

## **CHAPTER II**

### **REVIEW OF LITERATURE**

This section of the research is about the review of the literature. It contains two main parts. The theoretical review which explains about relevant theories for the variables of the research. Besides, it has a relevant studies section that describes the very specific studies carried out by previous researchers giving more information about the relevance of the study.

Moreover, it designs the conceptual framework included in the study that makes a schema of the relation between the relevant theories found in the literature being discussed. Finally, it covers all the types of possible hypotheses that can be analysed throughout the data analysis section of the research.

#### **A. Theoretical Review**

This part describes the theories that the researcher uses throughout the present study. It covers all four variables of the research.

##### **1. Perceptions**

This section explains the term perception i.e., its definitions, the related dimensions, and to measure perception and its correlates.

###### **a. Definition of Perception**

In philosophy, some scholars defined perception in different ways. Pecher & Zwaan (2005:14) argued that perception is a cognitive

factor such as remembering, thinking, and understanding language and it depends on how people interact in their environmental context.

Also, Olshausen & Lewicki (2018:6) claimed that our body sensory receptors are capable to send a mountain of information about whatever is found around the places where we live and what is near us to the brain system constantly. For instance, the sight sense organ is determined by about 10 million cones and 100 million rods in each eye, while around 50 million receptors in the olfactory epithelium on our nasal cavity at the top nasal cavity signal to deal with our smell sense organ information.

According to Laurence (2015:14), perception allows our organism to come at a decision making about what our senses organs captors bring to us for a meaningful interpretation based on the past and present perceived-information about where we are and what we perceive. This definition means in details that it enables our senses organs to capture whatever is found around us and this captured information is directly transferred to our brain for making sense for what we can interpret to other people.

According to Pam (2013:102), perception is a set of principles that people can interpret using the five senses of organs that can help them to have an appropriate meaning a given area. Also, perception can be defined as a mental process from which one can understand with what we live on.

Furthermore, perception is defined by Manik & Sidharta (2017:24) as any process of reception, selection, organization, interpretation, doing tests, or having a reaction for some particular feeling. While Gibson et al., (2006:1041) understood perception as a behavioural type that we can expect from someone in a specific position.

In this regard, perception enables us to understand the things surrounding us by using cognitive factors to get much information about them. This helps us to decide on doing something regarding our work, teaching English for example. Though, perception helps us to explore more about problem-solving materials.

In teaching and learning process, perception in using Moodle can be defined as a way that preservice teachers choose a teaching model presenting a technological tool that they can use virtually to have their classes conducted (Olmos-Migueláñez et al., (2014:1).

Moodle facilitates preservice teachers to develop their knowledge in using e-learning or even the traditional way of teaching facilitated by internet (Olmos-Migueláñez et al., 2014:1). Furthermore, preservice teachers use see Moodle as a learning tool that facilitate them to share real-time information and joint work between them and their students (Olmos-Migueláñez et al., 2014:1).

Overall, perception is finally understood and used by many students or teachers to determine the extent to which preservice

teachers show how they know using a particular tool. This allows them to make use of their conceptual framework to decide what they do. To make this happens, they can use their sensory senses such as sightseeing, hearing, touching, smelling and tasting as well to make some decision.

**b. What is a Pre-service Teacher?**

Pre-service teachers are students receiving a teaching training programme before they get an official position in an educational institution (Vethamani, M., 2011:89). The pre-service students are also called student teachers, or interns. One of the mentors' roles is to facilitate the preservice teachers their teaching profession by providing all necessary materials and instructions.

Note that mentors help the pre-service teachers with opportunities supporting success during the practicum experience. But mentors cannot guarantee the success of the interns in a particular classroom setting. Sometimes, the interns' success comes with the success they would experience. Mentors cannot control some factors related to the interns: attitude, maturity, and work ethic (Morehead et al., 2009:1).

Cooper & Hyland (2000:48) defined a pre-service teacher as a half teacher. That is to say, someone who is not fully prepared to teach but in a few years of training, he becomes a ready – teacher. In addition to that, the term is explained by Mergler & Spooner-Lane,

(2013:66) as any programme preparing a graduate student to become a qualified teacher with an arsenal of teaching equipment and strategies including types of teaching methods that respond the inquiries needed in teaching activities.

Thus, scholars used many names to call a pre-service teacher. These names vary from student teacher, intern, to half-teacher (Morehead et al., 2009:1). That is to say that a pre-service teacher is defined as someone who receives a teaching training programme in an institution or from a training centre before starting to teach officially. The trainers cannot guarantee the pre-service teachers' success, but they succeed based on the work performance that they perform.

### **c. Dimensions of Perception**

The researcher will explain the different dimensions that are related to preservice teachers' perceptions. The dimensions used in this research study are composed of five parts. They are listed as follows:

### **d. Teachers' Perception on the Use of Moodle**

Teachers perceive their Professional Development as a system of enacting educational reforms, developing a quick reform in the fields of knowledge and technology as well (Yates, 2007:215). Also, it thrives to increase students in a large number in the classroom with various interests, aptitude and abilities.

Although a strong considered was reserved to teachers with a huge funding system, the concept of "high quality" Professional

Development remained less known about how do teachers learn from many of formal and nonformal, structured and unstructured, planned and serendipitous Professional Development possibilities in which they are presented in their teaching career (Yates, 2007:215).

A study was conducted by (Yates, 2007:215) aimed to help both junior and senior high schools teachers understand their perception in learning activities that they undertook using a survey instrument. In the survey, teachers were engaged mainly on curriculum areas like Literacy, Numeracy and Science.

It used topics such as bullying in schools, the education of boys and utilizing ICT tools in schools during seminars, workshops, and conferences to a long term professional learning activities (Yates, 2007:216).

