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Development of Competency-based Acupressure Sport Massage Professional Certification Program in Higher Education: Participatory Action Research

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ABSTRACT

The study was designed to create and test a competency-based acupressure sport massage certification program for physical education students through Participatory Action Research (PAR). The study consisted of a diagnostic pre-cycle, a basic training and assessment (Cycle I), and supervised competency refinement (Cycle II). Thematic and descriptive data from focus groups, interviews, tests, observations, assessments, examiner feedback, student evaluations, and documentation were used to inform iterative reflection. The pre-cycle resulted in five considerations: academic relevance, market needs, career orientation, implementation challenges, and certification design. The mean baseline scores for 19 students in Cycle I were 83 for technique, 84 for positioning, 83 for communication, and 84 for hygiene. Hence, there were areas for improvement in the identification of acupressure points; all 17 students assessed achieved competency criteria, pressure control, rhythm, technical consistency, and confidence. Feedback from students was largely positive in Cycle II, with 16 out of 17 (94.1%) finding the evidence of assessment to be satisfactory. Results were used to guide a nine-session, 24–27 hours model that incorporated safety, ethics, communication, technical practice, supervised simulation, reflection, and assessment. The study proposes professional certification as an embedded competency development pathway in PE curricula.

Keywords: Acupressure; Sport Massage; Competency-based Learning; Certification; Higher Education

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INTRODUCTION

The role of higher education in physical education (PE) is evolving to equip students for a wider variety of careers in sport, fitness, recovery and wellness services as well as teaching. This evolving job market demands that graduates have skills that can be applied in real-world situations and valued outside of the classroom. The employability of sport-related disciplines has been found to rely on

the ability to combine disciplinary knowledge, practical skills, professional identity and readiness to perform in workplace settings (Bernal-García et al., 2018; Bridgstock & Jackson, 2019; Jackson, 2016). In this context, university programs should go beyond knowledge transfer and offer students opportunities to build, demonstrate, and formally assess occupation-relevant skills.

One way to link higher education learning to such professional expectations is through professional certification. Certification can offer external validation of the achievement of specified competency standards and can enhance students' confidence and professional identity. This is especially important for PE students as their career trajectory may be beyond teaching to coaching, fitness, sport recovery, wellness provision and entrepreneurship. Tomlinson (2017) suggests that there are multiple types of capital that influence graduate employability: human capital, identity capital, and psychological capital. Applied competency development and professional certification can help to build these types of capital by helping students to translate academic learning into a recognisable professional capability. But certification is more educationally relevant when it is part of a structured learning process, not just an add-on.

Acupressure sport massage offers a relevant context for this integration to be developed. Sport massage has been traditionally used to aid recovery, alleviate muscle pain, promote relaxation, and prepare for and recover from physical activity (Dakić et al., 2023; Davis et al., 2020; Weerapong et al., 2005). Acupressure, on the other hand, is a non-invasive method that involves applying pressure to specific points on the body and has been linked to various benefits, including pain relief, stress reduction, increased flexibility, and recovery support (Chen et al., 2022; Lee et al., 2023; Mącznik et al., 2017). The results suggest that acupressure competencies can be integrated with the current knowledge of sport massage, anatomy, physiology and sport recovery. The World Health Organization (2013) has also stated that traditional and complementary medicine should be supported by appropriate standards of safety, quality and professional practice. Therefore, acupressure sport massage is not only a therapeutic technique but also an applied competency that needs to be structured and taught, practiced ethically, evaluated, and recognized as a profession.

Even with this potential, however, higher education practical learning does not necessarily lead to professional readiness. Students can learn the basic anatomy, massage techniques, hygiene, and preparation of the client, but professional performance also demands technical precision, pressure, rhythm, communication, ethical sensitivity, confidence, and the capacity to execute procedures safely in realistic situations. Competency-based education is therefore especially relevant because it is not about learning knowledge, but about learning to apply knowledge in a way that is defined by standards, and about learning in relation to observable performance (Mulder, 2012). This competence needs to be practiced, supervised, fed back, simulated, and assessed repeatedly. Research on sport massage education has also shown the importance of structured learning materials, digital support, and repeated practical learning in enhancing students' skills (Efendy et al., 2022; Sartono et al., 2024; Utomo & Wahyudi, 2021).

