Learning Management of Imagineering in Flipped Classroom for Lao PDR Vocational Students

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ABSTRACT: *Flipped learning is another form of learning that can apply in vocational education. There are cases where students have to go out for internships with entrepreneurs, which refers to practising vocational education courses. The second-year students with professional knowledge deserve to be sent out for internships with the public and private sectors. Whereas students go for internships, they learn how to work in entrepreneurs who meet vocational education. Its focus is on learning real work and practice to create a carrier in real life the application of the Flipped classroom in the courses of vocational education. While the students take the internship, a teacher will provide students with an entrepreneur's problems. Students study how to use or create innovation or a new working direction. After students return from internships, they will have to report innovations, pieces of work, or even different work trends that have been studied in the classroom. A teacher will evaluate. It will give students enthusiasm. Besides, the purpose of the internship is another credit 1 of the study, where students will see the importance of internship and have willing to work.*

Keywords: Learning Management, Imagineering, Flipped Classroom, Lao PDR Vocational Students

1. Introduction

Lao PDR is in the process of reshaping its economic and development vision. The Lao Revolutionary People's Party has set out that in 2020, Laos must be removed from the status of the least developed countries (Http://www.adb.org/Documents/CPS/?id=LAO-2017) The economic growth continuously, so the people will be three times better than today. To develop the country initially by developing the population to have knowledge and competency. Educational development is critical. Previously, the Laos PDR government (Phetthany, 2015) has focused on education by improving the curriculum in many areas and allowing a lot of private schools to take place in 2013. Mr. Khampon Chaiyapoo The head of the Private Education Advisory Council under the Ministry of Education and Sports in Laos confirmed that, the Commissioner for National Education Reform has command private colleges across the country to stop higher certificate students applied for undergraduate study and not allowing them to be added more fields of study to the private sector. Because the Commission for Education Reform is not convinced by the quality of the curriculum and teaching standard of private colleges because there has been a widespread tailgate of Lao society that students who have graduated from private colleges are not qualified. Thus ensuring that the quality of the curriculum and teaching standards of private colleges has been investigated. Most of them favour

financial, banking, and business administration fields of study. But the demands of companies require more employees involved in engineering work than office work employees. Currently, the government has changed to stop applying for an undergraduate degree in private schools nationwide, only available at national universities in provinces. Instead, they support vocational education, focusing on raising vocational education teachers more

effectively. Besides, have the policy to provide free scholarships to pass the exam according to the Ministry of Education Lao PDR criteria. In addition, there are scholarships for underprivileged people (who live in rural areas and do not have the funds to study on their own) to learn in disciplines such as electricians, mechanical technicians, Carpenter, cook, dressmaker, etc. These professions allow people who understand to create their work and meet the labour market demand in Lao PDR. Also, develop their careers as small enterprises. The institutions to study will include colleges and vocational education or technical colleges all over the country, Laos PDR.

As mentioned above, it is seen that the development of professional education is critical to the country Laos PDR, to develop population and nation. So improving the vocational education curriculum is also very important because each profession is developed following innovations and modern technologies. This article aims to bring in new teaching methods called learning management of Imagineering and flipped classrooms and modern technology to support the teaching and learning system. So students can understand, create innovations, and create their profession efficiently.

2. Learning Management Principles

Learning management is the natural adoption of human learning that affects changes in thinking and abilities (Sarnok et al., 2019) To explain how knowledge is achieved and provide proven and acceptance of trust applied to learning design to develop learners to achieve various outcomes according to the needs. According to the behaviour, the learning management of different eras has changed differently (Fungfuang et al., 2010) Human life and changing environments from the past to the present. Psychologists have been working on research on the learning of both animals and humans. Finally, we have discovered applied principles (Tongpitak et al., 1906) for school learning. There are several theories of wisdom, let's describe only four theories as follow:

