic approach of language teaching could not resist the social changes and the "time-space compression" introduced by the era of technology, respectively. This situation expanded the scope of TESOL leading professionals to embrace differences and build practices that grant more value to the individual, contextual, and diverse communication needs (Kramsch, 2014). The modernist approach and the values of uniformity of language teaching have been problematized since one size cannot fit all learners. Hence, there was a need to shift to another paradigm in order to redefine constructs that were major for the TESOL community (Canagarajah, 2016).

Postmodernists believe that "knowledge claims must be set within the conditions of the world today and in the multiple perspectives of class, race, gender, and other group affiliations" (Creswell, 1998, p. 79). These beliefs were well-articulated by postmodernists' philosophers, such as Michel Foucault, Jacque Derrida, Jean Francois Lyotard, and other scholars who have undermined hierarchies and power along with calling for adopting the multiple meanings of language. Postmodernists look at different discourses, deconstruct texts, and decipher meanings. Interpretation for postmodernists tends to study turning points or problematic situations in which people find themselves during transition periods (Firat & Shultz, 1997). According to Harrison (1990), the learner's behavior in the language classroom is conditioned by who they are, the beliefs they hold, and the communities they belong to (Finch, 2006).

This process of redefining central constructs has shaped linguistics and language teaching as well. In concurrence with this, authorities started to be aware that specific English classes have to be created because of the growing number of international students coming to the U.S. Therefore, specific material for teaching was developed to answer the needs of EFL in 1953. Then, later in the era, EFL teachers and administrators realized that a new population of students, whose first language was not English was growing and that they will live and learn in American schools. This population triggered the need to reconstruct TESOL educational material, to train teachers and provide support to instructors and faculty whose focus is to teach non-natives the English language by making use of the latest resources and innovations (Alatis, 1987).

In summary, the postmodern approach to language teaching presents English as a lingua franca with regional variations. That is to say, standard pronunciation, grammar, and the native speaker myth are deconstructed (de-colonization, diversification, and regionalization) (Finch, 2006). Besides, the old approaches of language teaching, such as the grammar translation method and the audiolingual method are being revised to answer the needs of ethnic/foreign language learners (Alatis, 1987). Effective collaborative studying models (decentralization) are used instead of competition and high-stakes testing (Finch, 2006).

TESOL's Institutionalization

TESOL is an independent professional organization that was founded in 1966. The organization grew out of professional concerns over the lack of a single, inclusive professional organization that may connect teachers and administrators at all educational levels with interest in TESOL. The formation of the organization was reflective of TESOL's level of maturity as a profession, and the first president was Harold B. Allen, a professor at the University of Minnesota (Alatis, 2005). Allen believed that the beginning of ESL goes back to the early 17th Century in the Northern region of the United States (Alatis, 2005).

The creation of the TESOL was the peak of many years of organizational work, planning, and discussions that focused on three main issues: first, the need for a professional organization that would be permanently devoted to the problems of teaching English to non-natives of all levels; second, the need to create a pedagogical journal to publish content that may serve the community of professionals in TESOL;and third, the need for a register of specialists that might be helpful to the foundations, government agencies, and universities in their attempt to cope with the growing needs of personnel (Alatis, 1987). For most TESOL specialists and teachers, creating an association and a journal were matters of concern. TESOL was a field that appealed not only to the people in universities and professional associations but also to government agencies and foundations with interests to construct historical accounts of the association (Swales, 2006).

According to Alatis (1987), five major organizations contributed to the institutionalization of TESOL. First, The Center for Applied Linguistics has interests in the area of applied linguistics, which also includes a program in ESL. Second, the Modern Language Association of America concentrates on the teaching of English and foreign languages to native speakers with a focus on literature. Third, the National Council of Teachers of English incorporates all of the English pedagogy, where ESL takes part as well. Fourth, The Speech Association of America has a prominent concern in thousands of classrooms and through its research with the speaker whose English is not fluent. Hence, the two very first TESOL conferences have included representatives from the five leading organizations (Alatis, 1987).

Learning Management Systems (LMSs)

Higher education has seen an increase in the use of Learning Management Systems (LMSs) (Chung, Hung, & Pasquini, 2013) and many organizations, academic institutions and businesses are now using them (Fenton, 2018). This rapidly growing popularity of LMSs is expected to reach $325 billion by 2025 (Markets, 2017). Although universities adopted LMS as a platform for e-learning implementation, this tool is currently also used as a support for face-to-face course delivery (Coates, James, & Baldwin, 2005), blended instruction, virtual training and distance education (Dahlstrom, Brooks, & Bichsel, 2014).

LMS, therefore, evolved into a platform environment that supports synchronous and asynchronous course delivery. LMS grows into an efficient integrated system to manage the educational process, and it involves keeping track of students' learning, testing, communication, scheduling, and course registration (Cavus, 2011). In the literature, the definitions of LMS vary, but all revolve around one idea. Laster (2010) defined LMS as an independent webpage with embedded instructional tools that allow faculty to organize class material and engage students in their learning.

Simonson (2007) defined LMSs as: "course management systems, also called learning management systems or virtual learning environments, are software systems designed to assist in the management of educational courses for students, especially by helping teachers and learners with course administration" (Simonson, 2007, p. vii). Simonson provides a straightforward definition and does not go beyond the scope of support and tracking learners' progress.

Stricker (2017) also pointed out that LMS is an efficient vehicle when it is used for other purposes, such as training, evaluating and tracking students' progress (Stricker, 2017). However, another definition for LMS is "a web-based system designed to support teaching and learning at an institution. Instructors have access to this system, which enables them to host a range of online resources and tools such as tutorials, content/skills-related activities, quizzes, message boards, chats, discussion lists, tracking of students' progress, course content pages and systems for collecting and collating students' marks" (Sayfouri, 2016, p. 1). Another definition is that LMS is a software application that is web-based technology used to plan, implement, and assess a particular learning process (Almarashdeh, 2016). However, Lonn and Teasley (2009) argued that LMSs are mediums that enable teachers and students to share materials, to submit and return assignments and to communicate via the online platform (Lonn & Teasley, 2009).

Based on the definitions above, LMS is an innovation that supports numerous teaching tools that facilitates communication, organization of contents, student evaluation, and course delivery. LMS offers a virtual medium to establish faster communication among teachers and students (Dahlstrom et al., 2014). When implementing a new technology mainly related to an LMS, it is crucial to understand the value and the perceptions of the innovation by instructors, faculty or teachers since these are the primary pedagogical decision-makers in their classrooms (Kane, Sandretto, & Heath, 2002). Faculty are the primary users of face-to-face and online teaching features provided by LMS; therefore, their perceptions and attitudes towards an innovation will contribute to better-integrated use of LMS (Asiri, Mahmud, Abu Bakar, & Mohd Ayub, 2012).

Sallum (2008) described LMS as a platform that permits for the delivery and the administration of contents and resources to all students and employees. LMS contains software applications and tools that make learning content manageable (Sallum, 2008). There are several types of LMS. Canvas is one example of LMSs. It is a software that helps faculty to establish an online presence for the courses they are offering. Faculty can remain organized by uploading reading material, posting video tutorials, and engaging students' discussion boards (Carroll, Tchangalova, & Harrington, 2016). In 2019, Moodle offers more products for revenue; examples are MoodleCloud, MoodleNet, LearnMoodle, and MoodleServices. Also, 40% of the many thousands of customers using Moodle Partners as service providers are using Moodle for company educational purposes (Carlson, 2017).

Blackboard, Angel, Desire2Leam, Moodle, Canvas, and Sakai are the most frequently used LMS products adopted by higher education institutions. Moodle and Sakai are well-known as open-source LMS software (Ülker & Yılmaz, 2016). Green (2010) reported that the percentage of U.S.based campuses that use Moodle realized enormous expansions, from 4.2% of users in 2006 to 16.4% in 2010. Carlson (2017) reported that Moodle surpassed over 100 million registered users worldwide who are using the free, open-source system.

Hill (2017) explained that the adoption of LMS by academic institutions and organization reached its peak in 2012 in Europe, Latin America, and Oceania. Moodle LMS remained relatively high afterward, but it started declining in 2001 (Hill, 2017). Moodle remains a free open-source LMS that allows instructors to apply the student-centered approach throughout the accessibility of contents, the support of evaluation features, and the improvement of course content management (Gautreau, 2016).

Blackboard Learn

Blackboard Learn is another product example of LMSs. Blackboard Learn is the platform created with third-generation technology in order to handle courses and educational contents. Blackboard provides an efficient and friendly system for instruction, communication as well as assessment. Blackboard Learn is the core academic program, which is used in the Course Management System (CMS) for classroom and online educational assistance (Karplus, 2017).

In order to stay competitive, institutions invest time and resources to adopt Blackboard for their e-learning (Halawi, McCarthy, & Aronson, 2006). This type of LMS has its competitors, such as Angel, eCollege, Linux, Learning Space, as well as open-source learning systems such as Sakai, Moodle, and UPortal. Despite the growing interest toward new portal commodities, Blackboard Learn remains the dominant e-learning software adopted by institutions (Coopman, 2009).

As far as the features, the Blackboard interface provides overall system information and other components that have to do with course organization, which includes: My Courses, Tools, Announcements, My task, My calendar, Mobile learning updates, and Assessment. Blackboard Learn can be presented to students, anytime and anywhere as long as there is an Internet connection. Blackboard allows several formats to be viewed and downloaded, and examples are PowerPoint slides, MS Word, Acrobat PDF documents, and video files. The system also has the textbook's information, assessment, multimedia content, advanced quizzes, survey tools, Excel compatibility grade book, friendly document sharing, built-in plagiarism service (Stoltenkamp & Kabaka, 2014) and discussion boards that are useful tools for both instructors and students (Liaw, 2008).

Historically, Blackboard Learn was founded in 1997 by two educational advisors, Michael Chasen and Matthew Pittinsky. They were working for a consulting firm; their jobs consisted of providing technical standards for online learning applications (Bradford & Wyatt, 2010). The vision of Blackboard Inc. was to provide a user-friendly online environment that can be accessed by college professors. This platform could allow faculty and users to upload and access course information such as announcements, discussion topics, course outlines, grades, module contents, and study materials. In 1998, Blackboard Inc. merged with several other companies, such as Course Info LLC, which was a course management software provider and startup company at Cornell University (Bradford, Porciello, Balkon, & Backus, 2007).

Blackboard Inc. started forming partnerships with several other companies that share similar future goals and visions (Bradford et al., 2007). Blackboard Inc. continued to grow rapidly and in 2004 it merged with its rival, WebCT e-learning company. Together, the corporations controlled up to 80% of the academic course management system markets in North America, Europe, Asia and Australia. Blackboard has been adopted by more than seventy percent of U.S. colleges and universities (Berking & Gallagher, 2016). Partnership helped the two incorporations to develop and implement a new model of LMS, which soon was modularized for integration with other Information Technology (IT).

The criticism towards the use of Blackboard was directed to the corporation that had some legal issues related to faculty patent rights claims. Many academic institutions have expressed concerns about the trustworthiness of Blackboard (Svensson, 1993). As an example from educational institutions, McMaster University in Hamilton, Ontario, Canada, has shifted to another LMS after several problems that primarily included costs (Feldstein, 2008). This lack of credibility pushed many universities to shift to cheaper alternatives. Moodle allowed this open-source alternative that encouraged several universities to adopt it, such as Montana State University, Vassar College, California State University, Long Beach, and other institutions.

Moodle

Moodle is the leading open-source LMS software that was created by Martin Dougianas and used by numerous North American and European universities (Itmazi, Gea, Paderewski, & Gutiérrez, 2005). Moodle was released in 2002 as a Modular Object-Oriented Dynamic Learning Environment (MOODLE) product. Moodle is a LMS that provides collaboration, interaction, and organization of course contents for educators (Costello, 2013).

Moodle draws upon the constructivism philosophy, which facilitates students' participation in their learning. The interface of Moodle, the usability and the discussion forums allow students to become part of a community system of social learning environments that is based on a robust pedagogical foundation (Psycharis, Chalatzoglidis, & Kalogiannakis, 2013). Moodle is argued to be more interactive than Blackboard (Beatty & Ulasewicz, 2006).

Moodle's high adoption rate is attributable to its friendly-use interface and no product cost because this latter was removed due to the full features offered by the open-source software. Moodle interface displays what the learner sees to the teacher. The editing tools are quick, well organized, and placed in order. Some of the advantages of using the open-source software is the fact that the design allows the user to take away the software company dependency risk that originated the code chosen to stop development and increase maintenance and development fees (Aydin & Tirkes, 2010).

Moodle stands out with its distinctive features being one of the most adopted platforms (Cabero-Almenara, Arancibia, & Del Prete, 2019). Moodle is unique because it has broader options with different access possibilities and modular-structures that allow instructors to remove and add contents according to their needs. On this platform, teachers have access to advanced tools that enhance collaborative activities, which can be integrated into the teaching process. The Moodle LMS also has advanced features that allow instructors to create student profiles and the environment to manage their coursework (Costa, Alvelos, & Teixeira, 2012) Moodle is also considered to be the best LMS environment that helps instructors organize their course contents and deliver day-to-day planned lessons (Martín-Blas & Serrano-Fernández, 2009).

Moodle allows online exams to be prepared in alignment with time, date, and duration constraints. Moodle has an advanced exam system and assessment modules; therefore, educators can create questions in various formats, such as multiple choice questions, single questions, short questions, true/false questions, and embedded-answer questions (Beatty & Ulasewicz, 2006). Moodle allows room for separate feedback provided to students. There is a strong presence of Moodle in higher education and business environments. Moodle's current user base is approximately 77,194 registered websites worldwide (Marcato & Scala, 2012). However, the utilization of Moodle in teaching relies heavily on instructors who have knowledge of Moodle features. Teachers should also be aware of how the synchronous and the asynchronous communicative approach should be maintained throughout because they are cogwheels, which place them in a position of responsibility concerning content creation, scaffolding and differentiating the learning and the teaching (Brandl, 2005; Hsiao, 2012).

Sakai

Sakai was a project designed and implemented by a small group of commercial organizations and higher education groups. The latter provided a Collaborative Learning Environment (CLE) that could be utilized in higher education (Schoonenboom, 2014). Sakai profoundly represents a unique approach to the LMS. Compared with other "open" systems that are available in the market, the direction and features of Sakai come from within higher education in order to address the constant needs of the academic community. The Sakai open-source community highly values the participation of educators and developers without which adoption will not be taking place.

Sakai was named after the famous Iron Chef Hiroyuki Sakai, whose project had first seen the light as an open-source application provided at no cost for use. The no-cost incentive led many educational institutions to adopt the Sakai CLE system for the aim of diffusing course contents and due to the appeal of the new source (Williams Van Rooij, 2011). Today, the latest version of Sakai 19 is released, and 350 organizations of different profiles are using this new version. Sakai 19 is adopted by commercial organizations, community servers, and academic institutions throughout the world (Duque, 2019).

Since the start of Sakai in 2005, the focus of the project design was to answer the needs of higher education. Sakai is perceived as an alternative to rigid, business-driven proprietary systems. Sakai provides a flexible, innovative platform for online learning. With development driven by a broad, global community of adopters and commercial affiliates, Sakai delivers powerful functionality while remaining true to its nature as 100% open-source (Duque, 2019).

The Intersection between TESOL and LMS

English language over the history had a fundamental role that was limited to teaching. Two factors contributed to the shift in the role of ESL teachers. First, with the increase of English Language Learners (ELLs) coming to the U.S. from diverse backgrounds and various educational needs, it often required teachers to be innovative in their teaching (Godwin-Jones, 2015). Second, the emerging use of technological interventions in education through online learning has also motivated change to happen at the level of teaching and learning the Target Language (TL) (Turnbull, 2010).

In the field of ESL, the historical shift to the stage of ‘professionalization’ also implied several responsibilities that were added to the role of the ESL teacher (Varghese & Jenkins, 2007). ESL teachers were required to carry out innovations in order to improve their teaching and answer the needs of the new population (De Lano, Riley, & Crookes, 1994). As a result of this shift in history, there was a necessity to redefine the term innovation as well as its implication, causes and process. Besides, ESL teachers have thought about redesigning their roles as primary agents who bring about the innovation to their classrooms. Innovation as a term was, hence, modified by ESL teachers in order to fit the new educational goals. Teachers mainly focused on four key terms that characterize the new definition of innovation in ESL: change, development, novelty, and improvement (De Lano et al., 1994).

First, innovations in teaching and learning imply change. Axtell, Holman and Wall argue that innovation in projects is synonymous with a change in behavior (Axtell, Holman, & Wall, 2006). Rogers (2003) also believed that an innovation is an idea “that is perceived as new by an individual or other units of adoption” (p. 12). Both definitions imply that change means ‘newness.’ For ESL teachers, innovation in teaching practices implicate introducing new ideas that are different from existing ones. Therefore, every innovation involves a change that may or may not be successful. Here, Rich (1975) explained that though innovations cannot exist without instigating some change, the majority of changes cannot be described as innovation (Rich, 1975). For Fullan (2001), change is related to the integration of technology. Implementation of strategies that can impact the rate of change signifies that projects with clear goals and specific step by step implementation support are more likely to influence student attainment (Fullan, 1998).

A second key component that was taken into consideration by ESL teachers is development. In the ELT, the term development has always existed with curriculum, programs, and professional development (Porter & Brown, 2006). Research shows the awareness ESL teachers had about their role as curriculum developers. They also note the need to redefine the role of ESL teachers as agents who contribute to decentralize the curriculum in its development process. To develop a curriculum is a manifestation of innovation. However, the curriculum should have a clear vision that targets the needs of language learning. Hence, what is new is not necessarily innovative, according to Riley and Crookes (1994).

The idea of 'newness' or novelty kept imposing itself on ESL teachers and researchers in the field. For instance, a new framework of innovation in higher education implies the process of how a new practice finds its way to the system (Dill & Friedman, 2008). In the ESL field, innovative educational practices were described as a trend, rather than a broad term that labels any program or a new process, or educational practice that is related to a new personal experience (De Lano et al., 1994). 'Newness' was revealed unsatisfactory to redefine innovation in the area of ESL, precisely because it relied upon personal experience to show the uniqueness of the innovation (De Lano et al., 1994).

In addition to novelty as a critical component that could be used to redefine innovation in ESL, improvement was another criterion. Indeed, one of the primary objectives that every innovation emphasizes is to bring about some improvements to the teaching practices. According to De Lano, Riley and Crookes (1994), if we need to recognize what constitutes 'better' than what has been used before, "it needs to be conceived at the outset of an attempt to innovate" (p.

489). In other words, examining the perceptions of TESOL teachers towards LMS fall within what ESL instructors had thought about before when innovation with the growth of technology and online teaching pressed instructors to adopt innovative educational practices.

Another aspect of change in education was initiated with the introduction of online education. This was referred to as a critical incident by De Lano, Riley, and Crooks (1994). In contemporary universities, online education has become a crucial part of teaching. With this, LMSs such as Blackboard, Moodle, Desire2Learn, Schoology, and Canvas have been primarily adopted (Salisbury, 2018). In language teaching, an LMS has been used to create an online presence, where learners can access and perform different types of learning activities. Examples can start from downloading files, notes to access the discussion boards, view short clips, and take and submit quizzes and assignments (Blair & Hoy, 2006).

Coskun and Arslan (2014) argued that e-learning software such as Moodle has advantages in facilitating English language learning. Moodle as a Content Management System (CMS) comprises several modules that assist instructors in delivering class contents effectively (Coskun & Arslan, 2014). The use of modern technology is growing worldwide, and language teachers have always been looking for innovative ways to enhance instruction (Suppasetseree, Denis, & Dennis, 2010). Therefore, many institutions in the U.S. and overseas adopt technology facilitation such as Canvas and Moodle as a support for teaching and learning (Kruger et al., 2015).

Many studies highlight the benefits of Moodle in teaching the English language. Zeng and Takatsuka (2009) examined peer-to-peer dialogue among ELLs using Moodle. The study revealed that computer-mediated conversation via Moodle LMS increased students' linguistic forms (Zeng & Takatsuka, 2009). A further study about the effectiveness of listening and speaking instruction through the use of Moodle indicated that a blended learning environment, which instructors create with the help of Moodle, has positively impacted the learners in many ways. The individualized listening and speaking environments have improved the critical thinking of the learners according to the study (Yang, Chuang, Li, & Tseng, 2013).

