A Learning Model to Enhance Constructive Criticism Competence through Phenomenon-Based Learning for Undergraduate Students in Southern Thailand

Rudiyah Ha[1]*, Marut Patphol[2], Danulada Jamjuree [3]

*1,2,3 Curriculum Research and Development Program, Graduate School,
Srinakharinwirot University, Thailand*
1 rodhiyah.ha@gmail.com, 2 rutmarut@gmail.com, 3 jdanulada@gmail.com

Abstract

Although criticism is an essential skill in higher education, destructive criticism is difficult to accept. This research aims to develop a learning model to enhance constructive criticism competence through phenomenon-based learning in undergraduate students in southern Thailand. The research was conducted as a quasi-experimental design consisting of 3 stages: firstly, it investigated the theoretical framework of constructive criticism and conducted an in-depth interview of 12 experts to examine the components and behavioral indicators. Secondly, design the elements of the learning model and evaluate them by 7 experts. Lastly, a pilot testing was conducted with One group pretest-posttest design of 48 undergraduate students. The results showed that constructive criticism competence consists of 3 aspects, namely: Mindful listening (5 behaviors indicators), Intellectual humility (11 behaviors indicators), and Communication flexibility (5 behaviors indicators). The result from expert's validation found that the developed model is validated in term of the alignment ($\bar{x}$ = 4.49, S.D.= 0.55) and practicability ($\bar{x}$ = 4.89, S.D.= 0.30). The learning model named 3H Model consists of 3 steps, namely: 1) Heart, encouraging learners to use their empathy in understanding the situation sincerely 2) Head, analyzing through critical thinking and thoroughly examining the facts; and 3) Hands-on, referred to as communication part, which students should express the opinion professionally. Furthermore, based on the pilot testing result, the students' constructive criticism competence increased significantly (t = -21.73). These show that the 3H learning model is practical to be implemented and appropriate for improving students' constructive criticism competence..

Keywords— Learning Model, Constructive Criticism, Competence, Undergraduate Students

I. Introduction

Educating students to meet future needs is the primary responsibility of educational institutions in every age. The current learners are faced with a new challenge. Instead of memorizing textbooks and answering the test paper, they are expected to be equipped with multiple skills, think reasonably and creatively [1]-[3]. Those skills will help students capable of resolving critical issues and challenges in real life in the future.

One essential competence to promote a culture of peace in society is encouraging individuals to utilize "Constructive Criticism" [1],[4],[5]. This competency is essential for university students because it directly relates to how students deal with and adapt to real-world issues in communities [6]. In addition, they are expected to be good at logical thinking, critical thinking and communicate their

thought effectively, which could be practised and learned through classroom activities.

In the present "Constructive Criticism" is addressed more often because we live in a century where freedom of expression is much more accessible than in the past [7], [8]. A consensus in many studies has shown that the learning activities and the model design directly influence the competency of students [9],[10]. To develop constructive criticism, a study by Fong, Schallert [11] found that a model of interaction in exchange thought and opinion should be embedded with compassionate thoughts and respected. The message must be well-intentioned and offer guidance for improving; it helps the receiver accept the message. Indeed, when a recipient receives criticism, their emotions are often linked with unpleasant feelings and anxiety. Another study has suggested several

techniques to make the criticism process more relaxing. For instance, the Sandwich technique, in which negative feedback is hidden between two positive feedback to provide a balance and reduce discomfort throughout the intellectual dialogue [11], [12].

Moreover, some studies prefer to apply the Questioning method to stimulate curiosity and enhance students' critical thinking, which a study by Ali Sulaiman [3] found questioning skill significantly affected students' competence. Simultaneously, the communication scholars' study was interested in another angle; they modified empathetic and compassionate communication to reduce destructive criticism. Rosenberg [13] and Juncadella [14] have been presented the approach of Non-violent communication (NVC) to apply in criticism method, which included the details of the cognitive capacity, language expression, suitable manner, and ability to comprehend emotions. This concept is associated with constructive criticism.

In the context of Thailand, practically, there is a gap in teaching constructive criticism. The questions remain about what principles and methods should be implemented, and what skill sets are required. Based on the literature review, only a few studies are concerned with developing this competency. Despite the fact that the southern part has a long history of conflict issues[15]. Most previous research in the south of Thailand highlighted conflict management based on the social aspect [15]-[17].

