Empowering Teachers' Learning to Enhance Students' Accountability Skills

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Abstract

This research uses the Research and Development (R&D) methodology to develop "The Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" to be effective according to the research hypothesis set out. It is a program that consists of development projects for learning of the teacher and the project for teachers to use learning outcomes to develop students with characteristics according to the specified indicators. Results of testing the program's effectiveness from experimental research in the first project found that teachers in the experimental group had learning results according to the standard criteria of 90/90 and the mean score from the test results after the experiment was significantly higher than before the experiment. The results of the experimental research in the second project found that students who were the target group for development had a considerably higher average score from the post-experiment evaluation than before the experiment. The research results are therefore following the established research hypothesis. It shows that "The Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" has confirmed its effectiveness. This program can therefore be used for the benefit of teachers and students in schools who are the target population for disseminating research results.

Keywords: online self-training program, teachers' learning, accountability skills

1. Introduction

The Indeed Editorial Team (2023) stated that "Accountability usually refers to taking ownership of results. This may refer to taking responsibility for your actions or the results of a project you may be working on. Whether the results are good or less than ideal, the organization can attribute them to you. When combined with specific skills, accountability can help you to progress in your career, especially if you're responsible for achieving desirable results. It may be essential to learn how to demonstrate accountability at work, in relationships, and in social settings for people to view you as a reliable person. Whereas, Poised (2022) defined that personal accountability is one of the most crucial traits a leader can possess for their career and relationships by proposing 10 supportive reasons as follows: 1) it helps you lead by example; 2) it keeps you consistent with your values; 3) it stops you from making bad decisions; 4) it helps you keep your word; 5) it gives you a support system; 6) it helps you learn from your mistakes; 7) it helps you make tough decisions; 8) it stops you from getting egotistical; 8) it keeps you focused on your goals; and 10) it boosts your self-confidence;

Amin (2022) suggested how to make accountability a core part of your culture and a core value of your team as follows: 1) lead by example and hold yourself accountable first; 2) set team goals; 3) work on your feedback skills; 4) create a culture of two-way feedback; 5) make accountability a habit; 6) keep track of your commitments and hold each other accountable; and 7) use an accountability framework.

As mentioned above, the points of view regarding the meaning of accountability are variously defined. Especially, when searching on the internet, they were mentioned in various issues including definition, importance, characteristics, obstacles and development challenges, development guidelines, development processes, and evaluation. Having realized that these issues are valuable to be implemented as the guideline to enhance accountability skills for teachers and students in secondary schools under the Department of General Education,

Office of the Private Education Commission; the team of researchers employs Research and Development (R&D) methodology to develop the educational innovation based on the concept "Develop teachers to be acknowledged first, and then teachers use the results of learning to develop their students continuously as an educational innovation, and this research is entitled "Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" It is believed that this will result in an effective program that can be disseminated for the benefit of teachers and students in schools who are the target population for disseminating research results.

1.1 The Purpose of Research

This research aims to use the Research and Development (R&D) methodology to develop "The Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" to be effective according to the research hypothesis that will be determined. It is a program that consists of development projects for teachers' learning and the project for teachers to use learning outcomes to develop students to have characteristics according to the specified indicators. It is a program that can be distributed for the benefit of teachers and students in schools who are the target population for disseminating research results.

1.2 Research Hypothesis

From studying other research that aims to develop educational innovations with the concept of teacher development and then allowing teachers to develop them continuously with students. There are results from research that follow the research hypothesis, such as research by Hatsanmuang and Sanrattana (2023), Praneetpolkrung and Supakicco (2023), and Kromthamma and Supakicco (2023). Therefore, it is believed that this research will produce effective research results as well. Therefore, the research hypothesis is set as follows: 1) After the experimental research of the Development Project for Teacher Learning, teachers in the experimental group had scores from their test results after the experiment according to the standard criteria of 90/90 and were significantly higher than their scores before the experiment, 2) After the experimental research of the Teacher Project to Put Learning Results into Practice, students in the experimental group had significantly higher scores from the self-assessment after the experiment than before the experiment.

