

# The Effectiveness of Interprofessional Education in Increasing Self-Confidence of Reproductive Health Peer Educators

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Cite this paper as: Wiwik Afridah, Prihartini Widiyanti, Nur Masruroh (2024) The Effectiveness of Interprofessional Education in Increasing Self-Confidence of Reproductive Health Peer Educators. *Frontiers in Health Informatics*, 13 (3), 7332-7339

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## Abstract

**Purpose:** Analyzing the Influence of the Interprofessional Education Reproductive Health (IPE-RH) Module on the Self-Confidence of Peer Educators (SCPE) in Reproductive Health. The first specific objective is to identify the implementation of the self-confidence peer educator (SCPE) module in reproductive health. Second; to compare the results of the implementation of the interprofessional education reproductive health (IPE-RH) module on the self-confidence of peer educators in reproductive health. **Design/Methodology/Approach:** This study uses a quasi-experimental research method with 1 control group and 1 intervention group. Each group consists of 14 students from the public health study program and the midwifery study program in Surabaya, according to the research criteria. Data processing uses the Mann-Whitney test. The results of the statistical test showed a  $p\text{-value} = 0.001 < 0.05$ , thus  $H_0$  is rejected, meaning there is an influence of the interprofessional education reproductive health (IPE-RH) module on the self-confidence of peer educators (SCPE) in reproductive health. **Research limitation/implications:** There is a significant difference between the intervention group and the control group after participating in learning with the IPE-RH module. **Practical Implication:** IPE is able to enhance the self-confidence of reproductive health peer educators, enabling health students to fulfill their role with competence and self-assurance, as part of efforts to improve peer-to-peer reproductive health rights fulfillment. **Social Implications:** This study can provide an understanding of the basic principles in enhancing the self-confidence of reproductive health peer educators. **Originality/value:** The paper may provide a formulation that the Interprofessional Education Reproductive Health (IPE-RH) module and Self Awareness (SA) can enhance the self-confidence of peer educators (SCPE).

**Keywords:** *interprofessional-education1, reproductive-health2, peer-educator3, self-confidence4, student5.*

## 1. Introduction

Interprofessional learning is defined as learning that arises from interactions among members (or students) of two or more professions. (Carney et al. 2019). IPE occurs when two or more professions learn about, from and with each other (Gilbert et al., 2010; Harrison-bernard et al., 2024). IPE experiences vary within and/or between institutions. However, case-based studies, high-precision simulations, and community engagement are typically used to integrate IPE. Specifically for this experience, researchers use the Interprofessional Education Reproductive Health (IPE-RH) module with 5 (five) sessions to guide IPE learning focused on reproductive health education. As can be seen in Table 1.

Interprofessional education focuses on students to have good perceptions, skills, attitudes, and abilities. So far, health students have been trained in their healthcare professions by members of the same profession (uni professional). Carrie Tran, Päivi Kaila and Helena Salminen explain that “when health students carry out their

duties, they feel the need for support and awareness of interprofessional education to collaborate between professions” (Tran et al., 2018). This aligns with previous research findings, where 94.6% of respondents indicated the need to collaborate with other professions. 97.0% of respondents stated the necessity of IPE to build self-confidence, while attitude measurement results found that health students must learn and practice directly at 98.8%, focusing on 4 (four) IPE factors (ethics, roles/responsibilities, interprofessional communication, and teamwork) (Fitriyah et al., 2021).

The module is generated from previous model, indicating factors that can enhance the self-confidence of reproductive health peer educators based on the Health Promotion Model (HPM), those are 1) Commitment to plan action, 2) Behavior-Specific Cognition and Affect (BSCA) factors including Perceived Benefit of Action, Perceived Barriers to Action, Perceived Self-Efficacy, Activity-Related Affect, Interpersonal Influence, Situational Influence, and 3) Self-Awareness. All of these factors are part of the module, specifically detailed in session 4, which focuses on Improving Healthy and Ethical Life Behaviors. The complete session details are explained in Table 1.