Consequently, we attempt to develop the learning models to form this essential competency through the concept of Phenomenon-Based Learning[18]. which designed the learning activities that emphasize students to practice constructive criticism by integrating real issues in student's context. The fundamental principle in applying this concept is to make a learning circumstance serve as a platform for students to practice questioning, reasoning and communicating [3],[19]. In addition, the teacher must act as a role model, demonstrating and supporting students until the best performance is accomplished [3], [10], [18], [19].

Thus, this study will focus on developing the learning model through phenomenon-based learning in this specific cultural context to close a gap identified in the previous research by designing and validating a learning model for enhancing student competency.

II. RESEARCH OBJECTIVES

The objective of this research article was to develop a learning model to enhance the constructive criticism competence of undergraduate students in the south of Thailand.

III. SCOPE OF RESEARCH

This research article is designed as a quasi-experimental design. The participants in developing a learning model are undergraduate students from Thailand's southern. The content used in this study consists of 1) Instructional design, 2) Constructive criticism concept and technique, 3) competency-based learning, and 4) phenomenon-based learning

IV. RESEARCH METHODS

A. Research Design

This study employed a research and development design with pre-posttest design of one group. The research was conducted from July to October of 2021. The research population consisted of 4th year university students from Thailand's southern province.

B. Procedure

The study was divided into 3 stages: investigating and analyzing theoretical definitions, developing a learning model, and pilot-testing the learning model. The steps are shown in Fig. 1.
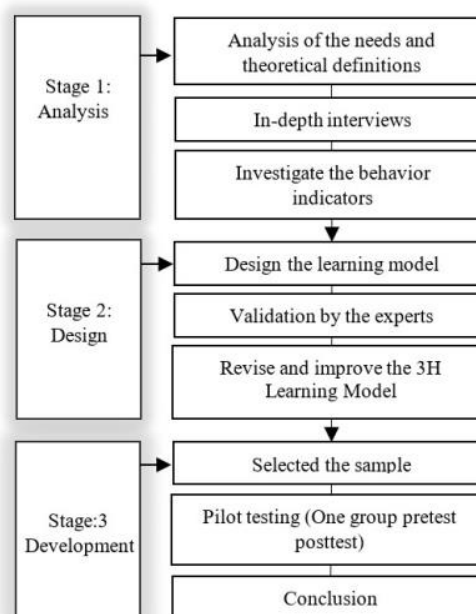

Fig 1. The research's process

Stage 1: Analysis

This stage includes examining documents and prior research on the concept and theory of constructive criticism. Then, determining the conceptual framework from the literature review and understanding the needs through collecting data. The

research begins with documentary study from relevant materials such as research articles, books, and other related publications to investigate the characteristics of students with constructive criticism competence. To obtain the behavioral indicator for developing constructive criticism competency, we collected data through an in-depth interview with 12 experts. The semi-structured interview form and the interview recording form were used as research instruments. The qualitative data from the experts were analyzed by content analysis. The content analysis was divided into four steps: 1) a detailed transcript of the interview; 2) highlighting significant statements that could be considered as behavioral indicators and removing content that is unrelated to the scope of study 3) grouping the highlighted and naming the competency; and 4) making a conclusion.

Stage 2: Design

This stage design a model by applying the ADDIE approach [20]. ADDIE is a guideline for identifying complicated circumstances, and it is suitable for creating instructional programs. This stage includes the analysis of learner and task, followed by the Model's design includes the principle, the learning process, the learning material, and the assessment process. The Model was then validated by 7 experts, who were purposely selected following practical criteria: an expert in teaching thinking, social psychology, and an expert instructional design. In addition, the experts must have at least five years of teaching experience in higher education. They were required to give some comments and suggestions for the alignment and practicality of the model.

The items in the model evaluation form will be graded on a 5-point Likert scale. By asking the degree of the alignment and feasibility of the 3H learning model with grades 1 to 5, start from the level of not agreeing to agree strongly. The results from all validators were analyzed, presented the mean and standard deviation. Then we revised the items according to the results and feedback from the experts before proceeding to the next stage.

