REFLECTIONS ON PRACTICE

A Reflection on Reflective Practices in Public Health Education

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ABSTRACT

Reflective practice (RP) is essential in public health (PH) work. Despite its benefits, literature is scant regarding the use of self-reflection as a pedagogical tool in PH education. We reflect on RPs in PH education at the National University of Singapore (NUS) and suggest recommendations to improve teaching practice. Most undergraduate PH students appreciate and practise self-reflection, although efforts to develop self-reflection skills could aim to be more inclusive. Emphasis on RP as a teaching tool varies across PH courses and teaching practices. To address barriers raised by students and faculty members, some ways forward include creating learning communities to encourage continuous discourse and wider adoption of RP in PH education, and using pedagogical frameworks to scaffold reflection for learners.

Keywords: Public health, reflective practice, self-reflection, undergraduate, postgraduate, faculty

INTRODUCTION

The ability to reflect on one's practice is necessary for professionals (Schön, 1987). Brigley (1997) proposed that the professional development of public health (PH) practitioners should shift away from a medical, knowledge-bridging paradigm towards a broader, reflective model. While the credit-based framework has since been replaced by a reflection-based model in the continuing professional development standards for PH professionals in the United Kingdom (UK) (Faculty of Public Health, 2023), most PH continuing professional development standards in other countries have not incorporated such a change.

Jayatilleke and Mackie (2013) reported that there has yet to be documented use of existing reflection models in PH practice, although Reid (2015) critiqued that the former's methodology was restrictive in scope and argued that a broader view of PH practice and workforce, and reflection tools, should be considered for further research. In recent years, reflective practices (RPs) in PH work have been reported, although these are scant. RP was instrumental in retaining community providers and maintaining the fidelity of a home visit programme for child welfare in the United States (Oxford et al., 2018). Reflection was used in the evaluation strategy for climate adaptation in Maricopa County (Joseph et al., 2023). Regular reflective rounds for healthcare professionals in a UK children's hospital alleviated burnout, developed resilience, and improved the management of stressful incidents (Baker et al., 2021).

There has been a steady stream of research on the use of reflection in teaching over the past two decades (Chan & Lee, 2021). However, the extant literature on RP in health professions education is mostly in clinical fields such as nursing (Dahl et al., 2016), medicine (Fernandes et al., 2021), and pharmacy (Ray et al., 2020); recent studies on RPs in non-clinical PH education are limited (Ezezika & Johnston, 2022; Pham et al., 2023; Rispel, 2023). Most studies on self-reflection were on the self-reflection model development and evaluation in teaching and rubric validation (Lefroy et al., 2021; Koole et al., 2012), rather than on the barriers to and facilitators of self-reflection.

The Saw Swee Hock School of Public Health (SSHSPH), National University of Singapore (NUS), offers postgraduate (Master of PH, Master of Science, Graduate Diploma in PH, Doctor of Philosophy), and undergraduate PH programmes (Minor and Second Major in PH). Given the literature gaps, we sought to explore RPs in the department. Firstly, document analysis of the information on courses offered by the department from AY2021/22 Semester 1 or earlier (whichever was most recent) available from the learning management system (LumiNUS) was performed to assess the extent to which reflection activities were incorporated as part of instruction. Secondly, we investigated RPs, with a focus on reflection-on-action, a retrospective analysis of a situation or one's actions to improve one's practice (Schön, 1983), among undergraduate students and PH faculty through two mixed-methods studies conducted in AY2021/22 Semester 1. Faculty members are from the SSHSPH and undergraduate students ("PH students") are from non-medical disciplines reading an undergraduate PH programme in NUS.

In this Reflections piece, we reflect on our findings and suggest recommendations to improve teaching practice.

SUMMARY OF CURRENT PRACTICES BASED ON FINDINGS

Among the PH courses offered, six out of 20 undergraduate courses (30%) and six out of 45 postgraduate courses (13.3%) explicitly indicated a reflective component. Among courses that specified a reflective component, the majority included graded written reflection assignment(s) carrying a weight of between 20% to 30% for undergraduate courses, and 10% to 20% for postgraduate courses. A very small number of courses included non-written reflection activities, for example, those conducted during in-class discussions.