2.1. Behaviorism

The theory of behaviour emphasises learning based on (Mustafa, 2021) the relationship between stimulus and response. Organics must establish a connection between stimulus and response to satisfy the learning ability to act behaviour. The group's key leaders are Ivan Pavlov, Edward Thorndike and B.F.Skinner, the theory of learning is as follows. (1) Human response behaviour is caused by conditions that meet natural needs. (2) Human response behaviour can occur through stimuli linked to natural stimuli. (3) Human response behaviour caused by stimuli linked to natural stimuli decreases gradually and eventually stop if no natural response. (4) Human response behaviour, stimuli linked to natural stimuli, decreases and stops when it is not responded to naturally and will reappear without natural stimuli. (5) Humans characterise stimuli differently and choose to respond correctly, also known as learning caused by laying conditions. In teaching, the teacher will condition students that if they want to reach their expected score, they must comply with the conditions laid down by the teacher. Lastly, students have to meet the conditions to exchange for what they want. There are some drawbacks because human cravings will rise. Sometimes you'll always want something different and exotic. So If the student no longer wants what the teacher offers, they will no longer act on the condition. For example, the clues may upset the student if the teacher scores are more petite than last. Then they don't want to meet the conditions anymore.

In another example, we will notice training a dog as animal learning. To teach it to do something by giving food to the dog as a reward, but if it can, it will not get the prize. Then the dog will learn that if you want the food, it should follow the trainer’s command. This learning is called behavioralism, formed by the conditions that cause learning.

2.2. Cognitivism

Cognitivist or cognitive groups focus on cognitive processes or thoughtful thoughts. This group begins to expand the scope of the study, focusing on behaviour to the thought process, which is the process in the brain. This group believes that human learning is not a matter of behaviour caused by responding to stimuli only (Wannapiroon et al., 2021) Human learning is more complicated, and learning is a thought process caused by data collection. Create meaning and relationships, then retrieve data in actions and solutions. Learning is a conscious process of human wisdom to build knowledge (Plisorn, 2018) There are five theories in the group as follows. (1) Gestalt theory, critical psychologists of this theory are Max Wertheimer, Wolfgang Kohler, Kurt Koffka, and Kurt Lewin. (2) Field Theory, a critical psychologist, is Kerrit Levin, later split from the Gestalt theory group. (3) Sign

theory of Tolman (4) Intellectual Development theory, critical psychologists are Piaget and Bruner. (5) A theory of Meaningful Verbal Learning of Ausubel.

2.3. Constructivism

The theory used as the cornerstone of learners' knowledge is constructivist. An approach based on the creation of learner's knowledge. "Construct" means the output of the command by the learner. The constructivist theory believes learning or knowledge building is an internal process of the learner. The learner creates knowledge by applying experience, what has been seen in the environment, or new information received to connect with existing cognition. Then construct his understanding, also known as the cognitive structure or schema, which is the knowledge that consists of information recognition and previous experience or understanding (Lunce & Student, 2006). Then create the knowledge or account of that matter. A person may make a different meaning because of the other circumstances or cognitions of the genre. Constructivism (Suwannaphisit et al., 2021) believed learning is building rather than retrieving knowledge. So the goal of teaching and learning is to support creation rather than transfer knowledge to a constructivist concept group. It focuses on creating new knowledge appropriately for individuals and believes that the environment is essential in creating a real meaning.

2.4. Connectivism

Connectivism is a scrolling learning theory by Stephen Downes and George. Siemens called the idea of learning for the digital age, which tries to explain the complex learning in the digital world of rapidly changing society in technology and networking. Presently, Connectivism is driven by the understanding that decisions are based on rapid change. New information that continuously retrieves and draws differences between essential and non-critical information is vital. The ability to recognise when further information is based on decision-making is critical. Connectivism is formed by technology and networking. If the network persists, the theory remains. These three principles, as mentioned earlier, will remain and always be helpful.

