

The Creating Digital Platform Active Learning Supreme Application Using the ADDIE Model to Enhance Learning Management Activities in the 21st century for the Teachers in Thailand

Thanyawich Vicheanpant

School of Communication Arts Sripatum University, Chonburi province, Thailand
thanyawich1977@gmail.com

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Abstract

This research aims to 1) create and to evaluate the effectiveness of digital platform active learning supreme application to promote learning management activities, specifically focusing on the lesson plan the teachers can learn and create lesson plan more effectively and efficiently, as they can learn digital platform active learning supreme application anytime and anywhere and 2) to assess the teacher's satisfaction with using digital platform active learning supreme application. The researchers applied the ADDIE Model (Branch, 2009), a theory of instructional design process that the ADDIE Model starts from the beginning to an end. It contains five phases: 1) Analysis 2) Design 3) Development 4) Implementation and 5) Evaluation. The research instrument was the ALS application. ALS application is one of the instructional educations to enhance learning management activities for the teachers. The results of this development research manifest in active learning supreme: ALS application that 1) the quality of the active learning supreme application determined by 5 experts was at the highest level (Mean = 4.72, S.D. = 0.40), and 2) the instructors were satisfied with active learning supreme: ALS application at a highest level (Mean = 4.54, S.D. = 0.53).

Keywords: active learning, ALS application, learning management activities.



By Authors

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Introduction

Digital Platform Active learning application is a useful tool or mediator to facilitate the learning management activities and learning process for the teachers. It has the potential to address some of the biggest challenges in education today, innovate teaching and learning practices, and accelerate progress towards SDG 4.¹ However, rapid technological developments inevitably bring

¹ UNESCO. (2024). *Active learning application in education*. Retrieved January 29, 2024, from <https://www.unesco.org/en/digital-education/artificial-intelligence>.

multiple risks and challenges, which have so far outpaced policy debates and regulatory frameworks. UNESCO is committed to supporting Member States to harness the potential of active learning application technologies for achieving the Education 2030 Agenda, while ensuring that its application in educational contexts is guided by the core principles of inclusion and equity.

Developing a learning management plan is an important task of a teacher that shows systematic work in planning quality teaching and learning management. According to an informal survey, many teachers 'There are difficulties in developing their own learning management plans. impact on the quality of teachers' teaching and learning management and the quality assurance system of educational institutions. The solution to the problem is to provide opportunities or encourage teachers to review their knowledge and understanding of the principles of creating a learning management activity in the 21st century on two important issues is to develop the details of the learning objectives and essence elements to be consistent and comprehensive, and the design of activities.

Learn correctly according to the steps of the teaching method that is suitable for the nature of the lesson plan content. Often, this will enable teachers to develop their own learning management plans and use them to improve the quality of teaching and learning management for the benefit of learners. learning management activity is one of the important jobs of teachers in an educational institution. The first step in creating a plan is designing a lesson plans. After the lesson plans is approved by the head of the department or the school principal, it can be applied in teaching and learning instruction. The teachers who apply the plan get records of their teaching, along with any problems found in their classes, which can be used as data in revising the plans. However, there are some issues that need to be refined, specially approaches and tools, which are essential for the development of the plans in this part.

Accordingly, this research article aims at introducing on developing active learning supreme: ALS application. The Active learning supreme: ALS application not only helps increase an understanding among teachers on how to design and create effective clear lesson plans but also encourages teachers to apply self-assessment and reflection in examining and reviewing their works to foster professional development. In this research, the author will create and to evaluate the effectiveness of digital platform active learning supreme application to promote learning management activities, specifically focusing on the lesson plan the teachers can learn and create lesson plan more effectively and efficiently, as they can learn digital platform active learning supreme application anytime and anywhere and to assess the teacher's satisfaction with using digital platform active learning supreme application.