However, these issues have been studied individually so far. Research on sport massage and acupressure mainly focuses on therapeutic, recovery, pain or performance-related effects (Chen et al., 2022; Dakić et al., 2023; Davis et al., 2020; Lee et al., 2023; Mącznik et al., 2017). Sport massage education research has tended to focus on instructional media and skill development (Efendy et al., 2022; Sartono et al., 2024; Utomo & Wahyudi, 2021), whereas employability studies have tended to focus on professional identity, career capital, and graduate preparedness more broadly (Bridgstock & Jackson, 2019; Jackson, 2016; Tomlinson, 2017). These lines of research offer valuable foundations but are not adequate to explain how a professional certification process can be incorporated into an existing PE curriculum as a developmental learning process. Specifically, there has been little focus on the integration of academic content, repeated practical training, competency assessment, examiner feedback, professional standards, and career preparation into a staged certification model.

This gap cannot be assessed by considering one training intervention alone. A certification-integrated program design is a process that engages several stakeholders and must be adapted to the needs of the students, the expectations of the lecturers, the evidence of competency, the assessment results, and the conditions of the institution. Participatory Action Research (PAR) is suitable for this

purpose as it allows the participants to plan, act, observe, reflect and refine in an iterative manner (Kemmis et al., 2014; Reason & Bradbury, 2013). In contrast to the traditional approach of using students, lecturers, and professional stakeholders as data sources, PAR can be used to inform the development and modification of the program through their experiences and feedback. This iterative process is especially suitable for competency-based certification because the areas of weakness found in one training cycle can be directly applied to improve practice, assessment, and instructional design in the next cycle.

Therefore, the purpose of this study was to design, implement, and assess a competency-based acupressure sport massage certification program for physical education students using Participatory Action Research. The study focused on the academic and professional value of certification, the competency building of students, implementation issues, students' reactions, and the improvement of the training model in the pre-cycle, Cycle I, and Cycle II. The novelty of the study is not only the use of acupressure sport massage in higher education, but also the use of professional certification as a pedagogical mechanism to link curriculum learning, repeated practice, competency assessment, feedback, professional standards, and career preparation. The study brings together these components in an iterative PAR process to provide a staged model of education certification that can help to build practical competence, professional identity, and career readiness for physical education students.

METHODOLOGY

The study used a mixed-methods design in a Participatory Action Research (PAR) approach to design, implement, and assess a competency-based acupressure sport massage certification program for physical education students. The mixed-methods approach was suitable as it has both qualitative and quantitative aspects to the integration of professional certification into sport education. The qualitative inquiry focused on the perceptions of the stakeholders, institutional readiness, relevance of the curriculum, experiences of the participants, and expectations of certification, while the quantitative evidence was based on the students' competency development as measured by pre-test scores, practical assessment, and certification results. The integration of both types of evidence resulted in a holistic

picture of program development and measurable learning outcomes (Creswell & Plano Clark, 2007).

The study was designed to identify certification needs, as well as to create and refine an educational intervention in an iterative fashion, which is why PAR was chosen. PAR is a process of collaborative inquiry, action, observation, reflection and continuous improvement, in which participants are involved in identifying problems, designing programs, evaluating and refining them (Kemmis et al., 2014; Reason & Bradbury, 2013). This approach was relevant as the program had to meet the needs of students, lecturers, and certification stakeholders and be consistent with competency-based education.

Research Setting and Participants

This study was carried out in the Physical Education, Health and Recreation study program at a public educational university in Indonesia from June to December 2025. The research participants were those who were directly involved in the design, implementation, and evaluation of the proposed acupressure sport massage certification program. The participants were physical education students, lecturers, the head of the study program, and professional stakeholders who have experience in sport massage training and/or competency certification.

The student participants were fifth-semester undergraduate students who were enrolled in the sport massage course. At the start of Cycle I, there were 19 students. These students had already been taught the basics of sport massage, anatomy, physiology, hygiene, and basic therapeutic techniques as part of their academic studies. Due to other commitments, two students were not able to complete the subsequent competency assessment, and 17 students completed the full competency assessment process and were included in the Cycle I and Cycle II competency evaluation.