Stage 3: Development

This stage aimed to determine how students' constructive criticism competence improved after implementing the developed model. At this point, the practice is known as pilot testing. The participants were selected with purposive random sampling. We implemented the 3H learning model with 48 undergraduate students who represented the students' context in the southern part of Thailand to

examine the model developed. The treatment for experimenting is displayed in Table 1.

Table 1. One group pretest-posttest design

Pretest	Treatment	Posttest
O_1	X	O_2

O_1: Pretest of constructive criticism competence

X : Treatment given to the students in the form of 3H (Heart, Head, Hand-on) learning model and the learning material developed.

O_2: Posttest of constructive criticism competence

Table 1. shows that the design of the pilot-testing used one group pretest-posttest design. The researcher provided a pre-test of constructive criticism competence before the 3H Model was implemented in the classroom. After the experiment was carried out, a valid and practical learning material was implemented for 12 weeks. The posttest of the constructive criticism competence was tested again after the end of the learning process. The data of pre-posttest scores were analyzed by pair t-test to compare gain scores [21]. The 5% level of significance is used to conduct the pretest-posttest analysis.

There are several instruments for measurement and assessment in this stage, including 1) a rubric scoring to measure students' constructive criticism competence, 2) the lesson plan, and 3) the 3H learning model manual. Experts will validate all the instruments before being used in the experiment. In addition, the students were measured pretest-posttest to assess how constructive criticism affects the intervention from the learning model.

V. RESULTS

Results from the documentary study combined with the interview data indicated that constructive criticism consists of 3 aspects. The labeling name is connected to the meaning of all behavior indicators as combined to describe each component. Those were "Mindful listening", "Intellectual humility", and "Communication flexibility", the behaviors indicator of each aspect as follow:

The following table shows that the constructive criticism aspect included 1) Mindful listening as a reasonable criticism, one should empathize with others' feelings by being a good listener without judging others' thoughts, and one should respect others' personal feelings. 2) *Intellectual humility* may be developed through thinking, critical thinking, systematic thinking, inquiring skill, and other essential characteristics required to make the

criticism process more appropriate, such as expressing politely and accepting feedback from others humbly. Moreover, 3) *Communication flexibility* was referred to as the interaction part in exchange the thought, which must be flexible yet professional, addressing the critical issue in an empathic manner, demonstrating a positive mentality, and being cautious of using language that leads to aggressive communication.

Table 2 The three aspects of constructive criticism competence

Constructive Criticism Competence
Mindful listening
1. Focus on understanding the person's feeling
2. Respond with the language of compassionate
3. Predict the emotional state of the person in the situation
4. Open-minded to listen to a different perspective
5. Pay attention to the body language in a polite manner.
Intellectual humility
1. Try to understand the reasons behind the person's actions
2. Questioning what curious politely
3. Convey critical information carefully
4. Ask questions that show a good intention
5. Able to distinguish between facts and opinions
6. Check the correctness of information before doing anything
7. Discuss the data of any issues by using logic.
8. Connect the related information in a systematic way
9. Try to suggest alternate solutions that are practical
10. Adapt the content appropriate to the recipient
11. Humbly receive feedback from others
Communication flexibility
1. Be genuine while giving personal perspectives to others
2. Use sympathetic phrases to encourage others
3. Show respect to other people's thought
4. Avoid communicating with negative word
5. Be careful of using language that implies judgement

Following that, we design the learning model based on the constructive criticism competence aspect and the behaviors indicator. Finally, we came out with the learning model to enhance constructive criticism competency named **"The 3H (Heart, Head, and Hand-on) Learning Model"**. It includes behaviors indicators of competence, principles, learning processes, and assessment processes as follows:

A. Principles of the Model

1) Establish a safe environment for students to express their agreement and disagreement. Encourage students to present new ideas and solutions for specific issues. Moreover, make a class agreement that everyone should respect others' ideas.

2) The teaching and learning process is based on phenomenon-based learning. It is all about encouraging students to think critically about issues that arise in society around them. In addition, positive feedback should be given to identify strengths and weaknesses that students should be acknowledged.

3) Students are encouraged to use their cognitive thinking in conjunction with their minds. During the learning process, the instructors will play an essential role in coaching students by questioning, sharing, and motivating them to be secure in expressing their opinions on a certain issue.