#### **e. Perception of Teachers for Moodle Applicability**

Perception of teachers for Moodle applicability is related to teachers work with the students they teach. Also, it deals with teachers' activity in long-term courses experience. Teachers understand that ICT is a good way to help students being applicable. Therefore, Moodle is considered as one of the ICT tools that are necessary for themselves and their students as well (Yates, 2007:216).

##### **1) Selecting Information**

Kambaskovic & Wolfe (2014:18) revealed that we use all our five senses organ to get information around us. But we should

make sure that our brain cannot process all the perceptions we make through many stimuli. We focus on our senses to any incoming information with sensory factors.

Thus, our brains cannot make sense alone in perception concept. People who perceive information we are concerned with are more or less capable to use such information to define what is existing in our environment.

## **2) Organizing Information**

The second process in perception is the organization of information. This part allows us to categorize any information we perceive based on innate and the cognitive that we already learned. There are three ways we can use for perceiving: using the proximity, the similarity and the difference.

The term proximity means things that are close together always go together. They are very close to each other and of course, they work together. For example, a friend with whom you are occasionally found is treated as you are. Also, we can make a group of similar things. We tend to say that similar-looking and similar-acting things are found together. Further, we take information based on the difference that exists between many things.

In brief, the three main aspects to perceive our environment help us to know much more about things located near us, those are

similar also look like the same even though they do not do exactly, and finally, the differences between them which are most of the time difference.

### **3) Interpreting Information**

The second process in perception is the organization of information. This part allows us to categorize any information we perceive based on innate and the cognitive that we already learned. There are three ways we can use for perceiving: using the proximity, the similarity and the difference.

The term proximity means things that are close together always go together. They are very close to each other and of course, they work together. For example, a friend with whom you are occasionally found is treated as you are. Also, we can make a group of similar things. We tend to say that similar-looking and similar-acting things are found together. Further, we take information based on the difference that exists between many things.

In brief, the three main aspects to perceive our environment help us to know much more about things located near us, those are similar also look like the same even though they do not do exactly, and finally, the differences between them which are most of the time difference.

#### **f. Measures of Perception**

This section deals with how we measure perception. Many pieces of research previously explained how perception can be measured. The following are some of these researches.

Measuring preservice teachers' perception can be done by using scales (Olmos-Migueláñez et al., 2014:2). That is how to understand the usefulness of Moodle. Therefore, it became deemed to design a questionnaire which presents items for finding out some useful information about Moodle users concerning their perception.

In this regard, Olmos-Migueláñez et al., (2014:2) ran a study in Educational Sciences degrees comprising 754 subjects. They used a Likert-type scale for measuring the respondents' perception with four responses choice: (0) not at all, (1) not much, (2) quite a lot, (3) a lot/very much.

Similarly, Yates (2007:216) did a survey study about teacher perceptions of professional learning (TPLP). The survey contained 21 statements about professional learning. They rated each statement related to their teaching professionalism using a 4-Point Likert Scale that ranges from (1) strongly disagree, (2) disagree, (3) agree to (4) strongly agree.

#### **g. Correlates of Perception**

Several studies revealed the correlation between gender and perception. First of all, Tatar (1998:15) research figured out that there

are more girls than boys in the study. However, boys were found more than girls and their perception was that teachers obstructed their personal development.

In addition, Furman & Buhrmester (1992:108) studied 549 young learners in different grades comprising from grade four, grade seven, grade ten until college-level students. The study showed that mothers and fathers are found the best supporters of fourth-grade students.

Similarly, for the seventh grade, it was found that the perception showed that same-sex friends help each other as do parents in grade four. Also, romantic partners were found to be closer and closer until they reach the college where they all received supports from parents.

Furthermore, age differences were found related in grandparents, teachers and sibling's perception. Therefore, age is seen in conflict, or punishment or even relative power were perceived as tension generator in the relation between parents and children during their early and middle adolescences (Furman & Buhrmester, 1992:108).

## **2. Beliefs**

In this part, the researcher will present all the definitions used in the present study. They cover largely all related dimensions to preservice teachers' beliefs.

### **a. What is Belief**

The concept of “Belief” was discussed by scholars in a wide range of research disciplines such as sociology, anthropology, psychology, philosophy and education. The term belief is therefore defined as psychological thinking, conceptions and understanding about the English language in worldwide (Zheng, 2015:6).

Besides, belief is understood as a feeling of being sure that something does exist or is true. Beliefs are everything we think correct in our field of work. More concretely, Frijda et al., (2000:1) meant belief as a factor that determines emotional feelings. It is seen as an antecedent of emotion.

According to Borg (2001:188), belief is something that someone thinks is correct in somehow even though it may not be the same for someone else. For example, a person may consciously or unconsciously have something in mind that is regarded as true which can produce a motivation to think about how to deal with a situation.

In this regard, knowledge of belief is extremely important for preservice teachers to do effectively their work. It enables a person to understand the world and makes sure how information is perceived and whether it is or not accepted.

Belief is the ability to think that something is true, correct, acceptable and unavoidable. When we believe in something, we do not have any doubt to get involved in. Lack of belief prevents us to go

forward to any situation that we undertake. And finally, we cannot perform any action if we lack belief for fear to fail, to be damaged, or lost.

When discussing Moodle, teacher's belief can be understood as what teachers think in teaching activities, what they know about teaching and what they believe in teaching using Moodle as a medium of teaching (Borg, 2012:6).

All things considered; teacher's belief can be known as the knowledge to teach at various level with the help of Moodle. Teacher's belief is, therefore, the capabilities to deal with pedagogical issues, to teach students conveniently by following all required methods of Moodle.

Further, empirical studies showed that teachers' beliefs in Moodle influence their judgements and actions. Pre-service teachers' candidates bring beliefs during their teaching preparation programmes that can serve as a means to interpret what they have just known and experienced with the teaching tool being used (Levine, 2005:50).

Otherwise, teachers' education programmes may have only a little influence on pre-service teachers' candidates because they do not have much information to state their misconceptions, naïve theories, and strongly held prior belief.

