



## University Lecturers' Self-Efficacy in the Use of Edmodo for Teaching (Efikasi Diri Dosen-dosen Universitas dalam Penggunaan Edmodo untuk Mengajar)

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### ABSTRAK

Penelitian ini menentukan efikasi diri dosen universitas dalam penggunaan Edmodo di Ekiti-State. Penelitian ini mengadopsi penelitian deskriptif dengan tipe survei. Populasi penelitian ini adalah seluruh dosen di Ekiti-State. Teknik pengambilan sampel proporsional digunakan untuk mengalokasikan beberapa responden di setiap sekolah berdasarkan estimasi populasinya menggunakan Israel Model (2012). Instrumen yang digunakan untuk mengumpulkan data adalah angket yang diadaptasi. Statistik deskriptif dan inferensial digunakan untuk menjawab pertanyaan penelitian dan menguji hipotesis yang dikemukakan dengan bantuan Statistical Product and Service Solution (SPSS) versi 20.0 pada taraf signifikansi 0,05. Temuan menunjukkan bahwa efikasi diri dosen dalam penggunaan Edmodo untuk mengajar tinggi. Tidak ada perbedaan yang signifikan dalam efikasi diri dosen dalam penggunaan Edmodo untuk mengajar di Ekiti-State berdasarkan jenis kelamin. Studi ini menyimpulkan bahwa pembelajaran dapat ditingkatkan dan pengajaran dapat menjadi efektif di antara dosen di Ekiti-State jika teknologi yang tepat digunakan untuk pengajaran. Oleh karena itu, direkomendasikan agar dosen didorong untuk menggunakan Edmodo untuk pembelajaran terlepas dari jenis kelamin mereka.

### ABSTRACT

This study determined university lecturers' self-efficacy in the use of Edmodo in Ekiti State. The study adopted descriptive research of the survey type. The population for this study was made up of all the lecturers in Ekiti- State. Proportional sampling techniques were used to allocate several respondents in each school based on their estimated population using Israel Model (2012). The instrument for data collection was an adapted questionnaire. Descriptive and Inferential statistics were used to answer the research question and test the stated hypothesis with the aid of statistical product and service solution (SPSS) version 20.0 at a 0.05 level of significance. The findings indicated that the lecturer's self-efficacy in the use of Edmodo for teaching is high. No significant difference exists in the lecturer's self-efficacy in the use of Edmodo for teaching in Ekiti-State based on gender. The study concluded that learning can be enhanced and teaching can be effective among lecturers in Ekiti State if appropriate technologies are deployed for instruction. Therefore, it was recommended that Lecturers should be encouraged to deploy Edmodo for learning irrespective of their gender.

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## Introduction

Information and Communication Technology (ICT) has spread widely into several fields, including education. It is making a lot of changes in the field of education, and one of them is the development of using technology to support the teaching and learning process. The technology that is used in education is referred to as Information and Communication Technology (ICT) which helps in developing the learning process. In this contemporary era, most schools are integrating ICT in their teaching and learning process. However, ICT has brought high development in the educational field. ICTs are the hardware and software that allows records to be processed, stored, and communicated. It can be used to access, process, control an existing statistic and manipulate events and speak with others (Joshi, 2014). Using ICT in the teaching-learning process can provide lecturers with rich teaching opportunities and meaningful learning experiences for students (Jumare, Tahir & Hamid, 2017).

Information and Communication Technology can be described as a needed instrument for any student who wants to develop his/herself and learn more through the help of the internet (Joshi, 2014). The advantages of using ICT in classroom teaching include: bringing real-world experiences into the classroom, allowing students to participate in cognitive activities, providing students with individualized feedback, stimulating student interest, and simplifying the search for and preparation of content materials (Sigala, 2013). ICT-based learning can take place at any time, and anywhere which can be referred to as asynchronous learning, online learning resources can also be made available at any time, and many learning resources are available online, so, students and educators need not worry again about printed books and other materials in the library anymore. Thousands of books and articles on every subject are available online and when they need just one click to reach these resources (Abdullah, Askar, & Ahmed, 2021).

