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How does portfolio assess interprofessional learning among medical and midwifery students?

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ABSTRACT

Top-quality maternal health care requires midwifery and medical students to work together in multidisciplinary interprofessional education (IPE). Achieving IPE learning competencies requires interprofessional assessment methods; one such is portfolio. Study on portfolio as interprofessional assessment is limited. To evaluate interprofessional core competencies illustrated by IPE portfolios. A qualitative design using content analysis to evaluate portfolios of midwifery and medical students attending three weeks' interprofessional learning in an Indonesian university. Sixty portfolios were analyzed for four IPE core competencies. Fifteen open-ended questionnaires were collected to confirm the data and further explore issues. Four interprofessional core competencies were illustrated in portfolios. While only three portfolios contained objective evidence of learning, over two-thirds of students could plan appropriate, concrete work based on interprofessional learning. The results indicate that the portfolio assesses interprofessional learning with student reflections that illustrate the achievement of four IPE core competencies. The validity of this competency achievement is also supported and confirmed by the evidence of learning and subsequent learning plans. Furthermore, portfolios also can encourage the students to prepare a concrete and appropriate work plan or study plan for students' interprofessional learning.

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1. INTRODUCTION

High-quality midwifery care has an important and growing role in improving the health status of mothers and children, especially in the primary health care setting. [1] In this setting, midwives are expected to effectively work in interdisciplinary teams integrated across health centers and community settings. [2] Therefore, one important competency is to be able to work collaboratively with other health professionals, in order to improve health care for women and families. [3] To support that goal through midwifery education, midwifery students are increasingly enrolled in an innovative form of Interprofessional Education (IPE). [4] Presently, however, there are relatively few studies on techniques for the assessment of interprofessional learning between midwifery students and students in other health professions.

Learning assessment must not only test the achievement of learning objectives but also support the learning process and provide feedback to students related to their progress in achieving the objectives. This applies also in assessing interprofessional competences. Several studies have reported on the learning assessment systems. [5-8] one such approach is the use of reflective portfolios. [9] This approach has been widely used in various levels and contexts of education, including midwifery education [10-13] and

education for other health professions. [14] However, reports on portfolio use in interprofessional learning, between midwifery and other health profession students, are limited [9, 15].

To assess the effectiveness of portfolios for testing IPE learning objectives, evaluation and learning are needed [16, 17] to ensure that the portfolio is reliable and accountable. [18] IPE reflective portfolio evaluations were conducted by Domac et al., [9] who concluded that student reflections in the portfolio accurately describe their IPE achievement and competence development. In fact, the portfolios as generally conceived consist not only of reflection but also show measurable evidence of learning and work plans to be able to describe the achievement of competence. [10, 11, 14, 19, 20] Therefore, this study analyzed entire parts of students' portfolio to assess the portfolios' ability to promote midwifery students' IPE learning. In addition, in contrast with other studies, this study evaluated the achievement of IPE competencies based on four core competencies provided by IPEC [4].

2. RESEARCH METHOD

This study was qualitative research that involved calculating the frequency of indications of dominance or power over a particular issue using content analysis techniques [21, 22]. The material was 60 portfolios of medical students and midwifery students who took the interprofessional learning module in the Faculty of Medicine, Universitas Sebelas Maret, Surakarta, Indonesia, in January-February 2016. This interprofessional learning was taken by 5 undergraduate medical students and 10 undergraduate midwifery students in the context of maternal and child health services. The interprofessional learning portfolios consisted of four sections: one is corresponding to each of weeks 1 to 3 and one containing final reflections. Next, further exploration of all 15 students' situation was done to confirm the results of the portfolio analysis. Exploration used a questionnaire containing open-ended questions.

This study used coding guidelines developed by the author based on the four core competencies of IPE set by IPEC [4] and four portfolio assessment criteria: the level of reflection, the quality of learning evidence, the use of relevant references, and the quality of the work plan.