1.3 Literature Review

In studying the literature related to "Accountability", the researchers focused on studying from the viewpoints of selected academics or academic organizations from various regions of the world in the Internet era that presented the concepts in "Articles" that present content that meets the needs of our research will be presented in 7 modules for teacher learning as follows: 1.The definition from the perspectives of Kenton (2021), McGrath and Whitty (2018), Mihalicz (2019), Systems (n.d.), Wigmore (2014), Wikibook (2019), and Wikipedia, The Free Encyclopedia (2021). 2. The importance from the perspectives of Biddinger (n.d.), Chadwick (2018), Chadwick (2019), Salem (n.d.), Samuel (2021), and Stickland (n.d.). 3. The characteristic from the perspectives of Bias (n.d.), Boesen (2014), Daum (2015), Mathers (2021), Molinara (2020), and Samuel (2021). 4. The obstacles and ways to overcome obstacles from the perspectives of Autry (2015), Berry (2017), Cook (2017), and Ellis (2016). 5. The development guidelines from the perspectives of Arcement (2015), Boogaard (2020), Brearley (2017), Cornett (2018), Dowding et al (n.d.), Nelson (2020), Sandahl (n.d.), Shaffer (2021), Soucy (n.d.), and Weliver (2020). 6. The development stage from the perspectives of Cárdenas (2020), James (2019), Leonard (n.d.), and Prosen (2017). 7. The evaluation from the perspectives of Samuel et al (n.d.), Silverstein (n.d.), and Washington (2017)

The 7 issued as mentioned above are related to "Development guidelines" which are essential because they are suggestions referring to "principle/concept/technique/approach/activity" for teachers' learning as the first step, and then teachers can apply their learning as a guideline to enhance accountability skills for their students. The researcher synthesized the issues which are "Development guidelines" from different references as mentioned above, and there are 51 traits as follow: 1) be honest, 2) do one task at a time, 3) reward yourself, 4) define the outcomes, 5) make it formal, 6) set micro-goals, 7) review self, 8) the self-assessment piece, 9) establish team agreements, 10) develop a timeline, 11) be considerate, 12) value time, 13) don't overcommit, 14) know your role, 15) support families, 16) train as needed, 17) maintain equilibrium, 18) empower employees, 19) set clear expectations, 20) use lists wisely, 21) use time wisely, 22) create a personal mission statement, 23) lead by example, 24) reflect upon past wins, 25) ensure necessary resources, 26) build individual understanding, 27) communicate and share information, 28) make sure to choose only one accountability person, 29) make expectations clear, 30) develop accountable skills leaders, 31) create an environment of trust, 32) provide proper resources, 33) follow up and hold people to their word, 34) set achievable goals, 35) have frequent conversations, 36) require accountability skills, 37) hold yourself accountable skills, 38) use productivity monitoring tools, 39) provide candid feedback, 40) clearly explain expectations, 41)

create a “just right” learning environment, 42) student, parent, and teacher conferences, 43) be sure to communicate accountability skills, 44) create clarity around roles & responsibilities, 45) establish clear goals, then follow up, 46) teach employees how to issue a real apology, 47) emphasize strengths, improve your weaknesses, 48) have students take ownership of their learning, 49) inculcate accountability skills as organizational culture, 50) involve employees in the goal-setting process, and 51) recognize your own mistakes and openly discuss them.

2. Research Methods

2.1 Concepts and Process

This research uses the Research and Development (R&D) methodology suggested by Sanrattana (2023) who stated that “Knowledge and Action are Power” which leads to the concept of this research that "begins with developing teachers' learning and then having teachers implement their learning to develop their students later on". The research process is divided into 4 steps as follows.