Teachers' beliefs are developed through the knowledge, experiences, conceptions, and content knowledge that they have in

advance. The combination of these things is what makes teachers' well prepared to deliver the lesson that they are ready to teach via Moodle.

Finally, the expression of belief is simply the state of being certain of something either positively or negatively. It is only our belief that persuades us to tackle any professional activity, particularly in teaching using Moodle. Believing in Moodle is accepting its use for a particular purpose such as in teaching for example.

#### **b. Dimensions of Belief**

In this study, the researcher will show the different dimensions that are related to preservice teachers' beliefs. The dimensions used in this research study are composed of three parts. They are listed in the following way:

#### **c. Teachers' belief about Moodle as a teaching and learning tool**

This part discusses how teachers and students can benefit from Moodle as used in education. Teachers use Moodle in education to enable learners to gain knowledge easily by offering a lot of facilities regarding what they learn. Also, it deals with the different practices they do when using computers in the classrooms. It increases for them the depth and breadth of knowledge they want to acquire during the teaching practices (Jimoyiannis & Komis, 2007:151).

#### **d. Beliefs about Moodle Integration in Education**

This is to explain how Moodle integration in schools can be done. ICT integration in the classroom was found complex and multi-faceted. Teachers should understand the technical issue of integrating Moodle to teach students. They should have programmes that aim at reorganizing the instruction using ICT. It demands a strong knowledge of ICT tool and how to use the Internet (Jimoyiannis & Komis, 2007:151).

#### **e. Beliefs about Moodle in Educational Process**

This part talks about what Moodle can do in education for helping teachers. There are many initiatives undertaken to help Moodle use to become effective. Great infrastructures were made available in the education sector by providing different equipment. Among them, there are computers labs, educational software, and internet connection (Jimoyiannis & Komis, 2007:151).

#### **f. Measures of Belief**

This part of research explains in general whom we do measure the concept of belief. Through the following study, we can see how it is possible or how we do for measuring belief.

Measuring belief is to determine how teachers believe in using Moodle during their teaching activities. For that purpose, research carried out by (Jimoyiannis & Komis, 2007:151) used an instrument

which contained a Likert-type scale for measurement. It used a 5 Point Likert-Scale ranging from “strongly agree” to “strongly disagree”.

#### **g. Correlates of Belief**

Many scholars believed that gender influence Moodle use. The study conducted by (Eickelmann & Vennemann, 2017:2) resulted that the females who teach were more in grade eight in the overall of the countries that participated in the study. It was found that 66.1 % were female teachers. Because teachers age group is important in the study, there was found a fairly balanced distribution between the participants. The result showed that 42.0 % of teachers in Germany were aged 50 or older. Therefore, belief is very correlated with age and gender.

### **3. Confidence**

Here is the part of the research where the researcher will describe all related dimensions to confidence. They explain clearly what each dimension means. In that case, let's see what they are.

#### **a. Definition of Confidence**

Confidence means having a feeling or belief that one can have faith or reliance on someone or something else. It can be also a quality of being certain of your abilities or of having trust in people, or plans. A confident person does not speak proudly – they know their achievement will demonstrate their abilities.

To elucidate, a confident person would accept totally when they are wrong contrary to an arrogant person who would have

troubles to accept when they are not right. Furthermore, a confident person would always focus on being the best on what they do and doing the best they can do (Training, 2010:12).

Ultimately, confidence is a situation when an individual is certain of the abilities he has, the trust on people, plans, and of the future. Confidence is, therefore, the state of being sure of doing something very challenging.

People who are confident in work never waste time to plan or to think about a given problem. Instead, they execute any assignment with a belief that what they do is correct. This makes them very successful at work. Confident people do not have the fear to do what they want to do.

They are always sure and ready to respond to any eventual problem that occurs in their surroundings. Some scholars explained how we determine that someone is confident. For example, (Training, 2010:12) said that when people are confident, they:

- “Focus on their strengths while managing their weaknesses
- Are not afraid to take risk
- Enjoy challenging themselves and setting high goals
- Seek out self-improvement opportunities
- Aren’t afraid to admit when they make a mistake
- Aren’t afraid to acknowledge when they don’t know something
- Make good team leaders or mentors
- Can relate to customers or company members at any level of the organization
- Are honest about their shortcomings.”

In short, confident people are those who never fail to do what they do by lack of fear. Without any doubt, they are certain about what they do. They do not care that they lose, not succeed, fail, or whatever that may happen to them. These people are generally a hundred per cent sure that they can attain their objective. They have plenty of beliefs that make them assured for the challenges that they face.

#### **b. Dimension of Confidence**

This part shows what dimensions are related to confidence. It describes the dimensions of teachers' confidence. The following discusses them.

Teachers' confidence in using Moodle refers to how well teachers and students can perform their working activities that require constant interaction with ICT tools such as computers, smartphones, iPads etc (Cretchley, 2007:15). It concerns about how teachers are confident to use computers for facilitating the teaching process to be successful.

#### **c. Measures of Confidence**

Confidence can be measured. Research conducted by Cretchley (2007:12) proposed a questionnaire containing items to be measured. It used a Likert-style to determine the extent to which teachers are confident in using Moodle. The questionnaire scale was from 1 to 5. The scales were presented in the following way: (1)

strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree.

#### **d. Correlates of Confidence**

Studies were conducted to know about the correlation between teachers' confidence and gender, age, and experience. Saleem et al., (2016:1) study finding resulted that both males and females were the same in using Moodle.

Moreover, it was found that experience in using Moodle can affect the users' both perception and confidence. Also, gender influence the respondents to use Moodle as they are confident in it.

### **4. Attitude**

Here also is the part of the research where the researcher describes dimensions related to attitude. Their description explains clearly what each dimension means. In that case, let's see what they are about.

#### **a. Definition of Attitude**

Attitude is defined in many ways. First of all, attitude is considered as a way to respond to something correctly or incorrectly to an object, institution, person or event (Icek, 2005:1).

