CHAPTER II
REVIEW OF RELATED LITERATURE

This chapter presents review of related literature based on relevant theories. It covers Internet for education, E-learning, distance learning, blended learning and Learning Management System.

2.1 Internet for Education

Internet provides an enormous source of reference materials and data. It has an accessibility which allowing users to receive any important information and knowledge. Regarding those reasons internet is rapidly used for educational purpose, especially in teaching and learning (UNESCO Institute for Information and Technologies, 2003). Cannoly et al (2011) states that:

Technology, and in particular the Web, have had a significant impact in all aspects of society including education and training with institutions investing heavily in technologies such as Learning Management Systems (LMS), ePortfolios and more recently, Web2.0 technologies, such as blogs, wikis and forums. The advantages that these technologies provide have meant that online learning, or eLearning, is now supplementing and, in some cases, replacing traditional (face-to-face) approaches to teaching and learning.

There are some ways to conduct the learning process through internet such as individual learning and teaching, group learning and teaching via internet or even collaborative teaching and learning activities. Individual learning and teaching or ‘person-to-person’ here means the usage of e-mail which is sent directly from learners to teacher or vice versa. The expert believes that e-mail is still the most widely used for distance learning so far. While group learning and teaching via internet used after technology of Internet refined to be more accessible. Online
learning now is possible to be conducted since it provides a various way to interact with other users. Students are not only able to read the material posted but they also allowed to post or publish the materials (UNESCO, 2003).

2.2 E-Learning

According to Tastle, White, and Shacketon (2005, in Babo et al, 2012) Electronic Learning best known as eLearning is the way to deliver an educational content using any electronics media. Those media can be from CD-room, audio-video tape, internet, television, satellite broadcast, and just to name of few. In order to improve education, traced back in the late of 1960s eLearning develop because of network communication were invented along with e-mail and computer conferencing. There are two types of E-learning according to how it is conducted such as:

a. Synchronously

Synchronously E-Learning is a way of conducting online learning using a real time. For instance the teacher asks the students to discuss or attend the online meeting at 7am, then at 7am the students have to face their computer and have their online learning. The teacher may use video call while delivering the material or answer the student chat immediately to make the online learning feels like real meeting.

b. Asynchronously

Asynchronously E-learning is a way of conducting online learning in which the students and teachers do not have to online in a particular time. The materials or courses are posted in the web or Learning Management System by the teacher, and the students may access it at any time. The interaction of teacher and student does
not conducted immediately but the teacher usually gives a feedback, response or assessment at another time.

2.3 Distance Learning

Back in 90s centuries distance learning was invented in those era. This model conducted when the learners and teacher cannot meet in the same time or location (Gaspay, Dardan, & Legorreta, 2008 in Folden 2012). Distance learning needs a technology in order to unite the teacher and student in to the teaching and learning process. The focus may be the individual or group (Keegan 2002, in Folden 2012).

In distance learning Internet and Technology are very important to support the interaction between teacher and student, it also used to deliver the material. Teaching and learning process does not happen through face to face. It also called as a virtual learning because the class situation is not real or happen in a real situation. Some of the ways to use the distance learning are Web Based Training and Learning Management System.

2.4 Blended Learning

According to Gaeta, Orciuoli, and Titrovato (2009, in Folden 2012) Blended learning is a combination between both of traditional learning and distance learning where the matter of instructional are delivered in traditional format but also it can be delivered by Technology as the media.

Blended learning is the most make sense way of teaching and learning process. Because it combine the most effective way of traditional learning with the advance of technology through online learning as well. In blended learning it
mixed between the use of multimedia technology, video streaming, virtual classroom, voicemail, email and online system of learning (Thorne, 2003).

2.5 Learning Management System (LMS)

Thorne (2003) defines LMS as a web-based of online learning which provide online course, event management, content, resource management, and assessment. Gilhooly (2001) states that LMS not only able to deliver the content but also handle the register of the course. There are some important things to consider in using LMS such as consider in choosing the most appropriate software of LMS and consider the strength and weakness of LMS.

Dabbagh & Ritland (2005, in Piña 2010) mention that LMS has a general feature as pedagogical tools such as assessing, communicating, creating contents, and administrating. From the content of creation or display tools the teacher or instructor can upload the materials, worksheet, presentation, image, or even video along with the hyperlink into LMS. Drop boxes is used for the student to submit their work to their teacher or instructor to get a feedback and score. The teacher or instructor can also manage the content whether it is accessible for the student or not, managing a student – student discussion or instructor – student discussion. In addition LMS has an assessment tools which enable teacher to maintain the due time of submitted work for the student (Piña, 2010).