Salisbury (2018) conducted a study to retrieve data from first-year online writing classes using CMSs. The study aimed at understanding the links between writing instructors' teaching styles and the use of the CMSs' environment. Salisbury (2018) argued that understanding how writing instructors use CMSs will allow the academic institutions to understand the type of help and training instructors will need in order to teach writing effectively. Results from this study focused on three aspects: pedagogical practices, adoption, and limitation. When asked to describe their teaching practices, instructors described the CMSs as a window to practice student-centered, knowledge creating, and community building approaches (Salisbury, 2018). In the same study, instructors expressed a desire to do more with Blackboard using various tools offered by the system; however, their desire for adoption was not fully embraced. Instructors described both the blackboard tools they adopted or rejected and also specified the motivations behind adopting or rejecting the CMSs (Salisbury, 2018).

TESOL in EFL cannot be maintained without an LMS platform for various reasons. Many universities adopted hybrid approaches to ESL, such as blended learning, flipped classroom, and face-to-face instruction, in order to maximize learning (Comas-Quinn, 2011). These approaches rely on online activities and Computer Assisted Language Learning (CALL) to support teaching and differentiate the learning (Mohsen & Shafeeq, 2014).

To be able to offer an efficient online education delivery, universities have to build and maintain a reliable capacity for the online education server (Chow, Tse, & Armatas, 2018).

Increasingly, getting involved in online teaching has become mandatory for most colleges (Baran, Correia, & Thompson, 2011; Bennett & Lockyer, 2004) and instructors are mostly pressured by the institutions to adopt LMS to integrate technology communication regardless of their individual approaches to teaching (Buabeng-Andoh, 2012).

Similar to teachers of other subjects, TESOL teachers are required to prepare themselves for the challenges of the online environment through learning the required skills for course delivery. LMS is considered the innovation of the current times that push TESOL teachers to reconsider their roles (Godwin-Jones, 2015). At the level of the institution, administrators need to consider and evaluate teachers' perceptions because they are the primary pedagogical decision-makers in the classrooms (Graham & Robison, 2007) and have vital role into maintaining continuous progress of teaching and learning at the university (Kaleta, Skibba, & Joosten, 2007).

Diffusion of Innovations

Diffusion of Innovations is a theory that was introduced by Everett M. Rogers in 1962. Rogers' Diffusion of Innovations is one of the most reputable frameworks of technological innovations, and research from a variety of disciplines have used this theory as background (Sahin & Thompson, 2006). Since Rogers' theory classifies individuals and rates the degree of adoption, innovation of diffusion can be employed in this work as a framework to study the perceptions of LMS among TESOL/ESL teachers.

Drawing upon Rogers (1995), the history of the Diffusion of Innovations can be traced back to the works of the European diffusionists of the 19th Century (Rogers, 1995). At the moment of history in the early 19th century when the fields of sociology and anthropology were emerging, diffusionists like Gabriel Tarde, George Simmel, and others contributed in laying the foundations for the model of diffusion (Rogers, 2003). For example, Gabriel Tarde, who was a sociologist, a lawyer, and a judge targeted the legal cases in his society. Tarde observed certain generalizations about the Diffusion of Innovations that he called “the laws of imitation” (Rogers, 2003). Although Tarde did not use today’s concepts of ‘networking,’ he identified a human behavior that reflects how individuals learn when an innovation shows. However, the Diffusion of Innovations was a basic and fundamental explanation of people’s behavior with respect to change (Kinnunen, 1996).

A further root to the theory of Diffusion of Innovations was a group of anthropologists in Austria, England, and Germany. The anthropologists from Europe shared the same viewpoint regarding diffusion. They agreed that “diffusionism was the point of view in anthropology that explained a social change in a given society as a result of the introduction of innovations spread from one original source” (Rogers, 2003, p. 43). Diffusion challenges have indirectly stimulated the interests of American anthropologists Bryce Ryan and Neal Gross into investigating and conducting a study on the hybrid corn seeds in Iowa (Rogers, 1995).

The Ryan and Gross corn study revolved around adopting a new kind of corn seed among farmers in Iowa. Scholars across disciplines recognized that what they were investigating involved a “communication process” according to Rogers (2003). As a result, the approach of Diffusion of Innovations was not restricted to account for one particular field but instead expanded to examine the diffusion process in education, public health, geography, anthropology, political science, marketing, and sociology. Rogers (2003) concluded that every discipline initiated its diffusion research process based on the area of interest until the 60s, when the boundaries across disciplines and traditions became blurred.

Rogers' theory of Diffusion of Innovations was written in 1960 to a different audience. However, Rogers spent his life observing, analyzing and comparing the diffusion of innovation in agriculture with other fields to end up with the argument that diffusion is not restricted to any particular discipline; it is "a general process" (Rogers, 2003, p: xvi). The Diffusion of Innovations attempts to explain how innovations are carried out in a population. An innovation is a new idea or behavior, or a practice or an object that is conceived as unique by people. The position of House (1974) still holds relevance:

> "Innovations are acts of faith. They require that one believes that they will ultimately bear fruit and be worth the personal investment, often without the hope of immediate return. Costs are also high. The amount of energy and time required to learn new skills or roles associated with the new innovation is a useful index to the magnitude of resistance" (House, 1974, p. 73).

Diffusion of an innovation provides three significant insights into the process of change. First, an innovation offers the quantity that contributes to spreading the new idea. Second, an innovation stimulates peer networks and communication channels. Third, an innovation offers the opportunity to understand the needs of different individuals before reaching the stage of adoptability. Over history, diffusion has always put emphasis on communication, the message, and the information. There are four main elements to help diffuse this special message with regard to a new idea: communication channel, time, and a social system. It is worth noting that the word "new" refers to the adopters' potential to accept the new idea (Van de Ven, 2008). Based on Rogers (2003), an innovation may still be regarded as new by individuals, although it has been around for so long.

The reasons why these perceptions still hold valid among a social system is due to the communication channels that Rogers (2003) defines as "the means by which a message gets from one individual to another" (p. 18). Communication channels include face-to-face communication, interpersonal channels, and mass media (TV, newspaper, etc.). The channels of communication are tools that contribute to either discourage or encourage the adoption of an innovation. Rogers (2003) explains that interpersonal channels have more impact on an individual's decision of adoption; they create or change attitudes believed by individuals. In interpersonal channels, the communication may have a characteristic of homophily, that is defined as "the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, socioeconomic status, and the like" (Rogers, 2003, p. 19).

Time

Drawing upon Rogers (2003), the element of time is often an aspect that is disregarded in most behavioral research. Rogers argued that including the element of time in the process of diffusion is showing strength. Therefore, the element of time has to be included in the diffusion process, besides the classification of adopters and the rate of adoptions (Hubbard & Sandmann, 2007).

Social system

The social system is the last element in the process of diffusion. According to Rogers (2003), the social system is "a set of interrelated units engaged in joint problem-solving to accomplish a common goal" (p. 23). Based on the fact that diffusion of innovations takes place in the social system, it is impacted by social structure. As stated by Rogers (2003), the structure is "the patterned arrangements of the units in a system" (p. 24). Innovativeness is often impacted by the social structure which brings about different classes of adopters. According to Rogers (2003), four key factors, if combined, can help an innovation to be diffused and adopted by members of a social system: the innovation-decision process, innovativeness, rate of adoption and perceived attributes of innovation (Warford, 2010).

Learning Management Systems (LMSs) among Adopters

To implement a new LMS reflects a significant change for the users, namely the faculty and the university. Accepting LMSs as technological changes can be challenging for many instructors and not directly impacting any pedagogical practice (Rienties, Giesbers, Lygo-Baker, Ma, & Rees, 2016). Rogers (2003) stated that diffusion is “the process in which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). The objective of the diffusion process is to concentrate on adoption techniques towards two types of people: the early adopters and the early majority. This will help diffusionists spread the information about the innovation and persuade the late majority and laggards to adopt the new technology. However, the adoption of a new technology is hardly achieved 100 % in real-life situations. Although the theory of diffusion of an innovation tries to achieve a complete adoption, the perceptions of the users may alter creating five types of adopters (Yamamoto & Ananou, 2015).

Diffusion scholars believe that adopters are classified into five categories, and Rogers (2003) offers a description of each user category with their corresponding characteristics. The users, according to the theory of Diffusion of Innovations, are shown in figure 2. The figure shows that the five established categories are distributed in a bell-shaped curve. Adopters, according to Rogers, fall into one of the five innovativeness categories: innovators, early adopters, early majority, later majority and laggards.

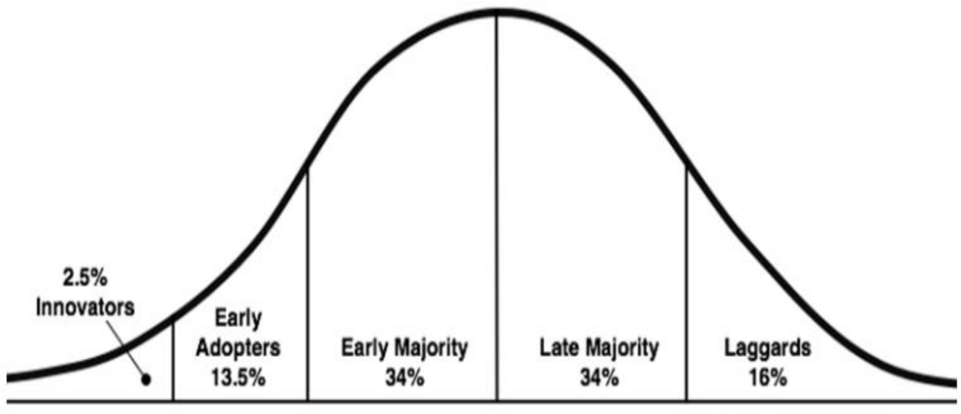

Figure 2. *The Bell-Shaped Curve Distribution of Rogers' Characteristics of Innovativeness (Rogers, 2005, p. 281).*

The Innovators are venturesome, idealistic, daring risk-takers whose interests in innovative ideas put them into expanded social networks. Based on figure 2, they constitute 2.5% of the bell-shaped curve. These are the first followers to push for the adoption of an innovation, by playing the role of a gatekeeper in the flow of maintaining new ideas. Robinson (2013) believes this segment of the curve should be followed and invited to join as partners in design projects.

The Early Adopters constitute 13.5% of the bell-shaped curve. They are the localities that potential adopters ask for advice and information. Early adopters will become role models who trigger the critical mass adoption of the innovation because they are opinion leaders. They also contribute to the quick spread of the diffusion process (Rogers, 2003, p. 283). "They do not adopt until most others in their system have already done so" (Rogers, 2003, p. 284). Before the late majority feel safer to decide about the innovation, they heavily rely on the recommendation of these leaders. If this segment of adopters acknowledges the value of the innovation, there is greater confidence that it will be adopted by members of a social system (Robinson, 2013).

The Early Majority constitutes 34% of the bell-shaped curve. These characters are evaluators, skeptical, cautious, and purposeful. These users make up the biggest portion of the adopters and early adopters before adopting an innovation (Rogers, 2005, p. 283). Users of this category accept change but wish to know how the change will benefit them in a way or another. Robinson (2013) believes in five main ideas that may convince the early majority to adopt an innovation: (1) offering "competition to stimulate buzz," (2) utilizing "mainstream advertising and social media stories featuring endorsements from credible, respected, similar folks," (3) decreasing the cost and ensuring performance, (4) adhering to simplicity and friendly-to-use innovations and (5) providing a satisfactory customer service. These segments of the adopters are more followers than leaders.

The Late Majority constitutes 34% of the bell-shaped curve. These individuals are also skeptical and cautious but are slow thinkers. These users postpone adoption until the innovation has been proven and used for some amount of time. According to Rogers (2003), this segment of adopters is conservative and "risk haters" (Robinson, 2013, p. 5). In order to take a decision to adopt an innovation, these individuals need the confirmation of their peers. Their decision comes right after the average members of the social system have taken action concerning an innovation (Rogers, 2003).

The Laggards are the final group of adopters in the bell-shaped curve, and they constitute 16% of the segment**.** Laggards take decisions regarding an innovation based on what others did in the past. Laggards are therefore traditional in their reactions to an innovation because they want to have high levels of control over when, where, how and whether they do the new way (Robinson, 2013, p. 5). Laggards continue to have uncertainties regarding an innovation, and they want it to be addressed before making a decision (Rogers, 2003).

Adopting an innovation by members of a social system is not guaranteed (Rogers, 2003). Although technology is regarded as the tool that provides effectiveness in the educational process, online effectiveness directly relies on the presence of a LMS (Levy, 2006; West et al., 2007). The corpus of literature dedicated to understanding the perceptions of LMS among TESOL/ESL users remains poorly investigated (Beetham & Sharpe, 2014; Herrington, Reeves, & Oliver, 2005; Renzi & Klobas, 2010). This gap in the literature suggests a need for further investigation, mainly because teachers' beliefs are interrelated with action and can inspire practice (Albion & Ertmer, 2008; Ertmer, Gopalakrishnan, & Ross, 2001).

There is evidence that teachers obtain more of their knowledge of teaching with technology through personal experience or some other informal ways (Kessler, 2007). Similarly, although universities make huge investments on LMS, faculty do not make full use of the variety of features that support teaching (Dahlstrom et al, 2014; Picciano, Seaman, & Elaine Allen, 2010). There is an increased awareness among ESL, TESOL and EFL programs of the necessity to increase technology within the classroom in order to differentiate and create a more interactive learning environment (Cavus, Uzunboylu, & Ibrahim, 2007; Levy, 2006). However, Pajo and Wallace (2001) argued that effective integration of technology in teaching relies not only on the availability of the innovation but also on how instructors embrace and use it. Hence, teachers' perceptions impact and promote students' use of LMS (Al-Busaidi & Al-Shihi, 2012).

In a study on faculty's attitudes towards LMS, the majority of respondents reported using LMS but only focused on limited features. The study reveals that 78% of faculty members used LMS for uploading course syllabi, 58% used LMS for keeping track of grades and 52% used LMS for communicating with students. Only 20% of faculty reported using LMS to record lecture content. While approximately 99% of higher education institutions have a LMS in place, approximately one-half of faculty reported using such systems on a regular basis, and the majority of the faculty do not take full advantage of LMS capabilities that have potential to enhance the students' results (Fathema, Shannon, & Ross, 2015). Hence, based on these findings, to ensure an increase in the use of LMSs by faculty members, more investigations have to be done in order to improve the understanding of the adoption decision-making, the characteristics of LMS as an innovation and the barriers that hinder this adoption. Teo (2012) argued that instructors' attitudes and perceptions with respect to technology have a great effect on learners' success in learning with technology in the classroom (Teo, 2012).

Rogers (2003) believed that individual innovativeness is the sub-category mostly used in the theory of diffusion. In the field of education, several studies were conducted to better understand the perceived attributes of an innovation as well as the classifications of adopters (Rogers, 2003). Al-Busaidi and Al-Shihi (2012) conducted a study to examine the main factors that impact instructors' satisfaction of LMS in a blended learning environment (Al-Busaidi & Al-Shihi, 2012). This satisfaction translates their intention to keep using LMS in a blended learning environment for online education. The examined factors are directly related to instructors' individual characteristics (computer anxiety, technology experience, and personal innovativeness), LMS characteristics (system quality, information quality, and service quality), and organizational characteristics (management support, incentives policy, and training).

Results from the data indicated that computer anxiety, personal innovativeness, system quality, information quality, management support, incentives policy, and training constitute major factors to instructors' satisfaction of LMS in a blended learning environment. Also, the satisfaction of instructors is a significant catalyst of their continuous intention to use LMS in a blended learning environment and the adoption of LMS in the overall teaching in online education. Personal characteristics represent ‘innovativeness’ and a valuable source to better understand adopters’ decisions with respect to an innovation. The adoption of an innovation is based on the adopters’ perceptions of five major attributes according to Rogers (2003): (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability. “The characteristics of innovations, as perceived by individuals, help to explain their different rates of adoption” (Rogers, 2003, p. 15).

Characteristics of Learning Management Systems

Relative Advantage

Relative advantage expresses “the degree to which an innovation is perceived as being better than the idea it supersedes” (Rogers, 2003, p. 15). To Rogers (2003), the relative advantage is always expressed in terms of economic benefit. The cost of an innovation is an essential factor that impacts the rate of adoption. When the price of an innovation drops during the process of diffusion, a rapid rate of adoption takes place (Rogers, 2003). Other factors that can positively influence adoption are social prestige and convenience.

In another study on LMS usage and perspectives from university faculty, the researchers initially attempt to understand how LMS is better (Walker et al., 2016). Respondents revealed a set of features that are advantageous for their usage of LMS. The positive features of using LMS in online teaching are indicated as follows. First, the “gradebook” is a useful tool because it allows instructors to manage assignments. Second, assessment tools are useful to keep track of student’s progress. Third, course material allows instructors to post all kinds of contents in every possible format that students can access from anywhere. Instructors also perceive further factors, such as communication tools, interface, and the administration of classes as beneficial and useful for online teaching. In this study, the factors mentioned above have also been described as features that can hinder online teaching and learning (Walker et al., 2016).

Compatibility

Rogers (2003) believes that innovations may be compatible with past experiences or ideas. Compatibility is "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (Rogers, 2003, p. 240). There is no guarantee that an innovation can be largely adopted without some resistance from people. Sargent (1984) explained that the tribe of Bariba in Benin which highly values pain endurance rejects numbing medical treatments because pain is considered significant to the Bariba collective identity (Sargent, 1984). This is reflective of compatibility being consistent with the existing values and beliefs as well as the needs of potential adopters.

In the tribe of Bariba, compatibility adheres to individual and community goals, needs, and structure. Compatibility is therefore linked with the agreement between all groups of the traditional work pattern. In this study, to determine the compatibility of LMS among TESOL teachers, the researcher used seven measures (see Appendix A): (a) the extent to which LMS support the mission of TESOL teaching (b) LMS's alignment with teaching style, (c) the improvement of teaching effort (d) and the role LMS plays in sustaining relationships in class.

Observability

Observability is "the degree to which the results of an innovation are visible to others" (Rogers, 2003, p. 16). Observability is another characteristic that is positively associated with the rate of adoption of an innovation. Chawner (2005) believed that user satisfaction is the main constituent for successful LMS adoption (Chawner, 2005). Besides, the fact that innovators and adopters often discuss their likes and dislikes with respect to an innovation is vital to Rogers' theory of Diffusion of Innovations. A qualitative study was conducted to understand participants' use of the Interactive White Board (IWB) in the Jordanian modern school system. Results from a semi-structured interview revealed that when ESL teachers have the chance to examine the IWB for their educational practices, they take full advantage of its various features that support the student-centered approach (Jwaifell & Gasaymeh, 2013).

Individuals' decisions to adopt the innovation are impacted by members of the social system's observations who have previously adopted an innovation. Based on Rogers (2003), the majority of the previously explored studies of innovations are technological in nature. The cellphone is a sound example of observability because it is visible to others due to its audio-visual manner (Rogers, 2003). To determine the observability of LMS among TESOL faculty and instructors, the researcher used five measures (see Appendix A): (a) previous knowledge of teachers using LMS for their teaching, (b) visibility perception, (c) indirect perception, (d) general perception, and (e) publicity.

Complexity

Complexity is "the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 2003, p. 16). Individuals tend to reject adopting innovations which are perceived to be complex to use or understand. Perceptions of complexity can lead an individual to believe the costs of adoption will exceed the anticipated benefits. Complexity is the most common factor that serves as a limiting for diffusion of innovation (Rogers, 1995). Brooks, Brown, Davis and Lebeau (2014) examined the perceptions of engineering teachers with respect to Appraisal System for Superior Engineering Education Evaluation-Instrument Sharing and Scholarship (ASSESS LMS) (Brown & Lebeau, 2014).