The data were collected by gathering and copying students' portfolios, using a total sampling method because the overall amount of data appeared appropriate for the purpose of the study. The content analysis technique was used. Coding was performed by three medical education experts. Initially, the first coder analyzed four portfolios of medical students and eight portfolios of midwifery students, and then drew up a list of codes and a coding scheme. These were shared with two other coders, who used them to analyze the same document analyzed by the first coder, and then the agreement was calculated among the results (kappa>0.78). Furthermore, the coders analyzed the remaining portfolio documents in succession to form codes, groups, categories, and derive meanings.

Ethical clearance was issued by the ethics committee of the Moewardi Hospital (No. 56/I/HREC/2016). The students had been informed that participation in this study was voluntary and would not affect their final course marks.

3. RESULTS AND ANALYSIS

A total of 60 portfolios were analyzed by the three coders, and 15 student questionnaires were collected and analyzed. The characteristics of respondents are shown in Table 1.

Table 1. Characteristics of students

Profession	Gender		Total	Age range (years)
	Male	Female		
Medicine	2	3	5	23–24
Midwifery	-	10	10	20–21
Total	2	13	15	Mean 21.5

3.1. Portfolio analysis

Table 2 shows all the core competencies of IPE-Interprofessional Ethics, Roles and Responsibilities, Interprofessional Communication, and Teams and Teamwork-as portrayed in the students' reflections in their portfolios.

Table 2. Four IPE core competencies illustrated in the portfolio

IPE Core Competencies	Week 1	Week 2	Week 3	Final Reflection	Total	Percentage
Values and Ethics (VE)	25	31	30	36	122	23
Roles and Responsibilities (RR)	30	34	21	20	105	20
Interprofessional Communication (CC)	30	50	43	24	147	27
Teams and Teamwork (TT)	33	49	44	31	157	30
	Total				531	

Figure 1 shows the frequency of the emergence of interprofessional core competencies in student reflections in the IPE portfolios. All codes for components of interprofessional core competencies of Values and Ethics and of Interprofessional Communications were reflected by the students. However, not all code competencies of core competencies of Roles and Responsibilities, and Team and Teamwork appeared on student reflection.

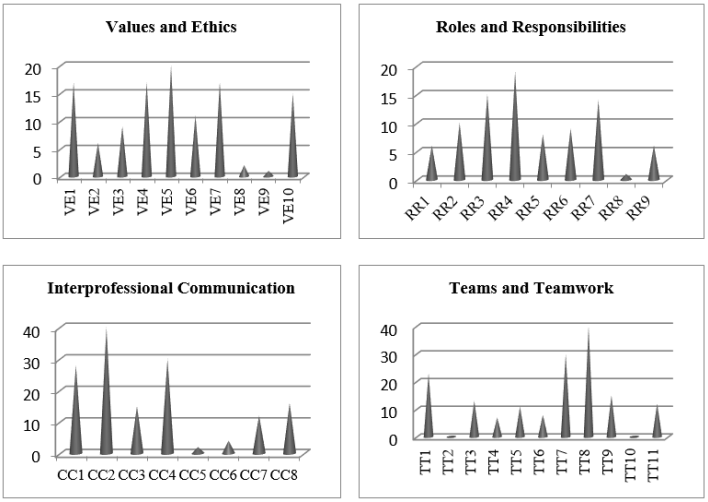

Figure 1. Frequency of appearance of interprofessional core competencies in portfolio reflection

The quotations from student reflections on the most dominant code from 'Values and Ethics (VE)' competency are explained in Table 3.

Table 3. Analysis of reflections on interprofessional values and ethics (VE) competency components

Code	Component	Quotations from Student Reflections
VE5	Working closely with the people who receive treatment, care givers, and others who contribute to or support disease prevention and health care	"At this stage, we meet stakeholders from the KL village…we (also) meet with Mrs. RW and cadres to meet with the head of the neighborhood to ask for permission to be able to record the citizens, identify the problems related to the health of mothers and children." (M2) "What happens during the week-II is actually more leading to the evaluation of coordination between the students (junior doctors and midwives) - IPE Team - supervisor of midwifery-health center" (M14)
VE7	Demonstrate ethical standards and high-quality services related to a person's contribution to team-based care	"…we ask Mrs. A for approval [so] we can come again tomorrow with the supervisor. Mrs. A finally is willing that we come again…." (M2) "Because to dig up information on patients requires good ethics and honesty especially at this stage with the visit to our clients' house we should bring ethical manners more to explore patient information" (M12) "Health workers must have a good attitude especially polite in speech, action and determine rules and regulations of a particular area" (M6)

Further exploration of students' opinions and learning through the questionnaire revealed why competence components VE9 and VE8 emerged only very infrequently in analysis of the portfolio reflections. Students stated that component VE8, "Acts with honesty and integrity in relationships with

patients, families, and other team members," needed not be written in the portfolio but was nevertheless very important to implement.

