The continuous feedback model: Enabling student contribution to curriculum evaluation and development

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Abstract

Introduction: Evaluation of curriculum is essential to its development. Typically, curriculum evaluations are conducted by end-of-course questionnaires, often resulting in a lengthy delay in implementing improvements that no longer affect the students who completed the evaluation. This study investigated a continuous real-time curricula feedback model as a novel method more appropriate for simultaneous evaluation and improvement of our integrated physiotherapy courses than typical end-of-course evaluation.

Methods: A mixed methods design involving concurrent qualitative (focus group interviews, anonymous comments in a "suggestion" box, qualitative survey comments) and quantitative (survey) approaches was used to regularly collect staff (n = 20) and students' (n = 127) perceptions of a full-year course. Quantitative data were analysed descriptively, and qualitative responses were collated and categorised. The analysed data were fed back to staff and students in the form of a feedback report sent out via email after each module. The report incorporated a summary of the results and the changes to be actioned within the next module.

Results: We found the new model to be helpful and liked by both staff and students. Students liked that they could see change as a result of their feedback. Staff felt it should be used in conjunction with the typical end-of-course evaluation, although they found the periodic student feedback reports helpful.

Conclusions: The continuous feedback model, although it does not eliminate the need for a formal end-of-year quantitative evaluation, did provide useful qualitative information, a safe environment for student feedback and the opportunity to correct issues in the curriculum as they arise.

Keywords: curriculum; feedback; physiotherapy

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Introduction

Worldwide, tertiary institutions consider the evaluation of educational courses and of teaching important, and they are, thus, an integral part of academic practice (Chapman & Joines, 2017; Stein et al., 2013; Steyn et al., 2019). Whilst essential to the academy, these evaluations are not without controversy, which ranges from practical concerns about validity, reliability, delivery modes and response rates to political debate about their use to improve quality of teaching versus neoliberal usage for promotion, tenure and academic performance review (Cannizzo, 2018). Clear distinction should be made, however, between evaluation of a course and/or curriculum and that of teaching practice, with the latter evidently about an individual's teaching effectiveness (Chapman & Joines, 2017; Golding & Adam, 2014). The evaluation of a curriculum or course, we would argue, is a broader concept, asking questions such as is the curriculum fulfilling its purpose, are students learning the set objectives, and is teaching optimal and effective? This distinction is clearly made at our university, where rather than course evaluation, academics use different evaluation forms to evaluate their individual teaching. In our university, teaching evaluation is a mandatory part of an academic's academic performance review and criteria for promotion, whereas course evaluations are voluntarily used for quality improvement of the course.

Although voluntary, we assert that course and curriculum evaluation are highly desirable for course development and improvement but question how they can be efficiently and effectively conducted. Most course evaluations are quantitative in nature, with data collected via questionnaires, although some educationalists argue for the value of qualitative evaluation and its ability to gain a richer and more encompassing view (Steyn et al., 2019). Typically, curriculum evaluations are summative and conducted mostly through end-of-course questionnaires, with a focus on achieving a rigorous outcome analysis (Wilkes & Bligh, 1999). Whilst a topic of some controversy (Borch et al., 2020; Rowan et al., 2017), end-of-course questionnaires are viewed by some as formative as well as summative in helping tutors advance their future educational efforts and improve students' perceptions of the quality of their education (Elzubeir & Rizk, 2002; Feinstein & Levine, 1980). However, end-of-course evaluations often result in a lengthy delay in implementing improvements, and these improvements no longer impact the students who completed the evaluation (Freeman & Dobbins, 2013). Furthermore, end-of-course evaluations are dominated by "peak-end rule", that is, how the courses were at their peak and how they ended (Woloschuk et al., 2011). Although students continuously evaluate their course on an on-going basis, students' experiences (pleasant or unpleasant) at the peak and end of the course typically override the benefit of any continuous evaluations made by students throughout the duration of the course (Woloschuk et al., 2011).

To overcome deficits and impact of end-of-course evaluations, Goldfarb and Morrison (2014) described a model of course evaluation, the real-time continuous curricular feedback model. This model, developed for a medical curriculum, involves representatives

from each stakeholder group—faculty (academics and clinical), administration and students—in a co-creation approach that not only sheds new light on deficits of the current curriculum but helps maximise student involvement in curriculum development. It potentially provides meaningful and timely opportunities to identify and remediate deficiencies in course characteristics and teaching. It can also combine both quantitative and qualitative methodologies in the evaluation.