Literature review

Of various theoretical models aiming at explaining and promoting active Learning is an instruction to response for learning in 21st century that reduce the role of teachers but increase the role of students. Active Learning is the methods for practicing and thinking for students by doing to construct their experiences. Students will interact with their friends and teachers by doing activities in and out classroom, then construct knowledge from activities by listening, talking, reading, writing, discussion and reflect meaning of learning. Active learning consists of 5 steps of

instruction: 1) stimulate interesting 2) show challenging situation 3) discuss for reflex thinking 4) construct knowledge 5) collaborate learning, by variety activities for example, role playing, drama, simulation techniques, case study, active reading, active writing, small group work and game.²

Active learning

Active learning is a concept to develop the quality of education and learners in the 21st century, which based on the Progressivism philosophy and Constructivist theory. Active learning was raised and conveyed to create meaning significantly until it became a discourse of active learning. This discourse is conveyed through the tools in the form of laws, policies, and national strategies to drive and reform education in Thailand into classroom practice. Therefore, when implementing active learning concepts, those involved must have a thorough understanding of the origins and foundations of this concept, which will lead to the development of learners with the competencies necessary for learning and working context, to be able to live happily, and to lead Thailand towards sustainability.³ experiential learning theory is based on learning processes. Kolb defines learning styles as the ways in which learners prefer to use their abilities in experiential learning⁴. Kolb's learning style is explained on the basis of two dimensions: they are how a person understands and processes the information. This perceived information is then classified as concrete experience or abstract conceptualization, and processed information as active experimentation or reflective observation. Diverging: Individuals of this kind of learning style look at things in a different perspective. They prefer watching to doing, also they have strong imagination capacity, emotional, strong in arts, prefer to work in groups, open minded to take feedback and they have broad interests in different cultures and people. The learning characteristic is of concrete experience and reflective observation. Assimilating: People of this kind of learning style prefer good clear information, they can logically format the given information and explore analytic models. They are more interested in concepts and abstracts than in people. Characteristics include abstract conceptualization and reflective observation. Converging: Converging type of learners solve problems. They apply their learning to practical issues. Also, they prefer technical tasks, and they experiment with new ideas. They tend to be unemotional. The learning characteristics are abstract conceptualization and active experimentation. Accommodating: Individuals with this kind of learning style prefer to do things practically. They are attracted to new challenges and solve problems intuitively. The learning characteristics are concrete experience and active experimentation.

² Kamol Phoyen .(2021). Enterprise Innovation-Driven Apprenticeship: A Suggested Programme Turkish Online. *Journal of Qualitative Inquiry (TOJQI)*,12(9),2568-2577

³ Chedtharat Kongrat, (2024). Active Learning: Discourse in Education for Student Development.

Journal of Education Studies, 52(1),1-18.

⁴ Kolb A. D. (1984). *Experiential Learning-Experience as The Source of Learning and Development*. New Jersey: Prentice Hall.

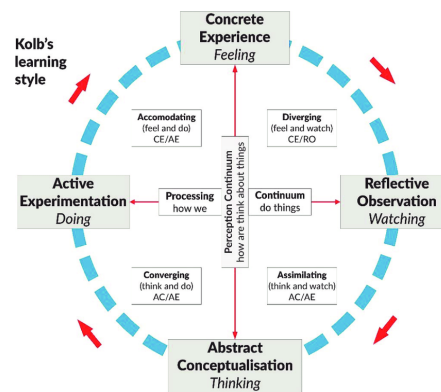


Figure 1 Kolb's learning styles model and experiential learning theory
(https://www.researchgate.net/figure/Kolbs-learning-styles-model-and-experiential-learning-theory_fig2_330281868,2024)

Kolb explains that different people naturally prefer a certain single different learning style. Various factors influence a person's preferred style: notably in his experiential learning theory model (ELT) Kolb defined three stages of a person's development and suggests that our propensity to reconcile and successfully integrate the four different learning styles improves as we mature through our development stages.

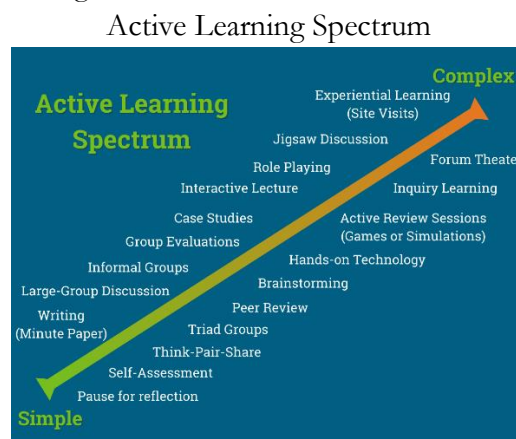


Figure 2 Active Learning Spectrum

Source: Active Learning activities by complexity, prepared by Chris O'Neal and Tershia Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan
<https://cafe.mst.edu/teaching/activelearning/>