Step 1 Study the literature related to accountability in 7 issues to select the content of each issue for designing online self-training modules for teachers’ learning, including 7 modules: 1) the definition; 2) the importance; 3) the characteristics; 4) the obstacles and ways to overcome obstacles; 5) the development guidelines (principle/concept/technique/approach/activity); 6) the development process; and 7) the evaluation, as well as, one module is to be used as a guideline for teachers to implement. (see the structure of the program and other details shown in Figure 1)

Step 2 Evaluate the quality of online self-training modules organized in 2 phases: **Phase 1** Preliminary Field Testing and Revision, 5 teachers from a school which is not in the experimental area; and **Phase 2** Main Field Testing and Revision, 10 teachers from a school which is not in the experimental area using focus group discussion for both phases.

Step 3 Construct 2 sets of tools for the experimental research: 1) a teachers' learning test; and 2) an evaluation of students' accountability skills (to be detailed in the topic of Research Tools)

Step 4 Conducting experimental research to test the effectiveness of the “Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills” using one group pretest-posttest in a school which was purposively selected to be the target research area. The experimental group consisted of 16 teachers and 540 students studying in semester 2 of the academic year 2023. The research was divided into 2 phases: 1) the experimental research in the Development Project for Teacher Learning, it took 1 month.; and 2) the experimental research in the project, Teachers Use the Learning Outcomes for Student Development to take 2 months.

2.2 Research Tools

2.2.1 Teachers’ Learning Test

Teachers’ Learning Test: A multiple test with 4 choices aiming to investigate teachers' learning results before and after participating in the experimental research in the project of teachers' learning development.

The researchers created the content in 6 issues as specified including definition, importance, characteristics, development guideline, development process, and evaluation. The test for each issue is arranged in order from lower thinking skills to higher thinking skills which are remembering, understanding, applying, analyzing, evaluating, and creating according to cognitive domain based on The Revised Taxonomy 2001 of Benjamin S. Bloom (Krathwohl, 2002). The quality of the test was measured in 2 phases as follows.

Phase 1: Content validity Measurement, this was carried out by using the method of Rovinelli and Hambleton (1977) known as Indexes of Item-Objective Congruence (IOC)by 5 experts in Curriculum and Instruction and Educational Measurement and Evaluation. The analysis results showed that the IOC of all questions is higher than the criteria 0.50 (Chaichanawirote & Vantum, 2017).

Phase 1: Measure the quality, trying out the test with the teachers who are the samples of the research from a school that is not in the experimental area. The results showed that 1) all test items have an index of difficulty that meets the preset criteria which are from 0.20 - 0.80, the power of discrimination meets the preset criteria which are from 0.20-1.00 2), the value of KR-20 indicating the efficiency of reliability was 0.85 which is higher than the criteria 0.70, and 3) the difficulty of the test was 0.55

2.2.2 Accountability Skills Assessment Form for Students

Accountability Skills Assessment Form for Students: a 5-point rating scale 5, ranging from highest, high, moderate, low, and lowest

The assessment was constructed from the study of the characteristics that indicate accountability skills according to the point of view of Bias (n.d.), Boesen (2014), Daum (2015), Mathers (2021), Molinara (2020), and Samuel (2021) and the study on the concept of accountability skills evaluation proposed by Samuel et al (n.d.), Silverstein (n.d.), and Washington (2017). This assessment form was measured twice as follows.

Phase 1: Measure the content validity using the Rovinelli and Hambleton approach by 5 experts in Educational Administration and Educational Measurement and Evaluation. The analysis results showed that the IOC of all questions was higher than the criteria 0.50. This means that the questions in the assessment form can be used to investigate the stated objectives (Chaichanawirote & Vantum, 2017).

