

Developing Knowledge Dissemination of Research Outputs: A Collaborative Learning Management Model Supported by Communication Innovations.

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Abstract

This article is about classroom particle research, which manages education through a curriculum based on classroom projects. It aims to disseminate and utilize research outputs through student work in the classroom, using collaborative learning techniques. This paper pursues a collaboration learning management model with communication innovation to transfer knowledge from research outputs. The researcher selected communication arts teachers who teach subjects related to media production from universities in the Northern region of Thailand. The results show that students in classes are a group of audiences who have practice planning group activities, self-educating, and can produce media from relevant research outputs, which allows them to connect their previous experiences with new knowledge. Furthermore, a collaborative learning concept supported by communication innovations can help students engage, learn, and develop from research outputs into quality and usable creations. In which the instructor acts as a knowledge transfer and supports students to turn information into knowledge and apply knowledge as a tool for practice.

Keywords: Knowledge Dissemination, Research Output, Collaborative Learning, Communication Innovations

Introduction

Human beings need communication in daily life. Nevertheless, technological advancement has overgrown, and information has spread worldwide quickly until it is defined as the age of the information society. Thus, it has created a new concept of integrating communication into the country's economic and social development plans. Nevertheless, the guidelines for the media to develop this must consider the appropriateness of the Thai people's traditions, customs, and way of life rather than focusing on meeting a single goal (Kritworakan, 2008).

Technology transfer is the communication process of ideas and skills between individuals and groups, including transmitting academic news from the source of knowledge to the target group. Nevertheless, the transfer of such knowledge is useless if the target audience does not accept it, is not needed, or is not used (Leuvitoonwetchakij, 1999). Therefore, people should be able to use technology to the maximum benefit. It must be adapted appropriately from research, technology transfer, target audience, and time. However, there must be a systematic evaluation. In addition, technology transfer is diverse in each field. The method and format of broadcasting may vary from situation to situation.

Therefore, a collaborative learning management model with communication innovations could be essential to the country's economic and social development. An efficient transfer process will enable operators in the manufacturing and service sectors to utilize the technology they have developed cost-effectively. For example,

bringing research outputs and setting guidelines to be disseminated or transmitted to relevant parties in various sectors will sustain the country's economic and social conditions.

Previously, many scholars have applied research or creative work that has been done in the form of dissemination, extending the body of knowledge until it can lead to concrete solutions and apply to the target group until it can bring benefits. Nevertheless, the utilization in academics can be seen as the application of knowledge from research published in various formats, whether published in international or national journals, books, textbooks, and lessons for the benefit of academics, learning, or teaching academics. However, it still requires strategy, technology, and innovation to help disseminate research outputs because each research topic is challenging to understand, and reaching the audience is tricky.

Smith & MacGregor (1993) evaluated that, in collaborative endeavors, students inevitably encounter differences. Building the capacity for tolerating or resolving differences, building an agreement that honors all the voices in a group, and caring about how others are doing are crucial aspects of living in a community. Cultivation of teamwork, community-building, and leadership skills are legitimate and valuable classroom goals, not just extra-curricular ones. From this theory mentioned above, it can be seen that teaching and learning in the 21st century will change. In the past, we can see that students in various subjects received grades and graduated. Education will focus on higher-order learning skills, especially evaluative skills will be replaced by the ability to use new knowledge creatively. In this study, the researchers aimed to highlight life-long instruction with a flexible teaching method that encourages and motivates learners to be resourceful and intelligent and seek to learn all the time.

In 2018, an action research project titled development of local communicators for disseminating the research work was conducted using activities as a research tool to find knowledge about the media creation process to publish research in the form of competitions at the regional and national levels. The research outputs showed that students participating in the project could extract lessons learned from their uncomplicated research outputs through innovations that stimulate interest in the local area. The effects of online or new media production from those research outputs can be beneficial and disseminated to the local community (Jenjad, Charoenchotithum, & Thummasena, 2019).

Although the new media production in the project can benefit and disseminate to the local area and community, those media still need to satisfy or meet the group's needs. The audience will have the opportunity to put these creative works to good use. Furthermore, students participating in the program can participate in creative activities and design media to quickly disseminate research based on their needs and preferences.