The pre-cycle phase involved seven lecturers, one study-program leader, twenty students, and four professional/certification stakeholders. Lecturers and study-program representatives were added due to their role in curriculum planning, sport massage teaching and student professional development. Professional stakeholders were chosen due to their experience in competency assessment, certification, or sport massage practice. Students were included because they were

the target audience for the certification program and were able to offer first-hand feedback on their learning needs, perceived benefits, affordability issues, and preferred training design.

Purposive sampling was used to select participants, as they had first-hand experience with or were relevant to the development of the certification program. Inclusion criteria for student participants were: (1) active student in the Physical Education, Health and Recreation program; (2) registered in or completed appropriate sport massage coursework; (3) willing to engage in training, assessment and reflection activities; and (4) informed consent. Lecturers and professional stakeholders were chosen for their knowledge and experience in physical education, sport massage, competency-based learning, certification, or professional practice.

Participation was voluntary. The purpose and procedures of the study were explained to all participants, and confidentiality was ensured during data collection and reporting. Special care was taken to ensure that there was as little coercion as possible in the lecturer–student relationship, and that participation or non-participation would not impact students' academic status.

Data Collection

The PAR process was comprised of three interrelated phases: pre-cycle, Cycle I, and Cycle II. The pre-cycle was a diagnostic phase to determine the needs, opportunities, perceptions, and constraints of integrating acupressure sport massage certification into higher education. The institutional readiness, curriculum relevance, market demand, orientation of graduates to their careers, barriers to implementation, and preferred training and certification designs were explored through semi-structured interviews and focus group discussions. The results were used to develop the initial program design.

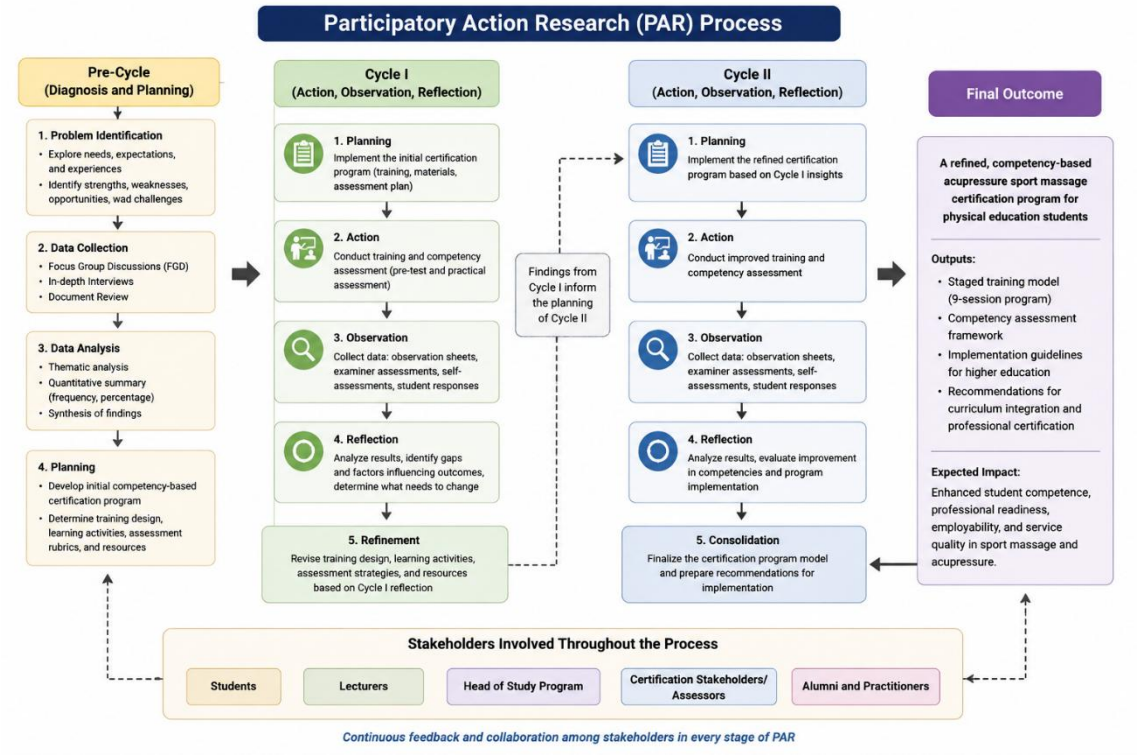


Figure 1. Participatory Action Research (PAR) Process (Author's elaboration, 2026)