> *"I think the cause is the component is not very prominent in the sense not considered too necessary to be written in the portfolio. But in fact in the practice during the learning IPE is still always used". (M15)*

> *"Because honesty is done in accordance with each person's personality and can be seen in the writing of the respective portfolio so I think the points honesty does not need to be written. As for integrity, all is going according to plan that exists". (M11)*

One of the students also stated a reason why component VE9, "Managing an ethical dilemma on interprofessional care centered on the situation of the patient/population," did not show up: because they felt there was no special ethical dilemma that occurred during the learning.

> *"Because the students who participate in the IPE program are already in the final semester or clinical rotations, I think they have been able to manage ethical dilemmas so that they the ethical things will not be highlighted by many students in the portfolio. Then also it seems there was no special ethical problem during IPE yesterday". (M10)*

The quotations from student reflections on the most dominant code from 'Roles and Responsibilities (RR)' competency are explained in Table 4.

Table 4. Analysis of reflections on roles and responsibilities (RR) competency components

Code	Component	Quotations from Student Reflections
RR4	Clarify the roles and responsibilities of other service providers and how teams work together to provide care.	"I as a midwife help deliver the role, functions and duties of the midwife in the case…distribution of work according to the authority of each profession." (M4) "…I am demanded to know the role of midwives and knowing it can help me understand the boundaries between the roles among the professions in working together." (M9)
RR3	Related to diverse health professionals that complement one's personal professional skills, as well as the associated resources, to develop strategies to meet the needs of specific patient care.	"…what problem that the solution is according to our respective competences." (M10) "We visit our patients in the KL village. Directly going to their houses to perform anamnesis with supervisor community and health centers, and our lecturer Mrs. R. The health center is very supportive of our project…" (M12)"It's not about my job, or it's your job, but together to solve the problems (patients)" (M14)

Component RR8 did not arise because the subject of this study was students and they had not yet become real health professionals. Therefore, competency related to professional development or continuing interprofessional learning was not applicable.

Table 5 shows the quotations from student reflections on the most dominant code from 'Interprofessional Communication (CC)' competency.

Table 5. Analysis of reflections on interprofessional communication (CC) competency components

Code	Component	Quotations from Student Reflections
CC2	Measuring and communicating the information with the patient, family, and members of the health team in an intelligible form, and avoiding specific profession terminology whenever possible.	"…at the end of the session we ask Mrs. W and she has already understood our explanation" (M6) "Efforts on education provision can be absorbed and the patient understands what to say" (M2) "…provide answers in an easily understandable by patient" (M7)
CC4	Actively listening, and encouraging ideas and opinions from other team members.	"If there is trouble between tasks that are divided into groups, we tell each other and give feedback that can help other group members" (M13)

Further exploration through the questionnaire revealed why competency components CC5 and CC6 were very rare in the analysis of portfolio reflections. On CC5, students did not feel free to provide feedback to a friend related to his/her performance in the team for interpersonal or sociocultural reasons.

"I think it does not show up because I do not have a heart if I want to express ugly feedback on the other team members associated with the performance, so I do not do it in practical session either". (M2)

As for CC6, students stated that in communication they were accustomed to always using respectful language, so it did not need to be written in the portfolio. In addition, students also stated that there were no conflicts that occurred during learning.

"I think it is only slowly emerging because I feel it is appropriate to use respectful language so it does not need to reflect. In practice it is always like that, there is no conflict". (M2)

Table 6 describes the quotations from student reflections on the most dominant code from 'Teams and Teamwork (TT)' competency.