Results from participants reveal that the information of ASSESS, was confusing. The symbols and terminology used throughout the website were misunderstood and questioned by the respondents. Hence, in order to minimize confusion, additional changes were made to the

ASSESS LMS environment to make information simple and easy to use. According to Rogers (2003), among the five characteristics of innovation, complexity is the only characteristic that is negatively associated with the rate of adoption. In order to determine the complexity of LMS, the researcher used five measures (see Appendix A): (a) ease of use, (b) simplicity, (c) straightforwardness, (d) manageability, and (e) comfort.

Trialability

Rogers (2003) defined trialability as “the degree to which an innovation may be experimented with on a limited basis” (p. 16). Rogers (2003) also argued that trialability has been proven to be directly linked to the rate of adoption of an innovation. The adopters are more likely to develop a positive perception of an innovation when they can try it over a limited amount of time. This can generate acceptance to an innovation. The industrial practice that allows customers to test a product is held valid here because innovations that are tested tend to be more accepted than the ones not tested.

Trialability is a facet that determines the success of an innovation more at its early stages of adoption than its later one (Rogers, 1995). Studies have explored the impact that social systems can have on adoption. The behaviors of others can impact an individual’s decision to adopt an innovation (Rogers, 1995). Therefore, trialability can accelerate the adoption of LMS when the implementation of a new LMS comes in stages, allowing the users to test it to become familiar with its features and uses along with getting a chance to share their attitudes and behavior with other adopters (Black, Beck, Dawson, Jinks, & Dipietro, 2007). It is encouraging to TESOL/ESL teachers to try LMS in a blended learning platform before reaching the stage of full implementation in online education. Trialability is therefore a significant characteristic that can help users overcome the barrier of technology fear.

In this study, to determine the trialability of LMS, the researcher utilized four measures (see Appendix A): (a) the extent to which TESOL teachers can choose their own term of use of LMS; (b) the use of key features of LMS, with no obligation for continued or future use; (c) the capability to use their own teaching material, with no hassle for developing new material; and (d) being able to initiate simple tasks through LMS.

Barriers to the Adoption of Learning Management System's Diffusion

The barriers, for this study, are considered negative influence factors on the perceptions and attitudes of the adopters of LMS. The researcher for this study has identified five possible barriers based on the literature: (1) concerns about time, (2) concerns about incentives, (3) financial concerns, (4) planning issues, and (5) technology concerns.

Based on Myers, Shoulders, and Wilcox (2016), resistance to a new idea can hinder the adoption and diffusion of innovations (Wilcox, Shoulders, & Myers, 2016). Obstacles to the adoption and diffusion of an innovation can be related to "program credibility, administrative support, planning issues, technical expertise, financial concerns, concerns about time, concerns about incentives, infrastructure, conflict with traditional education, and fear of technology" (Li & Lindner, 2007, p. 47).

A large number of studies have discussed the barriers to adopt LMS in detail. Shea, Pickett, and Li (2005) have used Rogers' diffusion of innovation theory to examine the barriers that prevent faculty from using technology in their classes. After 913 lecturers in universities in the United States were examined, results found that factors such as technical support, previous positive experience, course contents, and university departments' logistics affect faculty's perceptions and attitudes to integrate technology in the classroom (Shea, Pickett, & Li, 2005).

In a study conducted by Asiri (2012) to examine the factors influencing the use of LMS in Saudi Arabian higher education, a number of external barriers were faced by faculty members (Asiri et al., 2012). Asiri (2012) described some sets of barriers that faculty members encountered and classified them into three core categories: (1) planning barriers, (2) technological barriers, and (3) social barriers. Planning barriers are related to the organizational and logistic measures that are usually made to support technology in the classroom setting (Zhao, Pugh, Sheldon, & Byers, 2002). Al-Saif (2005) argued that in an e-learning environment, technology facilitates the decision process for the faculty members' in regards to LMS.

Al-Senaidi, Lin, and Poirot (2009) explained that poor planning and technical support within public institutions are major obstacles to faculty's adoption and use of Jusur LMS (Al-Senaidi, Lin, & Poirot, 2009). By the same token, Dooley, Murphey, Lindner and Walker (2016) showed—in a qualitative study that focused on faculty perceptions of features of a newly implemented LMS—that adoption will eventually "follow an authoritarian-driven decision process by university administration" (Walker et al., 2016, p. 48). Karlan (2015) believes that the weakness of LMS lies in following the standards of the web, which institutions put pressure on faculty to use in their online platform (Walker et al., 2016).

Hussein (2011) examined the attitudes of faculty members at Saudi universities towards Jusur LMS. Results from the study revealed a set of positive attitudes towards Jusur LMS and three types of barriers: (1) personal constraints, (2) administrative constraints, and (3) physical constraints (Hussein, 2011). According to Hussein (2001), personal barriers refer to the strong resistance towards change or development in academia. Also, there is sometimes a lack of awareness about the importance of the integration of LMS, and therefore resistance to change emerges as an attitude towards the shift to e-learning (Garrote, 2012).

Administrative barriers refer to the fact that faculty members receive inadequate support from the administration in this regard. The physical barriers refer to the absence of infrastructure that can facilitate e-learning at the academic institution level (Buabeng-Andoh, 2012). In Ball and Levi's (2008) study, the researchers found the influence of personal instructors' characteristics (computer self-efficacy, computer anxiety and experience with the use of technology) impacting teachers' adoption of emerging educational technology (Ball, Levy, & Lauderdale, 2008).

The primary concern that several studies discuss is technological. In a study conducted by Kopcha, Rieber, and Walker (2016) on faculty's perceptions with regard to innovations in teaching and technology, one segment of faculty members was skeptical about technology and felt that they would not perform well in the online setting. Resistance to change, according to the researchers, is common in the early phase of the adoption of an innovation (Kopcha et al., 2016). Results reveal that negative beliefs toward an innovation can impact the rate of adoption and impede the practices of technology integration.

Based on Ottenbreit-Leftwich (2010) teachers' beliefs about instruction, tools are indicators for classroom use of technology (Ertmer & Ottenbreit-leftwich, 2010). Ngai, Poon, and Chan, (2007) indicated that facilitating conditions are regarded as enablers or barriers in the setting that impact a user's perception of simplicity or difficulty when carrying out a job (Ngai, Poon, & Chan, 2007). Another study explains that facilitating conditions can encourage users' adoption of an innovation (Panda & Mishra, 2007).

In a study that attempts to examine how faculty perceive library LMS tools, results revealed the following barriers: (1) lack of awareness about the importance of the innovation, (2) the lack of incentives, and (3) the lack of training. These obstacles impede the faculty's adoption and usage of the library LMS tools. The study also offered some potential solutions that can be advantageous to both librarians and instructors. The study explores the intersections between technology requirements, faculty needs, and librarian knowledge to identify possible new approaches and new functionality within the LMS (Leeder & Lonn, 2014).

Based on Bennett and Bennett (2003), perceptions of complexity may push instructors to assume that learning how to teach using technology will take more time and energy. A significant number of faculty report that the factor of time is a major obstacle for not fully adopting instructional technologies (Bennett & Bennett, 2003). Researchers also agree that many types of instructional technologies require time in learning and teaching (Heijstra & Rafnsdottir, 2010). Introducing an innovation involves a lack of commitment towards pedagogy (Benson & Palaskas, 2006). This situation makes faculty struggle with both the pedagogy of the course and how to communicate the learning goals to the students by utilizing LMS as an innovation. Such a process often takes time and effort to be effective (Reid, 2014).

Instructional technologies such as LMS has facilitated the shift to student-centered learning; however, Folkestad and Haag (2002) reported that faculty adopters perceive this as a disincentive and believes it necessitates more time compared with face to face instruction (Worley & Tesdell, 2009). Instructors are regarded as the first contact to whom students can report their LMS technical issues, which add more responsibilities to the teacher (Judge & O’Bannon, 2008).

Another barrier that impedes faculty from adopting an innovation can regard legal concerns. All types of LMS, such as Canvas, Moodle, or Blackboard, require that instructors upload class contents and materials into the online environment. This process involves concerns for ownership, which raises questions of copyright laws (McGrail & McGrail, 2010). Since the legal aspect of the online environment involves complex copyright regulations, faculty often express uncertainties and resistance by avoiding to share class material online (Bruner, 2007) Also, universities do not treat online course materials as intellectual property, according to Bruner (2007), which creates a conflict of ownership among the academic community (Bruner, 2007).

Along with these challenges, incentive barriers can also inhibit the adoption of LMS among faculty. The online environment has changed the role of the instructor, who is becoming both an instructor and a facilitator of online courses, via LMS. Such a shift in the roles when not adequately supported by structure, training, and funding can generate task concerns for adopters (Khan, Huda, & Mulani, 2015) and hinder the adoption of the innovation. The lack of compensation and recognition for online educators have regularly been identified as an obstacle for potential adopters (Muilenburg & Berge, 2009). Edwards and Minich (1998) found that 51 out of 64 instructors were not recognized for their distance education times and efforts (Edwards & Minich, 1998).

Padilla and Terry (2010) believed that there are other types of incentives that can motivate instructors to be invested in the innovation by "creating mechanisms to give faculty from different disciplines course credits for team teaching" (Hainline, Gaines, Feather, Padilla, & Terry, 2010, p.5). Feldstein (2017) argued that teachers will not remain motivated to spend time and effort unless institutions provide some incentives. Wolcott (2001) explored faculty views on compensation and a load of work concerns and found out that this population was more motivated by 'intrinsic' factors than by 'extrinsic' factors (Meyer, 2012). Betts (1998) argued that extrinsic factors are related to (1) intellectual challenge, (2) personal drive to use technology, (3) ability to reach out a new population of students who are not able to attend on-campus face-to-face classes, (4) promotion and tenure, and (5) recognition and reward. On the other hand, the intrinsic factors are related to (1) the lack of release time, (2) the lack of technical support, and (3) the faculty amount of work. Intrinsic factors have more of an impact on faculty participation in online education than extrinsic factors (Betts, 1998).

The barriers discussed above can influence the rate of adoption among faculty and instructors. According to Rogers (2003), adopters score higher on relative advantage, compatibility, trialability, and observability. Complex innovations often have lower rates of adoption, (Rogers, 2003) reasons behind which Rogers explored in detail the decision stages adopters go through starting from (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation (See Figure 3.) of an innovation.

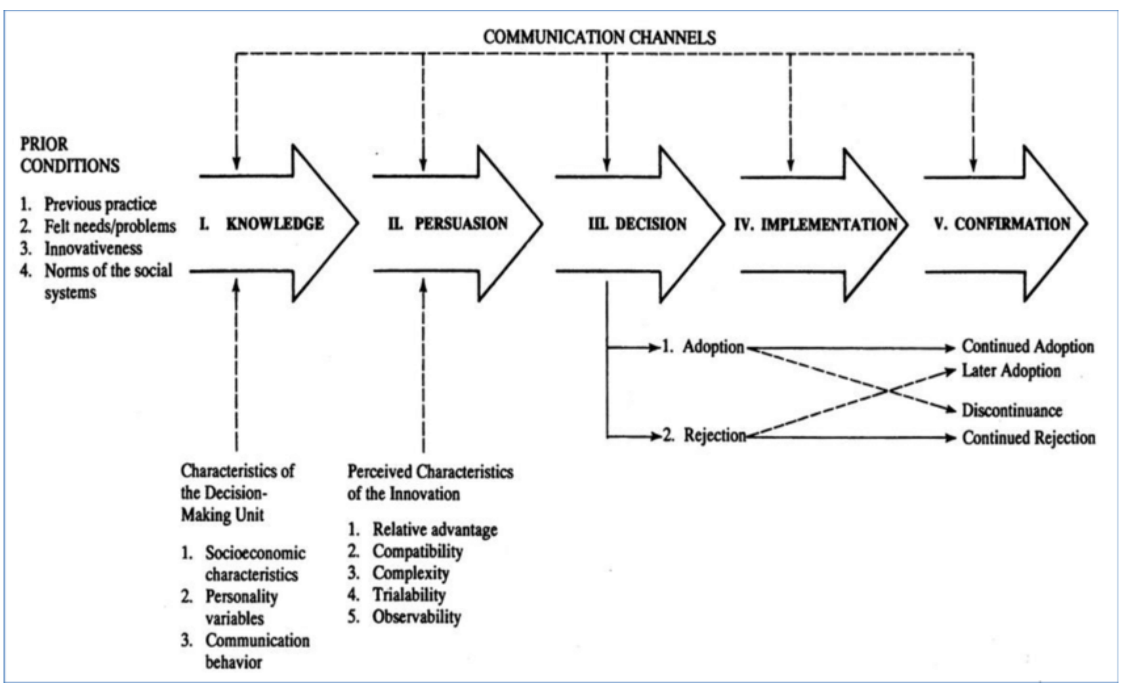

Figure 3. *Rogers' (2003) Five Stages in the Innovation-Decision Process*

The innovation-decision process, according to Rogers (2003) begins with the knowledge stage when individuals are exposed to an innovation via communication channels. Rogers (2003) defined communication channels as "the means by which messages get from one individual to another" (p. 18). The knowledge stage based on the figure relies on socio-economic and personality variables that can either support or undermine the adoption decision. The administrative decision is also scrutinized during the knowledge stage; adopters have consideration of whom to get support from when they take initiatives to adopt LMS (Shea, Li, & Swan, 2005).

In the persuasion stage, adopters consider whether LMS will represent an improvement and effectiveness compared with other methods faculty are using. Adopters would like to ensure that the adoption of LMS has incentives or rewards in the advancement of their careers. Also, under the persuasion stage, adopters in this process would like to have access to demonstration activities and practices where other faculty combine both LMS and pedagogy under online courses. Faculty would like to observe the online environment, where teaching and learning occur through the use of LMS (Shea, Fredericksen, Pickett, & Pelz, 2003).

Based on Rogers (2003), the decision phase takes place when "an individual engages in activities that lead to a choice to adopt or reject an innovation" (p. 177). Gonçalves and Pedro (2012) conducted a European higher education institution three years' longitudinal study on the different stages of LMS adoption process. Results revealed that in the three academic years, major growth was found both in the number of adopters of LMS and attitudes towards the innovation. Also, there was a growing number of courses released in the Moodle university setting. Although a significant diffusion is expected to happen in the coming years, still a small percentage of faculty may choose to reject adopting Moodle LMS for their teaching goals (Gonçalves & Pedro, 2012).

According to Rogers (2003), active rejection refers to the individuals deciding not to adopt the innovation. Passive rejection also explains the non-adoption decision, whereby the adopter never considers the use of an innovation. In the decision stage, the innovation process takes place at the cognitive level, whereas the implementation stage includes an overt behavior change. The implementation phase occurs when the individual puts the innovation into practice. The confirmation stage occurs when an individual seeks reinforcement of a decision that is already made, or reverts to the previous decision to adopt or reject the innovation, usually if exposed to different messages with respect to the innovation. Each phase in the innovation-decision involves a possible rejection point, according to Rogers (2003). Rejection may take place even after a prior decision has been made to adopt the innovation, which is called discontinuance.

The Meaning of Adult Education

Understanding teachers' perceptions about Learning Management Systems (LMS) can be explained within the meaning of Adult Education, the principles of andragogy, and the characteristics of adults as learners on which educators can ground their teaching practices. The meaning of Adult Education has evolved in the context of the times in which it took place. Early historical events influenced the meaning of Adult Education in the United States.

Adult Education first emerged from the efforts of several philanthropic foundations from the 1920s towards the 1950s for the sake of encouraging an emerging different educational field. Libraries and museums played an essential role in educating people and providing community service programs for lifelong learners. Through John Dewey's lens of philosophy of education and experiential learning, museums are advantageous spaces that have a long history of educating the public through formal and non-formal learning. Museums are interactive, "they have the power to confront individuals' schemata and transform the way people view the world" (Monk, 2013, p. 64).

In the United States, Adult Education emanated out of demographic, social, and technological changes, where the learning society of the time was rapidly changing. Therefore, the need to learn new things was urgent (Cross, 1983). This growth occurred in different sectors and synchronized with the rise of democracy and the industrial revolution. The term Adult Education grew out of the late-nineteenth-century educational outreach initiated by public schools, universities, churches, libraries, and museums to older adults (Stubblefield & Keane, 1994). To construct a unique definition of the term Adult Education, the Carnegie corporation created the first initiative. The corporation mapped the field of Adult Education through financially supporting several studies conducted in libraries, museums, and extension locations at universities.

Similarly, Chautauqua's assembly, a U.S. movement in Adult Education played an educative role in bringing both entertainment and culture for the whole community, with speakers, teachers, musicians, entertainers, preachers, and specialists. The assembly began as a program for the training of sunday-school teachers in the late 19th Century and mid-1920s. One problem that contributed to the confusion associated with the term was Adult Education's constant historical shift in the meaning (Conrath, 1971). Indeed, Adult Education witnessed a shift in its meaning, and it became an emblem of the social movement, according to Conrath (1971).

Later on, in 1926, the Carnegie corporation organized the first American conference on Adult Education. Twenty-eight people were invited to the conference to offer advice on the movement of Adult Education in the U.S. After this conference, the Carnegie corporation decided to sponsor several studies of Adult Education that would have a concentration on non-vocational inquiries. Carnegie's grant activities culminated with the organization of the

American Association for Adult Education (AAAE). Here, the field of Adult Education began to comprise other entities, such as agencies, special groups, teachers, historians, and social purposes. These layers that existed under the umbrella of Adult Education helped the AAAE to frame an influential definition in 1936 (Stubblefield & Keane, 1994). Hence, Lyman Bryson, a leader in Adult Education, defined the term as "all the activities with an educational purpose that are carried on by people engaged in the ordinary business of life" (Bryson, 1936, p. 3).

The definition emphasized the voluntary aspect when adults choose to engage with schooling. The definition inferred adult motivation and personal growth since they have to add new tasks besides their ordinary business life. In 1944, the AAAE hired James Truslow Adams to write the history of Adult Education, and he was a historian who had no prior technical knowledge in the field. He saw education for adults as a process that began since the start of history. Another contributor to the field of Adult Education was Malcolm Knowles. He focused on the development of the institutions for Adult Education. Since Knowles was an administrator, he also predicted a systematic classification of the field of Adult Education (Knowles, 1994).

The revisionists called for inclusive historiography of the Adult Education grounded on the fact that groups of university extension, librarians, women's reformists during the progressive era, and African Americans joining schools have contributed to the history of the field. This situation was very controversial; however, the revisionists called for conducting continuous research in order to meet all demands for inclusion and to increase the scope of the definition of Adult Education. This situation encouraged interest in research in a field that was undeveloped (Stubblefield & Keane, 1994).

Most current texts seem to approach Adult Education throughout the adult status of students with a focus on the environment of learning. Therefore, the following definition by

Brockett (1997) was selected. Merriam and Brockett (2007) defined Adult Education as "Activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception define them as adults" (Merriam & Brockett, 2007, p. 8).

The mentioned definition focuses more on the characteristics of adult learners. These characteristics include various roles that adults occupy. Besides being students, adults have obligations such as work, family, and the community. They bring rich experiences to the classroom, and the reason behind returning to college is to learn practical skills, boost their career, and improve their lifestyle. Adults are autonomous and self-directed. Self-directedness encompasses self-perception and sensitivity to social settings and changes (Zimmerman & Risemberg, 1997).

Characteristics of Adult Learners

Online learning environments are new mediums that represent the changes that occurred in course delivery in most higher education. Instructors and students need to adapt to this change and learn how to use this learning medium (Cercone, 2008). Moore and Keasley (1996) indicated that "the more one understands the nature of adult learning, the better one can understand the nature of distance learning" (p. 153). The nature of adult learners had received considerable attention among adult educators since the 1920s when Adult Education became a professional field (Merriam, 2001). One of the most recognized theories that attempted to explain learning among adults was Malcolm S. Knowles' learning theory of andragogy.

Andragogy is a learning theory that is used to address adults' increasing learning needs. Andragogy draws upon Knowles' idea that children and adults learn in different ways (Conrath, 1971). Andragogy is premised on four assumptions related to the characteristics of the adult learner. In the first assumption, Knowles (1988) argues that individuals move from a process of dependency as children to self-directness. The self-concept of dependency during childhood start taking the path of self-direction as children begin to be part of the adult world and the responsibilities associated with it.