Faculty members were asked to indicate the extent of their agreement with student-oriented self-reflection practices using a 5-point Likert scale ranging from "Completely Disagree" to "Completely Agree". There was no disagreement from respondents for all questions, and more than 93% of faculty members responded to each question positively (i.e., with "Completely Agree" or "Agree"). **Table 1** shows the results from a section of the survey. Positive responses were most prominent for Q1, Q4, and Q6. No respondent disagreed with any statement in this section.

Table 1
Faculty responses regarding self-reflection practices (N=14)

Question	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
1. I sometimes question the way students do something and encourage them to think of a better way to do things.	0 (0.00%)	0 (0.00%)	0 (0.00%)	8 (57.14%)	6 (42.86%)
2. I like to think over what students have been doing and consider alternative ways the students can improve on what they are doing.	0 (0.00%)	0 (0.00%)	1 (7.14%)	10 (71.43%)	2 (21.43%)
3. I reflect on my students' actions to see whether there are any areas they could improve on.	0 (0.00%)	0 (0.00%)	1 (7.14%)	9 (64.29%)	4 (28.57%)
4. I re-appraise my students' experience of the course(s) so I can learn from it and improve my course(s) for future students.	0 (0.00%)	0 (0.00%)	0 (0.00%)	8 (57.14%)	6 (42.86%)
5. It is important for me to evaluate the things that my students do.	0 (0.00%)	0 (0.00%)	1 (7.14%)	9 (64.29%)	4 (28.57%)
6. I am very interested in examining what the students think about.	0 (0.00%)	0 (0.00%)	0 (0.00%)	5 (35.71%)	9 (64.29%)

Among faculty members, there were significantly more "frequent users" of self-reflection than "infrequent users". Reasons for initiating the use of self-reflection in teaching included gaining a better understanding of students, practising self-reflection routinely in one's career, and prior training in self-reflection. Influencing factors included institutional factors (e.g., institutional advocacy and resource provision, and autonomy in instructional design), student-related factors (e.g., positive student feedback, having prior knowledge to perform self-reflection, and alignment with cultural norms), and teacher-related factors (e.g., intrinsic motivation to become a reflective educator, self-efficacy, and perceived positive impacts on students).

PH students were asked to indicate the extent of their agreement with self-reflection practices using a 5-point Likert scale ranging from "Completely Disagree" to "Completely Agree". For all questions (*N*=159), more than 65% of students responded to each question positively (i.e., with "Completely Agree" or "Agree"). The results from a section of the survey are shown in **Table 2**. Positive responses were most prominent for Q3 and Q5. No respondent completely disagreed with any statement in this section.

Among students, being a "frequent reflector" was positively associated with motivation to learn, perceived PH career preparedness, and having sufficient self-reflection activities in PH courses. Extrinsic factors influencing self-reflection among students included teacher influence, social support, institutional support, and environmental influence, while intrinsic factors included personal interest in the topic, having the knowledge or self-efficacy to perform self-reflection, and perceived benefits/the lack thereof in performing self-reflection. Other barriers to self-reflection included low emphasis in prior and current education experiences, the nature of the content taught, lack of self-reflection opportunities, fear of being judged, non-anonymity, and perceiving self-reflection as tedious and time-consuming.

A prior study by the team revealed a positive relationship between frequent student reflection and the perception of adequate opportunities for self-reflection provided by the faculty. The adjusted prevalence ratio for this association was 1.24 (95% CI: 1.05–1.45) (Lim et al., 2022).

Table 2

Student responses regarding self-reflection (N=159)

Question	Completely Disagree	Disagree	Neutral	Agree	Completely Agree
1. I sometimes question the way others do something and try to think of a better way.	0 (0.00%)	2 (1.26%)	32 (20.13%)	95 (59.75%)	30 (18.87%)
2. I like to think over what I have been doing and consider alternative ways of doing it.	0 (0.00%)	8 (5.03%)	32 (20.13%)	93 (58.49%)	26 (16.35%)
3. I reflect on my actions to see whether I could have improved on what I did.	0 (0.00%)	4 (2.52%)	21 (13.21%)	105 (66.04%)	29 (18.24%)
4. I re-appraise my experience so I can learn from it and improve in my next performance.	0 (0.00%)	4 (2.52%)	31 (19.50%)	103 (64.78%)	21 (13.21%)
5. It is important for me to evaluate the things that I do.	0 (0.00%)	4 (2.52%)	25 (15.72%)	102 (64.15%)	28 (17.61%)
6. I am very interested in examining what I think about.	0 (0.00%)	8 (5.03%)	45 (28.30%)	82 (51.57%)	24 (15.09%)