Table 6. Analysis of reflections on teams and teamwork (TT) competency components

Code	Component	Quotations from Student Reflections
TT8	Reflecting on the performance of individuals and teams for individuals and teams, and performance improvements	"Discussions in the IPE, the interaction has been running well but I'm still lacking liveliness" (M4) "…if facing a case like this in a different team in order to conduct interprofessional collaboration better" (M10) "But there is still a lack of communication between me and the team with Mrs. A, the pregnant woman we visit" (M3)
TT7	Sharing responsibility with other professionals, patients, and communications to provide health care and disease prevention.	"I and the team always divide tasks and roles in interventions to patients and their families" (M3) "It is also evident in the division of roles and responsibilities of each member. Sukma is responsible for…my duty is…while Brian compiles…" (M9) "I am given the task of initial anamnesis about the health of the patient and family [while] midwives perform anamnesis concerning midwifery care" (M14)

Further exploration through a questionnaire revealed the reasons why components TT2 and TT10 did not appear in the analysis of the portfolio reflections. Regarding TT2, the students stated that the interprofessional learning process needed clear information and real-life examples related to ethical consensus in service.

"Students still need explanations and concrete examples in this regard (consensus ethics)". (M10)

"The consensus in management [is] based on a study that we know, though [it does] not directly apply in all aspects. We do not understand in this point and to how to write is not given". (M14)

Related to competency TT10, the students stated that integrating knowledge and experience was essential to overcome problems, but did not feel it needed to be written in the portfolio.

"In my opinion, it did not cross in the student's mind to write in the portfolio because it is not required and what is done is handling his problems with service delivery and more specifically to the patient". (M11)

The content analysis of the student reflections showed that the portfolios were able to support IPE learning between midwifery and medical students by describing their achievement in the four interprofessional core competencies. The students reflected on Teams and Teamwork, Role and Responsibilities, Interprofessional Communication, and Values and Ethics in their portfolios. The analysis of students' reflections on the portfolios followed the guidelines of Domac et al. [9] and Margalit et al., [23] and

described how the students consolidated their interprofessional learning process in the courses and met the four interprofessional core competencies.

The students stated that they did not feel it important to reflect on TT2 competency (ethical consensus in patient care) because they instead need clear information and real-life examples of it. Gustafson and Bennet [24] stated that the ability to reflect is affected by the students' prior knowledge toward the material to be reflected on. The prior knowledge includes experience of being exposed to the relevant learning environment and observation of a role model related to the given content. [25-27] However, this interprofessional learning was the first IPE undertaken by students; in addition, during the learning process, an overview of [28] the ethical consensus in the health service was not given. These results provide evidence of the need for the institution to organize a learning method that discusses the ethical consensus on the learning process of students.

On the CC5 competency, students did not feel free to provide feedback to their friends because harmonious relations and maintaining their relationship were more important. In accordance with this, Suhoyo et al. [28] explain that in countries with a collectivist culture such as Indonesia, students feel more secure when they do not make a mistake, since they perceive mistakes as disrupting a good group atmosphere; thus, participants refrained from giving any negative feedback.

In the VE9 competency, no ethical dilemma was shown in students' portfolios, and students indicated that there were no ethical dilemmas found in their learning. The absence of events that could be a trigger of reflection in this regard affected how students wrote their reflections. Lowe et al. [25] stated that the interaction of students experiencing various problems related to clients/patients, friends, and colleagues could stimulate reflection. Such problems pushed students' thought process to consider other aspects such as reasoning and decision-making, which were both included in the process of reflection.

Students did not reflect on the RR8 competency since they are still in the education phases, so that it is not yet relevant for them to reflect on continuing professional and interprofessional development.

In addition to the absent components mentioned above, several components (VE8, CC6, and TT10) were only illustrated in limited amounts in students' reflection. Further exploration indicated that the students did not feel they were important. The order or types of questions for reflection affect the students' reflection process. [24, 27, 29].These prompts act to stimulate students to reflect and can determine the content and depth of their reflection. Therefore, the facultys should determine the reflection questions precisely and specifically so that students can perform specific reflections. [29]

3.2. Analysis of portfolio learning evidence

Each student had to enclose proof of learning in the portfolio in the first, second and third week. Evidence of learning was analyzed by determining compliance with reflections on every week. Table 7 reveals the number of pieces appropriate learning evidence in reflections each week.