Gregorian (2017) opined that through the help of ICT, students have been able to gain more expertise and techniques by communicating with others. ICT is all about networking and using the online platform to communicate with students to improve their skills. With ICT, it is possible to have a virtual library that does not involve the use of papers and that is also available to lecturers and students who wish to conduct researches that will be accepted globally. It encourages connectivity involving knowledge and information which can be shared by its users in any location and at any time. The author further stressed that ICT are devices that have the capabilities to reach out to a large number of persons at the same time be it asynchronously or synchronously, these devices can save, analyze, share, disseminate and receive information. The use of ICT in the instructional process has the potential to offer rich teaching experiences as well as rich learning experiences to the students in particular.

Hamilton-Ekeke and Mbachu (2015) linked ICT to efficacy like water and electricity which plays a major role in education and has an impact on the quality and quantity of teaching and learning as well as research in educational methodology to initiate a new age in education. Internet as a digital tool of ICT has to reinforce teaching and learning as it provides powerful resources and services for students, thereby enabling them to meet their educational needs, it also enables communication flow among students and lecturers to facilitate the exchange of ideas and improve opportunities for connecting schools to the world as learning is expanding beyond the classroom, so real-life context can be established (Hamilton-Ekeke & Mbachu, 2015).

The introduction of ICTs into higher institutions has changed the way education was perceived. This paved the way for a new pedagogical approach, where students are expected to play a more active role than before (becoming more interested in the learning process, becoming active participants in the development of knowledge, and not just recipients of knowledge) and academic and non-academic staff are expected to embrace its adoption into their method and delivery of instruction (Hamilton-Ekeke & Mbachu, 2015). Thus, ICTs in higher education are being used for developing course material; delivering content and sharing content; communication between learners, lecturers, and the outside world; creation and delivery of presentations and lectures; academic research; administrative support, and student enrolment, and so on.

The introduction of learning management systems (LMS) has shaped the landscape of higher education, allowing the transformation of traditional face-to-face classrooms into that blended and online educational environments (Beer, Clark, & Jones, 2010). The use of LMS (Moodle, Edmodo & Blackboard) has allowed for various modes of interaction, asynchronous and synchronous learning, increased flexibility, and the development of web-based pedagogical tools (Beer et al., 2010; Alario-Hoyos, et al., 2010). Thus, the use of the LMS has had a significant impact on how lecturers and students engage in the teaching and learning process.

Stantchev, Colomo-Palacios, Soto-Acosta, and Misra (2014) stated that learning management systems constitute a virtual learning environment that gives high levels of functionality in terms of learning and management, and monitoring structures. Learning Management Systems (LMS) provide lecturers and

students with a range of tools for the creation and management of learning processes. LMS can also be used to manage classes, to upload course information, and to communicate between the teacher and the student.

However, LMS can be described as the information system that saves and share educational materials or assessments based on (De Smet, Valcke, Schellens, De Wever, & Vanderlinde, 2016). It is then supported and accessed through a communications system via the website. LMS is a system user based on the definition above to share documents, materials, tests, exercises and modules, as well as to promote communication between students and lecturers. LMS is commonly used at the university level. Higher education levels also use LMS for their learning and education as a part of information and communication technology. In addition, LMS can be described as a high-level Web-based technology solution for the design, communication and management of a multitude of learning events, such as online classes, virtual schools and instructor-led courses, to evaluate a specific learning process (Adzharuddin & Ling, 2013).

The LMS is also one of the solutions which are useful in an online learning environment for both students and instructors. LMS is a contact and interaction device for students and lecturers. LMS can help lecturers deliver their learning materials as well as interactive features including discussion of threads, shared files, and forums. LMS facilitates management activities such as implementation and monitoring, analysis, scheduling, live online lessons, and a variety of evaluations. This can save lecturers time and effort without altering the teaching system significantly (Adzharuddin & Ling, 2013).