Phase 2: Measure the reliability or internal consistency by using the assessment form with the 30 students who were the sample group in a school that was not in the experimental area of the research. The results of the data analysis showed that the alpha coefficient of reliability of the whole assessment form was 0.87. When analyzing individual skills, it was found that the responsibility for decision-making and safe-making, striving for self-development towards the target goals, supporting teamwork, feedback acceptability, and punctuality and effective time management were 0.92, 0.82, 0.95, 0.74, and 0.93, respectively. When comparing the reliability coefficient and the preset criteria, meeting or higher than the preset criteria which is 0.70, (George & Mallery, 2003), it was found that these items were higher than the preset criteria. This means that the items have relatively high internal consistency.

2.3 Data Analysis

The data analysis was divided into 2 cases: 1) analyze the scores from the test to investigate teachers' learning results after the experiment compared with the standard 90/90, where the first 90 represents the percentage of the mean score of the entire group of teachers obtained from the test, and then another 90 represents the percentage of the teachers taking the test and passing the criteria for all objectives (Yamkasikorn, 2008); and 2) analyze and compare pre-test and post-test results using the Dependent t-test.

3. Results

3.1 The Outcome of an Educational Innovation

The results of this research have led to an educational innovation, called "Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" This innovation consists of two consecutive projects. The teacher development project: this project utilizes self-training modules to facilitate teacher learning about how to enhance students' accountability skills, comprising 7 modules namely 1) the definition, 2) the importance, 3) the characteristics, 4) the obstacles and methods for overcoming obstacles, 5) the development guidelines (principles/concepts/techniques/methods/activities), 6) the development steps, and 7) the evaluation. Teacher Implementation Project: This project focuses on teachers implementing their learning into teaching to benefit students. It includes a self-training module for teachers to use as a practical guide, consisting of 1 module. It consists of the following issues:1) statement, 2) summary of characteristics accountability skills, 3) summary of development guidelines, 4) summary of development steps, 5) assessment of student's perceptions of teachers' practices, 6) self-evaluation of teachers regarding the high or low level of implementation of development guidelines, 7) teachers' self-evaluation of their views on the development process, and 8) forms for teachers to reflect on their performance. Additional details are illustrated in Figure 1.