Therefore, Adults acquire a new status when they have the challenges of career, family, and personal choices. Their self-fulfillment is now derived from performances of adults at workplaces, with families, and other personal pathways. Adults perceive themselves as constantly self-directed due to their ability to manage their lives. The self-concepts of adults taking all the decisions associated with adult life have some consequences on their adult learning. For instance, teachers should provide a learning environment where adults feel at ease. Adult students feel more accepted in an environment where students and teachers are joint inquirers (Knowles, 1988).

The second characteristic to consider when teaching adults is how the learner comes to class with “a growing reservoir of experience, which is a rich resource for learning” (Merriam & Caffarella, 1999, p. 272). Adults define themselves based on the accumulation of the experiences they have, which explains the fact that they place value in what they have done in life, according to Knowles (1988). Experience allows adults to be goal-oriented, which means that objectives and goals should be pre-outlined early in the course adult students sign up. Adults want to be able to select what to learn, apply and use what they learn to be “able to better deal with some life problems about which they feel inadequate now” (Knowles, 1968, p. 386).

A further major characteristic to consider when teaching adults is their readiness to learn “Adults are motivated to learn by internal factors rather than external ones” (Meriam & Caffarella, 1999, p. 272). Motivating factors for adults can be increased job satisfaction, self-esteem, and improving the quality of life, which encouraged adults to learning. Adults are motivated to be actively involved in the learning process, and teachers should be able to provide regular, consistent communication to those individuals (Knowles, 1988).

The motivation that drives adults to learn can also unravel the aspect that adults are goal-oriented. In his study of what motivates adults to learn, Houle (1961) came up with techniques to describe and classify learners. Houle conducted a study where he interviewed 22 participants. He was able to deduce that respondents could be classified into three categories; those that were goal-oriented, those that were activity-oriented, and those that were learning-oriented. Houle found that the three classes of motivations complemented and overlapped each other. He believed the learner's orientations did not stand alone but can be visually related by equally overlapping circles reflecting the interconnectivity of distinct classes of motivation (Houle, 1961).

The combined circle's center reflects the overlapping relationships between the different motivating factors of the adult learner. Houle argued that the three classifications are the primary classification in adult learners and therefore are critical in understanding the adult motivational education structure (Houle, 1961). Knowles (1988) believed that educators of the adult population are also required to follow a different orientation towards learning. Adult educators should be aware of the concerns of the individuals they serve and be able to develop learning experiences that will be compatible with these concerns.

Summary

To summarize, LMSs are internet-based software enabling instructors to organize their teaching materials and facilitate sharing them with students. LMSs are platforms for online communications designed to have a virtual presence and used for other aspects of instructions (Al-Busaidi, 2009). LMSs at present have become part and parcel of the educational system in most academic institutions since there is a growing interest in the adoption of the hybrid, blended and online approaches to learning (Graham, Woodfield, & Harrison, 2013). LMS has a variety of applications, such as Moodle, Desire2Learn, Carmen, Schoology, Sakai, Blackboard and Canvas.

Even though Blackboard is one of the most popular LMS that is designed, implemented and sustained by Blackboard Inc., all the other LMSs allow multimodal ways of communication, which exhibit the same function and benefits for the users (Chan, Hew, & Cheung, 2009). In this respect, the present study focused on examining the perceptions of LMS among TESOL/ESL teachers since they have a dominant role in teaching English to different student categories.

The study aimed at exploring the users' perceptions of LMS to get an understanding of the ways in which this medium is diffused among teachers for both learning and teaching tasks. This study used Rogers' (2003) diffusion of innovations as the theoretical framework. Diffusion of innovations attempted to explain how innovations are taken up in a population. An innovation is an idea, behavior, or object that is perceived as new by its audience. Rogers's theory was used as a framework to help understand the qualities that made LMS spread among TESOL/ESL teachers, and to understand the personal characteristics that influenced the diffusion of LMS as an innovation. Diffusion scholars identified five characteristics that determine the success of an innovation: a) Relative Advantage is the degree to which an innovation is perceived as a better idea. For example, perceptions about economic advantage, social prestige, and the satisfaction with the innovation can determine the decision of the adoption. The greater the perceived relative advantage of an innovation, the faster the rate of adoption takes place. b) Compatibility is the degree to which an innovation is perceived as consistent with the values of potential adopters. When an idea is incompatible with adopters' values, chances are the innovation will diffuse rapidly. c) Complexity is the degree to which an innovation is perceived as difficult to understand and use. d) Trialability is the degree to which an innovation can be experimented with on a limited basis. e) Observability is the degree to which individuals can see the results of an innovation. Visibility of LMS can stimulate peer discussion and increase the likelihood of adoption. Finally, TESOL instructions occur in a variety of settings, and the LMS platform is one of these environments that require understanding teachers' perceptions and characteristics. Teachers are also adult educators whose experiences place them in contexts where their reported perceptions of LMS environements should be taken into consideration.

CHAPTER III: Methods

This chapter discusses the methodology the researcher followed in conducting the study. Research design, participants, instrument, target population, data analysis, confidentiality, and privacy are described in this chapter. For the objective of this study, Learning Management Systems (LMSs) are defined as applications or platforms consisting of software and hardware technology used to deliver course content and material that facilitates teaching and learning (e.g., Canvas, Blackboard, Moodle). Teachers use LMS to accomplish a specific teaching and learning process over a certain period.

Purpose of the Study

As learning technologies continue to gain enormous popularity in higher education, this study examined Teaching English to Speakers of Other Languages (TESOL) or English as Second Language (ESL) teachers' perceptions about Learning Management Systems (LMSs) in online teaching. Teachers are the primary LMS users and they can affect the success of online education. Therefore, the purpose of this study was to understand the influence of personal factors on the adoption of LMS by TESOL/ESL teachers. Rogers' (2003) theory of Diffusion of Innovation was used to examine the levels of adoption of LMSs among TESOL teachers following five main attributes: relative advantage, compatibility, trialability, observability, and complexity.

Research Questions

To examine TESOL teachers' perceptions of Learning Management System (LMS), the following questions were used in this study. The research questions included:

1. What are the selected individual characteristics of TESOL or English as a Second Language (ESL) teachers in the states of Alabama and Mississippi?

2. What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers' (2003) stages in the decision process of innovation (no knowledge, knowledge, persuasion, decision, and implementation)?

3. What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

4. What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in online teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

5. What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers'(2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

6. What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS).

Research Design

This study is descriptive in nature. Descriptive research is significant in education because it involves assembling detailed descriptions of educational phenomena (Gall, Gall, & Borg, 2007). Also, Gall, Gall, and Borg (2003) suggested that descriptive methods are more effective in describing and interpreting the beliefs people hold regarding some issues. Cross-sectional survey design is convenient and commonly used in the field of education. The primary advantage of cross-sectional survey design is to allow researchers to examine the relationship among multiple variables at the time of the data snapshot. This cross-sectional research design showed TESOL teachers' perceptions and factors related to their views of LMS at a precise point in time (Levin, 2006).

Another advantage of this research design was that it helped describe the respondents of this study with regard to a dependent variable (perception) and the factors associated with it (stages in the innovation-decision process, relative advantage, compatibility, complexity, trialability, observability, concerns about time, concerns about incentives, financial concerns, planning issues, and technology concerns). In this study, perception was a dependent variable of interest. Age, gender, level of education, teaching experience, program size, certification, professional area, position in the school and foreign language fluency were the nine studied independent variables.

Participants

The target population in this study were the faculty and teachers of English as a Second Language (ESL) or Teaching English to Speakers of Other Languages (TESOL) in the states of Alabama and Mississippi. Teaching English to Speakers of Other Languages (TESOL) and English as Second Language (ESL) teachers were selected for this study (Gall & Borg, 2007). TESOL also comprises terms describing the areas of education: Teaching English as a Foreign Language (TEFL) and Teaching English as a Second Language (TESL). Based on that, TESOL and ESL teachers may choose several pathways for their professional careers. TESOL teachers are part of the communities of practice, adult educators, ESL teachers, and Intensive English Programs' (IEPs) full time and part-time instructors. Part of the mission of AMTESOL is to provide relevant information of ESL and “promote programs in communities that will improve the teaching of English as a second language at all levels of education” (AMTESOL, 2019, Mission section). A non-probabilistic purposeful sampling was used in the selection of participants for this study.The board of the Alabama-Mississippi Teaching English to Speakers of Other Languages (AMTESOL) approved access to this population (see Appendix B and C). As reported by the AMTESOL Association, the total population of AMTESOL teachers was 400 (L. Preston, personal communication, May 14, 2019). To calculate the sample size, Cochran's (1977) formula was used. Cochran's formula is appropriate in situations when populations are finite. Cochran indicated that if the population is finite, then the sample size can be reduced. He proposed the formula below to calculate the final sample size. Here, n_0 is the sample size, *n* is the reduced sample size, and *N* is the population size.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = \frac{150}{1 + \frac{(150 - 1)}{400}} \tag{1}$$

n= 106

In this study, the population size was 400 and the total expected number of responses was 150. In this case, Cochran said it is possible to work with a reduced sample 106, which was still representative of the population. The final sample size for the study was (*n*=99) drawing upon a 25% response rate. The researcher eliminated incomplete answers, specifically the ones that did not provide responses on the preceptions and barriers on Learning Management System (LMS).

Instrument

In this study, an online survey questionnaire (see Appendix A) was used to collect data. Survey instruments are commonly used in education research to collect types of data that are not easy to pin down, such as values, opinions, attitudes, and experiences (Gall, Gall, & Borg, 2007). Online surveys have several advantages, examples including the cost and the ease of analysis (Andrews, Nonnecke, & Preece, 2003; McPeake, Bateson, & O'Neill, 2013). Electronic email, were found to be faster and more economical (McPeake, Bateson, & O'Neill, 2014). The instrument was designed by Harder and Lindner (2007) to study the diffusion of eXtension among the Cooperative Extension agents in the state of Texas (Harder, 2007; Li & Lindner, 2007). Previously, this instrument was used in a variety of contexts to measure the perceptions of participants when adopting innovations in the field of agriculture.

The instrument included 25 questions and 53 items in total without demographic information. The instrument comprises four sections: a) stages in the adoption of LMS, b) characteristics influencing the diffusion of the innovation, c) potential barriers to the diffusion, and d) TESOL teachers' individual characteristics/demographics. In the first section of the survey, participants were asked to define the stage in the innovation. Participants could indicate their level of involvement with LMS by choosing from six stages. The first stage was added by Harder and Lindner (2007), and it indicated that respondents have no knowledge regarding LMS. The other stages of the innovation were based on Rogers' (2003) theory of the decision-process and the innovation: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). The second section of the instrument comprises 25 statements that asked respondents to rate their perceptions of LMS, utilizing a five-point Likert-Scale, where 1=*Strongly Disagree* (SD), 2=*Disagree* (D), 3= *Neither Agree nor Disagree* (NA/D), 4=*Agree* (A), 5=*Strongly Agree* (SA).

Rogers (2003) classified the characteristics of innovation into five categories: 1) relative advantage, 2) compatibility, 3) observability, 4) trialability and 5) complexity. Six items were used to measure the degree to which using LMS was perceived as a good idea (relative advantage). Six items were used to measure the degree to which the use of LMS was perceived as compatible with the values and teaching practices of TESOL/ESL teachers (compatibility).

Six items were used to measure the degree to which LMS was perceived as hard to understand and use (complexity). Four items were used to measure the degree to which LMS can be experimented to try its service and to see its value (trialability). Three items were utilized to measure the degree to which the use of LMS was visible to others (observability). Table 1 shows some of the utilized statements from the second section of the instrument.

Table 1

Characteristics Impacting the Diffusion of LMS

Statements	Characteristics
My class will become more popular due to the addition of LMS	Relative Advantage
LMS supports the mission of TESOL	Compatibility
LMS seems user-friendly	Complexity
I can select the features of LMS that I want	Trialability
LMS software is well publicized	Observability

Note: statements from the survey

The third section was designed to measure potential barriers to the adoption of LMS. Participants were asked to rate 28 statements on a five-point Likert-type scale, where 1=*Strongly Disagree* (SD), 2=*Disagree* (D), 3= *Neither Agree nor Disagree* (NA/D), 4=*Agree* (A), and 5=*Strongly Agree* (SA). Harder (2007) proposed five constructs that this study has adopted 1) financial concerns (4 items), 2) concerns about time (5 items), 3) concerns about incentives (6 items), 4) planning concerns (5 items), and 5) technology concerns (8 items). Under each construct, statements were modified based upon Harder's (2007) instrument. In the fourth section of the instrument, nine demographic/personal characteristics (age, gender, education, certification, professional area, experience, current position, program size, foreign language fluency) were measured. The variables were chosen because of their relationships with adopter categories and the stages of the innovation-decision process (Rogers, 2003).

The reliability of the instrument was previously tested by Lindner and Harder (2007), where α=.92 (Cronbach, 1951). This was a replicate study and the instrument was adopted from Lindner and Harder (2007), where permission was obtained from J. Lindner (personal communication, August 20, 2018). Content validity was tested in the original instrument by a panel of experts who were composed of faculty members in the Department of Agricultural Education, Leadership, and Communications at Texas A&M University and the national marketing director of eXtension. The wording for several statements was modified and tailored to survey TESOL teachers and increase the possibility of obtaining valid and reliable results. Table 2 summarized the number of items that this study did differently from Harder's (2007) number of items.

Table 2

Summary of Instruments

Measures	**Scale**	**Cronbach Alpha as described in Harder & Lindner's (2008)**	**Harder's (2007) number of items by construct (p. 134) (Items adapted for this research)**
Relative Advantage	Five-point summative scale	.89	8(6)
Compatibility	Five-point summative scale	.87	6(6)
Complexity	Five-point summative scale	.86	6(6)
Observability	Five-point summative scale	.88	3(3)
Trialability	Five-point summative scale	.96	4(4)
Concerns about time	Five-point summative scale	.89	5(5)
Concerns about incentives	Five-point summative scale	.92	7(6)
Financial concerns	Five-point summative scale	.91	5(4)
Planning concerns	Five-point summative scale	.92	5(5)
Technology concerns	Five-point summative scale	.88	9(8)

*Note:*Reliability levels ≥.80 were considered acceptable (Harder & Lindner, 2008; Harder, 2007)

Target Population

The target population for this study were teachers of ESL and TESOL who were also members of the Alabama and Mississippi Teaching English to Speakers of Other Languages (AMTESOL) organization. This group comprises individuals in the public school system and included full-time and part-time ESL teachers alongside full-time and part-time IEPs instructors. All these teachers were ESL or TESOL teachers who worked for public institutions in either Alabama or Mississippi. AMTESOL is an organization that provides a venue for interaction between teachers and serves the needs of TESOL/ESL professionals, IEPs instructors through research, conferences, and workshops in the Alabama and Mississippi states.

Data Collection

After permission was granted by Auburn University to conduct the study (see Appendix B), the survey was distributed using Qualtrics and then the data was analyzed. The researcher distributed the survey to the previously collected emails of 1) IEP directors working for the public system in Alabama and Mississippi, 2) IEP instructors in both states, 3) TESOL International organization e-lounge, and 4) the AMTESOL. An email was sent to the AMTESOL board to seek permission to send out survey questionnaires to the members and post the invitation to the survey Qualtrics link on their website. A non-probabilistic purposeful sampling was used in the selection of participants for this study Email invitations (see Appendix C) introduced the researcher, the research, and its importance along with an attached letter of information (see Appendix B) that also included the Institutional Research Board (IRB) permission to collect data from participants. Data collection started on April 17, 2019, and ended May 30, 2019. Non-responses were reminded after ten days non-response.

A permission to collect data was formalized on February 21, 2019. The surveys were completed by ESL/TESOL teachers who received the on-line Qualtrics survey link through their directors or the AMTESOL mail list sent by the webmaster. The invitation to take the survey and the information letter explained that participation was voluntary. The time to complete the survey was approximately 10 to 15 minutes. The total number of responses was 150 and the final sample size was (n=99), which was 25% response rate.

Privacy and Confidentiality

During the research process, the researcher maintained the privacy and confidentiality of the respondents. This was an anonymous survey and no personal identifying information was collected. The participants were asked to voluntarily submit their responses. All data were saved through Qualtrics and were able to be downloaded in different formats, such as Excel spreadsheets and the Statistical Package for the Social Sciences (SPSS). Once finished, findings were presented as aggregated data for statistical analysis. Participants could withdraw from answering the questions without consequences.

Data Analysis

Collected data were transferred into the SPSS software version 23. The study participants were described using descriptive statistics: frequencies, means, and standard deviation. Statistical procedures, including the Pearson product-moment correlation, were used to analyze the data (Davis, 1971). The Pearson product-moment correlation or Pearson'*r* is a measure of the strength or the magnitude of association that exists between two variables measured on at least an interval scale (Davis, 1971). The interpretation of the strength of the relationship between two variables is described (see Table 3.).

Table 3

Magnitude of Correlation Coefficient

Coefficient	Description
0.70 or higher	Very Strong Association
0.50 to 0.69	Substantial Association
0.30 to 0.49	Moderate Association
0.10 to 0.29	Low Association
0.01 to 0.09	Negligible Association

Note: Davis (1971) interpretation of Pearson's *r*

Research Question One

What are the selected individual characteristics of TESOL or ESL teachers in the states of Alabama and Mississippi?

Frequencies and percentages were calculated to describe the selected individual characteristics (gender, age, education, certification, professional area, program size, teaching experience, full time/part time position and foreign language fluency) of ESL/TESOL teachers. The use of frequencies and percentages is appropriate to describe categorical data (Gall, Gall, & Borg, 2007).

Research Question Two

What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers'(2003) stages in the decision process of innovation?

Frequencies and percentages were used to describe the participants' stages in the innovation-decision process (no knowledge, knowledge, persuasion, decision, implementation, and confirmation). The innovation-decision stage was treated as an independent variable in the study.

Research Question Three

What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

TESOL/ESL teachers' perceptions of LMS were described by cumulatively summating the scores for single items within each construct for each participant. The constructs were consistent with the characteristics of the innovation: a) relative advantage, b) compatibility, c) complexity, d) trialability, and e) observability (Rogers, 2003). The standard deviations and the means for all the items in each construct were also calculated.

Research Question Four

What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

There were five constructs which measured ESL/TESOL teachers' perceptions of potential barriers to the adoption of LMS: 1) concerns about time, 2) concerns about incentives, 3) financial concerns, 4) planning issues, and 5) technology concerns. The perceptions of the barriers to the adoption of the innovation were described by cumulatively summating the scores for individual items in each construct for each participant.

Research Question Five

What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

Relationships between perceptions of LMS based on Rogers (2003) characteristics of innovation and potential barriers were described by calculating Pearson's product-moment correlation coefficient. Davis's (1971) interpretation of Pearson's *r* was used to describe the strength of the relationships in Table 3.

Research Question Six

What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS)?

Relationships between potential barriers and respondents' selected personal characteristics were described by calculating Pearson's product-moment correlation coefficient. Davis' (1971) interpretation of Pearson's *r* was used to describe the strength of the relationships in Table 3.

Summary

This research is a quantitative study based on a descriptive and correlational research design. This cross-sectional research showed Teaching English to Speakers of Other Languages (TESOL) or English as Second Language Learner (ESL) teachers' perceptions and factors associated with their perceptions of Learning Management Systems (LMS) at a specific point in time. This research design helped describe the population of this study with respect to a dependent variable (perception) and a set of factors related to it (stage in the innovation decision process, relative advantage, compatibility, complexity, trialability, observability, concerns about time, concerns about incentives, financial concerns, planning issues, and technology concerns). Perception is a dependent variable of interest in this research. Age, gender, level of education, teaching experience, program size, certification, foreign language proficiency, current position types were seven independent variables considered in this study.

CHAPTER IV: Findings

This chapter presents the findings and the analysis of the data for this research. The chapter analyses population response, comparison of early versus late respondents as well as the findings, and the analysis related to each of the six research questions.