Similarly, another definition arose by Eagly and Chaiken (1993) cited in (Albarracin and Johnson, 2005:), they mentioned that "attitude is a psychological tendency that is expressed by evaluating a particular entity with some degrees of favour or disfavour". It shows us

that depending on how we agree or disagree on a particular issue, we show it by evaluating it in detail.

In other words, according to Icek (2005:2) attitude is a tendency to show acceptance or rejection regarding an object, situation or event. Therefore, we can assume that- attitude is our way of life, our behaviour and whatever can characterize us towards the society where we live. In terms of using ICT in education, attitude can be understood as a way Moodle users behave or demonstrate their characters towards Moodle's ease of usefulness and its perceived usefulness (Alghamdi & Bayaga, 2016).

An individual attitude towards Moodle is the behaviour that one has when using it during the teaching and learning process. Though, a personal attitude is each user's way to maintain Moodle's characteristics when using it for an oriented teaching method (Alghamdi & Bayaga, 2016:2312).

Therefore, attitude can be understood as the physical form of someone or something compared to the speaker. It also means the way we behave towards someone or something. In this context, attitude towards using Moodle is the way Moodle users feel, think, and manage it in a good way.

## **b. Dimensions of Attitude**

This section will describe the dimensions of attitude. It shows the dimensions used in this research. The following components are the related-dimensions of attitude.

### **1) Teachers' attitude in using Moodle**

Affective components are factors that influence the users' attitudes in using the Moodle (Sarıçoban, 2014:59). These factors have a strong influence on using Moodle platform. They show the degree to which the users would like to utilize the product in teaching or learning activities.

### **2) Usefulness component of Moodle**

That is a factor dealing with the knowledge of the importance of using Moodle that teachers are supposed to understand during their teaching activities (Sarıçoban, 2014:59). Teachers who use Moodle experience many types of importance related to the product. They make it happen to give all the related features it has through the development of the product. Therefore, Moodle is such an important ICT tool for teachers and students for gaining knowledge.

### **3) Control of using Moodle (self-efficacy in using Moodle)**

This component shows how well Moodle users can manipulate Moodle during their activities (Sarıçoban, 2014:67).

The most important in this component is for teachers or students who use Moodle to experience it.

After that, they can easily learn the easiest way to use it helps them to be efficient in the work they do. It is therefore understandable that Moodle users do not face major problems related to its functionalities.

#### **c. Measures of Attitude**

Knowledge of the measurement for attitude is important to help researchers understand the best ways of measurement. In this regards, Sariçoban (2014:67) conducted a study which used a survey. The assessment of the participants in the survey was done regarding their attitudes towards computer with a questionnaire.

The participants responded to questions using a 5 Points Likert-Scale. The scale comprised between (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree.

#### **d. Correlates of Attitude**

In the study conducted by Sariçoban (2014:59), the finding revealed that the participants' ages were very significant towards their computer attitudes. From this result, we can admit that age has an influence on the attitudes of the Moodle users.

In addition, the study showed that two age cohorts from (20-25 and higher) were exactly significant to the participants' attitudes.

Finally, the group of (20-24) of age was higher and therefore it had more favourable attitudes towards the use of computer, or Moodle.

## **5. Moodle**

Moodle is the last part of this section. The researcher will explain the definitions and dimensions in line with Moodle. Therefore, let's see what they are about.

### **a. What is Moodle?**

Many definitions were given for Moodle by scholars in the domain. The first definition is given by Rice IV (2006:6) says that Moodle is available to anyone who wants to use it in a Learning Management System to develop useful teaching material for teaching purposes using the online courses.

Online courses refer to any material shared between the users such as teacher and learner for example by using a device (computer) connected to the Internet. Another definition of Moodle says that it is a Course Management System used by a large number of universities, colleges, K-12, or any free user to include a website for their courses in teaching (Jason, 2009:1).

Furthermore, it gives the teacher an occasion to create a free course based on the web and gives him full control to allow only registered students to have access clearance. The application was developed to improve pedagogical principles. It is used for many types of learning namely blended learning, flipped classroom, distance

learning and e-learning activities in educational institutions etc. Moodle allows creating an online course for educators and trainers to meet the learning objectives.

Moreover, Susan and Rice (2010:9) defined Moodle as a course management system to develop courses using the internet. Moodle is an open-source software without cost that allows the user to control the setting and share it with other users as many as needed by giving them the original license and copyrights.

Furthermore, Stanford & Wright (2009:18) stated that Moodle is almost the most popular and widely used by teachers and students in the world. Stanford continued to give some attractive features of Moodle (2009:8). It is:

- Easy to use – you don't need any programming knowledge,
- Access the resources via the web,
- Collaborative between learners,
- Independent learning pathways,
- Learner tracking,
- Easy to give feedback on tasks,
- Secured environment, and
- Automatic backup

Moodle is defined as a nonpaid website from which teachers can utilize for developing an effective online course for their students. According to Rice & Bailye (2008:15), Moodle is an acronym of (Modular Object-Oriented Dynamic Learning Environment) that is very important for users on all sides. Moodle was developed in 2002 by the Australian Martin Dougiamas and the company is located in

Australia with fifty (50) developers that are funded by a corporation of eighty-four (84) partner companies in the world.

Obviously, the Moodle platform is widely accepted by researchers who said the most of its advantages in the educational context. Universities should try to experiment it; this is how they can know the best of it as well so that teachers can apply it during the teaching process.

#### **b. Useful Features of Moodle**

This section describes the useful parts of Moodle. It shows the most important features of Moodle that help teachers to enjoy using them.

##### **1) Uploading and Sharing Material**

Many course management systems give possibilities to publish content easily by using the internet. Instead of creating a Hypertext Mark-up Language (HTML) page editor and sending the documents that are being created to a server, the teacher can directly save the syllabus that he developed on the website. Teachers have possibilities to save their work like syllabus, notes, reading tasks, academic articles for only the registered students so that they can access whenever and wherever they want to. Finally, Moodle becomes the best of the platforms to serve as course upload system on the website.