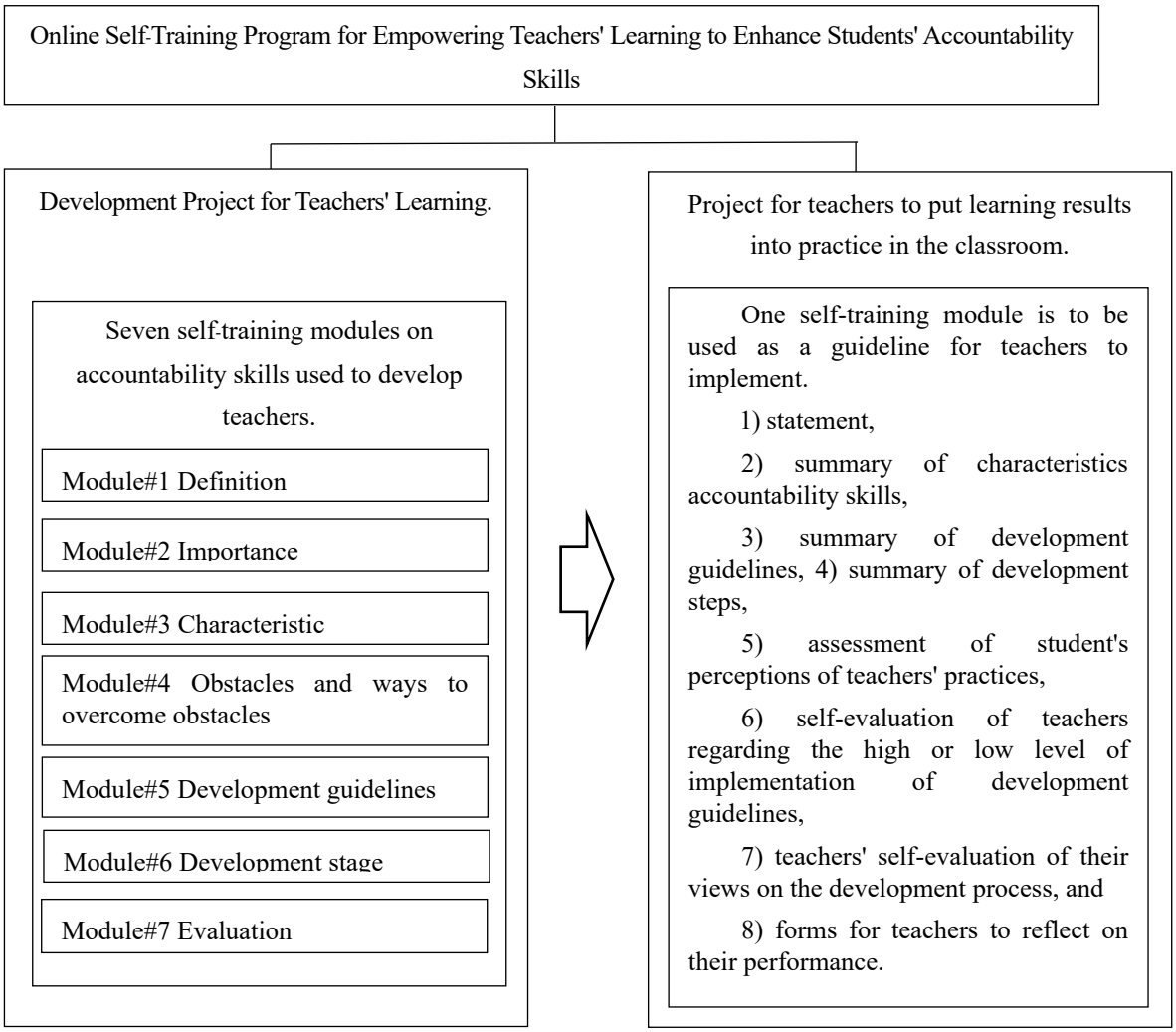

Figure 1. Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills (see the features of the program in the original Thai language from https://shorturl.at/ikqOZ)

3.2 Evaluation Results of Online Self-Training Program

3.2.1 The Experimental Research Results of the Development Project for Teachers' Learning

After the experimental research according to the development project for teacher learning in step 4, teachers in the experimental group were asked to test their learning results from the "Teacher Learning Outcome Test" to determine the effectiveness of educational innovations created according to the 90/90 standard criteria. Results from the research found that:1) Teachers in the experimental group had an average score from the post-experiment test equal to 32.56 scores calculated as a percentage. 90.45 of the full score of 36 points, which follows the first 90 standard criteria, and 2) percent 97.92 of the teachers who were in the experimental group were able to take the test and pass all objective criteria. which is in line with the last 90 standard criteria. In addition, from comparing the average scores from the teachers' learning outcomes test before and after the experiment, it was found that the average score from the pre-test was equal to 22.13. The standard deviation is equal to 1.09 and the average score from the post-test is equal to 32.56 The standard deviation is equal to 1.82. When analyzed and compared using the Dependent t-test, it was found that the scores from the post-test were higher than the pre-test with statistical significance at the 0.05 level. The results of the data analysis are in Table 1.

Table 1. Mean of Teachers' Pre-test and Post-test Scores Using the Dependent t-test

Testing	Sample size	Mean	Standard Deviation	t
Pre-test	16	22.13	1.09	23.35*
Post-test	16	32.56	1.82	

* $p < 0.05$

From the test results of the research hypotheses mentioned above, shows that the "Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills" in the part that is the "Teacher Learning Development Project" is effective according to all the research hypotheses.