The learning activity has two objectives: as aspiring peer educators, students are asked to apply knowledge of reproductive health through case studies and then engage in interprofessional discussions focusing on the ability to clearly communicate roles and responsibilities; explaining the roles and responsibilities of other service providers and how teams collaborate to deliver services, as well as actively listening and encouraging ideas/opinions from other team members.

## 2. Materials and methods

### 2.1 Materials

The module is the result of discussions organized by researchers involving 9 (nine) experts. The IPE-RH module consists of 5 (five) sessions: session 1; getting start, session 2; enrichment reproductive health (discussing reproductive health), session 3; taking control (discussing IPE), session 4; improving healthy and ethical life behaviors (discussing the SCPE model (results of the first stage of research), and session 5; Expertise (closed with affirmation and reflection). All session details are explained in Table 1.

### 2.2 Data collection procedures

This study is a quantitative research using a quasi-experimental design, specifically a non-randomized control group pretest-posttest design. The sampling technique used was purposive sampling from students in the midwifery and public health program in the 4th year (after 5 semesters), with a total of 28 respondents divided into two groups. This study has an independent variable, which is self-confidence of peer educators. Students received a written informed consent form, and those who understood the purpose of the research and agreed to participate received the questionnaires. All the participants were informed that the survey was not mandatory and was not related to their grading. This study was approved by the Institutional Review Board of Universitas Airlangga Faculty of Dental Medicine Health Research Ethical Clearance Commission with number 208/HRECC.FODM/III/2023.

### 2.3 Data analysis

To determine the level of self-confidence, the "Key Skills" SICKS Likert scale was used (Bray et al., 2020). Data were analyzed using the Mann-Whitney test. This technique was chosen because the data were not normally distributed. Descriptive results of the mean and normality of the data for items, indicators, and the self-confidence peer educator (SCPE) variable can be seen in Table 2.

## 3. Results and discussion

### 3.1 Module implementation test

The results of the Wilcoxon signed-rank test on the self-confidence variable of peer educators are presented in Table 3 below:

**Table 3.** Description of the self-confidence test results for peer educators (SCPE) in the intervention and control

groups among students of public health and midwifery programs in Surabaya City in 2024 (n=14)

Variable	Intervention			Sig	Control			
	Pre-test Mean ±SD	Post-test Mean ±SD	Δ Mean ±SD		Pre-test Mean ±SD	Post-test Mean ±SD	Δ Mean ±SD	
confidence peer educator	65,36 ±3,302	82,50 ±6,346	17,14 ±2,203	0,001	62,86 ±1,843	53,29 ±12,724	-9,57 ±3,942	0,011

Based on the results of the Wilcoxon signed-rank test, the self-confidence of peer educators in the intervention group showed a p-value of 0.001, and the control group showed a p-value of 0.011, indicating that both the intervention and control groups had significant differences before and after the treatment.

The increase in self-confidence of reproductive health peer educators through interprofessional produced in this study can be identified through:

1. Collaboration

The results of measuring collaboration on self-confidence among peer educators show that being a peer educator involves teamwork that requires effective collaboration. By building collective confidence in a collaborative learning environment, the performance of a team can be enhanced (Kim et al., 2020). Gibson dan Vermeulen (2003) define team learning as a process of experimentation, reflective communication, and codification. These three elements are interdependent and difficult to replace. (Kim et al., 2020). Students are able to work collaboratively to answer questions on simulated case studies, such as the basics of reproductive health services, which were developed as pilot projects to reinforce the principles of reproductive health education while also providing students with IPE experience.

2. Communication

Almost all (85.7%) students fall into the category of very high communication, and a small portion (14.3%) are in the high category, after participating in learning with the IPE-RH module. Compared to before, where nearly half (35.7%) were in the medium category and the majority (64.3%) were in the high category. Good communication within the team leads to greater engagement and can strengthen confidence in the team's abilities (Kim et al., 2020).

3. Creativity and innovation

Almost all (85.7%) students have very high creativity and innovation after participating in learning with the IPE-RH module. This can support their high level of self-confidence because they feel capable of creating something unique and meaningful for others. The importance of synergy between individuals and groups for innovation and growth in a highly competitive field (Kim et al., 2020).