## **2) Online Forums and chats**

Online forums and chats serve as a conversation tool between instructors and students and students themselves during their studies in the classroom. During forums, students have a chance to get good ideas and they can have more thoughtful discussions in a longer period.

Besides, chats help the learners to quickly and easily interact with students who are in a remote area. Definitely, Moodle is usable in all circumstances such as having formal discussions with a large number of participants. Also, it serves to chat between users no matter where they live. It is very beneficial though.

## **3) Quizzes**

Online quizzes are very practical. The teachers can do it in a simultaneous way, which is to say at the same time the quiz is made, students can work on it and submit to the teacher who can give feedback at the same moment. It is an acceptable teaching tool to measure students work performance and understanding of the material. This means that it is a good tool to have quizzes in the classroom settings. Therefore, teachers are encouraged to apply it during and after they finished teaching.

#### **4) Gatherings and reviewing assignments**

It is easier to track and give a score to students who submit their assignments using the internet. Moreover, research revealed that using the internet to score students work help a lot to motivate them in their learning process. In that way, Moodle is known for its best features to give chance to teachers to score their students just after they finished exams.

#### **5) Grades Recording**

Online grading system allows students to see their work performance in a real-time way. In addition, this system helps to secure students' grades and hide their identities from being posted in public places. Moreover, online grade book gives students permission to see only their grades, not for others. These grades are downloadable for further calculation if need be. This is a very important feature for teachers for best saving or storing data of the students' progress.

#### **6) What makes Moodle special?**

Open source refers to the freedom of the user to access the source of the software without restriction. The user's guide is provided as well that enables them to look after any part of the software, and even share it with other users for using purpose. In addition, it accepts reviews,

knowledge sharing, free downloads, the possibilities to write new features, fixing bugs, improve performance, or just observe how other people solved programming problems.

Moreover, Moodle does not require any activation code that is frequently payable for users compared to other software. The user can simply download and install it on servers as many as it is needed. Users will always possess the source code. However, if the Moodle founder decides to stop the development of Moodle, there are many developers in the community of Moodle who can continue running the project.

Therefore, free and open-source means to be available to everybody. It is not asking to put a code for activation. Rather, the user is free to install it on a mobile phone or desktop.

## **7) Educational philosophy**

Rice et al., (2008) argued that Moodle is developed to reinforce Social Constructionist Pedagogy. This type of learning can be understood as an interactive classroom, meaning the exchanges that are facilitated between teacher and student to learn from each other. Because this philosophy believes that students can learn more easily when there is communication, discussion, and exchanges

between them about the material they are engaged to explore.

In addition, they can create material of their choice and support other learners to benefit from it. Clearly, to understand much more, we can consider both the traditional class and the constructionist philosophy pedagogy.

The philosophy says that through communication, discussion, exchanges etc., students make progress by doing some steps. They can interact and have lots of feedback without being assisted by the teacher.

## **8) Community**

Moodle community becomes larger and larger every time, people who are always ready to help new users with running it effectively, troubleshooting, and using it normally. Almost 300 000 users are available online and 30 000 Moodle sites exist in 195 countries in the world. In addition, Moodle is translated into over 70 languages (Jason and Foster, 2008:6). To summarize, people who join the Moodle service increase considerably in number. These people are very helpful to others who newly joined the group.

### **c. Advantages of Using Moodle**

Moodle gives many advantages to its users. Previous studies show that users benefit help from using Moodle in many ways (Jayaron, 2015:23).

#### **1) Forum**

Teachers can organize forums by using Moodle. The teacher has possibilities to post many different types of topics and enables the attendees to give their points of views and open discussions synchronously or asynchronously. The attendees can write electronic messages to each other and feedback is live. The attendees have corrections from their peers while the teacher becomes a moderator.

#### **2) Assignment**

Firstly, this option allows the teachers to upload assignments for the students. Secondly, the students can download the assignments and submit them virtually. Then, the teacher gives them feedback and also grade them.

#### **3) Database**

The database module facilitates the students to create, save, and search a series of entries (i.e., records). The teacher can structure the entries for the class. Then, the database gives the students access to read the files (documents), and

listen to audio materials for improving their pronunciation and grammar skills in English.

#### **4) Glossary**

A glossary is an option for the students to create a list of vocabulary including the definition of each word and save them as a digital dictionary. All the other students can have access to the glossary. Students learn as much as vocabulary they want through the dictionary that they build on the system.

#### **5) Hotpot**

The hotpot option enables the teachers to share interactive learning materials to students by using Moodle. When the students download the materials, they are given opportunities to read and listen to them with the teacher's instructions. Also, all four languages skills are integrated (listening, speaking, writing and reading).

#### **6) Lesson**

This tool helps the teacher to deliver content-oriented practice exercises to the students as a student-friendly and flexible way. Activities that can be included are matching, multiple-choice questions, and short answer questions. This becomes very helpful for EFL students to practise their English language skills.

## **7) Quiz**

This is an important tool enabling the teacher to create quizzes and give the grades to the students. The teachers can set the types of questions and provide correct answers. Questions can vary from matching, choosing, to filling in the blanks. The students can check the meaning of words, spelling, grammar and content through this tool.

### **B. Relevant Research Studies**

Here is the section discussing some relevant studies of teachers' perceptions, beliefs, confidence and attitudes towards using Moodle. More studies focused on how teachers perceive Moodle; how they believe it is a teaching and a learning tool; how they are confident to use it; and how their attitudes are regarding the use of Moodle.

#### **1. Perception**

The researcher will present the relevant researches conducted previously. These researches were concerned about teachers' perception in using ICT particularly Moodle. All the findings are classified by authors in the following ways:

One of the relevant studies was conducted by Sonmez and Koc (2018:103) at Isparta, State University of Turkey. That study entitled pre-service teachers' lived experiences with taking courses through learning management systems that aimed to explore what preservice teachers knew before concerning Moodle. Qualitative research was used during the study.