Internet-based learning media or e-learning that is used to support learning activities can be referred to as Edmodo (Benjamin, Thomas, & Richard, 2015). Edmodo is a virtual classroom with technology that includes Animoto, wikis, and google documents. Edmodo is an interesting media for educators and students with elements that resemble Facebook. Through improving Web-based classroom tools, researchers have found the best way to build on these tools through a wealth of new possibilities for using online platforms such as social networking sites for blended learning. Edmodo is an upcoming website for social networking, which particularly discusses teaching and learning (Khoirunnisa, Umamah, & Sumardi, 2019).

Edmodo is a free and secure learning platform designed by Jeff O' Hara and Nick Borg in 2008 for lecturers, students, parents, schools, and districts, and is available at [www.edmodo.com](http://www.edmodo.com) (Kongchan, 2013). Web and software offer a wide range of web-based learning tools that enable teaching outside the school environment. Giang and Minh (2014) opined that Edmodo is one of the best websites that give students a range of benefits by facilitating self-regulated learning. Edmodo is a free platform for lecturers and students to interact, collaborate and share content and teaching applications and to have access to assignments, grades, lectures, and notices. The goal is to assist educators in using the power of social media to customize the classroom for all lecturers (Giang & Minh, 2014).

Edmodo is a free website for educational uses including microblogging (Porcel, Ching-López, Lefranc, Loia, & Herrera-Viedma, 2018). It has grown from 1million users in 2011 to over 50 million in 2015 (Carlson & Raphael, 2015). Edmodo is the fastest-growing social network for learning and is one of the social networking sites that combines social networking benefits with a secure, controlled environment where lecturers can encourage students to work freely (Scott, 2012). This offers a private forum to leverage the social network's full potential for educational purposes. Edmodo developers have developed an Edmodo interface similar to Facebook, inspired by Google, and is therefore called Facebook for education (Scott,2012). It is also projected that students already Facebook users can easily use Edmodo (Manowong, 2016).

Dewi (2014) described Edmodo as a free online learning management system that provides a safe virtual space for students and lecturers to share and talk about text, pictures, audio files, and videos. Similarly, Edmodo is widely known as Facebook because it assigns social features similar to Facebook, for example, updates, reviews, and chat rooms to both students and lecturers (Abad Abad, 2016). It is accessible through a web browser or a free smartphone app (iOS and Android). Lecturers create Edmodo communities for specific student groups. When a Lecturer creates an Edmodo class, a group code is given to students. To be registered at the site, students must have a community access code issued by the Lecturer when students register with their e-mail address, they will be notified on the Edmodo website of class activity.

With the fact that students have access to different devices and resources, some still complain of their inability to get the desired or anticipated results. It is due to their lack of technical know-how and self-efficacy. In a study conducted by Shu, Tu, and Wang, (2011). Bandura, (1989) cited self-efficacy (also known as social cognitive theory or social learning theory) as people's assessments of their abilities to coordinate and implement courses of action necessary to achieve specific performance styles, which are not about the skills you have but about what you can do with what you possessed. Self-efficacy comes from learning from complex cognitive, personal, linguistic, and or physical abilities. The automatic structure is a dynamic one that changes with the acquisition of new knowledge and experiences (Saadé & Kira, 2009).

Bandura (1994) cited in Lunenburg, (2011), identified four principal sources of self-efficacy which are: past performance, vicarious experience, verbal persuasion, and emotional cues. Self-efficacy plays an important role in the accomplishment of goals, as it not only affects attitudes, but also the thinking and emotions of the individual (Van Dinther, Dochy, & Segers, 2011). In other words, self-efficacy influences the confidence of people in their ability to perform specific tasks. Self-efficacy is described as people's belief in their ability to achieve specified levels of performance which influence life-changing events Bandura, (1994). Martalyana, Isnarto, and Asikin (2018) also expressed that Self-efficacy motivates to improve learning methods, learning achievement outcomes, and problem-solving.