The first cycle was used as the foundation cycle. Students were introduced to occupational safety and health, professional communication, ethics, basic massage techniques, acupressure procedures, and initial practical performance. Baseline competence was determined through pre-tests and practical observations. Students' initial knowledge and skills were described quantitatively, and learning behavior, practical problems, and areas for improvement were recorded qualitatively. Students had good basic skills, but required more repetition, structured practice, and preparation in finding the acupressure points, controlling the pressure, keeping the rhythm, and communicating professionally. The learning strategy and the preparation of the assessment for Cycle II were improved based on reflections from Cycle I.

In Cycle II, the emphasis was on application and refinement of performance. Students practiced techniques repeatedly, simulated the whole body, practiced under supervision, and were assessed for competency. Technical accuracy, massage rhythm, pressure control, confidence, professional communication, hygiene and safe practice were emphasized. Assessment results, examiner feedback, observations,

and student responses were used to assess competency achievement. The recommendations that came from this cycle were based on reflections from this cycle and were for a more systematic, staged and competency-based training module. Certification was thus not only seen as an external validation but as a process of participatory learning that linked curriculum, practice, assessment, feedback and professional preparation.

The data were gathered by using semi-structured interviews, focus group discussions, participative observation, documentation, practical reports, competency rubrics, examiner feedback, student responses, pre-tests and competency assessment. The focus group discussions allowed lecturers and students to share their experiences, expectations, concerns, and preferences for the programs (O.Nyumba et al., 2018). Student performance, learning behavior, and practical problems were observed during training and assessment.

The competency assessment instrument was developed using the standardized competency elements of post-exercise acupressure massage therapy, which consist of preparation, implementation, communication, hygiene, and closing procedures. Content validity was achieved by the expert review of the certification stakeholders and assessors. Standardised rubrics and criteria, assessor briefings, comparing self-assessment and examiner observations, and systematic documentation of evidence of assessment were used to enhance reliability.

Data Analysis

Qualitative Data Analysis

Thematic analysis was used to analyze the qualitative data collected from semi-structured interviews, focus group discussions, participative observations, examiner feedback, student responses and reflective notes, following the general procedures proposed by Braun & Clarke (2006). The analysis was done in multiple phases. The researchers first became familiar with the data by reading the interview transcripts, discussion notes, observation records, and written responses over and over again. Second, units of information that were relevant to the curriculum, professional needs, competency development, barriers to implementation, training preferences, assessment experiences, and program improvement were identified, and initial codes were assigned.

The coding process was done in a primarily inductive manner. The pre-cycle stage of coding was used to identify common problems that were arising from the participants' experiences and perceptions. These codes were then compared and categorized into larger groups. Five key dimensions were identified in this process: academic relevance, market context, orientation of graduates to their careers, implementation challenges, and training and certification design.

The qualitative analysis was conducted by all the authors. Coded data and developing categories were discussed among the research team to improve the consistency of the analysis. The final themes were checked with the original data to ensure that they captured participants' experiences and the goals of each PAR phase.

Qualitative analysis was done iteratively and not just at the end of data collection. The initial certification program and training design were developed based on the findings of the pre-cycle analysis. The results of the observational data, examiner feedback, and student responses from Cycle I were then analysed to determine the areas that needed to be improved, such as identification of acupressure points, pressure control, massage rhythm, technical consistency, and professional communication. The results of these findings directly fed into changes made in Cycle II.

Quantitative Data Analysis

The pre-test, competency assessment, self-assessment, examiner assessment, and student evaluation of the certification process were used to gather quantitative data. The quantitative component was designed to describe the development of students' competencies and the implementation of the program, so descriptive statistics were used to analyze the data.