4) Apply the authentic assessment to measure and evaluate student performance to improve learners' competency.

B. Learning Processes of the 3H (Heart, Head, and Hand-on)

The learning process of 3H consists of three steps; Step1: Heart, Step 2: Head, and Step: 3 Hand-on, the detail of each step is shown in Figure 2.
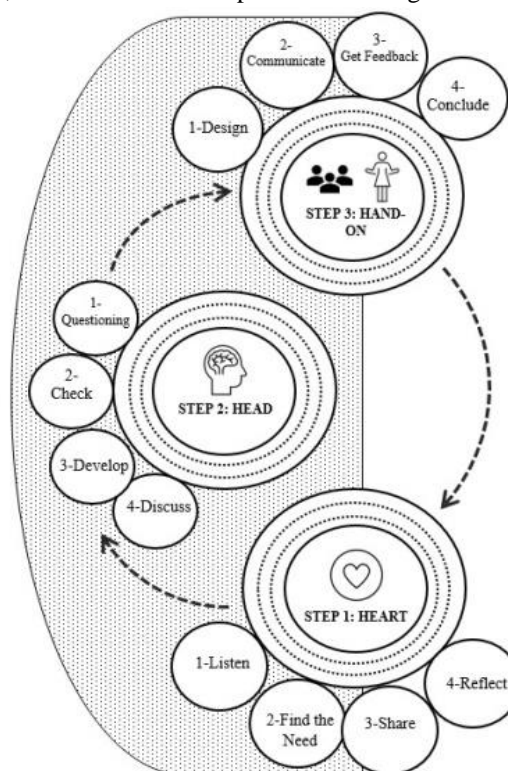
Fig 2. The process of 3H Learning Model to enhance Constructive Criticism Competence through Phenomenon-Based Learning.

Step 1: Think with the Heart (H$_1$); in this step, students will encourage to detect feelings with their hearts. Deeply pay attention to what others communicate, try to understand the needs of individuals involved in the scenario, and slow down the rush to conclusions. The following are some implementation approaches:

1.1 Listen; Students are encouraged to be aware of what is happening around them and observe the current situation. The instructor should make a circumstance where students can consider what is happening through all dimensions.

1.2 Find the needs; Students are urged to receive information intentionally and without judgment. The instructor must let students use their hearts to recognize the natural feeling of others.

1.3 Share with others; Provide a forum for each student to discuss what they have learned from the phenomena. At the same time, the instructors play an important role in asking powerful questions, allowing them to express the significance of what they learn from a specific situation.

1.4 Reflect; Let learners examine the activities they have completed to review what they have learned; this might be related to their prior knowledge and prior experience. At the same time, the instructors could give some constructive feedback for further development.

Step 2: Think with the Head (H_2): Students are encouraged to think analytically, critically, and double-check the data's facts. The instructor's role for this step is to motivate their curiosity by questioning. The approach at this stage can be applied as follows:

2.1 Questioning: Instructors ask questions to stimulate students' thoughts and prepare them to think logically. Moreover, try to ask powerful questions that retrieve students' prior knowledge and experience.

2.2 Check the accuracy of the information; the students evaluate the accuracy, distinguish between facts and opinions, and filter information from reliable sources. In this step, the instructor's role is to motivate students to think about and clarify the issues while researching relevant academic references to back up their opinions.

2.3 Develop rational thinking; instructors inspire learners to think critically in connecting the relevant components logically. Simultaneously, urge students to utilize reason to link their thinking systems, attempting to comprehend the viewpoints of those involved.

2.4 Discuss the issues learned; it's a dialogue in which learners share what they have learned. It might be a practice within a small or large group sharing session to open perspectives from other people.

Step 3: Hands-on (H_3): This stage focuses on communicating what the heart and brain have thought by communicating logically and respectfully. At the same time, the message will be adjusted to fit the appropriateness and provide a comfortable discussion atmosphere. Therefore, the approach at this stage can be applied as follows:

3.1 Design a critique content; the students will be encouraged to set the scope of content to be critiqued, evaluate the audience, and use techniques for constructive criticism.

3.2 Communicate the idea; let the students present and discuss their perspectives logically on a particular issue or situation.