Purpose of the Study

As learning technologies continue to gain enormous popularity in higher education, this study examined Teaching English to Speakers of Other Languages (TESOL) or English as Second Language (ESL) teachers' perceptions about Learning Management Systems (LMSs) in online teaching. Teachers are the primary LMS users and they can affect the success of online education. Therefore, the purpose of this study was to understand the influence of personal factors on the adoption of LMS by TESOL/ESL teachers. Rogers' (2003) theory of Diffusion of Innovation was used to examine the levels of adoption of LMSs among TESOL teachers following five main attributes: relative advantage, compatibility, trialability, observability, and complexity.

Research Questions

To examine TESOL teachers' perceptions of Learning Management System (LMS), the following questions were used in this study. The research questions included:

1. What are the selected individual characteristics of TESOL or English as a Second Language (ESL) teachers in the states of Alabama and Mississippi?

2. What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers' (2003) stages in the decision process of innovation (no knowledge, knowledge, persuasion, decision, and implementation)?

3. What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003)

characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

4. What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in online teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

5. What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers'(2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

6. What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS).

Participant Responses

The target population in this study were the faculty and teachers of English as a Second Language (ESL) or Teaching English to Speakers of Other Languages (TESOL) in the states of Alabama and Mississippi. Teaching English to Speakers of Other Languages (TESOL) and English as Second Language (ESL) teachers were selected for this study (Gall & Borg, 2007). TESOL also comprises terms describing the areas of education: Teaching English as a Foreign Language (TEFL) and Teaching English as a Second Language (TESL). Based on that, TESOL and ESL teachers may choose several pathways for their professional careers. TESOL teachers are part of the communities of practice, adult educators, ESL teachers, and Intensive English Programs' (IEPs) full time and part-time instructors. Part of the mission of AMTESOL is to provide relevant information of ESL and "promote programs in communities that will improve the teaching of English as a second language at all levels of education" (AMTESOL, 2019, Mission section). A non-probabilistic purposeful sampling was used in the selection of participants for this study.The board of the Alabama-Mississippi Teaching English to Speakers of Other Languages (AMTESOL) approved access to this population (see Appendix B and C). As reported by the AMTESOL Association, the total population of AMTESOL teachers was 400 (L. Preston, personal communication, May 14, 2019). To calculate the sample size, Cochran's (1977) formula was used. Cochran's formula is appropriate in situations when populations are finite. Cochran indicated that if the population is finite, then the sample size can be reduced. He proposed the formula below to calculate the final sample size. Here, n_0 is the sample size, *n* is the reduced sample size, and *N* is the population size.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = \frac{150}{1 + \frac{(150 - 1)}{400}} \tag{1}$$

n= 106

In this study, the population size was 400 and the total expected number of responses was 150. In this case, Cochran said it is possible to work with a reduced sample 106, which was still representative of the population. The final sample size for the study was (*N*=99) drawing upon a 25% response rate. The researcher eliminated incomplete answers, specifically the ones that did not provide responses on the preceptions and barriers on Learning Management System (LMS).

Comparisons of Early Versus Late Respondents

Comparisons of early versus late respondents were conducted to evaluate if non-responses posed a threat to the external validity of the survey (Lindner, Murphy, & Briers, 2001). The first wave of the survey was received beginning April 17th, 2019 (*n*=49). The second wave of the responses was received close to the end of May 30th, 2019 (*n*=50). Table 4 shows that no significant differences existed between early and late respondents related to teachers' perceptions about the characteristics of LMS. Relative advantage *t* (99)=1.46, $p>0.05$; compatibility *t* (99)=0.59, $p>0.05$; complexity *t* (99)=1.76, $p>0.81$; observability *t* (99)=1.92 $p>0.05$. The only significant characteristic is trialability *t* (99)=3.04, $p<0.05$. Alpha was set at .05 when running the T-test.

Table 4

Early versus Late Response to the Characteristics of Learning Management Systems (LMS)

Returned Status	*n*	*M*	*SD*	*t*	*p*
Relative Advantage					
Early	49	3.64	0.72	1.46	0.14
Late	50	3.87	0.81		
Compatibility					
Early	49	3.81	0.82	0.59	0.55
Late	50	3.91	0.73		
complexity					
Early	49	3.95	0.57	1.76	0.81
Late	50	4.18	0.67		
Trialability					
Early	49	3.39	0.87	3.04	0.03
Late	50	3.88	0.73		
Observability					
Early	49	3.51	0.73	1.92	0.06
Late	50	3.84	0.98		

Table 5 shows that significant differences existed between early and late respondents related to teachers' perceptions about the barriers of the diffusion of LMS: concerns about time *t* (99)=3.34, $p<0.05$; concerns about incentives *t* (99)=2.71, $p<0.05$; technology concerns *t* (99)=2.63 p<0.05. However, no significant differences were found between early and late respondents related to financial concerns *t* (99)=2.50, $p>0.05$; planning concerns *t* (99)=1.83, $p>0.05$.

Table 5

Early versus Late Response to the Barriers of Learning Management Systems (LMS)

Returned Status	*n*	*M*	*SD*	*t*	*p*
Concerns about Time					
Early	49	3.22	0.81	3.34	0.00*
Late	50	3.86	1.01		
Concerns about Incentives					
Early	49	3.27	0.90	2.71	0.00*
Late	50	3.78	0.86		
Financial Concerns					
Early	49	3.22	0.87	2.50	0.01
Late	50	3.73	1.03		
Planning Concerns					
Early	49	3.48	0.86	1.83	0.06
Late	50	3.83	0.91		
Technology Concerns					
Early	49	3.25	0.71	2.63	0.01*
Late	50	3.68	0.85		

Research Question One: Findings

What are the selected individual characteristics of TESOL or ESL teachers in the states of Alabama and Mississippi?

The objective of the first research question was to show and describe the findings related to the selected characteristics of Teaching English to Speakers Of Other Languages (TESOL) or English as a Second Language (ESL) faculty in the states of Alabama and Mississippi.

Table 6 shows the distribution of participating TESOL/ESL teachers who use or do not use Learning Management System (LMS) in the schools where they work. Eighty-three respondents signaled the usage of LMS in their schools. Sixteen respondents signaled that they do not use LMS in the schools they are employed at. All the ninety-nine respondents chose to answer this question.

Table 6

Distribution of Participating ESL/TESOL Teachers Employed in Schools with or without Use of Learning Management System (LMS)

Teachers signaling use/non-use of LMS in their schools	*f*	%
Respondents signaling the use of LMS	83	83.8
Respondents signaling no use of LMS	16	16.2
Total	99	100
Note: n=99		

Table 7 shows the distribution of participating TESOL/ESL teachers by their familiarity with LMS. Results show that about forty-seven percent of participants are familiar with Canvas LMS, whereas approximately thirty-two percent of participants show familiarity with Blackboard. Another (14.1%) of the participants are familiar with Moodle LMS and only (1.1%) are familiar with ILearn LMS. About seven percent of participants responded that they were familiar with other LMS platforms. Seven participants chose to not answer this question.

Table 7

Distribution of Participating ESL/TESOL Teachers Familiarity with Learning Management System (LMS)

Teachers familiarity with Learning Management System	*f*	%
Canvas	43	46.7
Blackboard	29	31.5
Moodle	13	14.1
ILearn	1	1.1
Others	6	6.5
Total	92	100
*Note: Seven people did not respond. n≠*99 due to non-response		

Table 8 shows the distribution of participating ESL/TESOL teachers by professional area. Twenty participants (24.7%) were from Intensive English Programs (IEPs) from Alabama and Mississippi; five participants (6.2%) were from the field of education and social science; sixteen participants (19.8%) were from K-12 ESL. There were 24 participants (29.6%) from Higher

Education TESOL; fourteen participants (17.3%) were from the area of Adult Education ESL/TESOL and only two respondents (2.5%) were from the International Development fields. Seven people chose to not respond to this question.

Table 8

Distribution of Participating ESL/TESOL Teachers by Professional Area

Professional area	*f*	%
Intensive English Program (IEP)	20	24.7
Education and Social Science	5	6.2
K-12 ESL	16	19.8
Higher Education TESOL	24	29.6
Adult Education ESL/TESOL	14	17.3
International Development	2	2.5
Total	92	100
*Note: Seven people did not respond. n≠*99 due to non-response		

Gender

Table 9 indicates the distribution of participating ESL/TESOL teachers (*n*=99) by gender. Forty participants (44.4%) were male and fifty participants (55.6%) were female. Nine people chose to not respond to this question.

Table 9

Distribution of Participating ESL/TESOL Teachers by Gender

Gender	*f*	%
Male	40	44.4
Female	50	55.6
Total	90	100
*Note: Nine people did not respond. n≠*99 due to non-response		

Age

Table 10 shows a dispersal of participating ESL/TESOL teachers (*n*=99) by age. Twenty-two (24.4%) respondents were under 30 years old; twenty-three (25.6%) respondents were in 38-46 years old range; twenty-one (23.3%) respondents were in 47-54 years old range;

twenty-four (26.7%) respondents were more than 55 years old. The youngest ESL/TESOL teacher was 28, whereas the oldest was 72. Nine participants chose to not respond to this question.

Table 10

Distribution of Participating ESL/TESOL Teachers by Age

Age Group	*f*	%
<37	22	24.4
38-46	23	25.6
47-54	21	23.3
>55	24	26.7
Total	90	100

Note: Nine people did not respond. n≠99 due to non-response

Level of Education

Table 11 describes participating ESL/TESOL teachers (*n*=99) by their level of education. Sixty-one participants (69.3%) had a master's degree; nineteen participants (21.6%) had a doctoral degree; and six participants (6.8%) had a professional degree. Two participants (2.3%) have a bachelor degree. Eleven participants chose to not respond to this question.

Table 11

Distribution of Participating ESL/TESOL Teachers by Level of Education

Degree	*f*	%
Bachelor	2	2.3
Master	61	69.3
Professional	6	6.8
Doctoral	19	21.6
Total	88	100

Note: Eleven people did not respond. n≠99 due to non-response

Teaching Experience

Table 12 shows the distribution of participating ESL/TESOL teachers (*n*=99) by teaching experience. Twenty participants (22.0%) had less than five years of teaching experience.

Twenty-four (26.4%) had between 5-10 years of teaching experience. Twenty-four (26.4%) had between 10-17 years of teaching experience. Twenty-three (25.3%) had between 18-20 years of teaching experience. Eight participants chose to not respond to the question.

Table 12

Distribution of Participating ESL/TESOL Teachers by Teaching Experience

Teaching Experience	*f*	%
0-4	20	22.0
5-10	24	26.4
11-17	24	26.4
18-40	23	25.3
Total	91	100
Note: Eight people did not respond. n≠99 due to non-response		

Program Size

Table 13 describes participating ESL/TESOL teachers (*n*=99) by program size. Thirteen participants (15.6%) were in a one-person program size. Seven participants (8.4%) were in a two to three person program. Sixty-three participants (76%) were in a four or more person program. Sixteen people did not respond to this question.

Table 13

Distribution of Participating ESL/TESOL Teachers by Program Size

Program Size	*f*	%
1	13	15.6
2-3	7	8.4
4+	63	76
Total	83	100
Note: Sixteen people did not respond. n≠99 due to non-response		

Certification

Table 14 shows a distribution of ESL/TESOL teachers by their certification. Sixty-six (73.3%) participants were either ESL/TESOL certified. Twenty-four (26.7%) participants were not certified. Nine people chose to not respond to this question.

Table 14

Distribution of Participating ESL/TESOL Teachers by Whether or not they hold a Certificate

Certification	*f*	%
Participants who are TESOL/ESL certified	66	73.3
Participants who are not certified	24	26.7
Total	90	100
*Note: Nine people did not respond. n≠*99 due to non-response		

Foreign Language Fluency

Table 15 disperses the participating ESL/TESOL teachers by their fluency in a foreign language. Twelve respondents (22.2%) were fluent in either Arabic or French languages. One respondent (1.9%) was fluent in the Chinese language. Three participants (5.6%) were fluent in either Korean, German or Italian; and twenty participants (37.0%) were fluent in Spanish. Forty-five people chose to not respond to this question.

Table 15

Distribution of Participating ESL/TESOL Teachers by TESOL/ESL by Fluency in a Foreign Language

Foreign language fluency	*f*	%
Arabic	12	22.2
Chinese	1	1.9
French	12	22.2
Korean	3	5.6
German	3	5.6
Italian	3	5.6
Spanish	20	37.0
Total	54	100
*Note: Forty-five people did not respond. n≠*99 due to non-response		

Current Position Type

Table 16 shows the distribution of participating ESL/TESOL teachers (n=99) by their full time or part-time position type. Seventy-five participants (82.4%) were in a full-time position.

Sixteen participants (17.6%) were in a part-time position. Nine participants chose to not respond to this question.

Table 16

Distribution of Participating ESL/TESOL Teachers by whether they Occupy Full Time/Part Time Position in the School

Participants who are full time or part time	*f*	%
TESOL/ ESL Participants who are full time	75	82.4
TESOL/ESL Participants who are part time	16	17.6
Total	90	100
*Note: Eight people did not respond. n≠*99 due to non-response		

Research Question Two: Findings

What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers' (2003) stages in the decision process of innovation?

The second research question was to describe the participants' stages in the innovation-decision process (no knowledge, knowledge, persuasion, decision, implementation, and confirmation).

Table 17 shows the distribution of participants according to their different stages in the innovation-decision process related to LMS. Six stages were used in the study to describe the innovation-decision process (no knowledge, knowledge, persuasion, decision, implementation, and confirmation). Among the ninety-nine participants, seven percent showed "no knowledge" about LMS. Eleven participants (11.1%) were in the stage "knowledge", whereas six respondents (6.1%) were in the "persuasion" phase. Seven respondents (7.1%) were in the stage of "decision". More than half of the population were in the stages of either "implementation" (32.3%) or "confirmation" (36.4%). All participants chose to respond to this question.

Table 17

Distribution of Participating ESL/TESOL Teachers by Their Current Stage in the Innovation Decision Process

	Descriptions	*f*	%
No knowledge	I had never heard of LMS before the description provided this questionnaire	7	7.1
Knowledge	I understand its purposes and features, but have not decided whether or not I like or dislike LMS	11	11.1
Persuasion	I have decided that I like or dislike LMS	6	6.1
Decision	I have decided that I will or will not use LMS	7	7.1
Implementation	I am using LMS	32	32.3
Confirmation	I have used LMS long enough to evaluate whether or not LMS will be part of my future in online teaching	36	36.4
Total		99	100

Note: M=4.56, S*D*=1.62, scale: 1=No Knowledge, 2=Knowledge, 3=Persuasion, 4=Decision, 5=Implementation, 6=Confirmation

Research Question Three: Findings

What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

Perceived Relative Advantage

The third objective was to describe ESL/TESOL teachers' perceptions of Learning Management System (LMS) based upon Rogers' (2003) characteristics of an innovation (relative advantage, compatibility, observability, complexity, and trialability). This was a five-point Likert scale, where (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). The perceived relative advantage of LMS was measured by participants' responses to six statements. Frequencies and percentages were used to describe the results. As shown in Table 18, approximately fifty-four percent of participants agreed or strongly agreed that LMS can make their class more popular. Approximately eighty percent of participants agreed or strongly agreed that LMS could give access to more teaching contents.

About forty percent of participants agreed or strongly agreed that LMS can create more funding opportunities for TESOL and approximately 50% showed a more neutral attitude. Fifty-one percent of participants agreed or strongly agreed that they envision spending less time when they refer their students to LMS. Fifty-five percent of participants agreed or strongly agreed that LMS provides them as teachers with more time to help their students. About 25% showed a neutral attitude toward this statement. About 70% of participants agreed or strongly agreed that LMS can allow them to deliver information at a faster pace. Only eighteen percent had a neutral attitude toward this question. Overall, the mean and standard deviation for the perceived relative advantage of LMS were M=3.76 and SD=0.77. ESL/TESOL teachers tended to agree with the existence of the relative advantage of LMS.

Perceived Relative Advantages of Learning Management System (LMS)

Table 18

Distribution of Participating ESL/TESOL Teachers by Their Perception about Relative Advantage of Using Learning Management System (LMS)

		SD		D		NA/D		A		SA	
Relative Advantage Items	*n*	*f*	%	*F*	%	*f*	%	*f*	%	*f*	%
My class will become more popular due to the addition of LMS	99	2	2.0	9	9.1	35	35.4	26	26.3	27	27.3
LMS increases the accessibility of TESOL content	99	1	1.0	2	2.0	18	18.2	48	48.5	30	30.3
LMS creates more funding opportunities for TESOL	99	3	3.0	8	8.1	49	49.5	24	24.2	15	15.2
I envision spending less time answering routine questions by referring students to LMS	98	9	9.2	21	21.4	18	18.4	36	36.7	14	14.3
LMS provides teachers with more time to serve students	98	4	4.1	16	16.3	24	24.5	34	34.7	20	20.4
I envision delivering information faster by using LMS as a software	99	2	2	10	10.1	18	18.2	24	37	32	32.3

Note: Overall *M*=3.76; *SD*=0.77, scale: 1=*Strongly Disagree,* 2=*Disagree*, 3=*Neither Agree nor Disagree,* 4=*Agree,* 5=*Strongly Agree*. *n*= 99.

Perceived Compatibility

The perceived compatibility of LMS was measured by participants' responses to six statements. Frequencies and percentages were used to describe the results. This was a five-point Likert scale, where (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). As shown in Table 19, approximately 65% of participants agreed or strongly agreed that LMS can support the mission of TESOL teaching. Almost 80% of participants agreed or strongly agreed that LMS is an acceptable way for TESOL teachers to deliver class content. Only fifteen participants showed a neutral attitude toward this statement. Over 70% of participants agreed or strongly agreed that LMS allowed them to deliver class contents depending on students' needs. Over 75% of participants agreed or strongly agreed that

LMS provided useful information to the students. Sixty percent of participants agreed or strongly agreed that LMS is compatible with their needs to cultivate sustainable relationships in class. Approximately 70% of participants agreed or strongly agreed that their future vision of LMS includes LMS. Overall, the mean and standard deviation for the perceived relative compatibility of LMS were M=3.86 and SD=0.77. ESL/TESOL teachers tended to agree with the existence of compatibility when using LMS.

Perceived Compatibility of Learning Management System (LMS)

Table 19

Distribution of Participating ESL/TESOL Teachers by Their Perception about Compatibility of Using Learning Management System (LMS)

		SD		D		NA/D		A		SA	
Compatibility Items	*n*	*f*	%	*F*	%	*f*	%	*f*	%	*f*	%
LMS supports the mission of TESOL teaching	99	4	4.0	2	2.0	29	29.3	39	39.4	25	25.3
LMS is an acceptable way for TESOL teachers to deliver class content	99	3	3.0	2	2.0	15	15.2	49	49.5	30	30.3
LMS will allow me to deliver class contents based upon the needs of students	99	2	2.0	3	3.0	22	22.2	47	47.5	25	25.3
LMS provides useful information to the students	99	1	1	1	1	21	21.2	44	44.4	32	32.3
LMS can be used to cultivate sustainable relationships in class	98	6	6.1	8	8.2	25	25.5	44	44.9	15	15.3
My vision for the future of TESOL includes LMS	98	2	2.0	6	6.1	22	22.4	44	44.9	24	24.5

Note: Overall M=3.86; SD=0.77, scale: 1=*Strongly Disagree,* 2=*Disagree*, 3=*Neither Agree nor Disagree,* 4=*Agree,* 5=*Strongly Agree.* n=99.

Perceived Complexity

The perceived complexity of LMS was measured by participants' responses to six statements. Frequencies and percentages were used to describe the results. This was a five-point Likert scale, where (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). As Table 20 shows, about 73% of participants agreed or strongly agreed that LMS is user-friendly. Sixty-two percent of participants agreed or strongly agreed that LMS is simple to use. Almost 90% of participants agreed or strongly agreed that accessing resources in the online format was easier for them. Over 86% of participants agreed or strongly agreed that they were good at navigating the online platform to find information. Eighty percent of participants agreed or strongly agreed that downloading information through LMS was not complicated. Ninety-two percent of participants agreed or strongly agreed that they were comfortable using the computer. Overall, the mean and standard deviation for the perceived complexity of the LMS were M=4.07 and SD=0.63. ESL/TESOL teachers agreed with the existence of complexity in using LMS.