Means, ranges, frequencies and percentages were used to summarize pre-test scores as appropriate. The four competency areas of technique, position, communication and hygiene were used to calculate mean scores. The results of the competency assessment were summarized based on the standardized performance criteria for preparation, implementation, communication, hygiene and closing procedures. The number and percentage of students achieving the expected competency standards were also reported.

The frequencies and percentages were used to summarize student responses to the assessment process and to describe the participants' perceptions of the clarity of the process, communication with the assessor, self-assessment, examiner feedback, assessment decisions, confidentiality, documentation, and other aspects of the implementation of certification. Due to the exploratory PAR design and small number of participants, quantitative findings were not used to infer statistical effectiveness, but rather were interpreted descriptively.

The integration of Qualitative and Quantitative Evidence

The findings from each PAR cycle were combined in the reflection phase, both qualitative and quantitative. The two types of evidence were not treated as separate findings, but rather quantitative performance data were used to determine the level and distribution of student competency, and qualitative evidence was used to explain the reasons for the occurrence of certain strengths, weaknesses, and implementation issues.

The pre-test results showed a relatively good baseline performance in technique, position, communication and hygiene, for example. Observations and examiner feedback, however, gave further evidence that students were still struggling with finding the acupressure points, controlling the pressure, keeping the rhythm and being confident in their professional practice. These findings were integrated and indicated that meeting the minimum competency standard did not necessarily mean that the professional quality of the work was consistent.

The overall evidence was then leveraged to inform decision-making in the PAR process. The results of the pre-cycle were used to guide the initial design of the training and certification program, the results of Cycle I were used to inform the refinement of learning activities and practice requirements for Cycle II, and the integrated results of Cycle II were used to inform the design of the proposed nine-session competency-based training module. Therefore, integration took place at the analytical and action levels, with empirical evidence from each cycle feeding into the planning, implementation, and refinement of the next cycle Click or tap here to enter text.

RESULTS AND DISCUSSIONS

The results are reported in the three phases of Participatory Action Research (PAR): pre-cycle, Cycle I, and Cycle II. The empirical results are presented first, followed by discussion and a brief reflection on how the results were used to inform the next cycle in each stage.

Pre-cycle Results: Program Relevance, Needs, and Design

The pre-cycle focused on the importance, opportunities, obstacles, and preferred design of an acupressure sport massage certification program. The focus group discussions and stakeholder input resulted in five dimensions: academic relevance, market context, graduate career orientation, implementation challenges, and training and certification design.

The first was that the participants felt that certification was relevant to their studies, as it fitted in with other courses they were studying, including sport massage, anatomy and physiology. Lecturers saw certification as a means to enhance students' practical skills and as a means of adding value to their academic qualifications. Some also highlighted the potential financial benefits of providing sport massage services during sporting events. Second, certification was seen as a way to enhance professional credibility and competitiveness. Lecturers commented that clients/employers might demand proof of competence, and students saw certification as a possible route to employment. But cost was a factor. Some participants were willing to pay a certification fee of about Rp2.5 million, provided the certificate was of professional value.

Third, participants felt that certification would open up more career paths for graduates than teaching. Possible career options were sport therapist, recovery practitioner, massage service provider, entrepreneur, and other wellness-related careers. Fourth, participants noted technical safety, supervision, ethics, gender sensitivity, legal clarity, standardization, and cost as implementation challenges. Specific concerns were related to the pressure, the point selection, the procedures and the lack of supervision in the practical learning. Lastly, lecturers and students preferred a structured certification program that was embedded in an existing course. The learning materials recommended were scientific explanations, written modules, visual materials, videos, and extensive supervised practice.

Pre-cycle Discussion

The results suggest that certification was seen as more than just an external qualification; it was seen as a process that connected academic learning to professional competence and career progression. This aligns with Tomlinson (2017) who defined graduate capital as the development of human, identity and psychological capital. It is also in line with previous studies that have reported that graduates in sport-related disciplines are increasingly looking for more comprehensive professional skills than those of teaching (Bernal-García et al., 2018; Campos-Izquierdo et al., 2016).

However, the issues of supervision, safety, ethics, standardization, and cost suggest that certification cannot be a mere administrative requirement. The results are in line with the principles of competency-based education, which focus on clearly defined standards, observable performance, and readiness to act in professional situations (Mulder, 2012).