4. Self-direction

The majority (57.1%) of students have a very high level of self-direction after participating in learning with the IPE-RH module, compared to previously being in the medium category. Controlling the learning situation is one of the elements of self-directed learning, alongside the ability and willingness to engage in reflection, critical assessment, and acquiring knowledge (Loeng & Story, 2020).

5. Critical thinking

The research results show that students have critical thinking skills equally distributed between high and very high categories, at 50%, after participating in learning with the IPE-RH module. This is compared to previous results where 42.9% were in the medium category and 57.1% were in the high category. Peer educators who are able to think critically can deliver information clearly and convincingly, and respond to questions or criticism wisely.

6. Using technology for learning

The majority (64.3%) of students have very high skills in using learning technology after the

intervention with the IPE-RH module. The use of technology enhances students' interaction with peers, which positively influences interprofessional learning. (Liu et al., 2022). Through the utilization of technology, a peer educator can create interactive and engaging learning experiences.

### 3.2 Comparison test of intervention and control groups

The results of the mean rank comparison test between the intervention and control groups can be seen in Table 4 below:

**Table 4.** Results of the mean rank comparison test of the intervention and control groups (pre-post)

No	Item/ Variable	Group	PRE			POST		
			Mean rank	p	Conclusion	Mean rank	p	Conclusion
	Total_SCPE	Control	12,89	0,300	Not significant	7,61	0,000	significant
		Intervention	16,11			21,39		

Significant: at the 5% error tolerance level.

Source: Mann-Whitney test output."

Based on Table 4, it shows that the mean rank value with a confidence level of 95% (1 -  $\alpha$  5%) is higher in the intervention group compared to the control group. This means there is a difference in the average self-confidence of peer educators before and after participating in the IPE-RH module learning.

## 4. Conclusion

The IPE-RH module has proven effective in increasing the self-confidence of reproductive health peer educators (SCPE). The evidence is demonstrated by student reflections on their experiences during the implementation of the Self-confidence Peer Educator (SCPE) module in reproductive health through IPE, showing positive responses. These include gaining additional knowledge related to reproductive health and IPE, applying it to solve existing health issues, building relationships, and enhancing self-confidence. The factors that influence the increase in self-confidence of reproductive health peer educators are commitment to plan action (CPA) which is the most dominant factor in influencing self-confidence of peer educators (SCPE), followed by behavior-specific cognition and affect (BSCA) factors, and self-awareness (SA). Building self-confidence through interprofessional education is crucial for being open to learning and collaborating with individuals who have different perspectives and skills. Essentially, every person has their own identity, which naturally varies from one another. Therefore, students should cultivate an attitude of mutual understanding of identities. This awareness is continually fostered so that existing differences can become positive potentials. The lack of self-confidence of peer educators in their capacity to tackle difficult tasks ultimately affects the level of motivation and persistence.

## Acknowledgment

Appreciation and thanks are conveyed to the promoter and co-promoter, for their help and support in writing this study.

## Conflict of interest

There are no potential conflicts of interest relevant to this article.

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Table 1. Intervention Stages

<b>Intervention Stages</b>	<b>Session</b>	<b>Activity</b>	<b>Stages in IPE</b>
<b>Pre-test</b>	The pre-test measures self-confidence.	Filling out the Self-confidence Peer Educator (SCPE) questionnaire.	<i>Start and introduction</i>
<b>Learning</b>	1 <sup>st</sup> session: <i>Getting start</i>	<i>Introduction: Explaining the objectives and benefits of the program</i>	Identifying student readiness
	2 <sup>nd</sup> session: <i>Enrichment Reproductive Health</i>	Summarizing the concept of reproductive health education and its urgency	Studying the concept of reproductive health carefully
	3 <sup>rd</sup> session: <i>Taking control</i>	1. Planning for change: Developing awareness and concern (working with health interprofessional teams)	Taking initiative to contribute to health improvement.  Completing the IEPS and RIPLS surveys.
		2. <i>Making the most</i> IPE getting to know interprofessional education	
		3. <i>Becoming More Active</i>	
4 <sup>th</sup> session: <i>Improving healthy and ethical life behaviors</i>	4. Identifying perceptions and understanding of IPE	Learning peer educator self-confidence in improving health, and Self-talk to counter negative self-statements.	
	5. Providing an understanding of the factors that build self-confidence, those are: a) <i>Commitment to plan action</i> b) <i>Behavior specific cognition &amp; affect</i> c) <i>Self-awareness</i>		
5 <sup>th</sup> session: <i>Expertise</i>	6. Recognizing the importance of self-confidence through self-management	Taking independent efforts to improve health	
	7. Projecting the importance of change and learning techniques to increase peer educator self-confidence through: Affirmation & reflection		
<b>Simulation dan Evaluation</b>	Practicing the factors that build self-confidence	8. Applying self-confidence factors using IPE in a case study	Practicing building self-confidence through IPE