3.2.2 The Research Results of the Project for Teachers Applying the Learning Outcomes to Student Development

After the experimental research according to the project, teachers put the learning results into practice in the classroom or with students in step 4, then let the students in the experimental group self-assess the results of their achievements to determine the effectiveness of the educational innovations created. It was found that there were self-assessment results shown as the mean and standard deviation in both cases before and after the experiment and both the overall case and the classification of each aspect. Shown in Table 2, and the comparative analysis results using dependent t-test in Table 3.

Table 2. Mean and Standard Deviation from the Evaluation of Students' Accountability Skills Before and After the Experiment

Characteristics that indicate accountability Skills of students	Evaluation Results			
	Pre-test		Post-test	
	$\bar{\chi}$	S.D.	$\bar{\chi}$	S.D.
Responsibility for decision-making and self-making	**3.10**	**0.23**	**3.79**	**0.19**
• I speak the truth and I can be trusted.	3.25	0.55	3.52	0.51
• I am honest with myself.	3.13	0.63	4.26	0.57
• I keep my promise and do	3.23	0.63	3.46	0.50
• I understand my duties.	3.04	0.71	4.14	0.54
• I know myself well.	3.07	0.67	3.45	0.50
• I work with responsibility without being told by my supervisor.	3.06	0.63	3.41	0.50
• I finish my work without being told what to do.	2.96	0.62	4.20	0.55
• I show my responsibility for all of my decisions related to my work, and I never make any excuses.	3.03	0.61	3.43	0.51
• I prefer finding solutions for problems to blaming others.	3.10	0.54	4.23	0.57
Striving for self-development towards the goals	**3.13**	**0.26**	**3.62**	**0.15**
• I am committed to self-development.	3.06	0.57	3.38	0.49
• I set my working goals clearly and try to achieve their goals.	3.08	0.76	4.19	0.51
• I have the inspiration to do my best.	2.96	0.60	3.40	0.49
• I am eager to meet the new opportunities.	3.31	0.62	3.43	0.50
• I usually look for information from different resources before starting new projects.	2.98	0.70	3.38	0.49
• I never let any obstacles stop me from working to achieve success.	3.15	0.63	4.25	0.54
• I volunteer to work out of my responsibility to obtain knowledge and experience.	3.23	0.67	3.43	0.50
• I use creativity to enhance prosperity for myself and my career, and I am hardworking to be successful in working.	3.29	0.64	3.47	0.50
Supporting teamwork	**3.09**	**0.18**	**3.15**	**0.12**
• My friends can trust me and rely on me.	3.20	0.62	3.38	0.49
• I support all of those who have challenges.	3.15	0.70	3.41	0.50