As mentioned earlier, the researcher is interested in disseminating and utilizing research outputs through student work in the classroom, using collaborative learning techniques, and picking up research outputs beneficial to those localities and using them for actual use. Furthermore, students can use the knowledge they learn in the classroom to create materials to benefit and disseminate those research works. These processes will be a new dimension in designing, developing, and producing media to communicate research as much as possible. At the same time, this research can also create works that contribute to developing people to be research communicators via collaborative learning management techniques.

Literature Reviews and Related Research

Collaborative Learning Management Model

Collaborative learning is an umbrella term for various educational approaches involving a joint intellectual effort by students and teachers. Usually, students work in groups, mutually searching for understanding, solutions, or meanings or creating a project. Lecturers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students and more as expert designers of intellectual experiences for students-as coaches or mild wives of a more emergent learning process (Smith & MacGregor, 1993).

When referring to technology, there is often a meaning associated with or tied to tools, appliances, devices, aids, or facilities in daily life and human work. The essence of technology tends to focus on the value or practical benefits of using it rather than merely creating an understanding of something like general knowledge. However, technology is not just about objects, which are tools, utensils, and equipment. However, technology often includes the value of practical application hidden in formulas, software, concepts, guidelines, and recommendations. Therefore, if there is a need to convey the content of research findings, knowledge, and technology, it is necessary to enter the communication process of some kind. In addition, if any learning is valuable and useful in its practical application, it can also be classified as a collaborative learning management model.

In the past, the research on the development of electronic lessons on creative educational media design aimed to experiment with electronic lessons on the design of creative educational media for teachers. The results of the study found that although most of the students had moderate knowledge of media design, they had a high demand for learning through new media because of the opinion that

teaching through electronic lessons also stimulates students' attention (Mingsiritham, 2016).

Therefore, a new approach to teaching is the introduction of new ideas, methods, processes, or inventions to manage to learn. It can also help develop learning effectively following the goals of the course. However, the new paradigm of classroom learning has begun to influence education management, especially with educational reforms in the present era. Collaborative learning will help to make education and teaching more effective. Students can learn faster, be more productive, stay motivated using those innovations, and save time (Athikiat & Santhuenkaew, 2018).

Teaching management in the Thailand 4.0 era provides learners with knowledge and prepares them to be human. In addition to improving the curriculum, textbooks, methods, processes, and lecturers' roles, there must also be a need to promote future skills for learners, which are essential for changing the world and society. Instructors are responsible for planning learning management, designing learning activities, and preparing learning materials to suit the content and learners. The expansion of academics and societal change has allowed people to learn much.

However, Athikiat and Santhuenkaew (2018) found that the old education system is ineffective. In the past, the traditional way of teaching emphasized that the learners only had knowledge in the textbooks and that the learners only remembered. Most teachers still focus on the traditional lecture-based approach, where performance is simply a measure of how much the learner recognizes the material they have learned and understands how to solve the problem that has been taught or not (The Story Thailand, 2020). Therefore, seeking new and more effective teaching methods is necessary to help students learn and be more creative.

Instructors should motivate students to be interested in learning, whether it is an opportunity for self-learning, hands-on practice, or learning processes to seek knowledge. Training students to develop creative skills to increase their ability to think of new things can help learners transform their original ideas into new valuable and rewarding things-social acceptance (Chularut, 2018). On the other hand, learning management that focuses on subject content and teaching that does not relate to daily life will cause learners to be bored with learning and uncomfortable. Also, an underdeveloped brain will result in the genius that naturally exists in the learners can be destroyed (Kaoeint, Somsak, & Sathitpakeekul, 2015). Thus, if learners learn and create ideas, they can convey their knowledge through their creative work effectively.

Besides, knowledge transfer for modern learners through the learning process through hands-on practice is the same as for the learner to work with the instructor through the collaborative learning concept. Instructors act as observations, work, and share experiences of everyday findings, were teaching in this manner enables instructors to make successful leaps from theory to practice.

The cooperative learning concept is a teaching and learning management that divides the learners into groups. Group members have different abilities, exchange ideas, support each other, share personal and collective responsibilities, share goals, have connections, exchange opinions, and take responsibility for each member's learning. In addition, group members must acquire interpersonal skills, whether small-group skills, step-by-step processes, or methods for effective group operations to achieve success according to the set goals (Athikiat & Santhuenkaew, 2018).