Piña (2010) also states that LMS provides asynchronous learning tools such as course announcement, discussion board, and file for sharing. Meanwhile synchronous tools provided by LMS is white board and text chat.
2.5.1 The Strengths of Learning Management System

Learning Management System is defined by Dron and Anderson (2014) as a specific model of combination tools to manage teaching and learning process along with group discussion, assessment, and class management. Paulsen (2003) mentions that the outstanding result of e-learning and distance learning forums is achieved from the availability of LMS. Some experts mention that LMS have some strengths or advantages as follows:

a. It helps create knowledge

Dron and Anderson (2014) state that knowledge is a term of material or information owed by an individual. Knowledge will be useful when it is shared with the other people. A student will gain more knowledge when they are practicing, sharing, and implementing those knowledge. Blenker (2006, in Dron and Anderson, 2014) says that knowledge will not be diminish whenever it shared. Even sharing knowledge will enhance the knowledge of the student itself.

According to Kekwaletswe (2011) when learners try to solve the learning tasks they will transfer their knowledge and experience, in this case LMS believed as a tool of communicating and sharing. It is also explained that learning through LMS is a term of knowledge sharing activities which does not limited by time and space.

b. It has no boundaries of time and place

According to Dron and Anderson (2014), learning activities or discussion which done through network has a typically high flexibility of time, even though it still depends on the other people’s accessibility and availability. If the material is
posted on a particular website and interaction with others is needed, the availability of teacher to post the materials and the availability of student when and how they might access the materials is an important things how learning through network can be conducted. The specific unique feature of online learning which based on network is that online learning is the type of learning by ourselves. Then it is not only depend on other people involvement but can also be from individual.

Online learning which started by posting material whether it is video, questions, or presentation may create a forum of discussion by simply commenting the post. Dorn and Anderson (2014) state that learning through network gives plenty freedom of place. The students can open the website wherever they want as long as they have an internet connection. It is not always have to be on a precise time like in formal class.

c. It provides plagiarism detector

In some case LMS helps the teacher to recognize the plagiarism done by the student. Submitting the work to a particular web of LMS is the way how to detect the plagiarism (Romero et al, 2007 as cited in Butakov and Shcherbinin 2010).

The issue of plagiarism is a serious thing to be concern about. However, the development of technology has provide a device which support plagiarism detector (Butakov and Shcherbinin, 2010). There are many of plagiarism detectors to check if the document is plagiarized globally or locally. One of the most popular plagiarism detectors is Turnitin. Turnitin can be accessed through a particular LMS such as Blackboard, WebCT, ANGEL, Desire2Learn, and Moodle (Turnitin, 2009, as cited in Butakov and Shcherbinin 2010). Turnitin worked by storing the
document from the Internet and compare it with the paper or work submitted by the
student and identify the similarity between the two documents.

2.5.2 The Weakness of Learning Management System

Some experts mention that LMS also has some issues, controversial, and
problems such as:

a. It does not support students’ need

Dorn and Anderson (2014) mention that the system of LMS mostly only
enable the teacher or the instructor to add the modules and content. The drop box
commonly has a display of scoring and giving back the assignment. The student
can only follow the material posted by the teacher or instructor. In this case, we can
see that LMS gives more opportunity for the teacher or instructor to control the
class, but does not support the students’ need.

Ioannu and Hannafin (2008, in Piña 2010) state that there are many users
find that the system is complicated and the focus is more on the needs of
administering than the students’ need. Meanwhile, it is necessary to notice that the
use of technologies to support online learning should be able to motivate and
increase the student experience in teaching and learning process (Devine, 2005 as
cited in McGourty & Risquez, 2010).

b. Lack of face-to-face interaction

Eynon (2008 in McGourty & Risquez, 2010) said that the use of online
system of learning will usually reduce the face-to-face interaction between the
teacher and students. The use of LMS which belong to online learning will make
both of teacher and learners cannot use much of body language in which it is
actually important in teaching and learning process. Because of the usage of technology which support the learning activity or discussion to be conducted in home, it causes physical isolation from others explicitly (McGourty & Risquez, 2010). Even Moodle which claimed as the most successful and sufficient LMS is still lacks of instructor – student and student – student interaction which only happens in the real classroom areas (Cavus, 2006).

c. It does not suitable for development country

According to McGourty and Risquez (2010), every student has different apperception of using technologies and not always has a good internet connection all the time in his or her places. Especially in developing country where internet is expensive and hard to access, it will become a problem to have an online forums. Anderson and White (2004, in McGourty & Risquez, 2010) said that online technology should support the learning activities to be always enjoyable and comfortable to communicate with others. That is why the availability of internet to be accessed fast all the time is necessary. The online ways of assignment submission also becomes the problem when the student has unreliable of internet access (McGourty & Risquez, 2010).