Self-efficacy is an assessment of students' abilities in determining beliefs and choices, striving for progress, persistence and perseverance in the face of difficulties, and degrees of anxiety or calmness in maintaining a task (Nadia & Isnarto, 2017; Damaryanti, Mariani, & Mulyono, 2017; Taubah, Isnarto, & Rochmad, 2018). The role of self-efficacy in successful experiences of distance education has been a frequent theme of recent research. For example, (Kozar, Lum, & Benson, 2015) investigated the relationship between self-efficacy and vicarious learning in Ph.D. studies on distance learning. Their results suggested the more opportunities to engage in meaningful contact, the stronger the students' self-efficacy in completing their degree, and the more satisfying will be their experience. Similarly, Cho and Shen, (2013) investigated the role of self-efficacy and goal orientation in student achievement in an online course. The results indicated the importance of individuals' self-efficacy and intrinsic goal orientation in academic achievement.

However, Self-efficacy for Edmodo use is an important factor for student participation and performance. With courses being taught fully online or in blended settings (face-to-face and online), it has become important for students to be confident in their technology skills. Therefore, knowing whether the students have that confidence in using Edmodo is also needed for the lecturer or teacher to create a more effective class. Several factors such as gender, age, social class, and cultural beliefs play important role in the lecturer's and students' self-efficacy (Cho & Shen, 2013).

Gender is a universal word that refers to male and female and it is a critical factor that affects both lecturers and students in delivering instruction and students' academic performance. Research by Ayelaagbe, (2015) reported the gap in performance between male and female students. Sanda and Mustapha (2013) viewed gender as a socio-economic variable for the analysis of roles, responsibilities, constraints, and needs of men and women in a given context. This refers to the social and cultural stereotypes that each society assigns to behaviors, characteristics, and values attributed to men and women. Even though women make up the majority of the population as well as their workforce of any society and women also play a pivotal role in the development of their societies but still, their impact has not been felt or has been silenced in this new technology due to lack of access and the necessary skills for the operation amongst other several obstacles.

Gender acts as an influential factor in the adoption of technology, as men are said to be more technologically adept compared to women (Goswami & Dutta, 2016). Bassi and Camble (2017) recorded that there is an empirical comparison gap between males and females using electronic media, as females find information online more difficult than males. In another research, however, it has been revealed that females use the Internet more than males in a study on gender differences in computer literacy among students in some selected Nigerian institutions (Ikolo & Okiyi, 2012).

Researchers such as Shittu et al. (2020) averred that some LMS lack interactivity, interoperability, and collaboration. These features are key to making academic job responsibility efficient and effective. This may account for the lack of awareness among academic staff members. However, Shittu et al., (2020) and Hoerunnisa, Suryani, and Efendi (2019) expatiated that LMS platform such as Edmodo meets all the requirements that could make academic staff embrace it.

Despite all the benefits accrued to Edmodo, the researcher observed that some unapparent factors seem to militate against the full adoption of LMS, especially Edmodo among university lecturers. This raises questions on the probability of university lecturers not being aware of Edmodo as an LMS which could be contributing to its lack of adoption. Similarly, it was observed that few lecturers are confident in using a wide range of ICT resources, and limited confidence affects the way lecturers conducted their lessons.

This was why Afolabi (2011) concluded that lecturers' technological phobia, lack of adequate awareness, and access to new technologies prevent them from making much use of new technologies in their teaching. Kathy (2015) reported that there are few cases where technologies are available for instruction but the lecturers' competency in handling them is still very low. This might have prompted lecturers to adhere to their traditional method of chalkboard, paper, and pencil assessment, and method of communication. This prompted the researcher to embark on this study to examine university lecturers' awareness and self-efficacy in the use of Edmodo in Ekiti State.

The main purpose of this study was to examine university lecturers' self-efficacy in the use of Edmodo in Ekiti State. Specifically, this study was to

- (i) determine university lecturers' self-efficacy in the use of Edmodo for teaching;
- (ii) investigate the gender difference in university lecturers' self-efficacy in the use of Edmodo for teaching.