Consequently, the researcher is interested in studying participatory learning in the classroom through the cooperative learning concept by allowing students to learn by taking lessons from provided research outputs and using them for creative media production. Furthermore, the researcher expects communication innovations to help students engage, learn, and develop from research outputs into the quality and usable creations through this research study.

Theoretical Concepts of Communication

Communication skills are vital in the classroom; successful teaching is generally considered to require only 50% knowledge to 50% communication skills (Sword, 2020). They are most vital for interactions with students because the act of teaching requires them. Lecturers must also adapt content for different learning styles, motivate students to learn, build supportive relationships using encouragement and empathy, manage the classroom, and give feedback – making the classroom a safe and supportive learning environment.

The better your communication skills, the more effectively you can perform the tasks. Sequentially, your students will make more academic progress. Studies have found that students' success is directly related to interactive, engaging teaching environments formed by able instructors (Mashburn et al., 2008). Additionally, how teachers communicate with their students can positively affect their perceptions of school, their role in the classroom, their abilities, and their motivation to succeed (Dobbs & Arnold, 2009).

Accordingly, communication concepts and theories originated in the mid-'50s. Today's communication in the world is constantly changing. A collaborative learning management model with communication innovations can be classified as communication, a crucial tool in technology transfer. However, the communication

process is required to help explain. The innovation transferor is the sender (S), technology or innovation is the message (M), the way to convey and promote is the channel (C), and the innovation receiver is the recipient (R). Research outputs are new knowledge gained from research until the results come out. The researcher has therefore gathered information, ideas, and theories about communication.

Nitikasetsoontorn et al. (2008) mention David K. Berlo that had to publish a textbook entitled "The Process of Communication," which came up in the 1960s by developing S M C R models and senders, messages, channels, and receivers to explain the complexity of the process. Communication, factors affecting the communication process, and factors determining the effect of communication.

The researcher believes that teaching is another form of communication from the above concept. The communication with the study in this research was a group communication style. Teachers communicate through the message, which is knowledge or experience. The receiver is the learner. There is an exam learning process consisting of tools, communicating teaching, and learning under a situation organized in the classroom. The purpose of teaching and learning communication is to create a shared understanding, skills, knowledge, and ideas between the student and the teacher, with the curriculum's aim as a guide.

Nevertheless, the nature of communication through electronic mediums through communication elements are senders, messengers, communication channels, and receivers are described with the following contents: (Kaitniyomsak, 1999)

1) For communication via electronic media, the sender is a user who can be both a messenger and a receiver because of the characteristics of the medium that can interact in instant communication. An informal messenger does not require formal communication as it is communication from private to public. The messenger may or may not be a professional in journalism. Nevertheless, the messenger can either be an expert on the presented subject or not be an expert on the matter because communication via digital mediums appears vague to the messenger, regarded as two-way communication. The sender adheres to what is presented or is biased toward the value shown. The sender and the receiver are equally empowered, a characteristic of horizontal communication that allows users to participate in communicating freely.

2) The message or content in communication through a digital medium is broken down according to user interests. The resulting message is not limited to sources and comes from various channels, not necessarily from the mass media professionals alone. However, the resulting substance is not a financial product but a product that meets users' needs. Users can choose to enable or disable the content they want or not. The content in the forums focuses on a specific group of interests and is informal as a discussion between users. Therefore, the resulting substance satisfies the needs of more specific groups of people.

3) A communication channel through a digital medium is an interaction with a computer without restrictions on location and time. Users can choose to receive the substance at any time and place. In addition, the user has a movement activity in receiving the meaning that occurs all the time, such as entering a forum or commenting where users do not see each other's faces but can communicate with each other through computer media.

4) Recipients are unique in that they share common interests because they can come together even if they do not see each other face to face but can get to know each other through digital media. Additionally, users of digital communications have a keen interest-seeking nature that makes them unpredictable and immediate responses.

From the preceding, the concepts and theories of communication through new media are, therefore, the application of communication concepts and ideas to improve following the advancement of technology. Thus, the researcher brings such concepts and theories into the collaborative learning management model and research work to be up-to-date and effective in learning more for learners. After that, the results from these old theory reviews could help confirm that participatory learning through research methodologies and classroom research experiments in this research paper could enhance learners' understanding through practice.