Explain that the spectrum of active learning techniques is a learning process. Literally translated, it is learning through practice or action. A learning process in which all learners participate in the action and use the thinking process. Learners will change their roles from knowledge receivers (Receivers) to being involved in creating knowledge. From the teacher being the transmitter, the role is changed to being a guide on how to find knowledge in order to develop learners to be able to seek knowledge and apply various skills. Create understanding by yourself until it becomes a learning that emphasizes the development of the learning process. Encourage learners to apply skills and link knowledge to practice in order to solve problems or pursue future

careers that emphasize hands-on learning, creating knowledge through higher-order thinking (Higher-Order Thinking), getting to do creative work and presenting work by themselves. Starting from organizing active learning from easy and fast activities on the left to more complex methods on the right. More complex methods often require more preparation time. But more complex methods often provide students with a more engaging and complete learning experience. Different active learning methods are suitable for different curriculum topics. Everything on the spectrum can be adapted to the learning environment. But some methods may be easier to adapt to classroom situations than others.⁵

Conceptual Framework

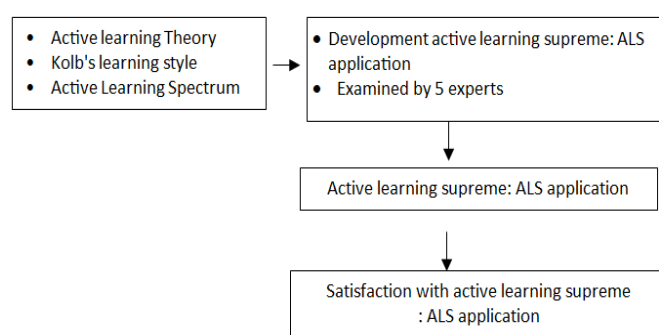


Figure 3. Conceptual Framework

Method

This research employed a Research and Development (R&D) approach, utilizing the ADDIE model for the development and assessment of the Active Learning Supreme (ALS) application. The ADDIE model consists of five key stages: Analysis, Design, Development, Implementation, and Evaluation. Each stage was critical in ensuring that the ALS application effectively met the needs of educators and facilitated active learning in secondary education.

The population for this study consisted of 406,107 secondary teachers affiliated with the Office of the Basic Education Commission (OBEC), as of 2024 (Office of the Basic Education Commission: OBEC, Ministry of Education, 2024). From this population, 400 teachers were selected using purposive sampling with the assistance of five experts who oversee the instructors in educational institutions under OBEC at the secondary level.

The study focused on two main variables: the independent variable, which is the implementation of the Active Learning Supreme (ALS) application, and the dependent variables,

⁵ Thanyawich Vicheanpant, (2023), Comparison of Results 18 Methods of Active Learning Conduct to Analyze Learning Style of the Learners in Higher Education Base on Kolb's Model. *Sripatum Chonburi Interdisciplinary Journal (Online)*, 9(2),77-90.

which include the quality of the ALS application and teachers' satisfaction with its use in teaching and learning management.

To collect data, the research employed several tools: the digital platform for ALS application, an Expert Quality Assessment Form to evaluate the quality of the ALS application, and a Satisfaction Assessment Form for instructors to measure their satisfaction with teaching and learning management using the ALS application.

For the statistical analysis, the research utilized percentage, mean, and standard deviation to analyze the data and draw meaningful conclusions about the effectiveness and user satisfaction of the ALS application. These statistical tools helped to quantify the impact of the ALS application on teachers' experiences and the overall quality of active learning in the secondary education context.