Perceived Complexity of Learning Management System (LMS)

Table 20

Distribution of Participating ESL/TESOL Teachers by Their Perception about Complexity of Using Learning Management System (LMS)

		SD		D		NA/D		A		SA	
Complexity Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
LMS seems user-friendly	98	1	1.0	8	8.2	18	18.4	53	54.1	18	18.4
Using LMS is simple	98	1	1.0	13	13.3	23	23.5	43	43.9	18	18.4
Using online resources to access information is easy for me	98	1	1.0	2	2.0	7	7.1	53	54.1	35	35.7
I am good at navigating the on-line to find information I need	98	1	1.0	2	2.0	10	10.2	46	46.9	39	39.8
It will be easy for me to download information from LMS to my computer	98	0	0	5	5.1	14	14.3	44	44.9	35	35.7
The computer is a tool that I am comfortable using	97	1	1.0	3	3.1	4	4.1	34	35.1	55	56.7

Note: Overall M=4.07; SD=0.63, scale: 1=*Strongly Disagree,* 2=*Disagree*, 3=*Neither Agree nor Disagree,* 4=*Agree,* 5=*Strongly Agree*. $n \neq 99$ due to people non response

Perceived Trialability

The perceived trialability of LMS was measured by participants' responses to four items. Frequencies and percentages were used to describe the results using a five-point Likert scale, where (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). As Table 21 describes, about sixty-seven of participants agreed or strongly agreed that they can select the features they wanted in the LMS. Approximately sixty-four percent can define the term of their use of LMS. Almost sixty percent of participants agreed or strongly agreed that they can try key features of LMS without having to use LMS in the future. Over fifty percent of participants agreed or strongly agreed that they can use LMS without having to commit to creating new materials. Overall, the mean and standard deviation for the perceived trialability of the LMS were *M*=3.64 and *SD*=0.82. ESL/TESOL teachers tended to agree with the existence of trialability in LMS.

Perceived Trialability of Learning Management System (LMS)

Table 21

Distribution of Participating ESL/TESOL Teachers by Their Perception about Trialability of Using Learning Management System (LMS)

		SD		D		NA/D		A		SA	
Trialability Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
I can select the features of LMS that I want	99	3	3.0	9	9.1	22	22.2	43	43.4	22	22.2
I can define the term of my use of LMS	99	3	3.0	13	13.1	20	20.2	45	45.5	18	18.2
I can test key features of LMS with no obligation for continued future use	99	2	2.0	9	9.1	29	29.3	40	40.4	19	19.2
I can use LMS without committing to develop new materials for it	99	3	3.0	14	14.1	25	25.3	38	38.4	19	19.2

Note: Overall *M*=3.64; *SD*=0.82, scale: 1=*Strongly Disagree,* 2=*Disagree*, 3=*Neither Agree nor Disagree,* 4=*Agree,* 5=*Strongly Agree*. *n*= 99.

Perceived Observability

The perceived observability of LMS was measured by participants' responses to three statements. Frequencies and percentages are used to describe the results. On a five-point Likert scale where (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*). As Table 22 shows, Fifty-six percent of participants agreed or strongly agreed that LMS software was well-publicized. Sixty-five percent of participants agreed or strongly agreed that LMS was highly visible to them. About 58% of participants agreed or strongly agreed that they should be able to identify people who are involved in LMS. Overall, the mean and standard deviation for the perceived observability of LMS were M=3.68 and SD=0.88. ESL/TESOL teachers tended to agree with the existence of the observability of LMS.

Perceived Observability of Learning Management System (LMS)

Table 22

Distribution of Participating ESL/TESOL Teachers by Their Perception about Observability of Using Learning Management System (LMS)

		SD		D		NA/D		A		SA	
Observability Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
LMS software is well publicized	98	2	2.0	12	12.1	29	29.6	36	36.7	19	19.4
LMS is a highly visible tool	98	1	1.0	6	6.1	27	27.6	39	39.8	25	25.5
Teachers will easily be able to identify people who are involved in LMS	99	3	3.0	11	11.1	28	28.3	36	36.4	21	21.2

Note: Overall M=3.68; SD=0.88, scale: 1=*Strongly Disagree,* 2=*Disagree*, 3=*Neither Agree nor Disagree,* 4=*Agree,* 5=*Strongly Agree*. $n \neq 99$ due to people non response

Research Question Four: Findings

What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

The fourth research question was to describe teachers according to their perceptions of barriers to the adoption of LMS (concerns about time, concerns about incentives, financial concerns, planning issues, and technology concerns).

Concerns about Time

Five statements measured participants' perceptions about time concerns as a barrier to the adoption of LMS. Table 23 shows the results, which were described by frequencies and percentages. About fifty percent of participants agreed or strongly agreed about time concerns accessing material in LMS. Approximately fifty-three percent of participants thought it was a strong or very strong barrier to respond to online requests through LMS and about twenty-seven thought it was moderate. As to the lack of time to meet students' needs, more than fifty percent of participants thought it was a strong or very strong barrier, while approximately twenty-one thought it was a moderate barrier.

As to the lack of time to learn how to incorporate LMS into the typical jobs for teachers, about seventeen percent of participants thought it was a weak barrier, while sixty-two percent thought it was a strong or a very strong barrier. As to the lack of time available to search for information on LMS, fifty-four of participants thought it was a strong or very strong barrier, and about twenty-four thought it was a moderate barrier. Overall, the mean and standard deviation for concerns about time as a perceived barrier to adoption of LMS were M=3.54 and SD=0.96. ESL/TESOL teachers tended to perceive time concerns as a moderate barrier.

Concerns about Time as Perceived Barrier to Adoption of Learning Management System (LMS)

Table 23

Distribution of Participating ESL/TESOL Teachers by Their Perception of Concerns about Time as a Barrier to the Adoption of Learning Management System (LMS)

		No Barrier		Weak Barrier		Moderate Barrier		Strong Barrier		Very Strongly Barrier	
Time Concern Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Lack of time available to access material in the LMS	91	2	2.2	25	27.5	20	22.0	19	20.9	25	27.5
Lack of time available to respond to online requests for information via LMS	91	2	2.2	17	18.7	24	26.4	28	30.8	20	22.0
Lack of time to meet the needs of students using LMS	91	5	5.5	15	16.5	19	20.9	28	30.8	24	26.4
Lack of time to learn how to incorporate LMS into typical job responsibilities for teachers	90	1	1.1	14	15.6	19	21.1	35	38.9	21	23.3
Lack of time available to search for information on LMS	89	0	0	20	22.5	21	23.6	29	32.6	19	21.3

Note: Overall *M*=3.54, *SD*=0.96, scale: 1=No Barrier, 2=Weak Barrier, 3=Moderate Barrier, 4=Strong Barrier, 5=Very Strongly Barrier. *n*≠ 99 due to item non-response.

Concerns about Incentives

Participants' perceptions of concerns about incentives as a barrier to the adoption of LMS were measured by participants' responses to five statements. Table 24 shows the results of the responses that were described by frequencies and percentages. Monetary compensation thought to be a barrier to the adoption of LMS, and about 61% of participants thought it was a strong or very strong barrier. The lack of institutional recognition can be a barrier to the adoption of LMS. Fifty-one percent of respondents thought it was a strong or very strong barrier.

Participants thought that the lack of correlation between a teacher's use of LMS and teachers' evaluation could be a barrier. Almost 50% of these participants thought it was a strong or very strong barrier, and about 40% thought it was a moderate barrier.

Concerning the lack of rewards for involvement with LMS, 57% believed it was a strong or very strong barrier, while about 31% thought it was moderate. The lack of monetary incentive for using LMS was a barrier that hindered the adoption of LMS; fifty-eight percent thought it was a strong or very strong barrier, while about 29% thought it was a moderate barrier. As to the lack of support from local administration, about 40% thought it was a strong or very strong barrier. Approximately 32% thought it was a moderate barrier, while almost 20% thought it was a weak barrier. Overall, the mean and standard deviation for concerns about incentives as a perceived barrier to the adoption of LMS were M=3.53 and SD=0.91. ESL/TESOL teachers tended to perceive concerns about incentives as a moderate barrier.

Concerns about Incentives as Perceived Barrier to Learning Management System (LMS)

Table 24

Distribution of Participating ESL/TESOL Teachers by Their Perceptions about Concerns about Incentives as a Barrier to the Adoption of Learning Management System (LMS)

		No Barrier		Weak Barrier		Moderate Barrier		Strong Barrier		Very Strongly Barrier	
Incentive Concern Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Lack of monetary compensation for using LMS	91	3	3.3	9	9.9	24	26.4	33	36.3	22	24.2
Lack of institution recognition for using LMS	90	5	5.6	14	15.6	25	27.8	29	32.2	17	18.9
Lack of correlation between teacher's use of LMS and teachers' evaluation	91	1	1.1	10	11.0	36	39.6	25	27.5	19	20.9
Lack of rewards for involvement with LMS	91	4	4.4	7	7.7	28	30.8	30	33.0	22	24.2
Lack of monetary incentive for using LMS	91	3	3.3	9	9.9	26	28.6	31	34.1	22	24.2
Lack of support from local administration	91	8	8.8	18	19.8	29	31.9	22	24.2	14	15.4

Note: Overall *M*=3.53, *SD*=0.91, scale: 1=No Barrier, 2=Weak Barrier, 3=Moderate Barrier, 4=Strong Barrier, 5=Very Strongly Barrier. *n*≠ 99 due to item non-response.

Financial Concerns

Participants' perceptions about financial concerns as a barrier to the adoption of LMS were measured by participants' responses to four statements. Table 25 shows the results which were described by frequencies and percentages. As to the lack of funds to implement LMS, about 51% of participants thought it was a strong or very strong barrier, and about 22% thought it was a moderate barrier. As to the lack of financial resources to support the necessary development of LMS, about 62% thought it was a strong or very strong barrier, and approximately 19% thought it was a moderate barrier. For financial concerns about the resources to support necessary computer technology, 51% of participants thought it was a strong or very strong barrier, and 23% thought it was a moderate barrier. Fifty-four percent of participants thought that the cost of purchasing the necessary computer technologies was a strong or a very strong barrier. Overall, the mean and standard deviation for financial concerns as a perceived barrier to the adoption of LMS were *M*=3.48 and *SD*=0.98. ESL/TESOL teachers tended to perceive financial concerns as a moderate barrier.

Financial Concerns as Perceived Barrier to Learning Management System (LMS)

Table 25

Distribution of Participating ESL/TESOL Teachers by Their Perception about Financial Concerns as a Barrier to the Adoption of Learning Management System (LMS)

		No Barrier		Weak Barrier		Moderate Barrier		Strong Barrier		Very Strongly Barrier	
Financial Concern Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Lack of funds to implement LMS	91	2	2.2	23	25.3	20	22.0	30	33.0	16	17.6
Lack of financial resources to support the necessary development of LMS	91	2	2.2	16	17.6	17	18.7	40	44.0	16	17.6
Lack of financial resources to support necessary computer technology	91	1	1.1	23	25.3	21	23.1	27	29.7	19	20.9
Cost of purchasing the necessary computer technologies	91	0	0	20	22.0	22	24.2	31	34.1	18	19.8

Note: Overall *M*=3.48, *SD*=0.98, scale: 1=No Barrier, 2=Weak Barrier, 3=Moderate Barrier, 4=Strong Barrier, 5=Very Strongly Barrier. *n*≠ 99 due to item non-response.

Planning Concerns

Participants' perceptions about planning issues as a barrier to the adoption of LMS were measured by participants' responses to five statements. Table 26 shows the results that were described by frequencies and percentages. As to the lack of identified needs for LMS, about 53%

of participants thought it was a strong or very strong barrier, and approximately 25% thought it was a moderate barrier. As for the lack of a shared vision toward the role of LMS with traditional institution structure, about 61% of participants thought it was a strong or very strong barrier, while 24% thought it was a moderate barrier. As to lack of strategic planning for LMS, approximately 63% of participants thought it was strong or very strong barrier, while 22% thought it was a moderate barrier. As to the lack of coordination between LMS staff and faculty, about 64% of participants thought it was a strong or very strong barrier, while 21% thought it was a moderate barrier. As to the lack of planned opportunities for teachers to learn about LMS, about 62% of participants thought it was a strong or very strong barrier, and 22% thought it was a moderate barrier. Overall, the mean and standard deviation for planning issues as a perceived barrier to the adoption of LMS were M=3.66 and SD=0.90. ESL/TESOL teachers tended to perceive planning issues as a moderate barrier to the adoption of LMS.

Planning Concerns as Perceived Barrier to Learning Management System (LMS)

Table 26

Distribution of Participating ESL/TESOL Teachers by Their Perception about Planning Concerns as a Barrier to the Adoption of Learning Management System (LMS)

		No Barrier		Weak Barrier		Moderate Barrier		Strong Barrier		Very Strongly Barrier	
Planning Concern Items	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Lack of identified needs for LMS	91	4	4.4	15	16.5	24	26.4	30	33.0	18	19.8
Lack of shared vision for the role of LMS with traditional institution structure	91	2	2.2	12	13.2	22	24.2	32	35.2	23	25.3
Lack of strategic planning for LMS	91	1	1.1	13	14.3	20	22.0	34	37.4	23	25.3
Lack of coordination between LMS staff and faculty	91	1	1.1	13	14.3	19	20.9	34	37.4	24	26.4
Lack of planned opportunities for teachers to learn about LMS	91	2	2.2	13	14.3	20	22.0	33	36.3	23	25.3

Note: Overall *M*=3.66, *SD*=0.90, scale: 1=No Barrier, 2=Weak Barrier, 3=Moderate Barrier, 4=Strong Barrier, 5=Very Strongly Barrier. *n*≠ 99 due to item non-response.

Technology Concerns

Participants' perceptions about technology issues as a barrier to adoption of LMS were measured by participants' responses to eight statements. Table 27 shows the results that were described by frequencies and percentages. As to the lack of teachers' access to LMS, about 45% of participants thought it was a strong or very strong barrier, and approximately 19% thought it was a moderate barrier. As for the concern about the loss of important information when using LMS, about 44% of participants thought it was a strong or very strong barrier, while 23% thought it was a moderate barrier. As to the lack of teachers' access to technical support, approximately 56% thought it was a strong or very strong barrier, while 22% thought it was a moderate barrier. As to the concerns for legal issues, about 53% of participants thought it was a strong or very strong barrier, while 22% thought it was a moderate barrier.

For the concern that LMS would replace traditional teacher positions, about 48% of participants thought it was a strong or very strong barrier, and 23% thought it was a moderate barrier. As to the concerns about intellectual property rights, approximately 60% thought it was a strong or very strong barrier, and 21% thought it was moderate. As for the lack of training programs to learn how to use LMS, about 63% thought it was a strong or very strong barrier, and 19% thought it was moderate. As to the concern about losing face-to-face contact with students, about 64% of participants thought it was a strong and very strong barrier, and 21% thought it was moderate. Overall, the mean and standard deviation for planning issues as a perceived barrier to the adoption of LMS were M=3.47 and SD=0.81. ESL/TESOL teachers tended to perceive technology issues as a moderate barrier to the adoption of LMS.

Technology Concerns as Perceived Barrier to Diffusion of Learning Management System (LMS)

Table 27

Distribution of Participating ESL/TESOL Teachers by Their Perception about Technology Concerns as a Barrier to the Adoption of Learning Management System (LMS)

		No Barrier		Weak Barrier		Moderate Barrier		Strong Barrier		Very Strongly Barrier	
Statement	*n*	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Lack of teachers' access to LMS	90	5	5.6	28	31.1	17	18.9	27	30.0	13	14.4
Concern about loss of control of important information	91	2	2.2	25	27.5	21	23.1	27	29.7	16	17.6
Lack of teachers' access to technical support	90	5	5.6	15	16.7	20	22.2	36	40.0	14	15.6
Concern for legal issues (e.g., computer crime, hackers, software piracy, copyright)	91	2	2.2	21	23.1	20	22.0	29	31.9	19	20.9
Concern that LMS will be used to replace traditional teacher positions	91	7	7.7	20	20.0	21	23.1	19	20.9	24	26.4
Concern about intellectual property rights	91	2	2.2	16	17.6	19	20.9	35	38.5	19	20.9
Lack of training programs to learn about how to use LMS	90	2	2.2	15	16.7	17	18.9	33	36.7	23	25.6
Concerns about loss of face-to-face contact with students	90	2	2.0	12	13.3	19	21.1	30	33.3	27	30.0

Note: Overall *M*=3.47, *SD*=0.81, scale: 1=No Barrier, 2=Weak Barrier, 3=Moderate Barrier, 4=Strong Barrier, 5=Very Strongly Barrier. *n*≠ 99 due to item non-response.

Research Question Five: Findings

What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

The fifth research question was to examine the relationship between TESOL/ESL teachers' perceptions of Leaning Management System (LMS) based on Rogers' (2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching.

The correlates between teachers' perceptions of concerns about time and their perceptions of characteristics of innovation are shown in Table 28. Significant, low relationship was found between perceived concerns about time as a barrier to the diffusion of LMS and observability as a perceived characteristic of innovation (r=(91)0.25, p<0.05). Low and non-significant relationships were found between perceived concerns about time as a barrier to the diffusion of LMS and relative advantage(r=(91)0.20, p<0.05) and trialability (r=(91)0.17, p<0.05) as a perceived characteristic of innovation. A substantial and non-significant relationship was found between perceived concerns about time as a barrier to the diffusion of LMS and complexity as a perceived characteristic of innovation (r=(90)0.51, p<0.05). A negligible and non-significant relationship was found between perceived concerns about time as a barrier to the diffusion of LMS and compatibility (r=0.01).

Table 28

Correlation and the Magnitude of Relationship between TESOL/ESL Teachers' Perceptions of time as a Barrier to the Diffusion of Learning Management System (LMS) and Their Perceptions about Characteristics of Innovation

Characteristics of Innovations	Concerns about Time	
	Coefficient	*Magnitude*
Relative Advantage	0.20	Low
Compatibility	0.01	Negligible
Complexity	0.51	Substantial
Trialability	0.17	Low
Observability	0.25*	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *$p < .05$.

The correlates between teachers' perceptions regarding concerns about incentives as a barrier to the diffusion of LMS and their perceptions about characteristics of innovation are shown in Table 29. Significant, moderate relationships were found between perceived concerns about incentives as a barrier to the diffusion of LMS and relative advantage (r=(91)0.43, $p< .01$), trialability (r=(91)0.32, $p < .01$), and observability (r=(91)0.34, $p< .01$). Significant, low relationships were found between perceived concerns about incentives as a barrier to the diffusion of LMS and compatibility (r=(91)0.24, $p< .05$), and complexity (r=(90)0.22, $p< .05$).

Table 29

Correlation and the Magnitude of Relationship between TESOL/ESL Teachers' Perceptions of Incentives as Barrier to the Diffusion of Learning Management System (LMS) and Their Perceptions about Characteristics of Innovation

Characteristics of Innovations	Concerns about Incentives	
	Coefficient	*Magnitude*
Relative Advantage	0.43**	Moderate
Compatibility	0.24*	Low
Complexity	0.22*	Low
Trialability	0.32**	Moderate
Observability	0.34**	Moderate

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *$p < .05$. **$p < .01$

The correlates between faculty perceptions of financial concerns and their perceptions about characteristics of innovation are shown in Table 30. Significant, moderate relationships were found between perceived financial concerns as a barrier to the diffusion of LMS, relative advantage (r=(91)0.40, p<0.01), trialability (r=(91)0.43, p<0.01) as a perceived characteristic of innovation. Low and significant relationships were found between perceived financial concerns as a barrier to the diffusion of LMS, compatibility (r=(91)0.21, p<0.05), complexity (r=(90)0.28, p<0.01), and observability (r=(91)0.26, p<0.05).