Diffusion of Innovation Theory

Diffusion of innovations is the process of transferring ideas, practices, news, or behaviors from one person or group to another in a broader way that results in the acceptance of beliefs and those practices that ultimately affect the structure and culture of social change (Wattananarong, 2021). Instruction on disseminating educational innovations has received wide attention, especially on academic development and innovation. Many educational innovations have been introduced into our education systems, such as student-centered teaching, integrated teaching, pedagogical teaching enjoy, etc.

The diffusion of the teaching method “Learner-centered” is publicity expected to happen to teachers in the classroom who want to make changes at the micro-level. The Ministry of Science

and Technology has provided funding for research and dissemination of innovations in the past. It has the policy to experiment with smart classrooms with digital systems and internet networks to help students learn. This project was tested in Nakhon Phanom province, which implemented the project based on students who view technology as an educational tool. The decision to use or not to use innovation is based on individual needs and readiness. Thus, the study results showed that this experimental process gives the learners more freedom of thought, resulting in learning (Kaewbandon, 2014).

In using educational materials to help develop learners' learning, teachers need to apply them by following the content so that learners can learn quickly and easily. Therefore, creative educational media should be used along with the content. The subject focuses on the learners, emphasizing media production different from the original media to stimulate interest. In addition, making the educational material different from what the learners have seen will also increase the learning response of the learners in a shorter time (Mingsiritham, 2016).

A research paper by Sarawanawong, Fyeted, Ngernpoolsap & Chantrdee (2017) reveals that most Thai students have used new media in education and communication rather than studying and researching through textbooks for more than seven years. However, these students are interested in using these new media to learn new things, work in groups, communicate with peers/teachers, download teaching materials, and submit classroom assignments, which have positive attitudes and opinions on the impact of social media, especially in communication.

As long as the teacher sees that innovation and technology are not helpful alternative tools for teaching, does not understand their benefits, does not acknowledge them, and has never used those

technologies, learning and accepting innovation in learners cannot develop or occur. Therefore, the knowledge of obtaining creation in teaching and learning is widely used. However, teachers must plan for teaching well, teach students how to pursue knowledge, and use new technologies to suit the students.

Based on the above theoretical concept theories, the nature of communication through electronic mediums through group communication elements which are senders, messengers, communication channels, and receivers, could shape the learner's learning process, continually creating new knowledge that the student can impose. Principles gained from practice and ability to apply theories or principles correctly. Teachers are responsible for planning learning management, designing learning activities, and preparing learning materials to suit the content and students. Furthermore, the collaborative learning management model in the classroom through development methods and dissemination of knowledge from research results through communication innovations would create new learning continually for students.

Research Methodology

This quantitative research uses classroom particle research, emphasizing activities to create and produce a variety of media suitable for the target group to use and disseminate research outputs through creative media until they can be used for further benefit. It is about classroom particle research, which manages education through a curriculum based on classroom projects. The teacher determines the work, which is research outputs, in the classroom for students to be used in media production to disseminate such research outputs. This aims to share and utilize research outputs through student work in

the classroom, using collaborative learning techniques; the researcher expects communication innovations to help students engage, learn, and develop from research outputs into quality and usable creations through this research study.

Consequently, the data sources used in the study consisted of primary sources are the main target population and sample group: 1) the TRF's research papers (Thailand Research Fund-TRF), 2) the authors of each selected research paper, 3) the network of TRF's local coordinating groups in the North, 4) four teachers of lecturers in media production-related courses, and 5) students in four classes.

The researcher selected a specific sample group using the selection criteria. The researchers and the instructor teachers were interested in applying the research outputs of TRF to bring lessons for disseminating research through innovations from classroom work in related subjects. In the research process, nevertheless, the researcher has made a total of 5 steps as follows:

1) Select instructor (Teachers)

The researcher selects a sample group of teachers in a media production course. The instructor teachers reviewed completed research papers with content relevant to the various target groups of interest in the northern region and found a wide variety of research. It also includes a review of the relevant literature and a pre-research study as a knowledge-based work, which reduces the need for new research workflows. Therefore, the researcher assesses the research feasibility and uses the data to write a research outline. Because conducting research to produce media suitable for the course content must be ideal for the audience, the content displayed in the assembled press must be consistent with the research outputs.