The preference of participants for visual and digital materials is also in line with previous studies that demonstrated that technology-based teaching can aid in the learning of sport massage (Efendy et al., 2022; Sartono et al., 2024; Utomo & Wahyudi, 2021). However, the present results indicate that the use of digital resources should be integrated with direct supervision and repeated practice, as the use of digital resources alone is not enough to develop tactile accuracy, pressure control, rhythm, and communication with the client in acupressure sport massage.

The pre-cycle identified that certification was relevant to both the academic and professional contexts, but needed to be structured, based on competency standards, supervised, ethically protected, and accessible training materials. The results of these findings were used to create the first training and assessment model that was used in Cycle I.

Cycle I Results: Baseline Competence and Foundation Training

The first cycle consisted of 19 fifth-semester students in the physical education course who were taking the sport massage course. The program consisted of five face-to-face meetings, each lasting approximately 2.5–3 hours. The training consisted of a pre-test, occupational safety, client preparation and communication,

basic acupressure sport massage techniques, repeated practice, and a competency test.

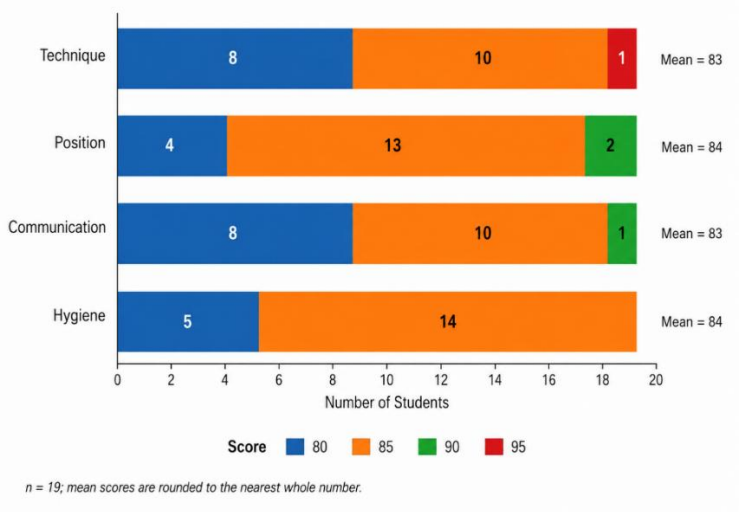


Figure 2. Distribution of Students' Pre-test Scores by Competency Area (Author's elaboration, 2026)

Four competency areas were evaluated in the pre-test: technique, position, communication, and hygiene (see Figure 2). The mean scores were 83, 84, 83 and 84, respectively, and the individual means ranged from 80 to 89. The results show that students started the program with fairly high pre-program proficiency. Then, seventeen students completed the competency assessment, with two students unable to continue due to other commitments. All 17 met the required performance criteria for preparing, performing, and completing post-exercise acupressure massage therapy.

This achievement was not without some areas for further development identified by the examiner. Students required more practice in locating acupressure points, regulating pressure, keeping the massage rhythm, increasing technical accuracy and efficiency, and increasing professional confidence.

Cycle I Discussion

The relatively high pre-test scores may be attributed to the students' prior experience with sport massage due to their academic studies. The certification program was therefore based on a pre-existing knowledge and skill base and not on a starting point of beginner level. This contextual factor should be taken into account when interpreting the competency outcomes.

All students achieved the minimum assessment criteria, but feedback from the examiners suggested that competency attainment did not equate to professional mastery. This is in line with Jackson (2016) claim that academic readiness does not necessarily lead to professional readiness. It also reflects Billett (2010) perspective on the development of vocational competence as guided participation, repeated practice, and progressive refinement.

The results also corroborate previous research on sport massage learning. The findings of the present study suggest that skill refinement also needs supervised repetition and performance feedback, in addition to the use of digital and instructional media as emphasized by previous studies (Efendy et al., 2022; Sartono et al., 2024; Utomo & Wahyudi, 2021). Specifically, pressure regulation, rhythm, point identification and confidence seemed to be more related to the acquisition of practical experience than to knowledge acquisition.