Results and Discussion

The results of the analysis of research data on the Development Active learning supreme: ALS application with using artificial intelligence innovation-based learning to enhance the learning management skills of instructors in 21st century was presented in 3 parts as follows

1) Development Active learning supreme: ALS application

Active learning supreme: ALS application is open source, that is, it is software that can be used. Active Study, edit, and disseminate on behalf of mentors to assist teachers in screening the quality of knowledge learning management plans or learning processes. In order to ensure that the proactive learning management plan that goes down to students is as effective and consistent with learners as possible according to learning theory. It is free for all teachers. The algorithm behind the processing of Active learning supreme: ALS Application is based on research that has analyzed teaching methods or active teaching styles. There are about 20 methods. Each method used depends on the appropriate amount of time. It is not too long, not too short to achieve maximum learning outcomes, and it is consistent with the learning style of each group of learners, teachers or users can register and use it immediately through QR-Code or Link <https://tnj-development.com/LessonPlan/index.php>.



Figure4 QR-Code of Digital platform active learning supreme: ALS application

Digital platform active learning is supreme: ALS program has two main modes of operation. The first option is for teachers who want to begin arranging their own learning processes. Active learning supreme: ALS application includes template forms of active learning such as structured learning, basic issues, phenomena, community creativity, and thematic

integration. The teacher can ensure that the learning plan is effective by complementing the teaching idea introduced by the template. Active learning supreme: The ALS application will be able to improve performance evaluation. This mode is specially designed to support current situations in which a small number of teachers to design curricula. Moreover, the Active Learning Supreme: ALS app can be used as a curriculum repository to share what teachers have learned from creating an Active Learning plan or uploading an active learning plan for analysis to teachers who have entered or improved their classroom applications.



Figure 5 Sign up for Active learning supreme: The ALS application

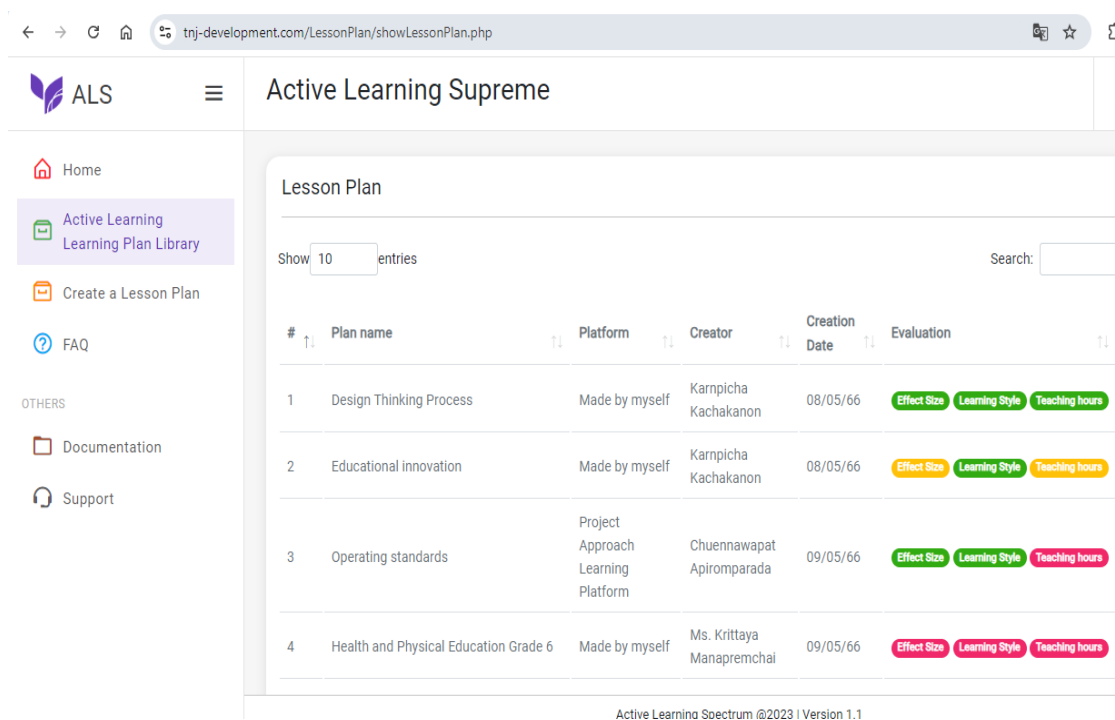


Figure 7 Lesson Plans template for teachers

Design Thinking Process

Project Approach Learning Platform [print](#)