2) Select research papers

The researcher and teachers select papers to coordinate with authors to understand how activities can lead to media production in classes that can be tailored to target audiences and put to practical use. Additionally, the researcher reviews selected research outputs and relevant literature and conduct community outreach studies, which pose a research issue or problem as network work.

3) Coordinate with authors

The researcher organizes group discussions to discuss and build understanding discuss critical issues from the paper and remove key points from the report. Then, the researcher collaborates with the authors, lecturers, and students, including those involved in the research project's background and objectives. Furthermore, the researcher clarified the findings from research activities, in the form of media creation, for the use and dissemination of past research. Additionally, to see the viewpoints and roles of each group according to the research objectives, including authors, the research team that supports the author, and villagers or communities who benefit directly from this media creation.

4) Organize activities/field trips

The researcher conducts research-related activities to survey or ask for the author's opinions, communities, and other stakeholders to see the workflow between local research and community networks. Then, teachers and students verify the accuracy of the data and select key content issues to create research outputs for dissemination through various media.

5) Evaluate

Teachers assess their knowledge and understanding through the creative work of the students' media production. It is an issue that has been brought forward from the TRF's research to create media for utilization and dissemination of TRF's research by local research communicators in the North with all stakeholders.



Figure 1: 5 Steps of Research Activities

Consequently, the researcher collects data through in-depth interviews, participant observations for interpretation, and theoretical data synthesis through workshops to extract the data, extract the essence, and use it to support the research outputs.

Research Conceptual Framework

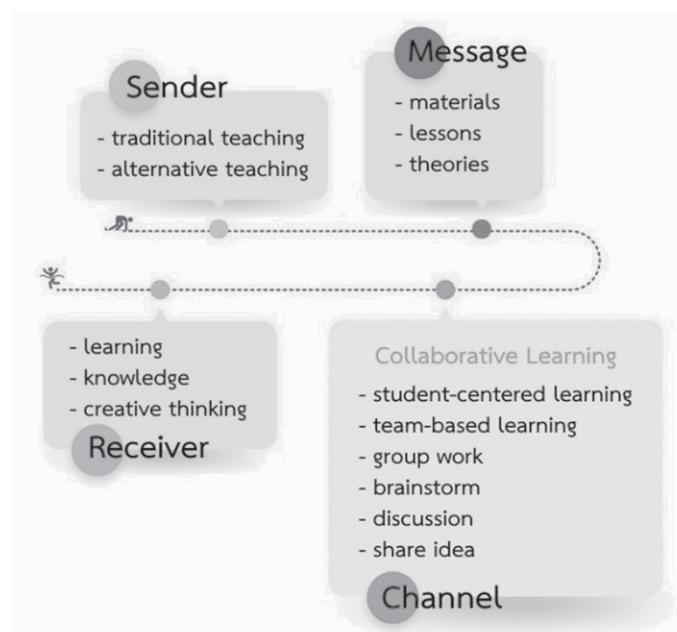


Figure 2: Collaborative Learning Model via the Process of Communication

Results and Discussions

Collaborative learning is a promising mode of human engagement that has become a twenty-century trend. The concept of Collaborate learning, the grouping, and pairing of students to achieve a learning goal, has been widely researched and advocated; the term CL refers to an instruction method in which students at various performance levels work together in small groups toward a common goal. The students are responsible for one another's learning and their own. Thus, one student's success helps other students succeed (Laal & Ghodsi, 2012).

Consequently, the results of this paper revealed that collaborative learning with innovative classroom communication could help students engage, learn, and develop from research outputs into quality and usable creations. The concept and theory of communication through media or new media is the application of communication concepts and theories to improve following the advancement of technology. Therefore, the researcher brings such concepts and theories to integrate into research to be more contemporary to get the creative works from media production to be used for real benefits.

Using collaborative learning techniques to utilize research outputs through student work in the classroom can build on the learning process and generate new knowledge for the learners. Students can apply theories or principles learned in class to work together. In addition, both written and spoken, good relations between students were established. The research findings using the collaborative learning model through the communication process (SMCR) from this research paper can be summarized as follows.