Interviews that were used were semi-structured as a way to collect the data. After the data were collected, the author did the analysis using Nvivo 7.0 software.

The sample of the study was 25 college students. The students were majoring in Computer and Instructional Technology Education. Results showed that the largest parts of the respondents accepted that Moodle is easy and friendly software, not only beneficial but also enhancer the teachers, the students and the course contents.

In addition, the students get to know some important aspects of Moodle: “assignments”, “resources”, and “forum”. These are among the most instructional methods. Nonetheless, the rest of the participants disagree with that statement. To them, Moodle is not an appropriate tool to teach mathematics for example since it does not provide face-to-face meetings like in classroom settings.

Based on the above-mentioned result, the researcher of the current study would conclude that Moodle is most appropriate for use in a remote setting rather than in place and this is one of the usefulness of it. Therefore, this research is good in a sense to demonstrate that Moodle is best used in a remote perspective.

In addition, lots of studies were conducted about the perception of pre-service teachers regarding how to use Moodle. In brief, Gunduz et al., (2017:23) carried out research which title is the implementation of the Moodle system into EFL classes at the Near East University, Mersin, Turkey. In that

study, the authors were interested in examining pre-service teachers' perception about using Moodle platform at secondary school in EFL lessons.

The research employed a mixed-method in which the qualitative data were collected through a survey. The sample of the study was 333 participants and 12 English teachers. The findings of the study revealed that more participants were satisfied for using Moodle platform and they agreed that the system would be used for a long-term period and finally they said that it is very beneficial for them.

Therefore, the researcher of this study found that it is useful to conduct such research on Moodle about pre-service teachers' perceptions since the above study result revealed that the respondents of the survey were positive to use of Moodle as it became a necessity in this era of computerization.

Much researches about Moodle were conducted in various universities and institutions around the world. Some of the most relevant studies are chosen by the current researcher to show how important this tool is. In this regard, Alzouebi, K., S., (2014:1) did a qualitative study on pre-service teachers' perception in using Moodle to strengthen teaching quality and learning for the level of K–12 in the region of United Arab Emirates. This research was done in a private school in Al-Ain city in the United Arab Emirates. The objective of the research was to investigate teachers' perception of the use of Moodle as a tool for increasing learners' motivation and the advantages that it offers.

Data were gathered from 12 K–12 students in one school. The attendees of this research received prior introductory training before the real study. After the study was conducted, the result showed that pre-service teachers have a positive understanding to use Moodle as a teaching tool to enhance both the teaching process and learning process. Most of the respondent of that research approved that the general advantage of using Moodle is that it strengthens communications and interactions between learners, having conversations, and making learners busy by doing something beneficial.

Therefore, that study explained that the use of Moodle is appropriate for pre-service teachers as one of the current research purposes. Hence, we can approve the use of Moodle based on the result obtained from the above-mentioned study.

## **2. Belief**

Besides, Emaliana (2017:) did a survey about preservice teachers' beliefs. The survey took a quantitative form that aimed to explore what related between preservice teachers' beliefs in terms of teaching language, pedagogy of beliefs, and the beliefs about the integration of ICT. The authors of that research administered a questionnaire to 103 pre-service teachers of EFL and the obtained data was analysed by a Structural Equation Model (SEM). The result showed that there is a positive and significant relationship between them and ICT integration through Moodle. Therefore, the current research can be

considered positive since the above research demonstrated the feasibility to conduct such a study.

Concerning pre-service teachers' beliefs in using Moodle, Xiong (2016:521) conducted a study entitled pre-service and In-service English as a Second Language teachers' beliefs about the use of digital technology in the classroom in the school of linguistics and languages studies at Carleton University in Ottawa, Canada.

The study investigated pre-service and in-service teachers' beliefs in English as a Second Language teaching. Participants were given a questionnaire and later undertook a one-on-one interview. Result of the study suggested four beliefs for the participants in regards to the Moodle use: the importance of Moodle, using Moodle in a class, the expertise and context of using Moodle.

Finally, the researcher made sure that the use of Moodle is something that lots of preservice teachers appreciated while the result of the finding that they got proved that.

### **3. Confidence**

Raman (2014:167) surveyed on a study entitled TPACK confidence of pre-service teachers in Universiti Utara Malaysia. That study was aimed at measuring the level of TPACK for pre-service teachers. That study took a form of quantitative research with the involvement of 154 pre-service teachers.

A questionnaire was designed and sent to the respondents in a Google form format that allowed data collection to be done. The responses resent back from the respondents were analysed by SPSS. The results revealed that the respondents had a good level of confidence. Besides that, the result showed that there both male and female preservice teachers had different perspectives for confidence about Moodle. In a short, that study was about pre-service teachers' confidence, therefore, the current research becomes necessary to help other researchers to provide more input for the young teachers' generation.

According to Boopathiraj (2015:23) on pre-service teachers' confidence in using Moodle, they conducted research with title "pre-service postgraduate teachers' first-time experience with constructivist learning environment (CLE) using Moodle". The research tried to explore their experience and the degree to which they were confident in using Moodle. During the study, 30 pre-service teachers' postgraduate level were studied.

Findings indicated that the respondents were very interested in learning through the use of Moodle, hence they were satisfied and confident though. Besides, it recommended extending the use of Moodle in across schools and institutes for teachers' education. Therefore, the pre-service teachers' confidence was important.

#### **4. Attitudes**

Regarding pre-service teachers' attitudes toward using Moodle platform, Kırmızı (2014:1344) did research to help understand how to

measure the technology acceptance level of preservice teachers in Turkey through the Technology Acceptance Model (TAM) at the University of Karabuk, Turkey.