In summary, various learning theories are the foundation of cognitive science that contributes to development in education. To develop teaching and learning and develop teaching and learning tools. So that humans can learn things systematically and procedurally. Each learning theory is applied differently, depending on the learners' needs or objectives and what to know. The earlier mentioned learning theories have been applied as learning management. The various transitions that plot human society and the environment include technology that continuously changes (Pruekpramool et al., 2016) Nowadays, we can see that multiple learning management models are created based on earlier theories. Such as question-based learning, problem-based learning, discovery learning, flipped classroom learning, Imagineering learning, etc. The authors consider Learning Management of Imagineering in the flipped classroom is beneficial for Lao PDR Vocational Students.

3. Imagineering

Imagineering is a learning technique developed by King Mongkut's University of Technology North Bangkok. Albert Einstein's concept described it as "Imagination more important than knowledge (Chatwattana, 2018) This term means learning may be lost as time passes by. Learning does not create something new, but imagination is more important than knowledge. Because can develop imagination into pieces or work, these fantasies will never disappear from the minds of imaginary people. The nature of this concept is visible in a business group called Walt Disney, a group that creates lots of creative media. They brought up the idea that "Imagination is more important than knowledge." He called what he made "Imagineering."

Imagineering is derived from imagine + engineering, making dreams or imaginary things to live practically. Bringing visual things into ideas makes them tangible inventions and innovations. A research fellow at King Mongkut's University of Technology North Bangkok (Phromfaiy, 2017) had research and development of this concept, then used in teaching and learning to create innovation continuously. King Mongkut's University of Technology North Bangkok (Sanglub et al., 2019) uses the principle of engineering in teaching such courses to develop a robotic. Result as the university won the world championships for nine consecutive years. The imaginary learning processes has shown in figure 1.

Figure 1. The imaginary learning processes.

Imagination

- Defines the Problems
- Brainstorming
- Discussion
- Feasibility study of Imagine

Design

- Draft
- Drawing Story board
- Writing the Scripts
- Prototyping

Development

- Create
- Testing

Illustration

- Show
- Contest
- Suggestion

Improvement

- Revised
- Conclusion

Evaluation

- Process Evaluation
- Product Evaluation

Imagineering focuses on the learners throughout the learning process because the learners will act as an imaginary person. The innovation they wanted to create on their own. Teachers are responsible for recommending

and providing feedback to learners. Managing their learning makes them create imaginative pieces or innovative works in practical use.

4. Flipped Classroom

The flipped classroom is a new teaching and learning that turns traditional teaching and learning upside down. Traditionally, the students usually sit and listen to the lectures in the classrooms, do the test. Then go back to do their homework as ordered by the teachers at home. In contrast, in the flipped classroom, a teacher will give what to learn and recommend it to the students to learn on their own at home via YouTube or online media (Meesuwan, 2018) The teachers suggested. This method allows students to study on their own (Teanprapakun, 2021) After that, students will bring their lessons learned to teachers and their friends in the classroom. This direction will make the learners understand the study slowly or quickly, depending on their ability. The learners can go back to the videos or read the studies repeatedly until the learners can understand and follow the problems. It makes the students more efficient because they are ready to walk into the classroom. Students have more time to collaborate, work with a group, and do homework in the classroom. Also, allow students to collaborate with their classmates (Sakulprasertsri, 2017) It is suitable for children who learn faster or slower than others. Also, teachers' teaching is more effective because they usually interact with children who like to ask questions and enhance their learning (Kupongsak, 2017) While in the flipped classroom, teachers will turn their attention to children who need their full assistant. Instead of paying attention to children who are already confident. Instead of taking a lesson in front of a classroom, a teacher will close to the students, providing counseling, bringing a teacher closer to the student.