Intervention Stages	Session	Activity	Stages in IPE
	through IPE		
<i>Post-Test</i>	<i>Post-test:</i>	Filling out the Self-Confidence Peer Educator (SCPE) questionnaire	<i>Finish</i>

Table 2. Mean values, normality test of item data, and total variables of Self-Confidence Peer Educator (SCPE)

Item/variable	Group	Mean	Normality Test (p)	Information
SCPE01	Control	4.18	.000	Not Normally
	Intervention	4.61	.000	Not Normally
SCPE02	Control	4.04	.000	Not Normally
	Intervention	4.64	.000	Not Normally
SCPE03	Control	4.11	.000	Not Normally
	Intervention	4.54	.000	Not Normally
<i>Collaboration</i>	Control	12.32	.000	Not Normally
	Intervention	13.79	.000	Not Normally
SCPE04	Control	4.46	.000	Not Normally
	Intervention	4.71	.000	Not Normally
SCPE05	Control	4.36	.000	Not Normally
	Intervention	4.68	.000	Not Normally
SCPE06	Control	4.36	.000	Not Normally
	Intervention	4.71	.000	Not Normally
<i>Communication</i>	Control	13.18	.000	Not Normally
	Intervention	14.11	.000	Not Normally
SCPE07	Control	4.11	.000	Not Normally
	Intervention	4.64	.000	Not Normally
SCPE08	Control	4.14	.000	Not Normally
	Intervention	4.57	.000	Not Normally
SCPE09	Control	4.32	.000	Not Normally
	Intervention	4.68	.000	Not Normally
<i>Creativity and Innovation</i>	Control	12.57	.000	Not Normally
	Intervention	13.89	.000	Not Normally
SCPE10	Control	4.18	.000	Not Normally
	Intervention	4.54	.000	Not Normally
SCPE11	Control	3.79	.000	Not Normally
	Intervention	4.04	.000	Not Normally
SCPE12	Control	3.86	.000	Not Normally
	Intervention	4.21	.000	Not Normally
<i>Self-direction</i>	Control	11.82	.000	Not Normally
	Intervention	12.79	.005	Not Normally
SCPE13	Control	4.07	.000	Not Normally
	Intervention	4.36	.000	Not Normally
SCPE14	Control	4.04	.000	Not Normally
	Intervention	4.39	.000	Not Normally

Item/variable	Group	Mean	Normality Test ( <i>p</i> )	Information
SCPE15	Control	4.32	.000	Not Normally
	Intervention	4.50	.000	Not Normally
<i>Critical Thinking</i>	Control	12.43	.013	Not Normally
	Intervention	13.25	.001	Not Normally
SCPE16	Control	4.32	.000	Not Normally
	Intervention	4.64	.000	Not Normally
SCPE17	Control	4.18	.000	Not Normally
	Intervention	4.36	.000	Not Normally
SCPE18	Control	4.36	.000	Not Normally
	Intervention	4.68	.000	Not Normally
<i>Using Technology for Learning</i>	Control	12.86	.000	Not Normally
	Intervention	13.68	.000	Not Normally
Total_SCPE	Control	75.18	.034	Not Normally
	Intervention	81.50	.011	Not Normally