The purpose of the research was to investigate how English teachers understood and accepted to use Technology Acceptance Model (TAM) in the Turkey context. The author of the study claimed that 213 preservice teachers attended the survey. The data were collected using the Computer Attitude Scale (CAS) which was developed by Selwyn (1997).

Findings showed that teachers who attended the study had positive attitudes in using Moodle for teaching English. Besides, the ANOVA test was used to see the differences among the participants based on their levels in terms of their attitudes in using Moodle. From this, the result revealed that the Moodle is found meaningful and usable. Therefore, the researcher of this study became certain that the current topic will be a great help for prospective pre-service teachers in EFL.

Research on pre-service teachers' attitudes was carried out by Khany & Goreyshi (2013:612) at the department of English at Ilma University, Iran. The study entitled Iranian EFL teachers' familiarity, attitudes and willingness towards different internet tools and their applications. The objective of the research was to explore the familiarity, attitudes and different willingness to using internet tools by English teachers. Also, it explored the Moodle related-problems and teachers' difficulties to use it as an ICT tool.

The instrument used during the survey was a questionnaire that the researcher distributed to 263 pre-service teachers who were randomly selected from different study programmes. Many results were found and it was revealed that the respondents have high positive attitudes in using and integrating Moodle in teaching English. To conclude in this part, the current researcher totally believed the impact of Moodle vis-à-vis the pre-service teachers.

The study title is teachers' attitudes and levels of technology use in classrooms in the School of Educational Studies at the Universiti Sains Malaysia. Authors' reasons for conducting such a study was to investigate the different levels of capabilities to use ICT by teachers in Jordan.

The study took a quantitative form in which a questionnaire was distributed to 650 who were randomly selected, but only 460 have responded to the questions. The finding showed a positive attitude by the preservice teachers in using Moodle and a positive significant correlation between their levels of ICT and their attitudes to using it.

To sum up, pre-service teachers have strong attitudes towards the use of Moodle in their teaching profession. In this regard, this research is appropriately designed to find out how those in ENSUP of Bamako attitudes are.

## **5. Moodle**

These authors surveyed pre-service teachers in Africa. The research topic was “Remote tutoring of pre-service EFL teachers using iPads”. The research result revealed that there is a new way to permit giving feedback to teachers during teaching placements in Africa from a tutor living in Sweden who uses an iPad mini and staying virtually (Allen, 2018:2).

Cambridge English Test Framework feedback was given. Findings of the research suggested that during a pre-service teacher teaching practice, the combination of recorded audio-video material and Moodle platform feedback from a tutor found remotely can give important support for tutors, an assessment which is very formative and reflection.

In this regard, Moodle is very much helpful in many aspects of the educational context. Therefore, lots of attention is needed to help it to be outspread in worldwide for helping researchers and teachers to benefit the most from the technology.

The authors carried out a study on mobile acceptance among pre-service teachers with a descriptive study using a TAM-based model. This study took place at the University of Salamanca. The reason was to persuade pre-service teachers to accept using Moodle in their teaching practices. In this regard, a questionnaire was given to 678 preservice teachers.

The result of the research revealed that the participants were favourable to use Moodle during the teaching practices. Therefore, the current research paper deals with the use of Moodle to permit more pre-service

teachers to accept using it their respective working places (Prieto et al., 2015:8).

Therefore, the present study is unique in Mali since there is no other study conducted before this one.

### **C. Conceptual Framework**

In this era of global digitalization, the term Information and Communication Technology (ICT) has become among the hottest topics in the fields of education and research. Besides, ICT made a lot of tools and Moodle is listed as one of them in which the researcher is concerned with. Henceforth, Moodle platform becomes popular and many other people knew it as the most open-source e-learning platforms that give teachers the possibilities to create online courses.

Although much research has been done in ICT, topics dealing with Moodle use by pre-service teachers in English remains very limited particularly at the department of English in ENSUP of Bamako. There is no survey conducted on this topic. Additionally, the ICT equipment is extremely expensive and that is what makes it difficult for the teachers to afford it. Also, the lack of training in ICT becomes one of the problems that these pre-service teachers face every day.

In the same way, the subject of computer science does not exist in the national curriculum of Mali. This prevents learners to acquire the ICT knowledge and finally they become illiterate to use computers, tablets, iPads

etc during the learning process. For teaching purposes, hence, the low awareness of the ICT particularly the Moodle platform.

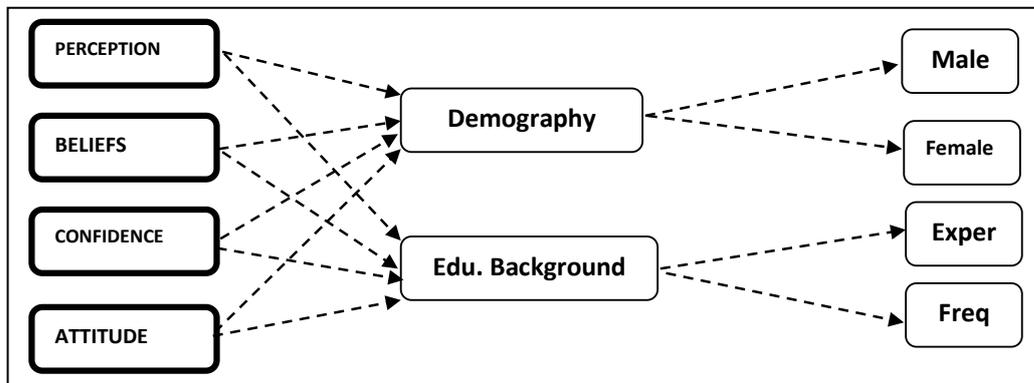
In this regard, the researcher believes that knowing the following aspects of teachers' characteristics might be a solution to deal with the worries of using ICT tools in classroom activities. Therefore, it is very crucial to know how future teachers manage Moodle. Having this knowledge will help to develop strategies that will enable them to like using it.