Table 7. The suitability of learning evidence

	Appropriate	Not appropriate
Week I	6	9
Week II	8	7
Week III	11	4
Total	25	20

Next, an analysis was done of the quality of learning evidence in 25 students who had a suitable portfolio in terms of evidence of learning based on reflection. The quality of learning evidence was analyzed by modifying the criteria developed by Rees and Sheard [30]. Table 8 shows that there were only three students who had a portfolio of learning evidence that was authentic and objective and described student learning effort.

Table 8. Quality of learning evidence

Score	Description	Number of Portfolios
1	Proof of individual effort (+); objective (-); authentic (-)	9
2	Proof of individual effort (+); objective (+); authentic (-)	13
3	Proof of individual effort (+); objective (+); authentic (+)	3

In this study, there was evidence of learning through reflection, increasingly from the first week to the final reflections. This might be due to the role of the mentor in evaluating the suitability of the evidence.

[29, 31-33] A mentor or supervisor from the faculty evaluated the student portfolios on a weekly basis and then, during the mentoring, discussed with students issues related to the interprofessional learning process and student portfolios. [34] At the same time, the faculty supervisor gave feedback to the students.

However, on further analysis, it was found that only a small percentage of students were able to provide authentic evidence of learning that also described authentic individual learning efforts and objective evidence from performance-based assessment. Gathering authentic and objective evidence, such as recordings of conversations in teams, or team interaction videos in (simulated) patient care contexts, or interprofessional assessment rubric, is difficult. In addition, the small number of students providing evidence they had met student learning objectives might be due to lack of explanation to students and faculty tutors that an Interprofessional Collaborative Assessment Rubric (ICAR) sheet [35] and a tutor's feedback sheet were highly recommended to attach as evidence of learning portfolios. Challis [36] explained that students could choose the evidence of learning that would be attached to the portfolio, but the source and objectives of learning evidence attached had to be clearly explained by the faculty.

3.3. Analysis of work plans

Each student wrote a work plan based on their ortfolio reflection by the end of the first, second, and third week, and then the final reflections. The work plan was analyzed by determining compliance with the reflections and looking for concrete evidence or absence of evidence of the work plan. Table 9 describes the number of appropriate and concrete work plans in the portfolios until the first week-end reflections. The results show that at least 10 out of a total of 15 students were able to prepare a work plan that was appropriate and concrete.

Table 9. Total suitable and concrete work plans

	Portfolios that have suitable and concrete work plans
Week 1	14
Week 2	11
Week 3	10
Final Reflection	10
Total	45

The work plan included a learning phase based on experience. Kolb, in Challis, [36] stated that experience reflected on can be generalized to apply to new learning experiences. In this study, the results showed that appropriate concrete work plans went slightly downhill from the first week of the portfolio until the final reflection, remaining steady in weeks II and III. However, at least two-thirds of the students were still able to plan appropriate and concrete work; and almost all students were able to plan appropriate and concrete work in the portfolio in week I. This finding might be because the student task for the second week of interprofessional learning was relatively easy for students, namely to identify problems and needs. This was consistent with Mitchell [10] and Murphy et al. [13] who explained that clear tasks or instructions affect the success of the portfolio.

In the second and third weeks, student work plans were consistently appropriate and concrete. This might be caused by the IPE activities in those weeks, which might have overlapped. In weeks II and III, the students' task was to prioritize issues and develop proposals for health interventions with patients and families. Implementation in the field would vary greatly depending on the nature of the case or health problem, the progression of the counseling process under supervising health centers or institutions, and the willingness of patients and families to be intervened. These aspects led to a time limit on each task that the student could not easily determine. Final reflection on the portfolio required the students to reflect on the whole related interprofessional and were linked to when the student had become a health professional. This required a clear picture of the professions of doctors and midwives and their roles in health, which might still be difficult for students to conceptualize because they have never experienced it directly. The ability to reflect was influenced by students' prior knowledge of the content being reflected [25, 37].