Firstly, as the sender, the teachers continue to use traditional teaching methods to conduct instruction, give lectures, home reviews, and study materials prepared by teachers before class. Because this lecture activity will allow students to apply the concepts and theories explained by the instructor to the design of media and messages, creating principles to improve the group's work. However, teaching through educational media, alternative teaching, is different from traditional teaching and learning. It is a teaching and learning activity based on learner-centeredness for the learners to gain knowledge and ideas by practicing analytical and critical thinking and creating creative ideas for use in the development of innovative media projects self-group appropriately. The teachers try to encourage students to learn and understand the research output content so that students can

draw on their own learning experiences based on the teacher's group communication. Most of the teaching and learning management will be organized by the teachers. The content that provides knowledge leading to learning various skills is something the learners already have experience, knowledge, and abilities.

The above statement is consistent with the idea of David (2009, as cited in Mingsiritham, 2016), who said that educational media is an essential tool for students to learn. Developing materials that enable students to remember from classroom learning is necessary. Educational media is vital for students, and growing media that allows students to learn is critical. In addition, the above statement is also consistent with the concept of Julian (2007, as cited in Mingsiritham, 2016), which explains that the use of appropriate teaching techniques, student participation, and collective thinking depends on direct individual experience, including interpersonal communication in the classroom, is an essential process for creativity.

Thus, the researcher and teachers select research studies and coordinate with authors to share research lessons before embarking on creative media production. The researcher found that the factors affecting collaborative learning were successful in the classroom. It was found that all four of the tutor teachers were communication arts professors who deeply understood and taught all media production-related subjects. This model makes coordinating communication between authors and students through media analysis and selecting audiences to meet the objectives easy. The problem with the instructor teachers is that when they need help understanding the research content, it will cause issues in preparing and reviewing the content before the student's media production. As a result, the produced workpiece does not meet the audience's needs. In contrast, when the instructor teachers are active, class assignments will be made for

students to create materials successfully.

Then, students learn about the subject matter as a message, which can happen in many ways, as channels, such as from teacher's lectures, reading assignments, and research output from home through the use of modern communication technology according to the student's interest, and the student study content research output through the technology that the teacher prepares before class. Then come to do activities and ask questions together in class before synthesizing the content to produce creative media. However, by expressing opinions or having group discussions with teachers, the collaborative learning model helps students understand the content, making it easier to summarize concepts and use them to produce creative media.

Furthermore, it can be seen that at the stage of discussion and presentation of each group of students, as the receiver, it was found that students were able to express their own opinions and feelings and to change with group members, with the instructor defining the analysis points. Students will learn the thoughts and feelings of others different from their own, which will help them to learn more widely. It also helps reflect the derivation of various conclusions. Know the role of group work and the role of team-based learning.

The findings also found that alternative electronic media teaching promotes critical thinking skills and improves student learning quality. The result is consistent with the study of developing teaching and learning innovation using instructional media to enhance learning achievement towards tourism products, which was studied by Somnuek (2015). Classroom results are improved as the research revealed that students could remember more prolonged, which could help students learn more content in a given time. Furthermore, they could be more interested and involved in the learning process in addition to learning

taught by a standard teaching method by lecturing in front of the room. Also, research reports by Somnuek (2015) have shown that teaching in a usual way by preaching in front of the classroom causes students to lose interest in lectures. The students' satisfaction level with electronic media instruction was high, with an average of 3.79. The learning achievement of students using video media was significantly higher than that of the traditional teaching method at the 0.0001 level. Consequently, the researcher found that the teachers are instructors in all four media production-related courses. Therefore, it is easy to coordinate and work with authors to collaborate on media creation. They can bring a variety of teaching innovations to increase student achievement and interest in learning even more, as collaborative learning techniques utilize a variety of assessments.

From the results of this research, the researcher found that the advantage was that the students had the opportunity to demonstrate their true potential in the course of media production based on real-world problems, which posed a massive challenge to students' knowledge. It involved students actively in the learning process. Bringing collaborative learning is used to create a process of learning, thinking, and analyzing to determine relevant issues for media production. Students also gain additional knowledge from participating in the workshop activities, which are learning beyond classroom learning, such as content comprehension, creativity, choosing the suitable media, and incorporating a technique that is good for that particular piece of work. It also allows students to broaden their horizons and visions as they learn from the work exchange between peers at different institutions.