3.3 Get feedback; allow students to obtain feedback from classmates. This part process must be constructive feedback which includes highlighting areas of concern

3.4 Conclude; finally, motivate the learners to construct their knowledge. The instructor should summarize the critical points for the students' benefit and encourage them to evaluate their criticism outcomes.

The process of 3H Model will be following a cycle, i.e., at the end of steps 1, 2, and 3, learners will be encouraged to analyze new situational through the following learning activities. The new situation will be relevant to real-life issues in society. The level of complexity will increase from individual issues to organizations, communities, societies, countries, and the world. The learning environment should be positive in which students feel free to ask questions and respect the learners' thoughts and feelings.

C. The assessment processes

In the 3H learning process, authentic assessments are used to measure and evaluate students' performance. The task given during the learning activity will include a formative assessment to feedback students' performance for further improvement. In addition, through the feedback process, the instructor should provide constructive feedback on performance to motivate learners, maximize their competence, and probably enhance their growth mindset. Positive reinforcement feedback could assist students in reflecting on their progress throughout the learning model. Meanwhile, destructive feedback may cause a defensive reaction and negative feeling, meaning that the learners will not accept the instructor's suggestions and fail to enhance their performance.

After the learning model was designed completely, the following stage is the validation procedure to evaluate the Model's suitability. The 3H learning model was validated by seven experts who will assess the overall alignment and practicability. The evaluation result is shown in Table 3.

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Table 3. Result of validity of 3H Learning Model

No.	Items	Alignment		Practicability		Category
		$\bar{x}$	S.D.	$\bar{x}$	S.D.	
1	The situation analysis	4.43	0.54	4.86	0.38	Valid
2	The fundamental concepts and theories	4.86	0.38	4.86	0.38	Vary Valid
3	The principle of the model	4.43	0.79	5.00	0.00	Valid
4	The behavior indicators	4.43	0.54	5.00	0.00	Valid
5	The objective of the model	4.71	0.49	4.86	0.38	Vary Valid
6	The learning process of 3H Model	4.43	0.54	4.71	0.76	Valid
7	The overall lesson plan	4.72	0.52	5.00	0.000	Vary Valid
8	The classroom activities	4.29	0.76	4.86	0.38	Valid
9	The learning materials and worksheet	4.29	0.49	5.00	0.000	Valid
10	The assessment of outcomes	4.29	0.49	4.71	0.76	Valid
	Average Validation Score	**4.49**	**0.55**	**4.89**	**0.30**	**Valid**

Table 3 above shows that the average validation result of seven validators was 4.49, with a valid category for all components of the 3H Learning Model. The highest average score in terms of the alignment was 4.86, which is about *2) The fundamental concepts and theories*. Moreover, in terms of practicability, there are 3 items with the same highest score. Those were *3) The principle of the Model, 4) The behavior indicators, 7) The overall lesson plan,* and *9) The learning materials and worksheet.* This means the 3H Model is aligned with all related components. According to the experts' perspective, it can be said that the developed model is validated and practical to be implemented. However, some experts suggested that some parts of learning materials should include some content on *Empathetic Thinking, Growth Mindset, and Flexible Thinking.* Moreover, attempt to bring the issues based on students' prior knowledge and experience to be discussed in class.

D. **Results of the Evaluation of the 3H** (**Heart, Head, and Hand**-**on**) **learning model**

The final stage is the trial process for the 3H learning model to determine its effectiveness. The study was conducted with 4th year undergraduate students during semester 1 year of study B.E.2564. The pilot-testing experiment results found that for the prerequisite testing, the sample data is normally distributed. However, after implementing the model within 12 weeks, the total score of the student's constructive criticism competency improved significantly. The results are presented in the table below:

Table 4. The results of the student's constructive criticism competence (N=48)

Test	Average Score	Standard Deviation	Mean Differences	t	Sig.
Pre	46.25	9.593	-38.54	-21.73*	0.00
Post	84.79	11.437			

Based on Table 4, the average score for the Pre-test is 46.25 and 84.79 for the Post-test, which was statistically significant at 95% confidence level (t = 21.73). It can be concluded that the student's constructive criticism competency increased after implementing the 3H learning model. This finding indicates that all the activity and learning processes throughout the instructional design succeeded in developing students' competence.

