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Educators' role in supporting socially shared regulation of learning among simulated patients

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Abstract

Introduction: Simulated patients (SPs) are individuals trained to portray patients in medical education. With the adoption of Objective Structured Clinical Examinations (OSCEs) in Japan, high-quality SP training is increasingly important. The Socially Shared Regulation of Learning (SSRL) model is useful to enhance SP collaboration and reflection during OSCE preparation. This study uses the SSRL framework to examine SPs' learning processes and perceptions of their collaborative roles.

Methods: A qualitative study was conducted with 14 SPs from a Japanese medical university. Semi-structured interviews (approximately 30–60 minutes, in-person or online) explored participants' experiences and roles. We conducted a thematic analysis for the interview transcripts guided by the SSRL model. Two researchers independently coded the data and resolved discrepancies through discussion. Ethical approval and informed consent were obtained.

Results: Analysis yielded four main themes. 1) Clear goals from educators: SPs valued learning goals and felt anxious when objectives were ambiguous. 2) Educator-facilitated shared regulation: Debriefing and feedback from educators supported SPs' reflection and collaboration. 3) Support from Senior SPs for Junior SPs: Seniors provided role modelling, emotional support, and motivation for novice SPs. 4) Co-regulation among SPs: SPs respected peers' roles and learned collaboratively.

Conclusion: SP learning was enhanced through socially shared regulation when supported by clear goals, peer collaboration, and educator guidance. Educators play a key role in setting objectives and facilitating reflection to deepen collaborative learning. Challenges in self- and peer-assessment highlight the need for structured support. These insights can inform the design of SP educator development programs emphasising facilitation of collaborative learning.

Keywords: *Simulated Patient, Communication, Socially Shared Regulation of Learning, Medical Education, Educator Role*

I. INTRODUCTION

A simulated patient (SP) is an individual trained to realistically portray patients with specific symptoms and backgrounds. As patient-centred care gains importance, healthcare professionals are increasingly expected to collaborate with patients while respecting diverse values. Therefore, SPs have become essential educational resources in medical education (Lewis et al., 2017). Furthermore, in Japan, the introduction of the Objective Structured Clinical Examination into the national licensing system has emphasised the need for high-quality SPs in clinical communication assessments. Consequently, SPs must develop greater professionalism

and competencies. This has led to the creation of SP certification systems in Japan based on international training guidelines (Lewis et al., 2017). SP groups in Japan are operated by universities and nonprofit organisations, with universities often serving as the main managing bodies. However, many institutions lack faculties dedicated to specialised SP training. Moreover, many SPs work on a volunteer basis, and improvements in acting and feedback techniques are largely left to self-directed or peer learning. Under such conditions, opportunities for collaborative learning among SPs are essential, along with timely and supportive interventions. The Socially Shared Regulation of Learning (SSRL) model offers a useful framework for theoretically

understanding this type of learning (Järvelä et al., 2013). SSRL describes a collaborative process in which learners engage in four phases:

- 1) sharing a common understanding of the significance of the task (task perceptions),
- 2) setting goals and planning the direction of learning (goal setting and planning),
- 3) selecting concrete strategies to achieve objectives (strategy use), and
- 4) adjusting learning content based on reflections (adaptation) (Panadero, 2017).

Unlike Self-Regulated Learning, which focuses on individuals' internal cognitive processes, SSRL involves multiple learners co-constructing their learning through dialogue and interaction and bridges individual and group regulation processes, aligning with SP team training (Panadero, 2017). However, little is known about how SPs collaboratively regulate learning and how educators facilitate this process within training environments. This study aimed to explore how SPs perceive their learning processes and relationships with peers and educators through the SSRL model lens.

II. METHODS

This study employed a qualitative research design, and thematic analysis was used to interpret the data. All members of the SP group affiliated with the study site university in Japan were invited. The final sample consisted of 14 female SPs aged in their 50s to 70s. Their experience as SPs varied: seven had less than five years, three had five to ten years, and four had more than ten years of experience. Data was collected through semi-structured interviews exploring participants' reflections on their involvement and roles as SPs. Each interview lasted approximately 30 to 60 minutes and was conducted either in person or online. All interviews were audio-recorded and transcribed verbatim. Data analysis followed the six-phase approach to thematic analysis proposed by Braun and Clarke (2006): 1) familiarisation with the data, 2) generation of initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report.

A. Context, Reflexivity, and Trustworthiness

Educators coordinated the SP program, delivering training before monthly SP activities and facilitating debriefs afterward. Outside scheduled activities, SPs practiced independently. The first and second authors collaboratively analysed interview transcripts using a theory-informing inductive approach (Varpio et al., 2020). To enhance reflexivity and reduce bias, the team reviewed systematically and cross-checked codes and themes through researcher triangulation. Written informed consent was obtained from the participants

prior to the interviews. This study was approved by the Ethics Committee of the Faculty of Medicine at Gifu University (Approval No: 28-407).