4. CONCLUSION

The results indicate that the portfolio is able to assess the learning of midwifery and medical students in the context of community-based maternal and children's health care. The portfolio is also able to encourage students to prepare a concrete, appropriate work plan or study plan for their interprofessional

learning. However, in this study, the use of the portfolio was unable to encourage the students to locate authentic and objective learning evidence.

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REFERENCES

[1] S. Way, "Consistent, quality midwifery care: How midwifery education and the role of the midwife teacher are important contributions to the lancet series," *Midwifery*, 2016.
[2] M. J. Renfrew et al., "Midwifery and quality care: Findings from a new evidence-informed framework for maternal and newborn care," Lancet, vol. 384(9948), pp. 1129-1145, 2014.
[3] International Confederation of Midwives, "International confederation of midwives essential competencies for basic midwifery practice," 2010.
[4] Interprofessional Education Collaborative Expert Panel, "Core competencies for interprofessional collaborative practice: Report of an expert panel," Washington DC, 2011.
[5] R. McNair, N. Stone, J. Sims, and C. Curtis, "Australian evidence for interprofessional education contributing to effective teamwork preparation and interest in rural practice," *J. Interprof. Care*, vol. 19(6), pp. 579-594, 2005.
[6] C. O'Halloran, S. Hean, D. Humphris, and J. Macleod-Clark, "Developing common learning: The new generation project undergraduate curriculum model," *J. Interprof. Care*, vol. 20(1), pp. 12-28, 2006.
[7] E. Bate, J. Hommes, R. Duvivier, and D. C. M. Taylor, "Problem-based learning (PBL): Getting the most out of your students - their roles and responsibilities: AMEE Guide No. 84," *Med. Teach*., vol. 36(1), pp. 1-12, 2014.
[8] P. Solomon et al., "Establishing face and content validity of the McMaster-Ottawa team observed structured clinical encounter (TOSCE)," *J. Interprof. Care*, vol. 25(4), pp. 302-304, 2011.
[9] S. Domac, L. Anderson, M. O'Reilly, and R. Smith, "Assessing interprofessional competence using a prospective reflective portfolio.," 2015.
[10] M. Mitchell, "The views of students and teachers on the use of portfolios as a learning and assessment tool in midwifery education," *Nurse Educ. Today*, vol. 14(1), pp. 38-43, 1994.
[11] A. Howarth, "The portfolio as an assessment tool in midwifery education," *Br. J. Midwifery*, vol. 7(5), pp. 327-329, 1999.
[12] J. Pincombe, L. McKellar, M. Weise, E. Grinter, and G. Beresford, "ePortfolio in midwifery practice: The way of the future," *Women and Birth*, vol. 23(3), pp. 94-102, 2010.
[13] M. M. Murphy, M. Hughes, and C. O. Sullivan, "Improving student learning on a midwifery education programme by using a benchmark course portfolio as a means of reflection and peer review," *Nurse Educ*. Today, vol. 33(8), pp. 785-790, 2013.
[14] J. Van Tartwijk and E. W. Driessen, "Portfolios for assessment and learning: AMEE guide no. 45," *Med. Teach*., vol. 31(45), pp. 790-801, 2009.
[15] S. Domac, E. S. Anderson, and R. Smith, "Learning to be interprofessional through the use of reflective portfolios?," *Soc. Work Educ*., vol. 35(5), pp. 530-546, 2016.
[16] W. Harlen, "Criteria for evaluating systems for student assessment," *Stud. Educ. Eval*., vol. 33(1), pp. 15-28, 2007.
[17] M. N. Chandratilake, M. H. Davis, and G. Ponnamperuma, "Evaluating and designing assessments for medical education: The utility formula," *Internet J. Med. Educ*., vol. 1(1), pp. 1-8, 2010.
[18] C. Roberts, N. Shadbolt, T. Clark, and P. Simpson, "The reliability and validity of a portfolio designed as a programmatic assessment of performance in an integrated clinical placement," *BMC Med. Educ*., vol. 14(1), pp. 197, 2014.
[19] M. Friedman Ben David, M. H. Davis, R. M. Harden, P. W. Howie, J. Ker, and M. J. Pippard, "AMEE medical education guide no. 24: Portfolios as a method of student assessment.," *Med. Teach*., vol. 23(6), pp. 535-551, 2001.
[20] T. Haldane, "Portfolios' as a method of assessment in medical education.," *Gastroenterol. Hepatol*. from bed to bench, vol. 7(2), pp. 89-93, 2014.
[21] Y. M. Herrera and B. F. Braumoeller, "Symposium: Discourse and content analysis," *Qual. Methods*, vol. 2(1), pp. 15-19, 2004.
[22] M. Vaismoradi, H. Turunen, and T. Bondas, "Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study," *Nurs. Heal. Sci*., vol. 15(3), pp. 398-405, 2013.
[23] R. Margalit, R. Keating-lefler, D. Collier, G. Woscyna, R. A. Shaikh, and G. L. Beck, "Advancing interprofessional education: A qualitative analysis of student and faculty reflections," vol. 23, pp. 462-471, 2014.
[24] K. L. Gustafson and W. Bennett, "United states air force research laboratory promoting learner reflection: Issues and difficulties emerging from a three-year study," 2002.
[25] M. Lowe, S. Rappolt, S. Jaglal, and G. Macdonald, "The role of reflection in implementing learning from continuing education into practice," *J. Contin. Educ. Health Prof*., vol. 27(3), pp. 143-148, 2007.
[26] L. J. Chaffey, E. J. J. de Leeuw, and G. A. Finnigan, "Facilitating students' reflective practice in a medical course: literature review," *Educ. Health (Abingdon)*., vol. 25(3), pp. 198-203, 2012.