Based on the implementation results, we found that undergraduate students in this study are incredibly good at respecting other people's opinions and being good listeners. Nevertheless, they still lack curiosity and questioning skills. Thus, they require some support from their instructors to facilitate and build their self-confidence. The instructors and students need a learning model based on the context analysis to best suit students' capabilities.

V. **DISCUSSIONS**

The findings of the constructive criticism competence in Thai undergraduate students consist of 3 aspects: mindful listening, intellectual humility, and communication flexibility. The result reflects the character that is important for 21st-century learners. As criticism is a high-level thinking process composed of reasonable, thoughtful, and compassionate when individuals listen actively, they will understand the reason behind the phenomenon and be able to process their logical thinking before

criticizing. According to the study of Noone [22], persons who practice attentive listening could obtain information in ways that foster analytical thinking. Furthermore, this characteristic may lead to having intellectual humility in the second aspect. The findings also parallel with Piyasiriphon [23] found that compassionate critique is most suitable for intellectual discourse. Although individuals may hold differing opinions, the massage should be sent in a manner and language that respects others in society. However, in line with the study of Supena, Darmuki [24], the issue of undergraduate students' interpersonal skills is highly important and widely discussed on a global level.

The design of the learning process of 3H Model consisting of Heart, Head, and Hand-on, is associate with the concept of Non-violent communication which is a technique of conflict resolution developed by Rosenberg [13], which begin by observing and identifying the situation without criticizing or judging it; next, focus on making the other person feel comfortable; and remember that one cannot force people to feel, think, or act in a particular manner. Generally, the result shows the importance of integrating logical thinking with empathetic communication. On this point, in line with Riess [25], which states that empathy is important in social interaction and can learn by practice through instructional activity. In the past, empathy skills were always considered an inborn trait that could not be taught, but a new study shows a changeable and developable human skill.

The finding of model development after being implemented in a particular group of learners indicates that the principle of the Model and the learning processes throughout the instructional design succeeded in developing students' competence. The achievement of this quality was because the development of the learning model had undergone several stages to ensure it was suitable for the context. Moreover, the experts validated the learning model, so the opinions suggested by experts were revised before the pilot-testing procedure; this makes the learning design is most suited to the learners' learning styles. In addition, the strength of the 3H Model may be related to the instructor-learner relationship in giving feedback throughout the learning process. According to Amonoo, Longley [26], constructive feedback will help learners receive the message, reflect on their learning to gain insight into their strengths, weakness, and provide specific information for learners to develop their competence. Consequently, this model is a process model that is content-free and

enables it to be adjusted and integrated with other subject matters or courses [27]; the processes may be continuously practiced as a spiral for rising student's competence.

However, it is essential to keep in mind that the limited number of participants in the pilot-testing phase is a limitation of this study. This study was conducted on small populations based on the students from some universities in Thailand. Therefore, it needs to be validated in bigger students before the findings may be confidently generalized. Nevertheless, the findings of this study can be used to develop the design of teaching and learning that is culturally relevant.

VII. CONCLUSION

The findings of this study focus on the learning model to enhance constructive criticism competence in the context of Thai undergraduate students. The research found three aspects of constructive criticism competence: mindful listening, intellectual humility, and communication flexibility, where all the elements are related. The evaluation result for the 3H (Heart, Head, and Hand-on) learning model is validated. After being implemented in a particular group of learners, the finding indicates that students' constructive criticism competence increased significantly. It can be concluded that the components of the 3H Model and the learning processes throughout the instructional design succeeded in developing students' competence. The developed model is validated and practical to be put into practice with a larger group of students. The findings are helpful to apply in higher education because they highlight the need to integrate empathetic and communicative skills alongside cognitive domains. Throughout applying this model, students will be able to engage and participate in terms of thought toward a critical problem in society.

However, the suggestion for future research may need to examine students' empathetic competence toward living in divergent societies and may require developing an assessment instrument for determining individual competency to interact in conflicting societies. Moreover, to improve students' competency adequately, the instructor's position must be transformed and shifted to allow students to examine and reflect on themselves more throughout the process. It is important for achieving the goal of future learning.

VIII. ACKNOWLEDGEMENT

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