Teaching plan

1. Step 1: Learning by asking questions to explore interests.	15 minutes
1. Start the activity with a short Warm-Up Activity . 2) Basic level questions are questions about knowledge and memory. These questions use general thinking or low-level thinking. They use prior knowledge or what is apparent in the answers. This is because they are questions that train students to be more flexible in answering. Questions at this level are an assessment of learners' readiness before learning, diagnose weaknesses and strengths, and summarize previously learned content. Basic level questions include: 2.1) Observation questions are questions that require learners to think and answer from observation. These questions require learners to use all five senses to find the answer: using their eyes to see, their hands to touch, their nose to smell, their tongue to taste, and their ears to hear. Examples of questions include: æ How do students feel when they listen to this song?	
2. Step 2: Discussion on knowledge or thinking - comparing - exchanging	30 minutes
Organize learning activities under the guidance of the responsible teacher by assigning students to prepare and carry out collaborative learning of all students in the group under the observation, control, guidance and motivation of the teacher so that students work to achieve their goals according to the objectives that the teacher has set in the lesson plan without lecturing in a small group of students.	
3. Step 3: Stop and reflect.	1 hour
The educational management of Thailand has clearly given importance to the differences between individuals, which can be seen from the national education plan, which aims to organize education according to the aptitudes, interests and abilities of each person as criteria. A clear example is the organization of the classroom system using age as a criterion or ability as a criterion. Innovations that have arisen to respond to this basic idea	

Figure8 Project Approach Learning Platform

2. Quality Assessment Results of digital platform active learning supreme: ALS application

Table 1 Quality of the by programmer experts (n = 5 experts)

Topic	$\bar{X}$	S.D.	Level
1. Content	4.68	0.51	Highest
1.1 Content Volume of each Active Learning lesson plan	4.60	0.55	Highest
1.2 Suitability of the Active Learning lesson plan to the learner's level	4.60	0.55	Highest
1.3 Accuracy and completeness of the Active Learning lesson plan	4.80	0.45	Highest
1.4 Conciseness and interest of the Active Learning lesson plan	4.80	0.45	Highest
1.5 Interconnection of content in each Active Learning lesson plan	4.60	0.55	Highest
2. Design	4.84	0.22	Highest
2.1 Font style and size, easy to read, clear, appropriate	5.00	0.00	Highest
2.2 Color selection of fonts and background colors	4.60	0.55	Highest
2.3 Image presentation techniques in each Active Learning lesson plan	4.60	0.55	Highest
2.4 Interaction and feedback	5.00	0.00	Highest
2.5 Security	5.00	0.00	Highest
3. Benefits for Active Learning Management	4.64	0.40	Highest
3.1 Active Learning Supreme: ALS Application encourages teachers to effectively implement Active Learning in various subjects.	4.80	0.45	Highest

3.2 Active Learning Supreme: ALS Application allows teachers and learners to use and access Active Learning lesson plan content online at all times, conveniently and easily.	5.00	0.00	Highest
3.3 Active Learning Supreme: ALS Application encourages teachers to make Active Learning lessons interesting and engaging.	4.20	0.45	Highest
3.4 Active Learning Supreme: ALS Application encourages teachers to act as facilitators for learners to be able to learn the content of the Active Learning lesson plan on their own.	4.60	0.55	Highest
3.5 Active Learning Supreme: ALS Application encourages teachers to organize Active Learning so that learners are more enthusiastic about learning.	4.60	0.55	Highest
4. Efficiency of Active Learning Supreme: ALS Application	4.72	0.49	Highest
4.1 Users can register to use the system easily, conveniently, and quickly.	4.80	0.45	Highest
4.2 Users can add Active Learning lesson plan content conveniently.	4.60	0.55	Highest
4.3 Users can access Active Learning lesson plan data within the	4.80	0.45	Highest
4.4 Active Learning Supreme: ALS Application can help teachers refine the quality of teaching or learning processes created with AI so that the lesson plans that reach students are effective and aligned with learners according to learning theory	4.80	0.45	Highest
4.5 The overall efficiency of the Active Learning Supreme: ALS Application is appropriate	4.60	0.55	Highest
Total	4.72	0.40	Highest

Digital platform active learning supreme: ALS application was developed and based on the scope of the process of planning and designing active learning activities. It was then evaluated and assessed by 5 experts. It was found to be at the highest level.

(mean = 4.72, SD=0.40).