[27] G. M. Lowe, P. Prout, and K. Murcia, "I see, i think i wonder: An evaluation of journaling as a critical reflective practice tool for aiding teachers in challenging or confronting contexts," *Aust. J. Teach. Educ*., vol. 38(6), pp. 1-16, 2013.
[28] Y. Suhoyo, E. a van Hell, T. S. Prihatiningsih, J. B. M. Kuks, and J. Cohen-Schotanus, "Exploring cultural differences in feedback processes and perceived instructiveness during clerkships: replicating a Dutch study in Indonesia," *Med. Teach*., vol. 36(3), pp. 223-9, 2014.
[29] E. Driessen, J. Van Tartwijk, C. Van Der Vleuten, and V. Wass, "Portfolios in medical education: Why do they meet with mixed success? A systematic review," *Med. Educ.*, vol. 41(12), pp. 1224-1233, 2007.
[30] C. E. Rees and C. E. Sheard, "The reliability of assessment criteria for undergraduate medical students' communication skills portfolios: the Nottingham experience," *Med. Educ*., vol. 38, pp. 138-144, 2004.
[31] H. Dekker et al., "Mentoring portfolio use in undergraduate and postgraduate medical education.," *Med. Teach*., vol. 31(10), pp. 903-9, 2009.
[32] E. W. Driessen, J. Van Tartwijk, K. Overeem, J. D. Vermunt, and C. P. M. Van Der Vleuten, "Student learning conditions for successful reflective use of portfolios in undergraduate medical education," pp. 1230-1235, 2005.
[33] M. Hammick, D. Freeth, I. Koppel, S. Reeves, and H. Barr, "A best evidence systematic review of interprofessional education," *Med. Teach*., vol. 29(8), pp. 735-51, 2008.
[34] L. Lawson, "CPD for mentors: creating a portfolio," *Nurs. Times*, vol. 107(21), pp. 15-18, 2010.
[35] C. V et al., "Development and validation of the interprofessional collaborator assessment rubric (ICAR)," *J Interprof Care*, vol. 25(5), pp. 339-44, 2011.
[36] M. Challis, "AMME medical education guide no. 11 (revised) : Portofolio-based learning and assessment in medical education," *Med. Teach*., vol. 21(4), pp. 370-386, 1999.
[37] K. L. Gustafson and W. Bennet Jr., "Promoting learner reflection: issues and difficulties emerging from a three-year study," 2002.