In Cycle I, students demonstrated adequate competency and were able to achieve the minimum assessment standards, but were not consistently competent in a few technical areas. Cycle II therefore emphasized repeated drills, supervised simulation, pressure regulation, point accuracy, rhythm consistency, and professional performance.

Cycle II: Competency refinement and program validation

The emphasis of Cycle II was on technical consistency and professional readiness. Students were supervised in practicing integrated therapy sequences, point identification, pressure control, rhythm, technical accuracy, communication, hygiene, and professional service.

Students continued to be competent, but there was some variation in the consistency and quality of their work. Some students were able to show good rhythm, pressure control and client comfort, while others needed more practice in the recall of the acupressure points and pressure control. Therefore, Cycle II placed the emphasis on the evaluative process from meeting the minimum competency requirements to the ability to consistently and professionally execute the required procedures.

All 17 students gave a positive response to the assessment process. Students were positive about the competency process, procedural explanations, self-

assessment, assessor communication, feedback, assessment decisions, confidentiality, and overall competency process. However, supporting assessment documentation was identified as an area that needs to be improved.

A more systematic nine-session training model of about 24-27 hours was suggested based on the results of both cycles. The model comprised certification orientation, occupational safety, touch ethics, therapeutic communication, upper and lower body acupressure points, repeated drills, pressure and rhythm practice, integrated therapy sequences, simulation, reflection, and competency assessment.

Cycle II Discussion

The Cycle II results indicated that the problem was no longer whether students could achieve minimum competency, but whether they could work consistently at a professional level. The ongoing pressure regulation, rhythm, point recall, and confidence demonstrate that professional competence is a gradual process that requires repeated and supervised practice.

This is in line with the idea that employability is a product of the interplay between individual capability, institutional support and professional learning opportunities (Atfield et al., 2021). The development of students in the present study was a result of repeated practice, feedback from the examiner, competency standards, and institutional support.

The positive feedback from the assessment process also indicates that competency assessment can be used as a developmental learning process and not just as a final judgement. This aligns with the focus on transparent standards, observable evidence and feedback in competency-based education as highlighted by Mulder (2012). Weaknesses in assessment documentation also indicate an institutional need for sustainable certification. If certification is to be integrated into higher education, then assessment records, portfolios, evidence and feedback must be managed in a systematic way.

It is suggested to opt for a longer nine-session module also since it is not possible to build up professional skills in a short training format. Although the previous studies have highlighted the importance of digital learning materials in sport massage education (Efendy et al., 2022; Sartono et al., 2024; Utomo & Wahyudi, 2021), the current study indicates that the use of digital learning materials

is most effective when integrated with demonstration, repeated practice, supervised simulation, reflection, and competency assessment.

Students were able to demonstrate competency in Cycle II, but needed to develop their skills in pressure control, rhythm, point accuracy, and confidence to achieve professional quality. The results also highlighted the importance of better documentation of assessments. The findings were used to finalize a competency-based, staged certification model that consists of nine sessions. Clear and structured competency assessment is important because of the high level of student acceptance (Figure 3).