Table 30

Correlation and the Magnitude of Relationship between TESOL/ESL Teachers' Perceptions of Financial Concerns as Barrier to the Diffusion of Learning Management System (LMS) and Their Perceptions about Characteristics of Innovation

Characteristics of Innovations	Financial Concerns	
	Coefficient	*Magnitude*
Relative Advantage	0.40**	Moderate
Compatibility	0.21*	Low
Complexity	0.28**	Low
Trialability	0.43**	Moderate
Observability	0.26*	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *p < .05. **p < .01

The correlates between teachers' perceptions of planning issues as a barrier to the diffusion of LMS and their perceptions of characteristics of innovation are given in Table 31. Significant, low relationships existed between planning issues as a barrier to the diffusion of LMS, and trialability (r=(91)0.26, p<0.05), observability (r=(91)0.23, p<0.05) as characteristics of innovation. A moderate significant relationship existed between concerns about planning issues and relative advantage (r=(91)0.32, p<0.01). A non-significant relationship existed between concerns about planning issues and compatibility (r=0.07). A low non-significant relationship existed between planning issues and complexity (r=0.19).

Table 31

Correlation and the Magnitude of Relationship between TESOL/ESL Teachers' Perceptions of Planning Issues as Barrier to the Diffusion of Learning Management System (LMS) and Their Perceptions about Characteristics of Innovation

Characteristics of Innovations	Planning Issues	
	Coefficient	*Magnitude*
Relative Advantage	0.32**	Moderate
Compatibility	0.07	Negligible
Complexity	0.19	Low
Trialability	0.26*	Low
Observability	0.23*	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *$p < .05$. **$p < .01$

The correlates between teachers' perceptions of technology concerns as a barrier to the diffusion of LMS and their perceptions of characteristics of innovation are given in Table 32. Significant, low relationships existed between technology concerns as a barrier to the diffusion of LMS, and relative advantage (r=(91)0.23, p<0.05), and trialability (r=(91)0.23, p<0.05) as characteristics of innovation. A low, non-significant relationship existed between technology concerns and observability (r=(91)0.17, p<0.05). All other correlations were not significant and the relationships were negligible and ranged between (r=0.02) to (r=0.09).

Table 32

Correlation and the Magnitude of Relationship between TESOL/ESL Teachers' Perceptions of Technology Concerns as Barrier to the Diffusion of Learning Management System (LMS) and Their Perceptions about Characteristics of Innovation

Characteristics of Innovations	Technology Concerns	
	Coefficient	*Magnitude*
Relative Advantage	0.23*	Low
Compatibility	0.02	Negligible
Complexity	0.09	Negligible
Trialability	0.23*	Low
Observability	0.17	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *$p < .05$.

Research Question Six: Findings

What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS)?

The sixth research question was to describe the relationships between ESL/TESOL teachers' perceptions of Learning Management System (LMS) based on Rogers (2003) characteristics of an innovation and selected participants' personal characteristics including (a) age, (b) gender, (c) level of education, (d) teaching experience, and (e) professional area. Participants' perceptions of LMS were described based on the characteristics of an innovation: (a) relative advantage, (b) compatibility, (c) observability, (d) complexity, and (e) trialability.

Age

The correlations between participants' perceptions of LMS based on Rogers (2003) characteristics of innovation and participants' age are shown in Table 33. A significant, negative moderate relationship existed between age and perceptions of relative advantage ($r(90)=-0.33$,

p<0.01). A significant, negative low relationship existed between age and compatibility ($r(90)$=-0.24, p<0.05), complexity ($r(89)$=-0.21, p<0.05), and observability ($r(90)$=-0.29, p<0.01). No significant relationship existed between age and trialability. These findings can be interpreted as follow. With the increase of the age, the participants are more unlikely to find that LMS is compatible, complex, observable, and advantageous to their uses.

Table 33

Correlation and Magnitude of Relationship between Age and Teachers Perceptions about LMS

Characteristics of Innovations	Age	
	Coefficient	*Magnitude*
Relative Advantage	-0.33**	Moderate
Compatibility	-0.24*	Low
Complexity	-0.21*	Low
Trialability	-0.09	Negligible
Observability	-0.29**	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). *p < .05. **p < .01.

Gender

The correlations between respondents' perceptions of LMS based on Rogers (2003) characteristics of innovation and respondents' gender are shown in Table 34. A significant, negative, and moderate relationship existed between participants' gender and participants' perceptions of relative advantage, ($r(90)$= 0.47, p<0.01), compatibility ($r(90)$=0.41, p<0.01), and observability ($r(90)$= 0.47, p<0.01) of LMS. A significant, negative, and low relationship existed between participants' gender, and complexity (r=(89)= 0.27, p<0.01). A significant, moderate relationship was found between gender and trialability ($r(90)$= 0.36, p<0.01).

Table 34

Correlation and Magnitude of Relationship between Gender and Teachers Perceptions about LMS

Characteristics of Innovations	Gender	
	Coefficient	*Magnitude*
Relative Advantage	0.47**	Moderate
Compatibility	0.41**	Moderate
Complexity	0.27**	Low
Trialability	0.36**	Moderate
Observability	0.47**	Moderate

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). ***p* < .01.

Education

No significant relationship existed between respondents' perceptions of LMS based on Rogers (2003) characteristics of an innovation and respondents' level of education. Results are shown in Table 35.

Table 35

Correlation and Magnitude of Relationship between Gender and Teachers Perceptions about LMS

Characteristics of Innovations	Level of Education	
	Coefficient	*Magnitude*
Relative Advantage	0.02	Negligible
Compatibility	0.00	Negligible
Complexity	0.09	Negligible
Trialability	0.01	Negligible
Observability	0.11	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). ***p* < .01.

Teaching Experience

The correlations between respondents' perceptions of LMS based on Rogers (2003) characteristics of an innovation and respondents' teaching experience are presented in Table 36. No significant relationship existed between respondents' perceptions of LMS based on Rogers (2003) characteristics of an innovation and respondents' years of teaching experience.

Table 36

Correlation and Magnitude of Relationship between Years of Teaching Experience and Teachers Perceptions about LMS

Characteristics of Innovations	Years of Teaching Experience	
	Coefficient	*Magnitude*
Relative Advantage	-0.15	Low
Compatibility	-0.02	Negligible
Complexity	-0.05	Negligible
Trialability	-0.10	Low
Observability	-0.18	Low

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). ***p* < .01.

Professional Area

The correlations between respondents' perceptions of LMS based on Rogers (2003) characteristics of an innovation and respondents' professional area are presented in Table 37. No significant relationship was found between respondents' perceptions of LMS based on Rogers (2003) characteristics of an innovation and respondents' professional area.

Table 37

Correlation and Magnitude of Relationship between Professional Area and Teachers Perceptions about LMS

Characteristics of Innovations	Professional Area	
	Coefficient	*Magnitude*
Relative Advantage	0.01	Negligible
Compatibility	0.08	Negligible
Complexity	0.03	Negligible
Trialability	0.13	Low
Observability	0.07	Negligible

Note: Magnitude: 0.70 or higher Association =Very Strong, 0.50 to 0.69 = Substantial Association, 0.30 to 0.49 = Moderate Association, 0.10 to 0.29 = Low Association, 0.01 to 0.09 = Negligible Association (Davis, 1971). **p* < .05.

Summary

Table 38 shows a summary of the means and standard deviation of the five perceived characteristics of Learning Management System (LMS). There are five characteristics based on Rogers (2003): relative advantage, compatibility, trialability, complexity, and observability. The characteristics that have higher values at the level of the mean were: complexity (M=4.07, SD=0.63), compatibility (M=3.86, SD=0.77), relative advantage (M=3.76, SD=0.77). The characteristics that have lower mean values included observability (M=3.68, SD=0.88), and trialability (M=3.64, SD=0.82). TESOL/ESL teachers in Alabama and Mississippi perceived all of the five constructs as moderate characteristics to the adoption of LMS.

Table 38

Means and Standard Deviation of the Five Perceived Characteristics of LMS

Perceived Characteristics to Learning Management System	*n*	*M*	*SD*
Relative Advantage	99	3.76	0.77
Compatibility	99	3.86	0.77
Complexity	98	4.07	0.63
Trialability	99	3.64	0.82
Observability	9	3.68	0.88

Note: Overall M=3.80, SD=0.77. n≠99 due to non-response

As for the barriers that hinder the adoption of Learning Managemnet System (LMS), Table 39 shows a summary of the means and standard deviation of the five perceived barriers to LMS. There are five barriers: concerns about time, concerns about incentives, financial concerns, planning concerns, and technology concerns. The barriers that have higher values at the level of the mean were: planning concerns (*M*=3.66, *SD*=0.90), concerns about times (*M*=3.54, *SD*=0.96), concerns about incentives (*M*=3.53, *SD*=0.91). Barriers that have lower mean values included technology concerns (*M*=3.47, *SD*=0.81), and financial concerns (*M*=3.48, *SD*=0.98). TESOL/ESL teachers from Alabama and Mississippi perceived all of the five constructs as moderate barriers to the adoption of LMS.

Table 39

Means and Standard Deviation of the Five Perceived Barriers

Perceived Barriers to Learning Management System	*n*	*M*	*SD*
Concerns about Times	91	3.54	0.96
Concerns about Incentives	91	3.53	0.91
Financial Concerns	91	3.48	0.98
Planning Concerns	91	3.66	0.90
Technology Concerns	91	3.47	0.81

Note: Overall *M*=3.53, *SD*=0.91. n≠99 due to non-response

Five significant, moderate positive correlations existed between barriers and Learning Management System (LMS) perception. Four correlation existed between relative advantage and barriers (financial concerns, planning concerns, technology concerns, and concerns about technology). Two correlations existed between compatibility and barriers (financial concerns, and concerns about incentives). Two correlations were found between complexity and barriers (financial concerns, and concerns about incentives). Four correlations existed between trialability and barriers (financial concerns, concerns about incentives, planning concerns, and technology concerns). Four correlations existed between complexity and barriers (planning concerns, financial concerns, concerns about time, concerns about incentives).

The highest correlations existed between trialability and financial concerns $r(99)=0.43$, $p< .01$ and between relative advantage and concerns about incentives $r(99)=0.43$, $p< .01$. Ten low significant relationships existed between characteristics of LMS and barriers. All correlations were positive correlations. Relative advantage had the largest number of moderate correlations. Trialability has the lowest number of correlations. Overall, sixteen correlations existed between characteristics of LMS and barriers. As for personal relationships between personal characteristics and characteristics of LMS, thirteen correlations existed, where two significant moderate correlations existed between trialability and gender; relative advantage and age.

CHAPTER V: Conclusions, Implications, and Recommendations

Purpose of the Study

As learning technologies continue to gain enormous popularity in higher education, this study examined Teaching English to Speakers of Other Languages (TESOL) or English as Second Language (ESL) teachers' perceptions about Learning Management Systems (LMSs) in online teaching. Teachers are the primary LMS users and they can affect the success of online education. Therefore, the purpose of this study was to understand the influence of personal factors on the adoption of LMS by TESOL/ESL teachers. Rogers' (2003) theory of Diffusion of Innovation was used to examine the levels of adoption of LMSs among TESOL teachers following five main attributes: relative advantage, compatibility, trialability, observability, and complexity.

Research Questions

To examine TESOL teachers' perceptions of Learning Management System (LMS), the following questions were used in this study. The research questions included:

1. What are the selected individual characteristics of TESOL or English as a Second Language (ESL) teachers in the states of Alabama and Mississippi?

2. What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers' (2003) stages in the decision process of innovation (no knowledge, knowledge, persuasion, decision, and implementation)?

3. What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

4. What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in online

teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

5. What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers'(2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

6. What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS).

Research Question One: Conclusion

What are the selected individual characteristics of TESOL or ESL teachers in the states of Alabama and Mississippi?

The first objective was to describe TESOL/ESL teachers in the states of Alabama and Mississippi using their personal characteristics. Females outnumbered males among surveyed participants. The female participants (55.6%) exceeded their male (44.4%) counterparts. On average, participants were in their forties. The findings implied that there was a slight difference diversity among TESOL/ESL teachers at the time of the retrieval of the data (2019). Age and gender appeared to be almost evenly distributed throughout the population considering that females outnumber males by only 10%. Age categories are almost evenly represented in the sample. The researcher in this study believes that young male teachers should be encouraged in entering the TESOL/ESL profession in Alabama and Mississippi. The majority of survey participants teach in four-person or more program size. The majority of participants held Master's degrees and few held a bachelor or a professional degree. Four fifth of the survey respondents indicated the use of LMS in their schools. This implied that there was an advanced process of schools promoting LMS in the two states of Alabama and Mississippi, but did not necessarily translated to teachers'full adoption. The researcher in this study suggests looking at schools where LMS is being used and implemented successfully. Looking at the practices at these schools can help other schools in the development phase of the adoption of LMS to support teaching.

Research Question Two: Conclusion

What are TESOL/ESL teachers' phases in the innovation process drawing upon Harder's (2004) adaptation of Rogers'(2003) stages in the decision process of innovation?

The second objective was to describe the respondents' stages in the innovation-decision process related to LMS. Six stages were used in the study to describe the innovation and decision process (no knowledge, knowledge, persuasion, decision, implementation, and confirmation). Sixty-eight percent (68.7%) respondents reported they were in the advanced stages of adoption. This implied that the majority of participants were already engaged in the use and the adoption of LMS at the time they received the survey questionnaire. The researcher in this study suggests that participants who are persuaded and know how to use LMS effectively should be encouraged to conduct some specific tasks using the platform. Encouraging teachers who are in the advanced phases of the adoption of LMS to fully embracing this technology in the classroom may impact other teachers who are in the lowest phases of the innovation decision process.This suggestion may have an implication on creating a long-term sustainability of the LMS as well as tracing the consequences of the innovation (Rogers, 2003).

Research Question Three: Conclusion

What are TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation (complexity, trialability, relative advantage, observability, and compatibility)?

The third objective was to describe ESL/TESOL teachers' perceptions of Learning Management System (LMS) based upon Rogers' (2003) characteristics of an innovation (relative advantage, compatibility, complexity, observability, and trialability). All participants agreed that LMS is an adoptable medium of teaching and learning technology.

Perceived Relative Advantage

Based on the perceived relative advantage of LMS, the researcher found that the majority of TESOL/ESL teachers mostly agreed with the existence of perceived relative advantage of LMS. The majority of the respondents agreed or strongly agreed with the relative advantages of LMS that allow them to access better teaching resources and improve the teaching of TESOL/ESL related contents. More than 50% of the respondents agreed or strongly agreed with the following statements: a) my class will become more popular due to the addition of LMS; b) LMS increases the accessibility of TESOL content; c) I envision delivering information faster by using LMS as a software. The findings indicate that advantages to adopting LMS, which were found by TESOL/ESL teachers in the United States (Krugar et al., 2015) also applies to TESOL/ESL teachers from Alabama and Mississippi. This finding do not contradicts with Rogers (2003) who stated that relative advantage is positively correlated to an innovation's rate of adoption.

Perceived Compatibility

Based on the perceived compatibility of LMS, the researcher found that the majority of participating TESOL/ESL teachers generally agreed with the existence of perceived compatibility of LMS. The majority of the participants agreed or strongly agreed with how LMS is compatible with the ways TESOL teachers deliver class contents. More than 60% of participants agreed or strongly agreed with the following statements: a) LMS will allow me to deliver class contents based upon the needs of students; b) LMS provides useful information to the students; c) my vision for the future of TESOL includes LMS. These results do not contradict with Rogers' (2003) statement where he explained that an innovation can be compatible based on rooted cultural values as well as previously adopted idea.

Perceived Complexity

Based on the perceived complexity of LMS, this researcher found that the majority of participating TESOL/ESL teachers generally agreed with the existence of perceived complexity of LMS. More than 50% of participants agreed or strongly agreed with the following statements; a) using online resources to access information is easy for me; b) it will be easy for me to download information from LMS to my computer; c) LMS seems user-friendly. These results do contradict with Rogers (2003) who stated that complexity is negatively correlated to one's adoption of an innovation. LMS remained a complex innovation as perceived by one third of the surveyed Alabama and Mississippi teachers in this study.

Perceived Trialability

Based on the perceived trialability of LMS, this researcher found that the majority of participating TESOL/ESL teachers generally agreed with the existence of perceived trialability of LMS. More than 50% of participants agreed or strongly agreed with the following statements:

a) I can select the features of LMS that I want; b) I can test key features of LMS with no obligation for continued future use. These results do not contradict with Rogers (2003) who stated that adopters are more likely to develop a positive perception of an innovation when they can try it over a limited amount of time. This implies that most of the participants have had opportunities to try LMS before fully incorporating LMS into the dynamic of class or course delivery. Since the majority of teachers showed a moderately positive attitude toward testing LMS, they should be encouraged and offered more options to try LMS platform in course delivery, with the aim of fully incorporating the technology in their TESOL.

Perceived Observability

As to perceived observability of LMS, this researcher found that the majority of participating TESOL/ESL teachers generally agreed with the existence of perceived observability of LMS. More than 50% of participants agreed or strongly agreed with the following statements: a) LMS software is well publicized; b) LMS is a highly visible tool and; c) teachers will easily be able to identify people who are involved in LMS. The results do not contradicts Rogers'(2003) statement that observability is positively related to the rate of adoption among members of a social system. Most participants had the opportunity to at least observe and use and the features of LMS. This behavior should be enforced by increasing the opportunity to make LMS a highly visible tool within the school. Alabama and Mississippi teachers who perceived LMS as a highly visible tool should be in the condition to share their knowledge with colleagues. LMS can be advertised for all teacher categories through the school to make the platform more visible.

Perceived Characteristics of LMS

Data showed that the majority of participants generally agreed with all the twenty-five statements related to perceived positive characteristics of LMS. The findings did not contradict Rogers (2003) who argued that the perceived characteristics of an innovation are positively related to the rate of adoption of an innovation by members of a social system. In order to diffuse LMS at a faster pace, increased opportunities are necessary to allow more adopters to experience LMS and use it as a teaching platform even in informal instruction. Additional research in areas such as: a) identification of other advantages of LMS as seen from TESOL/ESL teachers' perspective; b) assessment of LMS is needed in order to identify other compatibilities and complexities as perceived by TESOL/ESL teachers.

Research Question Four: Conclusion

What are TESOL/ESL teachers' perceptions of barriers to the adoption of LMS in teaching (concerns about time, concerns about incentives, financial concerns, planning issues, technology concerns)?

The fourth objective was to describe TESOL/ESL teachers' perceptions of potential barriers (concerns about time, concerns about incentives, financial concerns, planning issues, and technology concerns) to the adoption of LMS. All teachers moderately agreed about the existence of the five barriers to the adoption of LMS.

Perception of Time as a Barrier

Based on the perceived concerns about time as a potential barrier to the diffusion of LMS, this researcher found that most of TESOL/ESL teachers agreed with the existence of concerns about time as potential barrier. Almost half of the participants agreed or strongly agreed about time concerns accessing material via LMS platform. More than 50% of participants agreed with the following statements: a) lack of time available to respond to online requests for information via LMS; b) lack of time to learn how to incorporate LMS into typical job responsibilities for teachers. Alabama and Mississippi TESOL/ESL teachers tended to perceive time concerns as a moderate barrier to the diffusion of LMS. The findings confirm Bennett and Bennett (2003) who concluded that the time factor is major obstacle for not fully adopting instructional technologies such as LMS. Teachers should be incentivized for the time they spend in LMS.

Perception of Financial Concerns as a Barrier

As to perceived financial concerns as a potential barrier to diffusion of LMS, this researcher found that the majority of Alabama and Mississippi TESOL/ESL teachers moderately agreed with the existence of this barrier. A good majority of the participants were concerned about the lack of financial resources, funds and the costs related to securing necessary technologies. More than 50% of participants agreed with the following statements; a) lack of finacial resources to support the necessary development of LMS and; b) Lack of funds to implement LMS. The findings implicate that economic assessments are needed to study why finances are considered barriers to the diffusion of LMS. Alabama and Mississippi public schools and university policies in both states need to be aware of the outcomes coming from the economic assessments of LMS in order to decide whether provisions of financial resources translate to LMS'long-term sustainability. Khan, Huda and Mulani conclude that the lack of funding can hinder the adoption of the innovation and therefore it is a barrier.