As for the limitation, the researcher found that students only have one semester to produce media. Subsequently, they need to expedite the delivery of the work within the time specified by the

teachers, thus causing some creative work to lack analysis and synthesis, affecting the quality of the work. In addition, the format of the media produced is inevitably limited according to the content of each course, so students are confident in going out of the box to create other types of creative media.

Finally, the researcher realizes that TRF's research outputs are worth taking lessons to benefit the community and society. It is worth applying to produce creative media in suitable courses for actual use. However, due to the spread of the COVID-19 virus, the activities need to be expedited and safe. Thus, the time for disseminating the work to a broad audience is limited. Therefore, if there is an opportunity to apply collaborative learning in the future, the researcher may proceed in the form of a workshop in the form of inviting and campaigning for educational institutions in the field of communication to pay attention to sending promising and skilled students to participate in the activities as appropriate. Moreover, the researcher expects to get a sample of the new generation interested and realize the importance of media production and media dissemination to disseminate the research outputs to the target group and can be used in the future.

Conclusions

The collaborative learning model is an alternative teaching and learning process that teachers create purposefully, consistent with course content, learning management methods, and assessments. Teachers as a sender have selected, thought, screened, and integrated the study of principles, concepts, and procedures for creating use for students to generate creativity and knowledge by participating in media independently, seeing the importance, and having a good attitude. Teachers play a vital role in promoting students' learning. Elements that

will develop students' understanding depend on the techniques and methods of teaching that will help stimulate, promote, and develop students' knowledge to be more enriching.

In this regard, teachers should organize activities according to and appropriate to the needs of students by finding appropriate techniques. Alternative teaching methods and media aim for students to practice independently, monitoring and encouraging and allowing students to express themselves by speaking freely. This research showed that imaginative actions and the students' satisfaction could significantly improve their learning. However, the teacher must be able to analyze the course content to bring the content. They spread various issues that will help students understand more easily.

Dissemination of research outputs as subject problems through classroom instruction is a method of disseminating research that does not support or has been researched by any research. The researcher only brought this approach to create a new way of teaching and learning because the researcher saw that using research output to produce creative media was a uniquely challenging experience. In the past, TRF's research results, when completed, remained only as reports and were not put into practice as they should have been. The researcher hopes that this research may have more or less an impact on TRF to see the application and use of research outputs for the benefit of stakeholders, citizens, and the nation in a concrete way in the future.

Recommendations

Although teaching and learning today are more student-centered and teachers need to be well-versed in more than just the content of the subject being taught. Teachers, as senders, should pay

more attention to students' behavior, interests, and abilities. Teachers should bring this knowledge and understanding to collect, analyze, and apply it for teaching, curriculum creation, lesson development, teaching materials, educational equipment, and teaching improvement. That is why the collaborative learning model in this era relies more on self-learning than learning only from the classroom.

However, although the cooperative learning model will help students learn to understand more, other dimensions will help make teaching and learning successful. Therefore, the researcher is interested in further education and learning management studies through other methods, such as the Pedagogical Knowledge model, the Work-integrated Learning model: WIL, or the Cooperative and Work-Integrated Education model: CWIE. In this regard, knowledge of teaching paradigms means lecturers know strategies and techniques for managing various learning and have appropriate practice according to teaching and learning guidelines in each course to enable students to develop creative competence in proper alternative media. In addition, teachers should design and create media for students to be creative and know how to use appropriate media creatively.

In summary, participatory learning in the classroom with a collaborative learning model is a student-centered approach to teaching and learning activities by incorporating research into problems in courses that teach about creation and production. Media through communication process (SMCR) results in satisfactory results in terms of quality. It can be seen that students who have gone through the potential development process by teachers acting as mentors help promote student learning—allowing students to express their opinions, take responsibility for their learning, and practice planning for creative media production. This will enable learners to relate their previous experiences with new knowledge. Participate in discussions on these

procedural issues. This learning process trains students to develop their knowledge and skills in critical thinking and problem-solving.

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