## Method

We adopted a descriptive research design of the survey type. This is because the descriptive research design of the survey type involves the collection of information from a large population at once or at several points in time to describe the characteristics of members of the population based on the phenomenon under consideration for the study without involving any external manipulations. Therefore, the survey type enabled the researcher to generate relevant information from the respondents on the lecturer's awareness and self-efficacy in the use of Edmodo.

The population for this study was all university lecturers in Ekiti State. The target population was lecturers in the three (3) selected universities in Ekiti State. A multi-stage sampling procedure was adopted for this study. The purposive sampling technique was used to select the three sampled universities for this study because they are the only three universities in the state. Proportional sampling techniques were used to allocate the number of respondents in each school based on their estimated population using Israel Model (2013) at a 5% level of precision, simple random sampling technique was used in the selected school to select Three Hundred and Sixty-Four (364) lecturers from sampled universities to serve as the respondents in this study.

### 1.1. Research Instruments

Data was collected using a researcher-designed questionnaire titled; University Lecturers' Awareness of the Use of Edmodo in Ekiti State. The questionnaire was constructed to specifically reflect on the various research questions of the study. The questionnaire was divided into three sections. Section A consisted of demographic information of the respondents; section C includes items designed to elicit information from the respondents on their self-efficacy in the use of Edmodo for teaching using response mode of; HP-Highly Proficient; P- Proficient; NP-Not Proficient.

### 1.2. Validation of the Research Instrument

The questionnaire was subjected to both face and content validity by three Lecturers from the Department of Educational Technology to check the arrangement of the questionnaire items if they are in line with the major purposes of the research. Their suggestions and advice were used to modify the items in the questionnaire to produce a final draft. The questionnaire was tested for reliability on (10) randomly selected lecturers from the Department of Educational Technology, University of Ilorin, Ilorin. The data gathered from the pilot study were analyzed to check for internal consistency of reliability and the Cronbach alpha value on awareness was 0.96

### 1.3. Ethical Consideration

Ethical consideration was maintained throughout data collection. The researcher ensured that respondents were not coerced to fill out the questionnaire and that respondents were allowed to participate voluntarily. Also, utmost confidentiality and secrecy of the respondents were maintained during the administration, collation, and report of research findings.

### 1.4. Data Analysis Techniques

The data collected was analyzed using descriptive and inferential statistics. Frequency counts and percentages were used to analyze the demographic information of the respondents, and mean and the percentage was also used for the research questions while an independent t-test was used to test the research hypotheses at a 0.05 level of significance using Statistical Package for Social Sciences (SPSS) version 2.0.

## Results and Discussion

### 1.1. Research Question: What is the Self-Efficacy of Lecturers in the Use of Edmodo for Teaching?

Table 1: Lecturers' Self-Efficacy in the Use of Edmodo for Teaching

S/N	Items	HP Freq. (%)	P Freq. (%)	NP Freq. (%)
1.	I can create an account on Edmodo platform	151 (43.1)	108 (30.9)	91 (26.0)
2.	I can create a class or group on Edmodo platform	154 (44.0)	125 (35.7)	71 (20.3)

S/N	Items	HP Freq. (%)	P Freq. (%)	NP Freq. (%)
3.	I can present lesson using Edmodo platform	137 (39.1)	118 (33.7)	95 (27.1)
4.	I can use Edmodo platform to post notes for students	132 (37.7)	99 (28.3)	119 (34.0)
5.	I can confidently use Edmodo to grade my students	93 (26.6)	148 (42.3)	109 (31.1)
6.	I can conveniently upload materials and files on the Edmodo platform	120 (34.3)	137 (39.1)	93 (26.6)
7.	I can give an assignment to students using Edmodo without stress	110 (31.4)	139 (39.7)	101 (28.9)
8.	I can manage groups on the Edmodo platform	110 (31.4)	99 (28.3)	141 (40.3)
9.	I can use Edmodo platform to post quiz for students	98 (28.0)	113 (32.3)	139 (39.7)
10.	I am confident that I can add posts to the library on the Edmodo platform	104 (29.7)	95 (27.1)	151 (43.2)
	<b>Grand Total</b>	<b>1209 (34.5)</b>	<b>1181 (33.7)</b>	<b>1110 (31.7)</b>