III. RESULTS

Thematic analysis identified four key themes around SPs' perceptions of their learning processes and relationships with peers and educators. Examples of interview quotes supporting each theme are presented in Table 1.

A. Theme 1: Clear Goals from Educators

Although SPs understood that each practicum had different objectives, they worried whether their performance matched educators' expectations. This uncertainty was particularly pronounced during early training, when they strongly wished for educators to clearly explain these goals and roles. Many stated that "not knowing what to do or how to act is the most troubling part", and educators' clear articulation of these goals was essential.

B. Theme 2: Educator-facilitated Shared Regulation

Peer-to-peer feedback among SPs was not always straightforward. Participants reported difficulty identifying areas for improvement in themselves and others. Within this context, the involvement of SP educators in debriefing and reflection was seen as pivotal. SP educators' facilitation helped promote dialogue and deepened group learning. Specifically, educators' concrete feedback supported SPs in articulating their reflections effectively, enhancing collaborative regulation of learning.

C. Theme 3: Support from Senior SPs for Junior SPs

Senior SPs were sometimes reluctant to offer direct feedback, especially when concerned about preserving harmony within the group. Some voiced hesitancy to criticize junior members for fear of straining relationships. Nevertheless, when senior SPs shared their experiences, demonstrated specific performance techniques, or expressed empathy, novice SPs found this emotionally supportive and motivating. The role of expert SPs extended beyond skill transmission to include crucial emotional support, reducing anxiety and encouraging engagement among SPs.

D. Theme 4: Co-regulation Among SPs

SPs demonstrated a strong peer-learning orientation marked by mutual respect and active engagement. However, several participants reported diminished motivation when peers displayed self-centred behaviours that conflicted with the shared goal of supporting student learning. Some felt discouraged when peers prioritised

personal convenience or criticized others in ways misaligned with educational goals, undermining the collaborative atmosphere.

Theme	Interview Quotes	Summary of Theme
1. Clear goals from educators	<ul style="list-style-type: none"> • <i>We SPs should still understand that universities have individual educational goals, and it would be very good to hear about this from the educators when you are new.</i> • <i>I'm worried about what to do if I'm not in line with what the teachers are aiming for. I think it's effective for the educator to say what the target is.</i> • <i>This exercise shows what SPs are expected to do and how to do it...Not understanding is what bothers me the most.</i> 	Clarity of objectives and criteria stabilises task perceptions, reducing anxiety and aligning performance early in training. Educator actions—briefings, explicit goals, and rubrics—anchor subsequent planning.
2. Educator-facilitated shared regulation	<ul style="list-style-type: none"> • <i>I think it would be better if the educator told us more about how it should be done. If they don't tell us, we are not sure.</i> • <i>SPs don't always know what they can do to improve each other's performance, so if educators point out things that make them realise, like "Oh yeah, that's right".</i> • <i>If the educator guides the reflection well, it's easier for me to say things like, "I think this way", or "Maybe it would be better to say it like this".</i> 	Facilitation turns diffuse reflection into actionable plans, strengthening group coordination across strategy use and adaptation. Structured debriefs, feedback norms, and metacognitive prompts are key educator competencies.
3. Support from Senior SPs for Junior SPs	<ul style="list-style-type: none"> • <i>We don't want to criticize even if that means risking our relationships, but educators should...</i> • <i>They don't mind being told by their educators, but perhaps their fellow SPs.</i> • <i>When I faced difficulties, my senior SP told me, "Everyone goes through this, and if you overcome it, things will get brighter". It felt like a small hole opened up, letting in a bit of light, and I felt much more at ease.</i> • <i>A senior SP told me how she plays her roles and helped me practice, so I was able to improve.</i> 	Near-peer role modelling enhances skills and psychological safety, but reluctance to critique limits effectiveness. Formal mentoring and training in how to give respectful, evidence-based feedback leverages senior expertise without eroding harmony.
4. Co-regulation among SPs	<ul style="list-style-type: none"> • <i>Everyone is very virtuous, or rather, they are trying to gain knowledge. They are the volunteers who I will try to practice with and learn as much as possible from, if I have a chance.</i> • <i>We are here for the students, not for ourselves. Do we need to be here for the SPs and think from the SP side?</i> 	Peer climate is pivotal: shared purpose sustains engagement, while self-focused behaviours disrupt task perceptions and motivation. Clear collaborative norms and educator oversight help preserve effective co-regulation.