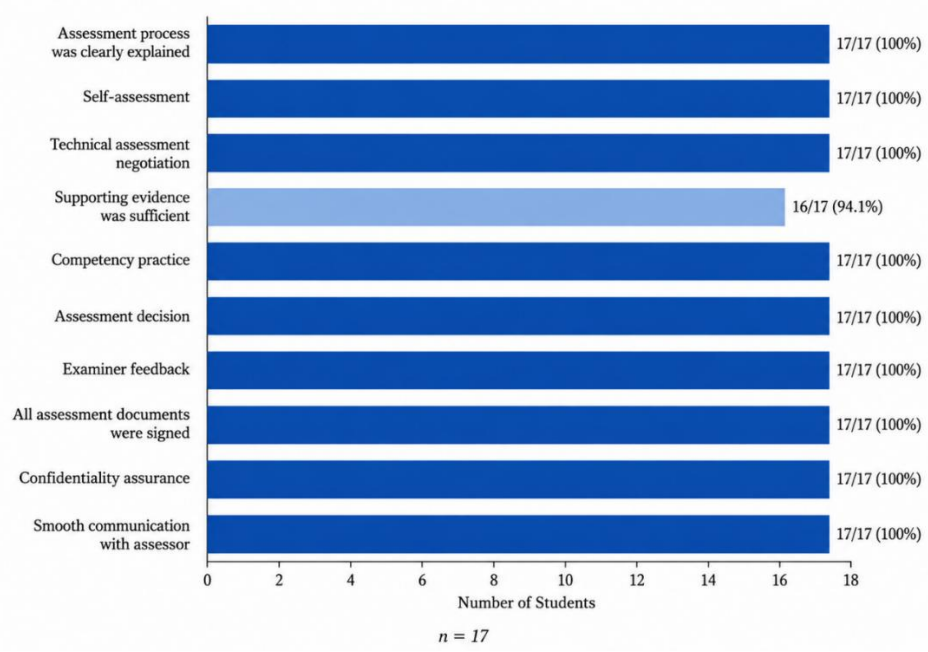


Figure 3. Students' Feedback on the Testing Implementation of Acupressure Sport Massage Certification Program (Author's Elaboration, 2026)

Students' evaluations showed a consistently positive perception of the competency assessment process. 100% of all 17 participants (100%) rated the explanation of the assessment process, self-assessment, technical assessment negotiation, competency practice, assessment decisions, examiner feedback, completion of assessment documentation, confidentiality assurance, and positive communication with the assessor. The only item that was not unanimously endorsed was the sufficiency of supporting assessment evidence, with 16 of 17 students (94.1%) giving it a positive rating. This pattern suggests that the assessment processes were seen as clear, transparent, and communicated well, with

further development needed in the management and provision of supporting competency evidence.

Table 1. Research Key Findings and Program Implications

PAR Stage	Key Findings	Implication for Program Development
Pre-cycle	The academic relevance and professional value of certification was seen as positive, but supervision, affordability, ethical protection, and standards were needed for implementation.	Create a preliminary competency-based training and assessment model
Cycle I	Students had a relatively good baseline competence and met minimum competency standards, but there were weaknesses in pressure, rhythm, point identification, and confidence.	More supervised practice, repetition, technical drills, and feedback
Cycle II	Students' competency was maintained, but there was still room for improvement in professional consistency and assessment documentation.	Develop a longer and more structured nine-session certification model
Outcome	Certification functioned as both a competency assessment and a developmental learning process	Integrate certification progressively into the physical education curriculum

In general, the three PAR stages show that the integration of acupressure sport massage certification into physical education can be done in a participatory, staged, and competency-based manner. Certification should be a learning tool that links academic learning, skills, professional standards, and career development, rather than a terminal qualification. The program was evaluated using a set of competency rubrics, examiner feedback, student responses, and evidence produced throughout the PAR cycles. These data were not used to determine experimental effectiveness, but to describe competency achievement and inform program refinement.

CONCLUSION

Participatory Action Research (PAR) was used to design, implement, and assess a competency-based acupressure sport massage certification program for physical education students. The results show that professional certification can be embedded in higher education as a systematic process of learning through practice, not just as an external assessment.

Three important findings were drawn. First, certification was used to enhance the existing curriculum in sport massage, anatomy and physiology, and to open up career opportunities in the sport therapy, recovery services, wellness, and entrepreneurship fields. Second, students met the competency standards, but there was a need for improvement in the following areas: identification of acupressure points, pressure control, rhythm, technical consistency, and professional confidence. Third, the iterative PAR process was successful in integrating the needs of the stakeholders, the experiences of the students, the feedback from the examiners, and the implementation challenges into ongoing program improvement.

The study's most significant finding is a sequential educational-certification process that combines academic learning, supervised practice, competency evaluation, feedback, and professional preparation. The suggested nine-session model offers a realistic approach to curriculum integration, highlighting the need for sufficient training, competency standards, safety and ethical procedures, assessment documentation, and working with certification bodies.

The study has some limitations, however, due to the small sample size, single program setting, and absence of longitudinal data on graduate employability, professional performance, and industry acceptance. The model should be tested in other institutions with larger numbers of students, and the long-term career prospects of students should be explored, as well as the role of digital learning, assessment systems, and industry partnerships in enhancing the sustainability of competency-based certification in higher education.

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