The deficiency of awareness toward the development of technology is such a constraint in the using of LMS as well. Some students feel uncomfortable of having an online discussion. Many of them also unfamiliar with the typical of online environment and it often caused nervousness. Sometimes distance learning does not fulfil with the satisfaction and enthusiasm both from the teachers and students (Dorrian et al., 2009 as cited in McGourty & Rizquez, 2010). That is why some
people tend to be more comfortable with the traditional way of teaching and learning process where the student and teacher can interact face-to-face (McGourty & Risquez, 2010).

2.6 The Most Used Learning Management System

The information that drawn from www.edudemic.com shows that the LMS has a tremendous role in teaching and learning activity. In the year of 2014, 350 system of LMS business was built up and it gain more than $2.5 Billion of profit. Those made the use of LMS develop rapidly whether for business or educational purposes.

Taken from www.edudemic.com the researcher got a list of data about the most used LMS in 2016 based on the number user and customer.

<table>
<thead>
<tr>
<th>No</th>
<th>Learning Management System</th>
<th>Number of Customer</th>
<th>Number of User</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Moodle</td>
<td>87.084</td>
<td>73.753.035</td>
</tr>
<tr>
<td>2</td>
<td>Edmodo</td>
<td>120.000</td>
<td>20.000.000</td>
</tr>
<tr>
<td>3</td>
<td>Blackbord</td>
<td>20.000</td>
<td>20.000.000</td>
</tr>
<tr>
<td>4</td>
<td>Skillsoft</td>
<td>6000</td>
<td>19.000.000</td>
</tr>
<tr>
<td>5</td>
<td>Schoology</td>
<td>10.000</td>
<td>7.000.000</td>
</tr>
<tr>
<td>6</td>
<td>Cornerstone</td>
<td>1.610</td>
<td>12.400.000</td>
</tr>
<tr>
<td>7</td>
<td>Instructure</td>
<td>1000</td>
<td>16.000.000</td>
</tr>
<tr>
<td>8</td>
<td>Collaborize Classroom</td>
<td>48.000</td>
<td>350.000</td>
</tr>
<tr>
<td>9</td>
<td>D2L</td>
<td>1.100</td>
<td>15000.000</td>
</tr>
<tr>
<td></td>
<td>Company</td>
<td>Users</td>
<td>Customers</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>10</td>
<td>SuccessFactors (SAP)</td>
<td>612</td>
<td>11,500,000</td>
</tr>
<tr>
<td>11</td>
<td>Litmos</td>
<td>1,792</td>
<td>1,620,000</td>
</tr>
<tr>
<td>12</td>
<td>Digital Chalk</td>
<td>3,000</td>
<td>3,100,000</td>
</tr>
<tr>
<td>13</td>
<td>Interactyx</td>
<td>165</td>
<td>10,000,000</td>
</tr>
<tr>
<td>14</td>
<td>Docebo</td>
<td>750</td>
<td>2,000,000</td>
</tr>
<tr>
<td>15</td>
<td>Meridian Knowledge Solutions</td>
<td>350</td>
<td>8,500,000</td>
</tr>
<tr>
<td>16</td>
<td>Latitude Learning</td>
<td>1,500</td>
<td>3,300,000</td>
</tr>
<tr>
<td>17</td>
<td>Educadium</td>
<td>5,000</td>
<td>40,000</td>
</tr>
<tr>
<td>18</td>
<td>Rcampus</td>
<td>4,000</td>
<td>270,000</td>
</tr>
<tr>
<td>19</td>
<td>eLogic Learning</td>
<td>100</td>
<td>5,000,000</td>
</tr>
<tr>
<td>20</td>
<td>BIS Training Solution</td>
<td>3,000</td>
<td>150,000</td>
</tr>
</tbody>
</table>

Based on the table above we can see that Moodle claimed as the most used LMS with over 73 million users and 87 thousand of customers. Recently a various notable institution such as University California at Los Angeles, UK Open University in England, San Francisco University and Athabasca University on Canada have used Moodle as their official LMS (Piña, 2010). Edmodo which is an open source LMS placed in the second highest used by over 20 million users and have 120 thousands of customers. Following by Blackboard which is established in 1997 and growth year by year, Blackboard has over 20 million of users but only 20 thousands of customers. The next is Skillsoft which placed in the top 4 with the number of users about 19 million and 6000 customers. In the top 5 we can see
Schoology with the number of users over 7 million and the number of customer over 10 thousands.

Cornerstone has users over 12 million but only 1.600 of customer placed in the sixth place, Instructure which has users over 16 million users with only 1000 customer placed in seventh place, while Collaborize Classroom that only has 350,000 users and 48,000 customers is in the top 8 place, followed by D2L known as Desire2Learn in the ninth place with over 15 million users and 1100 customers. However D2L becoming the official LMS used by several famous universities in USA and Canada such as University of Arizona, University of Iowa, Ohio State University, Minnesota States College University, and many more (Pina & Eggers, 2006). Finally in the top 10 is SuccessFactors (SAP) with only 612 customer but has a typically high users over 11 million.