Table 2 Teachers' satisfaction of digital platform active learning supreme: ALS application

(n = 400 teachers)

Topic	$\bar{X}$	S.D.	Level
1. Easy access to lessons and easy to use and uncomplicated	4.42	0.49	High
2. Explaining the content in an easy-to-understand step	4.65	0.48	Highest
3. Beneficial to improve active learning management	4.54	0.54	Highest
4. Appropriate division of content in each unit	4.57	0.51	Highest
5. Appropriate content length in each unit	4.58	0.49	Highest
6. Up-to-date content and suitable content for use in teaching and learning	4.71	0.48	Highest
7. Applicable content to their real lives and promoting and developing the thinking process and creativity of students	4.60	0.57	Highest
8. More additional learning options for both teachers and students and supporting more effective teaching	4.67	0.55	Highest
8. Saving your time in preparing activities and teaching materials	4.54	0.54	Highest
10. A guideline to develop teaching material in other active learning lesson plans	4.62	0.51	Highest
11. Clear, attractive and easy to understand	4.47	0.56	High
12. Appropriate and clear format and font size	4.48	0.53	High
13. At-all-time available for self-study	4.47	0.53	High
14. Convenient for self-revision	4.45	0.54	High

15. The overall performance efficiency of the Active Learning Supreme: ALS application is appropriate.	4.47	0.53	High
Total	4.55	0.52	Highest

The overall Teachers' satisfaction of digital platform active learning supreme: ALS application was found to be at the highest level, with mean = 4.55 and S.D. = 0.52.

Discussion

According to the results of the research, digital platform active learning supreme: ALS application summary of the discussion as follows

1. Active Learning Supreme Development: ALS application is an online application that has been created and invented. Design and quality check for suitability in terms of content. Image and text sequencing process the sequence of steps and optimization before being tested on teachers is in line with the study on Comparison of results 18 methods of active learning to analyze learning style of the learners in higher education based on Kolb's model. The results showed that: 1) The results of 18 proactive learning management methods from the students after learning were higher than before at the statistical significance level of 0.05. The results of the analysis of learners' learning style found that the influence size of students greater than 0.4 means that the learners have improved. The first rank, the influence size of 0.73 was active learning management with real-world methods in real work situations with the students who had accommodator learning style. The second rank, the influence size of 0.67, was active learning management with questioning learning method for students with accommodator in convergence learning style. The last rank was active learning management with a live drama method which was suitable for the students with an accommodating learning style.⁶ Development active learning supreme: ALS application the fact that the active learning supreme: ALS application has a good quality system affects the use and satisfaction of users. Promoting the development of skills in the 21st century through learning by using active learning supreme: ALS application and developing learning skills by self-directed learning⁷ is in line with the concept of Critique Panich. Therefore, the modern generation must have high skills to learn and adapt. Teachers for students must develop. At the same time, they must have the skills to be a teacher in the 21st century, which is not like being a teacher in the 20th or 19th centuries. Digital technology such as computer programs, applications, online media, etc., and digital devices & tools such as Smart Phone, Tablet, Computer, etc., are tools to support their own learning to make learning more effective.
2. Results of the quality assessment of the development of active learning supreme: ALS application by conducting an evaluation from 5 experts who assessed the quality of the application. It was found that the overall quality assessment results of the development of active learning supreme: ALS application were at the highest level. Theoretical Concept of

⁶ Thanyawich Vichanpant, "Creation of Digital Learning Kingdom to Support Online Learning during the COVID-19 Outbreak," *Journal of Software* (2021): 208–218, <http://dx.doi.org/10.17706/jsw.16.5.208-218>.

⁷ Kaili Chen Zhang, "Through a Spiritual Lens: Early Childhood Inclusive Education in Hong Kong," *Journal of Religion and Health* (2014).

Active Learning Management, Kolb's concept of learning style, the process of creating knowledge by continuously modifying the experience. From observation, reflection of thoughts. Summarizing the idea leads to implementation. A distinguishing aspect of the online-based lesson plan is incorporating components of expertise using technology as teaching goals and the use of various multimedia applications of educational materials, media, and assessment tools. The use of smartphones is solved by technical and technology constraints since nearly everybody has them ⁸. Pimpan and Yindeesuk according to Wongdechanun ⁹, it can be concluded that teaching planning is an important task of teachers, teaching will be more successful, teaching planning is important, if the teacher has a good teaching plan, it is equivalent to having achieved half of the goal. It has complete elements that are easy to understand and can be used to teach in practice. Students develop practical skills in writing learning management plans. teachers need to know the elements of a learning management plan. The form of the learning management plan and the process of writing the learning management plan.