To determine university lecturers' self-efficacy in the use of Edmodo for teaching, a percentage point scale of 33.3% was adopted. Data collected were analyzed using frequency counts and percentages. As indicated in Table 5, it was revealed that the majority (34.5%) of the university lecturers are highly proficient in creating a class group (44.0), creating an Edmodo account (43.1%), presenting lessons using the Edmodo platform (39.1%), and using Edmodo platform to post notes for students (37.7%). Meanwhile, 33.7% claimed to be proficient in confidently using Edmodo to grade students (42.3%), give an assignment to students using Edmodo without stress (39.7%), and conveniently upload materials and files on the Edmodo platform (39.1%). Perhaps, 31.7% claimed not to be proficient in using Edmodo. Summarily, the total of 34.5 which is greater than the benchmark and the greatest among the total implies that university lecturers are highly proficient in using Edmodo for teaching.

#### 1.2. Hypothesis H<sub>02</sub>: There is no Significant Difference Between Male and Female Lecturers' Self-Efficacy in the Use of Edmodo for Teaching

Table 2. t-test Statistics on Gender Difference of Lecturers' Self-Efficacy in the Use of Edmodo for Teaching

Variable	N	X	SD	Df	t	Sig (2-tailed)
Male	190	2.01	0.64	348		
Female	160	1.92	0.69		1.232	0.219

0.05 alpha level

From **Table 2**, it can be deduced that there was no significant difference between male and female lecturers' self-efficacy in the use of Edmodo for teaching. This is reflected in the findings of the hypothesis tested  $df = 348$ ,  $t = 1.232$ ,  $p > 0.05 = 0.219$ . This means that the hypothesis was accepted. This was a result of a t-value of 1.232, resulting in a 0.219 p-value greater than the 0.05 significant alpha level. Therefore, this implies that there is no gender difference in university lecturers' self-efficacy in the use of Edmodo for teaching in Ekiti State.

This study investigated university lecturers' self-efficacy in the use of Edmodo in Ekiti State, Nigeria. The research question seeks to check the university lecturer's self-efficacy in the use of Edmodo for teaching in Ekiti State. The findings of this study are similar to that of Ünal, Yamaç, and Uzun, (2017) which indicated that lecturers' beliefs about the competency of technology use in education demonstrate their instructional activities. Lecturers' beliefs are associated with using technology in education and are the perception of confidence of lecturers while integrating technology for instruction.

The findings also agreed with that of Adewale, Simin, and Daud, (2018) who found that school administrators' self-efficacy can increase the organizational citizenship behavior of staff in higher education institutions. If the school administrators' self-efficacy is low regarding the implementation of technology,

providing necessary tools and materials becomes a problem and this will also hinder the use of LMS by the lecturers and reduce their self-efficacy which could affect students' academic performance.

The research question and hypothesis seek to determine the significant differences in university lecturers' self-efficacy in the use of Edmodo for teaching based on gender. From the analyzed data, it was revealed that there was no significant difference in university lecturers' self-efficacy in the use of Edmodo based on gender. Hence, this finding is similar to the study of Sohni, Martin, and Naureen (2020) which revealed no differences among females and males in terms of self-efficacy, intrinsic motivation, career motivation, self-determination, and academic achievements.

### Coclusions

The study concluded that learning can be enhanced and teaching can be effective among lecturers in Ekiti State if Edmodo is deployed for instruction. Therefore, it was recommended that Lecturers should be encouraged to deploy Edmodo for learning irrespective of their gender since they have high self-efficacy for teaching.

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