Table 1. Qualitative interview data for each theme

IV. DISCUSSION

The findings of this study indicate that learning among SPs is facilitated through collaborative regulation toward shared goals, as conceptualised in the SSRL framework (Järvelä et al., 2013). Our analysis revealed that each phase of this collaborative process plays an important role in SP learning. Many SPs reported anxiety when the purpose and significance of their tasks—understanding what they were doing and why—were unclear, particularly during initial training. This corresponds to the task perceptions and goal setting and planning phases of the SSRL framework (Panadero, 2017). Although SPs recognised that each practicum or examination has its own objectives and that expected roles may differ, many

struggled to translate these differences into their performance and feedback. SPs should not be left to gain an understanding of objectives and roles on their own; rather, these should be explicitly presented as a foundation by educators. Clear communication from educators regarding learning objectives and specific roles was shown to be essential for building shared understanding and enabling SPs to engage with greater confidence and security. Additionally, several SPs were often reluctant to offer direct peer critique for fear of straining relationships. This tendency likely reflects local professional and cultural norms valuing harmony and hierarchical respect, which constrain open criticism—especially toward peers or seniors. These dynamics shape how shared regulation unfolds in SP groups,

favouring indirect feedback (e.g., educator-facilitated debriefing) and consensus-building over explicit peer challenge. Furthermore, in the strategy use phase of SSRL, learning among SPs was strongly promoted through sharing specific methods and experiences. When senior SPs shared their experiences and practical tips, it not only facilitated technical skill development but also provided significant emotional support. Such mutual support fostered smoother collaboration and enhanced SPs' sense of self-efficacy.

Additionally, in the adaptation phase, it is critical for SPs to consider how experiences and feedback gained through practice can be applied to future activities. However, this study found that many SPs experienced challenges with self-assessment and peer evaluation. In such situations, educator support–scaffolding, feedback facilitation, and goal alignment–is vital to learning (Lewis et al., 2017). Scaffolding clarifies task perceptions and criteria; feedback facilitation establishes norms for evidence-based judgment; goal alignment links individual and group's aim to student learning. Concrete guidance helps SPs organise thinking, calibrate judgments, and coordinate next steps, strengthening shared regulation across goal-setting, strategy use, and adaptation. Overall, SP learning rests on collaboration plus educator competencies in scaffolding, feedback facilitation, goal alignment, and psychological safety, with just-in-time interventions to guide adaptation.

From an integrative perspective, the four themes map onto SSRL phases: “Clear goals from educators” corresponds to task perceptions and goal setting; “Educator-facilitated shared regulation” aligns with strategy use; “Support from senior SPs for junior SPs” reflects additional strategy use that co-constructs learning; and “Co-regulation among SPs” relates to adaptation via motivational and collaborative adjustments. This alignment shows how SP learning unfolds across SSRL in practice. Future research should develop SSRL-based educator training modules that provide practical strategies for scaffolding SP learning, facilitating structured reflective dialogue, and fostering shared regulation within SP groups.

A. Limitations

This study was conducted with a single SP group, limiting the transferability of findings. SPs' experiences and perceptions may be influenced by institutional cultural contexts. Different settings may present unique trends and challenges. Future research should conduct comparative studies across diverse SP groups and incorporate quantitative methods for broader understanding.

V. CONCLUSION

This study highlights that SPs enhance their learning through socially shared regulation, guided by clear goals and mutual collaboration. These insights can inform the design of SP educator development programs emphasising facilitation of collaborative learning.

Notes on Contributors

Kaho Hayakawa, who served as one of the SP educators in the study site program, conducted all interviews and acted as the lead researcher, overseeing the thematic analysis, contributed to the conception and design of the study, data collection, analysis, and drafting of the manuscript. Osamu Nomura, who is a medical education research specialist with a master's degree in medical education and substantial experience in thematic analysis, participated in the interpretation of results and critical revision of the manuscript for important intellectual content. Chihiro Kawakami, Kazuhiko Fujisaki, Keiko Abe, and Takuya Saiki critically reviewed the manuscript. All authors approved the final manuscript.

Ethical Approval

Participants were recruited through convenience sampling, and those who provided informed consent participated in this study. This study was approved by the Ethics Committee of the Faculty of Medicine at Gifu University (Approval No: 28-407). Written informed consent was obtained from all participants.

Data Availability

Owing to restrictions imposed by the Institutional Review Board (IRB) at the time of ethical approval, public sharing of the research data via a repository is not permitted. However, the data supporting the findings of this study are available from the corresponding author upon reasonable request.

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Declaration of Interest

No conflicts of interest to disclose.

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