3. Results of Teachers' Satisfaction Assessment on the Implementation of Active Learning Supreme: ALS Application in Teaching and Learning Management It was found that in general, the teachers had the highest level of satisfaction, in line with the study of the ¹⁰Preparing a lesson plan is a major task for teachers. Whether the teaching is successful or not depends on how well the teaching plan is. If an instructor has a good teaching plan, then half of the goals have been achieved. Planning for the teaching process is important for several reasons. A good lesson plan must be a plan that is consistent with the curriculum, providing clear guidelines for teachers. There are complete components that are easy to understand and can be used for real teaching. This would enhance the students to develop skills that can be applied in their daily lives. Teachers need to understand the meaning, characteristics, procedures, and principles of a lesson plan as well as the characteristics of the plan to effectively lead the course to the desired destination. In writing the lesson plans, teachers need to know the elements of the plan, the format of the lesson plans and the process of writing lesson plans as well.

Conclusion

The results of this study, which primarily focused on Development Active learning supreme: ALS application with using artificial intelligence innovation-based learning to enhance the learning management skills of teachers in 21st century Support teachers have more time to teach and support their students, such as with transactions or everyday chores that are not particularly hard

⁸ Ahmad Syawaluddin, Sidrah Afriani Rachman, and Khaerunnisa, "Developing Snake Ladder Game Learning Media to Increase Students' Interest and Learning Outcomes on Social Studies in Elementary School," *Simulation & Gaming* 51, no. 4 (2020): 432–442, <http://dx.doi.org/10.1177/1046878120921902>.

⁹ Kannika Sookngam, Prayoon Wongchantra, and Wutthisak Bunnaen, "The Effect of Environmental Education Training Course in Soil, Water and Forest Conservation on the Concept of The King Rama IX of Thailand," *International Journal of Higher Education* 10, no. 4 (2021): 32–48.

¹⁰ Morrakot Raweewan and Fumio Kojima, "Digital Lean Manufacturing-Collaborative University-Industry Education in Systems Design for Lean Transformation," *Procedia Manufacturing* 45 (2020): 183–188.

but very large. Examples include home assessments for children and training designs. In addition, many teachers use the Active Learning Supreme: ALS application to help them construct school activities or lesson plans for their kids. As a result, it is becoming popular among the next generation of educators.

It claims that the Active Learning Supreme: ALS application is quite useful in planning school activities, making it a little easier for teachers; however, the Active Learning Supreme (ALS) application has limitations in terms of intelligence, taking into account the level of learning outcomes that children receive from the curriculum and consistency with the student's learning style. Features of Active Learning Supreme: There are two primary modes available in the ALS application. The first mode is designed for teachers who like to start from scratch with manual writing. A comprehensive template of active learning patterns will be available, including themes integration, community invention, structured learning, fundamental challenges, and phenomena as a base. A teacher can be confident that the learning plan will be successful if they incorporate a lesson concept that the template offers. The second approach involves importing a lesson plan into the system, such as one that is performed in real-time performance analysis by Digital platform active learning supreme: ALS application. This mode is specially designed to support the current situation where a small number of teachers are using Active learning supreme: ALS application to design a curriculum, and is likely to be more and more. It can also be used as a storage of curricula to share from where the teachers have come to build plans or upload plans for analysis to teachers.

Teachers should further investigate their cognition about teaching styles based on Klob's concept. A range of engaging activities or teaching and learning techniques have been developed to promote successful learning for students. Teachers should also share their knowledge while developing lesson plans. Suggestions for future studies in order to create a curriculum that satisfies contemporary learning needs and new initiatives, research and development on The Model of Learning City application should be conducted through an area-based collaborative strategy for local economic growth. Development of Artificial Intelligence Learning Innovation to Improve Teaching and Learning Management for Learners to Promote Skills in the 21st Century

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