A flipped classroom is a model created by the Woodland Park High School in Woodland Park City, Colorado State, U.S.A. It was conducted by two science teachers name Jonathan Bergmann and Aaron Sams. A flipped classroom is caused by two teachers experiencing problems with their activities. Teaching classes due to many learners some students cannot come into class on time due to many reasons. It includes issues caused by contents in the subjects that cannot be organised within the course hours. Jonathan and Aaron have the idea of choosing technology that is likely to be applied to students. So students can bring on the go or in their free time, by a suggestion or tool that they have, such as a computer, tablet, smartphone or laptop. (http://stillwatergazette.com/2013/06/19/educators-flip-at-session/). In addition to studying in a class with linking activities, such as an E-mail from students asking a question, or an E-mail from teachers asking students with articles or contents related to subjects on the web site.

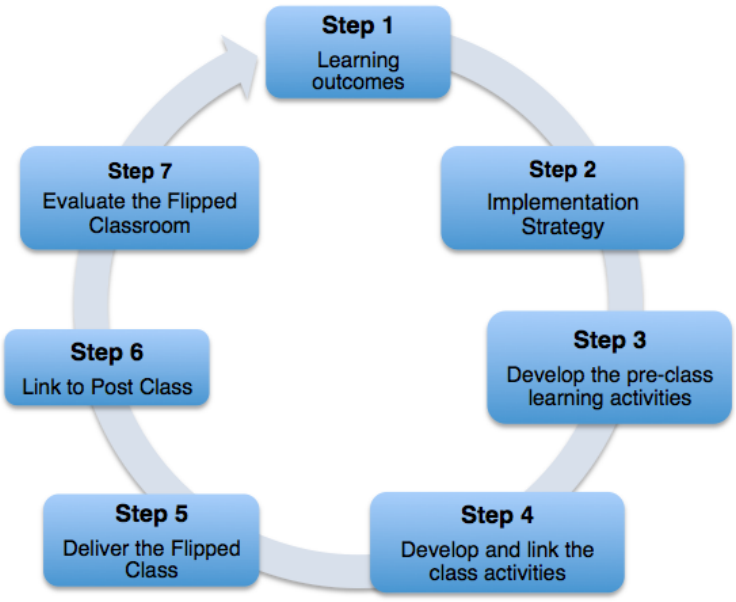

Figure 2. A flipped classroom learning process.

Processes out of a classroom.
1). Learners has a lecture through electronic media.
2). Learners study and ask a question to a teacher online.
3). Learners study content on their own through online
4). Learners summarize the understanding.

Processes in a classroom.
1). A teacher advise learners to do their homework and assignments.
2). Learners present what they have learned from their home.
3). A teacher evaluates the knowledge and skills of the learners.

Summary of a flipped classroom concept is a teaching and learning model that teachers should change their context from teaching to providing learning resources and activities that support the learning. A flipped classroom focuses on activities for learners to understand. At the same time, a teacher provided the contents out of a classroom or from other information learning resources [19]. Then bring the knowledge gained from the study to the conclusion. Resume activities in the classroom with friends and teachers in the direction of "learning at home, do homework at school".

5. Vocational Education Teaching and Learning of Lao PDR

Lao PDR Vocational Education Course (Ministry of Education and Sports of Lao PDR, 2015) targets professional education, structure, content, teaching and learning methods, qualification of capabilities and features. Corresponding to develop economic-social and labour market needs at all stages of vocational education courses set according to the five nature of the battlegrounds, National standard. Professional standards classified as modules and accumulated credits can link to higher education. Both internally and international curriculum standards. The organisation of curriculum creators, namely vocational education, institutions to create courses with participation from vocational education, entrepreneurs, professional groups, and academics involved in creating vocational education courses go through the process of analysing the demands of the labour market. Then develops the curriculum and presents it through the board of directors that supports the studies then requests approval. Using courses from the Ministry of Education and Sports, Lao PDR.

For the credit assignment courses of the Department of Vocational Education, Lao PDR. The standard has been set, the formula for each subject as follows: 1) If studying for academic credit, it takes 1 hour per week for one semester or no less than 16 hours, equal to 1 credit. 2) Credits with 2-3 hours of practice per week for one semester or not less than 32-48 hours equal to 1 credit. 3) Practice and intern in an institution for 3-6 hours per week for one semester or not less than 49-68 hours, equal to 1 credit. 4) External internship for four weeks or less than 140-160 hours equals 1 credit.