Further, when we know that these future teachers believe that using Moodle will match their expectations to teach effectively, we will be able to help them create the conditions that they can access to the website for sharing teaching materials. After this, when they are very confident to use Moodle, they will without hesitation apply teaching methods via the website.

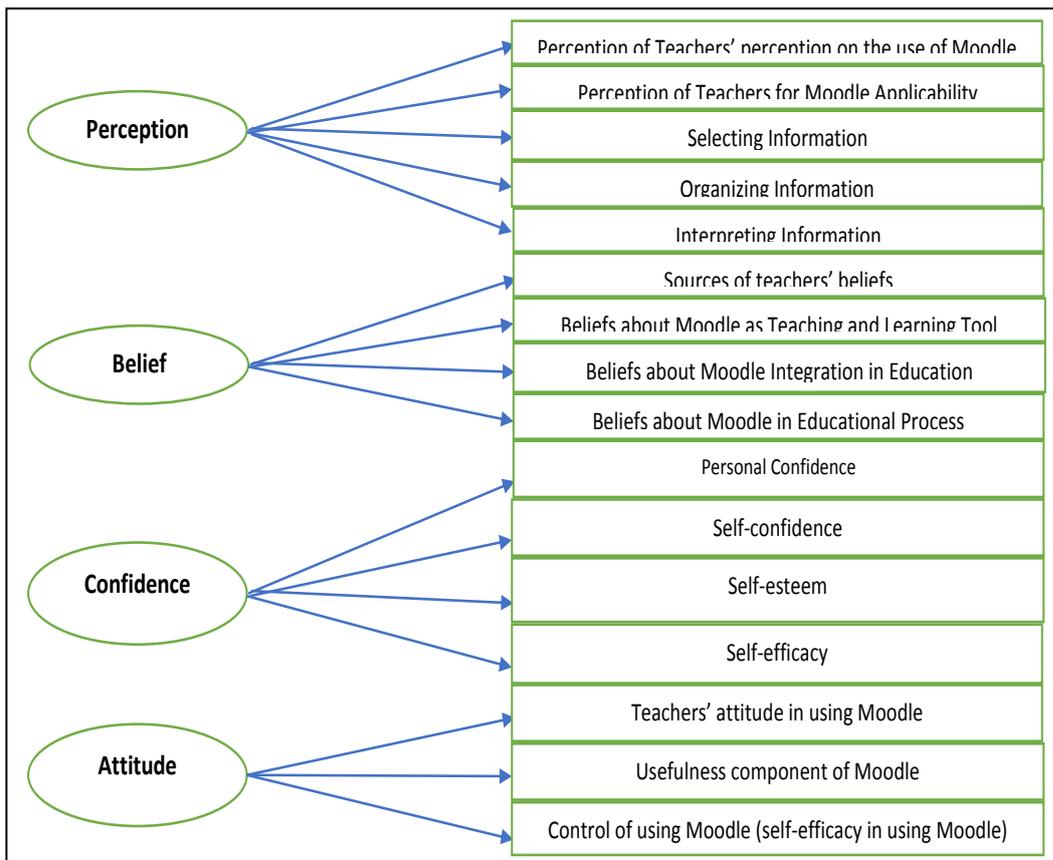
Finally, the knowledge of pre-service teachers' attitudes can motivate them to use this model of teaching conveniently and happily. This is in general what must be studied for finding the solutions of the indicated problems along with this paper.

When the overall of these steps is held on, in the end, these pre-service teachers will have capabilities to teach English as a Foreign Language to students. Thus, all four skills in language will be concerned: listening, reading, writing and speaking.

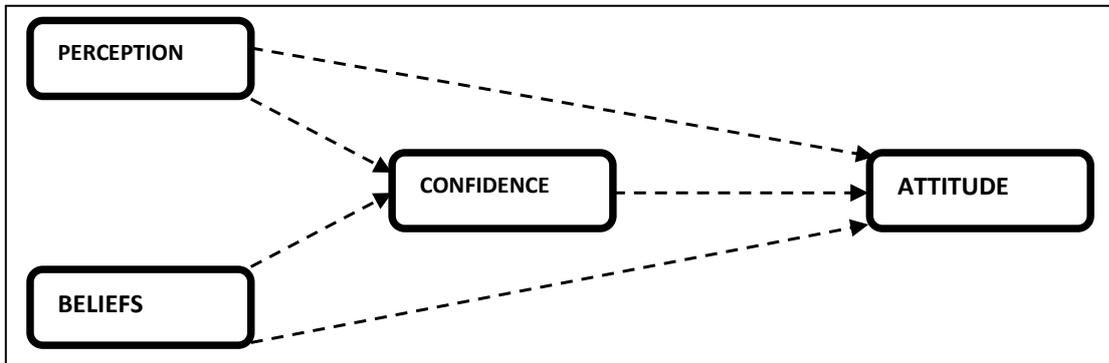
## 1. Framework for the hypothesis 1



## 2. Framework for the hypothesis 2



### 3. Framework for the hypothesis 3



#### D. Research Hypotheses

In this part of the research paper, the researcher classified the hypotheses in the following way.

##### 1. Hypothesis 1

**Ho:** There is no significant difference between preservice teachers' perception, beliefs, confidence, attitudes, and their gender and education in using Moodle

**Ha:** There is a significant difference between preservice teachers' perception, beliefs, confidence, attitudes, and their gender and education in using Moodle

##### 2. Hypothesis 2

There are 12 dimensions in this study i.e. Teachers' perception on the use of Moodle, teachers' belief about Moodle as a teaching and learning tool, teachers' confidence in using Moodle, teachers' attitude in using Moodle, usefulness component of Moodle and control of using Moodle (self-efficacy in using Moodle).

### **3. Hypothesis 3**

**Ho:** There is no correlation between teachers' perception, beliefs, confidence and attitudes in using Moodle

**Ha:** There is a correlation between preservice teachers' perception, beliefs, confidence and attitudes in using Moodle