Perception of Planning Concerns as a Barrier

As to perceived planning concerns as a potential barrier to diffusion of LMS, this researcher found that the majority of Alabama and Mississippi teachers moderately agreed with the existence of this barrier. More than 50% of participants agreed with the following statements; a) lack of strategic planning for LMS and; b) lack of shared vision for the role of LMS with traditional institution structure. The findings indicate that the lack of identified needs for LMS, the lack of shared vision for the role of LMS, the lack of coordination between LMS staff and faculty, and the lack of strategic planning for LMS were all seen as barriers that prohibit the diffusion of LMS in Alabama and Mississippi. This agrees with Rogers' (2003) who recognized how felt prerequisites and innovativeness were critical conditions for an individual's innovation adoption behavior. Asiri (2012) confirmed that planning barriers related to the organization and logistic measures translate to a barrier to the adoption of LMS.

Perception of Incentives as a Barrier

As to perceived concerns about incentives as a potential barrier to diffusion of LMS, this researcher found that the majority of TESOL/ESL teachers in Alabama and Mississippi agreed moderately with the existence of concerns about incentives as potential barrier. A good majority of participants were concerned about the lack of monetary incentive as potential barrier to LMS. More than 50% of participants agreed with the following statements; a) lack of monetary compensation for using LMS; b) lack of institution recognition for using LMS, and c) lack of rewards for involvement with LMS. The findings also confirm Muilenburg and Berge (2009)'s statement that the lack of compensation and recognition in using online platform have been identified as a barrier to LMS.

Perception of Technology Concerns as a Barrier

As to perceived technology concerns as a potential barrier to the diffusion of LMS, this researcher found that the majority of TESOL/ESL teachers in Alabama and Mississippi moderately agreed with the existence of this barrier. A good majority of participants were concerned about possible complications derived from technology as a potential barrier. More than 50% of participants agreed with the following statements: a) lack of training programs to learn about how to use LMS; b) concern for legal issues (e.., computer crime, hackers, software piracy, copyright), and c) concern about intellectual property rights. The findings confirm McGrail and McGrails' (2010) statement that online platforms involve complex copyright regulations that teachers express uncertainties and resistance about. Concerns for ownership is therefore a barrier.

Potential Barriers to LMS

Alabama and Mississippi TESOL/ESL teachers perceived the five listed barriers as moderate barriers. Planning concerns were perceived as the largest barrier. The concern about time and incentives were the second largest concerns on the list. The findings indicate that the majority of participants agreed moderately with the existence of the five barriers identified by Rogers' (2003) that would influence diffusion of LMS in Alabama and Mississippi. All the items were perceived as moderate barriers to the diffusion of LMS.

Research Question Five: Conclusion

What are the relationships between TESOL/ESL teachers' perceptions of LMS based on Rogers' (2003) characteristics of innovation and their perceptions of potential barriers to the adoption of LMS in their teaching?

The fifth objective was to describe relationships between TESOL/ESL teacher's perceptions of Learning Management Systems (LMS) based upon Rogers' (2003) characteristics of an innovation and their perceptions of potential barriers to the adoption of LMS in their teaching. All five perceived attributes were correlated with at least one perceived barrier. Relative advantage has been correlated with four barriers (incentives, financial, planning, and technology). Observability has been correlated with four barriers (time, incentives, financial, planning). Complexity has been correlated with two barriers (incentives, financial). Trialability has been correlated with four barriers (planning, financial, incentives, technology). Compatibility has been correlated with (incentives, financial).

Variations in TESOL/ESL teachers' perceptions about the four barriers (time, incentives, financial, planning) would significantly influence teachers' perceptions of observability of LMS. If the four barriers were eliminated, participants would agree more with the existence of observability of LMS. If modifications in TESOL/ESL teachers' perceptions about incentives as a barrier, were made, this change would significantly influence teachers' perceptions about all Rogers' (2003) five characteristics (compatibility, complexity, observability, trialability, and relative advantage). This would also apply to financial concerns. In the case in which participants perceive incentives as a surmountable barrier, TESOL/ESL teachers would tend to agree more with the existence of relative advantage, observability, compatibility, complexity, and trialability. Wherever finances would not be a problem anymore, Alabama and Mississippi TESOL/ESL teachers would agree more with the existence of the five characteristics, namely observability, trialability, complexity, relative advantage, and compatibility.

In order to increase TESOL/ESL teacher's perceived observability of LMS, it is recommended to decrease concerns about planning, financial concerns, time, and concerns about incentives. Also, to increase teachers' perceived relative advantage of LMS, it is recommended to decrease financial concerns, planning concerns, concerns about incentives.

Research Question Six: Conclusion

What are the relationships between TESOL/ESL teachers' selected personal characteristics and their perceptions of Learning Management System (LMS)?

The sixth objective was to examine the relationship between TESOL/ESL teacher's perceptions of Learning Management System (LMS) and their selected personal characteristics that included age, gender, level of education, teaching experience, and professional area.

Age had significant impact on TESOL/ESL teachers perceived relative advantage, compatibility, complexity, and observability of LMS. With the increase of the age, the older teachers are more likely to find that LMS is advantageous, compatible, complex, and observable.

Other personal characteristics included education, years of teaching experience, and professional area. Education had no impact on the teachers' perceptions about all of the five characteristics of LMS. Then, education should not have to be taken into account when considering teachers' perceived attributes. Age as a personal characteristic, should be taken into account when considering teachers' perceived compatibility, relative advantage, complexity, and observability of LMS. Nevertheless, age should not be taken into account when considering teachers' perceived trialability of LMS.

This indicates that the older are the teachers, the more they perceive that the LMS is compatible with their value system. Gender had to be taken into account when considering teachers' perceived attributes. This implies that gender had a significant impact on relative advantage, complexity, compatibility, trialability, and observability. These findings do not contradict with Hussein's (2011) statement that personal characteristics can impact teachers' attitudes and perceptions toward LMS. As for the years of teaching experience, there was no significant relationship between this personal characteristic and teachers' perceptions of LMS.

Similarly, professional area had no significant correlation with teachers' perceptions of characteristics of LMS. Further research is recommended to determine reasons for which gender would impact perceptions about LMS characteristics.

Implications

At the theoretical level, the examination of TESOL/ESL teachers' perceptions of LMS in the states of Alabama and Mississippi enriched Rogers' (2003) Diffusion of Innovation theory, by expanding the body of research to the field of TESOL and ESL. At the practical level, results from this study could make LMS platforms more accessible for underserved communities residing in rural Alabama and Mississippi. An access point in a rural area could help deliver instruction. Newly arrived immigrants, students, and refugees could benefit from ESL classes via LMS environments. Having better knowledge of teachers' perceptions of LMS as a technology could improve their ability to access online platforms and effectively using them. Findings of teachers' personal characteristics and barriers towards LMS could help institutions make rational selection decisions about compatible online platforms. Besides, institutions with limited resources can invest in online platforms when they compile a comprehensive assessment of the LMS of their choice.

Recommendations

Schools and universities that have interest in the diffusion of Learning Management System (LMS) in Alabama and Mississippi can use this study's findings to modify the ways in which their LMS platform is implemented. This study can be; a) used to better understand the advantages of implementing LMS in Alabama and Mississippi; b) used to provide guidelines for a more efficient installment of LMS in Alabama and Mississippi schools and universities; c) used to understand the needs and the perceptions of the teachers as the primary users; d) used to enrich the diffusion of innovation theory (this is a rare study that applied Rogers (2003) Diffusion of Innovation Theory to Teaching English to Speakers of Other Languages (TESOL) teachers using Learning Management Systems (LMS); e) used to help schools create learning objectives that contribute to enhance the culture of e-learning among TESOL/ESL teachers.

For future studies, the recommendations may include: a) measuring TESOL/ESL teachers' perceptions about the factors that contribute to the long-term sustainability of LMS; b) determining further attributes of LMS in addition to the barriers that hinder the adoption of the innovation; c) assessing any training on LMS or activated incentives provided to faculty members; d) analyzing the costs and benefits of installing and using LMS.

Furthermore, recommendations for future studies may include: a) measuring the effectiveness of LMS for TESOL/ESL education in order to pin down the difference between traditional instruction and LMS based instruction; b) measuring the motivation of TESOL/ESL teachers to adopt LMS; c) designing LMS within the curriculum needs and areas related to TESOL; d) Improving LMS platforms to allow collaborative work and planning between LMS staff and faculty; e) measuring relationships between teachers' perceptions and LMS rate of adoption in other states; f) this study can be extended to larger metropolitan areas.

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Appendix A

Survey Instrument

TESOL/ESL Teachers' Perceptions of LMS

Tesol teachers' perceptions of LMS

Projects Contacts Library Help

Survey Actions Distributions Data & Analysis Reports

Tesol teachers' perceptions of LMS

iQ Score: Fair

Draft Version

Default Question Block

Block Options

Q1

SECTION I: ADOPTION OF LEARNING MANAGEMENT SYSTEM (LMS)
Please indicate your answers for the statements described below. Check the right circle

Do you use a Learning Management System (LMS) in your institution?

- Yes
- No

Q2

Are you familiar with the following Learning Management Systems (LMS)?
If yes, check the one you are mostly familiar with.

- Canvas
- Blackboard
- Moodle
- Sakai
- ILearn
- Perusal
- Others

Q3

Online teaching and learning is rapidly growing as the method to deliver courses. Universities are faced with the challenge selecting a learning management system (LMS) that meets the needs of the teachers.

Please indicate your level of involvement with LMS.

- I had never heard of LMS before reading the description provided in this questionnaire
- I understand its purposes and features, but have not decided whether or not I like or dislike LMS
- I have decided that I like or dislike LMS
- I have decided that I will or will not use LMS
- I am using LMS
- I have used LMS long enough to evaluate whether or not LMS will be part of my future in online teaching

Page Break

Q6

SECTION II: CHARACTERISTICS IMPACTING THE DIFFUSION OF LMS. Below is a list of characteristics that may impact the diffusion of LMS. Please read each item carefully before indicating your answer by checking the appropriate circle.

Relative Advantages

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My class will become more popular due to the addition of LMS	○	○	○	○	○
LMS increases the accessibility of TESOL content	○	○	○	○	○
LMS creates more funding opportunities for TESOL	○	○	○	○	○
I envision spending less time answering routine questions by referring students to LMS	○	○	○	○	○
LMS provides teachers with more time to serve students	○	○	○	○	○
I envision delivering information faster by using LMS as a software	○	○	○	○	○

Q5

Compatibility

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
LMS supports the mission of TESOL teaching	○	○	○	○	○
LMS is an acceptable way for TESOL teachers to deliver class content	○	○	○	○	○
LMS will allow me to deliver class contents based upon the needs of students	○	○	○	○	○
LMS provides useful information to the students	○	○	○	○	○
LMS can be used to cultivate sustainable relationships in class	○	○	○	○	○
My vision for the future of TESOL includes LMS	○	○	○	○	○

Q7

Complexity

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
LMS seems user-friendly	○	○	○	○	○
Using LMS is simple	○	○	○	○	○
Using online resources to access information is easy for me	○	○	○	○	○
I am good at navigating the on-line to find information I need	○	○	○	○	○
It will be easy for me to download information from LMS to my computer	○	○	○	○	○
The computer is a tool that I am comfortable using	○	○	○	○	○

Q8

Trialability

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I can select the features of LMS that I want	○	○	○	○	○
I can define the terms of my use of LMS	○	○	○	○	○
I can test key features of LMS with no obligation for continued future use	○	○	○	○	○
I can use LMS without committing to develop new materials for it	○	○	○	○	○

Q9

Observability

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
LMS software is well publicized	○	○	○	○	○
LMS is a highly visible tool	○	○	○	○	○
Teachers will easily be able to identify people who are involved in LMS	○	○	○	○	○

Page Break

Q10

Section III: POTENTIAL BARRIERS TO THE DIFFUSION OF LMS
Below is a list of potential barriers to the diffusion of LMS among TESOL teachers. Please read each item carefully indicating your perception of each possible barrier by choosing the appropriate response for each line

Concerns about Time

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Lack of time available to access material in the LMS	○	○	○	○	○
Lack of time available to respond to online requests for information via LMS	○	○	○	○	○
Lack of time to meet the needs of students using LMS	○	○	○	○	○
Lack of time to learn how to incorporate LMS into typical job responsibilities for teachers	○	○	○	○	○
Lack of time available to search for information on LMS	○	○	○	○	○

Q11

Concerns about Incentives

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Lack of monetary compensation for using LMS	○	○	○	○	○
Lack of institution recognition for using LMS	○	○	○	○	○
Lack of correlation between teachers' use of LMS and teachers' evaluation	○	○	○	○	○
Lack of rewards for involvement with LMS	○	○	○	○	○
Lack of monetary incentive for using LMS	○	○	○	○	○
Lack of support from local administration	○	○	○	○	○

Q12

Financial Concerns

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Lack of funds to implement LMS	○	○	○	○	○
Lack of financial resources to support the necessary development of LMS	○	○	○	○	○
Lack of financial resources to support the necessary computer technology	○	○	○	○	○
Cost of purchasing the necessary computer technologies	○	○	○	○	○

Q13

Planning Issues

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Lack of identified needs for LMS	○	○	○	○	○
Lack of shared vision for the role of LMS with traditional institution structure	○	○	○	○	○
Lack of strategic planning for LMS	○	○	○	○	○
Lack of coordination between LMS staff and faculty	○	○	○	○	○
Lack of planned opportunities for teachers to learn about LMS	○	○	○	○	○

Q14

Technology Concerns

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Lack of teachers' access to LMS	○	○	○	○	○
Concern about loss of control of important information	○	○	○	○	○
Lack of teachers' access to technical support	○	○	○	○	○
Concerns for legal issues (e.g., computer crime, hackers, software piracy, copyright)	○	○	○	○	○
Concern that LMS will be used to replace traditional teacher positions	○	○	○	○	○
Concern about intellectual property rights	○	○	○	○	○
Lack of training programs to learn how to use LMS	○	○	○	○	○
Concern about loss of face-to-face contact with students	○	○	○	○	○

Page Break

Q15

SECTION IV: DEMOGRAPHICS
Please indicate your responses in the following questions:

What is your age?

Q16

Gender

○ Male

○ Female

Q17

What is the highest degree you have completed?

○ Undergraduate Degree

○ Master's Degree

○ Educational Specialist

○ Doctoral Degree

○ Other

Q19

How many years you have been teaching English a Second Language?

Q20

Are you certified in TESOL/ ESL?

- Yes
- No

Q21

What is your professional area?

- Intensive English Program (IEP)
- Education and Social Science
- K-12 ESL
- Higher Education TESOL
- Adult Education ESL/TESOL
- International Development
- Military
- Other

Q22

What is your current position?

- Full Time
- Part Time

Q24

How many teachers comprise the TESOL program in your school?

The total number of teachers including you:

Q25

What Languages are you fluent in?

- Arabic
- Chinese
- French
- Farsi
- Korean
- German
- Italian
- Spanish
- Urdu
- Mandarin
- Other

Add Block

Block 1 Block Options

Q26

SECTION I: ADOPTION OF LEARNING MANAGEMENT SYSTEM (LMS)
Please indicate your answers for the statements described below. Check the right circle

Do you use a Learning Management System (LMS) in your institution?

- Yes
- No

Q27

Are you familiar with the following Learning Management Systems (LMS)?
If yes, check the one you are mostly familiar with.

- Canvas
- Blackboard
- Moodle
- Sakai
- ILearn
- Perusal
- Others

Appendix B

Letter of Information

AUBURN UNIVERSITY

COLLEGE OF EDUCATION

EDUCATIONAL FOUNDATIONS, LEADERSHIP AND TECHNOLOGY

(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)

INFORMATION LETTER

For a Research Study entitled

"Examining TESOL Teachers' Perceptions of Learning Management System (LMSs)"

You are invited to participate in a research study on teachers' adoption and use of Learning Management Systems (LMSs). The study is currently conducted by Asmaa Benbaba, a Ph.D. candidate, under the direction of Dr. James Witte in the Auburn University Department of Adult Education. You are invited to participate because you are a TESOL or an ESL teacher and are aged 19 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete a questionnaire. Your total time commitment will be approximately 10 minutes.

Are there any risks or discomforts? The risks associated with participating in this study are minimal and no more than encountered in everyday life. To minimize these risks, data will be collected anonymously and presented only in aggregate form. No direct links to your responses will be collected.

Are there any benefits to yourself or others? There are no direct benefits to your participation in this study. Benefits to others may include a better understanding of how LMS can be used for instruction and teaching.

Will you receive compensation for participating? You will not receive any compensation for your participation.

If you change your mind about participating, you can withdraw at any time by not returning the distributed questionnaire by closing your browser window or simply not

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4036 Haley Center, Auburn, AL 36849 5221; Telephone: 334 844 4460; Fax: 334 844 3072

returning it. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you have submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, College of Education and the Adult Education program.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by maintaining your anonymous responses and insuring there are no connections between your responses and you. Data from this study will not be reused for another research. At the conclusion of this study, all data collected will be destroyed after Information collected through your participation may be used presentation at academic conferences, journals, population publications, and student research outlets (dissertation, thesis).

If you have questions about this study, please contact Asmaa Benbaba at azb0054@auburn.edu or Dr. James Witte at witteje@auburn.edu, (334)-844-3054.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334)-844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT.IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. THIS LETTER IS YOURS TO KEEP.

Asmaa Benbaba February 15th, 2019

Graduate Student

James Witte, Ph.D. February 15th, 2019

Professor

The Auburn University Institutional Review Board has approved this document for use......to........Protocol #.......

The Auburn University Institutional Review Board has approved this Document for use from 03/20/2019 to ---------- Protocol # 19-125 EX 1903

Appendix C

Approval from the Alabama Mississippi Teaching English to Speakers of Other Languages (AMTESOL) Board

AMTESOL Organizatio
n <webmaster.amtesol
@gmail.com>
Thu 11/15/2018 2:26 PM
Asmaa Benbaba

As long as it's a link to an electronic survey it doesn't matter what type.

I have forwarded your request to our current President, Jamie Harrison. She'll need to check with the rest of the Board and get back to you.

Kind regards

Lisa M Preston
Webmaster & Conference Registration Co-Chair
AMTESOL
www.amtesol.org
webmaster.amtesol@gmail.com

Jamie Harrison
Thu 4/11/2019 6:20 PM
Asmaa Benbaba

Hi Asmaa – I won't be on campus tomorrow – How about Tuesday? I'm free most of the day.
Looking forward to seeing you – I've got news on getting your survey out by the way. I emailed the board the other day with all of your info and they were in agreement to send out your survey via an email and also to post on Facebook. So that should be able to happen in the next week or so, based on the webmaster's schedule.
Take care,
Dr. Harrison

Appendix D

Email Invitation for the Recruitment of Teaching English to Speakers of Other Languages (TESOL) and English as a Second Language (ESL) teachers

Email Invitation for the Recruitment of Teaching English to Speakers of Other Languages (TESOL) and English as a Second Language (ESL) teachers

Greetings TESOL/ ESL Educator,

I am Asmaa Benbaba, a Ph.D. candidate in the Adult Education program at Auburn University. I would like to invite you to participate in a research study on the Perceptions of Learning Management Systems (LMS) in Alabama and Mississippi.

Learning Management System (LMS) is an application or platform consisting of software and hardware technology used to deliver course content and material that facilitates teaching and learning (e.g. Canvas, Blackboard, Moodle…)

In this study, I would like to know more about how ESL/ TESOL teachers perceive LMS. This study is beneficial to the field of ESL/TESOL due to the impact of technology on teaching practices. This study will allow us to understand how TESOL/ESL teachers perceive LMS. You are receiving this email invitation because your opinion can benefit this study.

If you decide to participate in this study, your participation is completely voluntary and there will be no compensation in return. Please take the anonymous online survey at the end. Your total time commitment will be approximately 10 minutes.

Attached is a copy of the participant information letter for your review. You may print a copy for your records. If you have any questions about the survey, please contact me at azb0054@auburn.edu

Survey link:

https://auburn.qualtrics.com/jfe/form/SV_3rS4pngvYTMHTQ9

I appreciate your time and consideration in completing the survey.

Sincerely,
Principle Investigator
Doctoral Candidate in Adult Education
College of Educational Foundations, Leadership, and Technology