From the above courses, we will notice that the course design of vocational education focuses on practice rather than theory, which includes an internal or external internship. It is considered consistent with the application of modern learning theory to achieve the objects specified by the Department of Vocational Education and the Ministry of Education. The approach that the authors will use is Imaginary in the flipped classroom. These theories are based on learner centre and focus on the learner to learn independently rather than sit and listen and follow the theory only. The learners have to practice and a real internship. It is very consistent and suitable for these two theories. If applied it in vocational education, learners will enhance their professional and expertise.

5.1 Application of Imagineering in Vocational Education

From the mentioned courses, we will notice that most vocational curriculum designs are focused on students practicing rather than theoretically. So the application of Imagineering is suitable for Vocational Education. Because the stages of Imagineering will focus on allowing students to learn from imagination to developing workpieces. As well as developing profession that will provide a background for the future of the learner. The procedures for the operation use the Imagineering model in the practice hours and internship hours, mostly in the institutions.

The imaging process defines the work's problem and then states the issues. The teacher then gives an assignment, learners think about how to create a workpiece, lastly, brainstorm. Next, divide students into groups. Each group then has brainstorming and collaboration on creating a workpiece that will be best solved. Discussion after mobilising the opinions of each group, then each group present what they collaboration to analyses the feasibility of Imagineering. Teachers and friends will be examined and suggest that what they come up with can be created and continuously guide the direction to study. In the design process, students sketch or create a model to develop. Bring the model to implement. Examine the contest between groups in the classroom. The presentation stage allows students to present their work to their friends and teachers. Improvement stage: teachers and friends assist each other in pointing at drawbacks that should be corrected, revised, and given a conclusion. The evaluation stage will evaluate according to Process Evaluation and product evaluation.

5.2 Application of Flipped Classroom in vocational education

Flipped learning is another form of learning that can apply in vocational education. There are cases where students have to go out for internships with entrepreneurs, which refers to practicing vocational education courses. The second-year students with professional knowledge deserve to be sent out for internships with the public and private sectors. Whereas students go for internships, they learn how to work in entrepreneurs who meet vocational education. Its focus is on learning real work and practice to create a carrier in real life.

Therefore, the application of the Flipped classroom in the courses of vocational education. While the students take the internship, a teacher will provide students with an entrepreneur's problems. Students study how to use or create innovation or a new working direction. After students return from internships, they will have to report innovations, pieces of work, or even different work trends that have been studied in the classroom. A teacher will evaluate. It will give students enthusiasm. Besides, the purpose of the internship is another credit 1 of the study, where students will see the importance of internship and have willing to work.

6. Conclusion

As mentioned in the article, various learning principles and theories are present. To create many learning models according to the suitability of teaching and learning in each institution (Csizmadia et al., 2019) This learning management encouraged engaging learning and enhanced the learner knowledge. In addition, knowledge can create into various pieces and work. As the learning management of the vocational education system in Lao PDR. Which it has improved and developing learning management throughout the time to keep up with development Socio-economic, and technology presently. This academic article brings the theories and learning principles appropriate for vocational education combined with modern technologies (Neiterman & Zaza, 2019) For vocational students to study, be knowledgeable and create their workpieces based on two learning management principles: Imagineering and flipped classroom. So students can learn in a hands-on direction and do the workpiece using Imagineering, and internship using flipped classroom. In addition to combining these two learning models, the authors introduce technologies that can attribute learning resources to learning. To make students active in what they have learned and motivate students to be interested. Vocational education to meet the demands of the labour market of Lao PDR presently. Also, promote creating careers and small enterprises. Therefore, learning management is very important for education, which means the future of the learners and the nation's future.

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