Characteristics that indicate accountability Skills of students	Evaluation Results			
	Pre-test		Post-test	
	$\bar{\chi}$	S.D.	$\bar{\chi}$	S.D.
• I am not responsible for all of my resources alone.	3.05	0.57	3.38	0.49
• I motivate others to share their opinions.	3.24	0.61	3.35	0.48
• When someone makes mistakes, they should have the opportunity to revise.	3.13	0.61	4.18	0.52
• I help others to succeed and find out that they have more potential than they expected.	3.01	0.52	3.38	0.50
• I never judge the others.	3.11	0.51	4.20	0.51
• I offer help voluntarily to the members of my team to enhance the efficiency of work.	3.12	0.61	3.46	0.50
• I do not hesitate to ask for help from others when I work on a task in which I am not an expert.	2.98	0.53	3.41	0.50
• I share information and knowledge with others without being requested from them.	3.15	0.61	3.45	0.50
• I am pleased to compliment the others who have done a good job.	3.01	0.48	3.34	0.47
• I realize my responsibility for the all actions in my team.	3.05	0.76	3.47	0.51
• I have the skill of being responsible for unfortunate cases that possibly occur with my team.	3.00	0.57	3.33	0.47
• I talk about my team and those in other teams positively regarding management and organization management as a holistic image.	3.07	0.71	3.44	0.50
Accepting feedbacks	**3.11**	**0.22**	**3.76**	**0.19**
• I ask my colleagues to work together to evaluate my knowledge, skills, and ability to improve myself.	2.94	0.47	3.33	0.49
• I prefer raising the problem to talk in proper time with suggestions to solve the problem to complaining or waiting until the problem becomes a crisis.	3.13	0.52	4.24	0.56
• For me, mistakes mean the opportunity to learn.	3.15	0.62	3.43	0.50
• All of my decisions reflect positive sides to my reputation.	3.14	0.71	3.44	0.50
• I listen to the others, although they express opinions that I am not able to support.	3.12	0.65	4.16	0.53
• I evaluate my performance to know my strengths.	3.04	0.59	3.41	0.51
• I receive feedback from my colleagues and my supervisors to know what I need to improve.	3.14	0.60	4.03	0.47
• I am willing to accept comments and suggestions from others.	3.22	0.63	4.01	0.38
Punctuality and smart time management	**3.11**	**0.19**	**3.51**	**0.17**
• I limit the time based on my true ability to make my responsible duties successful.	3.17	0.65	4.04	0.41
• I encourage myself to move forward when something does not happen as I expect.	3.08	0.64	3.39	0.49
• I try to be successful as my established goals on time without reducing the quality or efficiency of work.	3.20	0.62	3.40	0.49
• I try to specify the possible way to the problem when there are obstacles in the working process.	3.08	0.65	3.36	0.49
• I plan for my work by using my expected results.	3.09	0.64	3.38	0.49
Total	**3.11**	**0.13**	**3.63**	**0.09**

According to Table 2, it is evident that the average scores from the assessment of students' accountability skills after the experiment are higher than before the experiment, that is, the average score after the experiment was 3.63 (standard deviation was 0.13). the average score before the experiment was 3.11 (standard deviation was 0.21). When analyzed and compared using the Dependent t-test, a statistically significant difference was found at the 0.05 level, as shown in Table 3.

Table 3. The Results of Data Analysis Comparing the Mean Scores of the Pre-test and Post-test of the Students Using the Dependent t-test

Assessment	Sample size	Mean	Standard Deviation	t
Pre-test	540	3.11	0.13	86.89*
Post-test	540	3.63	0.09	

* $p < 0.05$

4. Discussion

This research was conducted by using R & D methodology with a one-group pretest and post-test design in the school selected by purposive sampling. The participants of the research consisted of 16 teachers and 540 students. This study aimed to test the effectiveness of the online self-training program for empowering teachers' learning to enhance students' accountability skills which is expected to be an educational innovation from the study. The findings confirmed the effectiveness of the program as hypothesized in terms of both the results from the teacher development and the teachers' learning towards learner development projects. The teachers' post-test scores met the standard criteria of 90/90 and were statistically significantly higher than the pretest scores. Similarly, the student's scores showed statistically significant improvement from the pretest to the post-test. This is consistent with the results of other studies discussed in the topic of research hypotheses, namely the research of Hatsanmuang and Sanrattana (2023), Praneetpolkrung and Supakicco (2023), and Kromthamma and Supakicco (2023). This demonstrates that the concepts of "Knowledge and Action are Power" and "Developing for Teacher Learning to Develop Student Learning" employed in this research help develop effective educational innovation that can be implemented in other schools.

While conducting the research, the primary objective was to test the effectiveness of the developed program. Additionally, the researchers aimed to acquire additional explicit knowledge from teachers in the experimental group. Specifically, they sought to gather explicit knowledge concerning learning and reflections stemming from practical experiences in the field. They are as follows.

Firstly, the obstacles to enhancing students' accountability skills revolved around difficulties in organizing their learning activities. According to the literature review, there are 51 different approaches to organizing the activities. Some are straightforward and less time-consuming, while others are complicated, continuous, and time-consuming as they involve individuals' behavior, perceptions, and attitudes. This aligns with the perspective of Insperity Staff (n.d.) stating that accountability should focus on individual players. For example, for the poor performer, someone who often fails to follow through, the one who just isn't pulling their weight, we may struggle in our approach to productivity problems because we are too focused on how we can fix that single individual. In reality, optimal performance depends on many interconnected factors, including the entire team – employees and supervisors, their policies and processes, the technology they must use, and the metrics that are tracked.