REFLECTIONS ON CURRENT PRACTICES AND RECOMMENDATIONS

Reflection components were incorporated in a small number of undergraduate and postgraduate PH courses. The actual extent of reflection activities in PH courses is likely under-reported as the document analysis was based on what was reported objectively in LumiNUS. Teacher-facilitated verbal reflections, such as those held during class discussions or during or after a fieldtrip, were excluded from the analysis unless explicitly stated in the course description. Moreover, the nature of assignments lacked detail in many course descriptions, particularly for postgraduate courses. As faculty members may coordinate more than one course, we observed that many of the courses which incorporated a reflective component were coordinated by the same faculty members. The findings from the document analysis provide direct evidence that triangulate with the mixed-methods study results.

Frequent student reflection is linked to perceiving adequate opportunities for self-reflection provided by the faculty, suggesting a potential connection. While not establishing direct causation, it implies that faculty practices may shape students' reflective habits. Further research is needed to explore the dynamics between faculty and student RPs, investigating the potential impact of faculty reflections on students.

There appeared to be a greater emphasis on reflection activities in undergraduate PH courses than postgraduate courses. Instructors may be less intentional in using reflection as a teaching tool at postgraduate-level if students are assumed to be able to self-reflect independently, although this is a hypothesis that requires further investigation. We also recognise that the faculty participation rate in our mixed-methods study was low (nine interviewees among 14 survey respondents [37.5%]) and that respondents may be more motivated to incorporate reflection activities in their teaching than non-respondents. Taken together, findings suggest that self-reflection has not been fully embraced as a pedagogical tool in PH education despite its benefits, echoing Sendall and Domocol (2013). We suggest that department-level learning communities or related platforms could be formed to encourage teachers to reflect on their teaching practice to better harness the potential of reflection activities to support learning.

Most PH students appreciated the importance of self-reflection and practised it. However, that there was a small proportion of students who do not, signals an unmet need for teachers to foster this skill among all budding PH professionals. To reduce the barrier of entry to self-reflection for students and teachers, we recommend that at least one reflection activity be incorporated in all PH courses with an experiential learning component. For verbal reflections, teachers are highly encouraged to be intentional in ensuring inclusive participation. The DEAL model is a pedagogical framework that can scaffold written and verbal reflection tasks (Ash & Clayton, 2004; 2009). It has been used effectively to facilitate reflection in the capstone internship course, SPH3001 "PH Practice".

Student-teacher power distance and non-anonymity were cited as barriers to self-reflection among students. These may prevent students from writing honest reflections and confound the documentation of actual learning outcomes especially if the reflection is graded, since it may influence students to write for the assessor rather than for themselves (Dyment & O'Connell, 2010; Paget, 2001; Tan, 2021). While grading reflection tasks may motivate students to reflect more deeply (Chandler, 1997; Crème, 2005), students may end up not performing reflection if it is ungraded as they may prioritise other academic deliverables (Richardson & Maltby, 1995). The grading of written reflections remains an ongoing debate. The provision of feedback that is process-based and/or on self-regulation skills (Hattie & Timperley, 2007) is recommended over giving an overall numerical mark when grading reflections. Nevertheless, a consistent emphasis of RP in PH programmes, e.g., by sharing examples of its benefits, may help students adopt more positive attitudes towards reflection (Ip et al., 2012). This was observed in SPH3001, in which the rationale for fortnightly reflection was explained to students from the start and honest reflection was encouraged despite it being non-graded. Most students completed the task and demonstrated acceptable reflective ability in their submissions.

CONCLUSION

If professionals ought to be reflective, it is essential that schools develop RP among learners. Overall, our findings suggest that RP could be more widely adopted in teaching and learning. More broadly, the study findings extend the evidence base of RP among both learners and teachers in non-clinical PH education, allowing us to propose the following recommendations:

1. Consider creating learning communities to facilitate continuous discourse and encourage RP among faculty members.
2. At the programme level, consider incorporating at least one reflection activity in all PH courses with an experiential learning component.
3. The pedagogically-informed design of reflection prompts can be an effective scaffold for reflection, and may be particularly helpful for students who struggle with reflection activities.

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