Secondly, it is related to the challenges faced by teachers themselves. Despite possessing knowledge, some lack the practical experience and applied thinking necessary for accomplishment. This aligns with the perspective of Ellis and Williams (2016) who stated that some people just don't know how to step out and follow through and are hesitant to be accountable or hold others accountable. Perhaps they've not seen a good role model for accountability.

Lastly, it involves the fear of daring to think and do which is consistent with Ellis and Williams who state that There are a multitude of doubts and fears that can cause "normal" people to want to avoid accountability. Fear of failure - I may not be able to come through. Fear of making a mistake, fear of not measuring up, fear it will be too hard, or too risky. There is also fear of losing control.

From the study of problems arising from enhancing students' accountability skills, it was found that the teachers paid particular interest in Berry's (2017) suggestions on "6 Foolproof ways to overcome a lack of accountability: 1) develop a sense of shared purpose, 2) create specific, clearly defined goals and objectives for the result, 3) focus on

the positives which are about improvement, not punishment, 4) flexibility works, 5) give team members space, and 6) provide regular feedback.

5. Conclusion

In conclusion, although there were some obstacles and problems encountered in conducting the research, the results of the above research show that the Online Self-Training Program for Empowering Teachers' Learning to Enhance Students' Accountability Skills is effective. Both cases are developed for teacher learning. and in the case of teachers using learning results to develop students Therefore, it is considered a product or innovation that can be used for the benefit of teachers and students in schools who are the target population in disseminating research results widely.

6. Recommendations

In making use of it, in the view of the research team, it is necessary to encourage users to be aware of the importance of having Accountability Skills, especially for students who will be quality citizens of the nation in the future. The importance of Accountability Skills from the results of synthesizing the views of Biddinger (n.d.), Chadwick (2018), Chadwick (2019), Salem (n.d.), and Stickland (n.d.), found to be useful and important as follows: Biddinger (n.d.), Chadwick (2018), Chadwick (2019), Salem (n.d.), and Stickland (n.d.), including: 1) cultivating a well-rounded lifestyle, 2) demonstrating self-development, 3) building one's reputation, 4) receiving beneficial advice and guidance, 5) establishing positive relationships within the organization, 6) developing positive decision-making awareness, 7) committing to sustained success and adaptability to change, 8) fostering the ability to perceive problems transparently, 9) enhancing operational capabilities, 10) having creativity, 11) leading teams to achieve goals, 12) saving budgets and increasing working time, 13) working with unity, 14) being responsible, 15) exhibiting clarity in work, 16) possessing knowledge and abilities, 17) celebrating success in workplaces, 18) being trustworthy, 19) aiding in refining performance, 20) promoting leadership, 21) having self-confidence, 22) improving performance under inspection, 23) setting deadlines for significant tasks, 24) learning from others' successes and failures, 25) preventing minor issues before they become major problems, 26) keeping a promise, 27) having problem-solving skills, and 28) having opportunities to be promoted.

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Authors contributions

Thidawan Praipruek, as an Ed.D. student, is responsible for conducting research at every step from identifying the problem and topic, reviewing the literature, clarifying the issue, clearly defining terms and concepts, determining research methods, conducting research in the field, collecting data, data interpretation, and summary of research findings including writing research articles. Assistant Professor Dr, Phrakhrudhammapissamai, and Assistant Professor Dr, Akchatree Suksen, as the thesis advisors, performs duties to ensure quality research, such as acting as director, facilitator, adviser, guide, critic, freedom giver, supporter, friend, manager, and examiner both in doing research and writing research articles.

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