The continuous feedback model was developed as a result of curriculum change at the Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania. This school's curriculum transitioned from the traditional model of medical education, which is taught across different departments, to the creation of multidisciplinary teams who created and taught in modular blocks. As these modular blocks could be taught by faculty from several departments, no one department was totally responsible for the whole module. This change necessitated an evaluation method that would elicit students' perceptions across multiple modules of teaching and staff to enable real-time feedback to drive necessary change. In the continuous feedback model used, medical student representatives (elected by fellow students) met regularly (weekly or monthly, depending on what aspects of the course were to be discussed) with a representative group of faculty and medical school administrators. In these meetings, students qualitatively provided and discussed feedback gained from their classmates, enabling immediate changes to the curriculum (Goldfarb & Morrison, 2014). Although not formally evaluated, the benefits of the model were illustrated by examples such as the implementation of the students' suggestion of team-based examinations (Goldfarb & Morrison, 2014).

In 2015, the University of Otago's School of Physiotherapy embarked on a review of their second- and third-year physiotherapy-specific courses based on a described model (Carnegie Mellon University Eberley Centre Teaching Excellence and Educational Innovation, 2016) that involved all academic staff. Although input was sought from stakeholders, including students, the review and subsequent changes were predominately staff driven, with limited student involvement. The outcome was the reconstruction of the physiotherapy courses, with a focus on the integration of content matter, for delivery in 2018. This initiative involved moving away from teaching content within the traditional physiotherapy disciplines (internationally physiotherapy is traditionally taught under the umbrella headings of musculoskeletal, neurorehabilitation and cardiopulmonary rehabilitation, or versions thereof) to an integrated multidisciplinary teaching approach. Such an approach is novel in physiotherapy curricula and, thus, required staff to think differently about how they co-taught and delivered subject matter. Although all academic staff across the school co-created the new look courses, we anticipated that once they were actually teaching the material, staff might find their experience of teaching to range from positively stimulating to, possibly, challenging and disconcerting.

Evaluating our new look courses was, thus, essential. In undertaking this evaluation, we were cognisant of two key points: (1) the complexities of course development and delivery, alongside the challenge of ensuring staff understood the changes (and the potential for reduced confidence in teaching in a new manner) would necessitate staff evaluation; and (2) although the new look courses were developed partly in response to collated student feedback on the curriculum over many years, we had not had much direct student input into the development of these new look courses. Given the importance of student input into curriculum development (O'Donoghue et al., 2011), this shortfall needed addressing. Therefore, we needed to find a way to effectively and efficiently evaluate the new look courses, from both staff and student perspectives, that allowed appropriate changes to be implemented in a timely manner.

Student input into curriculum development and evaluation is critical, not least of all because students are the key stakeholders. Student input can range from feedback via end-of-course evaluations to a genuine "students as partners" approach, in which there is active engagement and reciprocal learning between students and academics (Healey et al., 2014). Mercer-Mapstone et al. (2017), based on a systematic review of pertinent literature, identified four themes important to the students as partners model, namely (1) the importance of reciprocity in partnership, (2) the need to make space in the literature for sharing the (equal) realities of partnership, (3) a focus on partnership activities that are small scale, at the undergraduate level, extracurricular and focused on teaching and learning enhancement and (4) the need to move toward inclusive, partnered learning communities in higher education. In healthcare professional education programs, however, other important stakeholders frequently dictate curriculum development, such as the professional regulatory bodies, which accredit programs against prescribed competencies, and future employers, who require certain attributes and knowledge (for example, Ministries of Health policies and working in public hospitals). Health professional students may be limited in their ability to provide input on core curriculum content to meet professional body accreditations, but they have important perspectives to guide relevant and appropriate curricula development to optimise student engagement, understanding and learning. Recent publications, however, highlight the underrepresentation of the student voice in health professional education scholarship (Burk-Rafel et al., 2017; Pereira et al., 2020).

Given the similarities between our revised curriculum and that of the curriculum described by Goldfarb and Morrison (2014), as well as our wish to include the student voice, we adopted their continuous feedback model for our revised curriculum. We could not find other literature reporting on the use and assessment of a continuous real-time curricula feedback model. Thus, the primary aim of this study was to investigate a modified version of Goldfarb and Morrison's (2014) continuous real-time curricula feedback model as a novel method more appropriate for simultaneous evaluation and improvement of our new look integrated physiotherapy courses than typical end-of-

course evaluation. We proposed this model would enable our students to be involved in curriculum development, thereby maximising their learning. This paper reports the opinions of both staff and students to this novel evaluation approach.

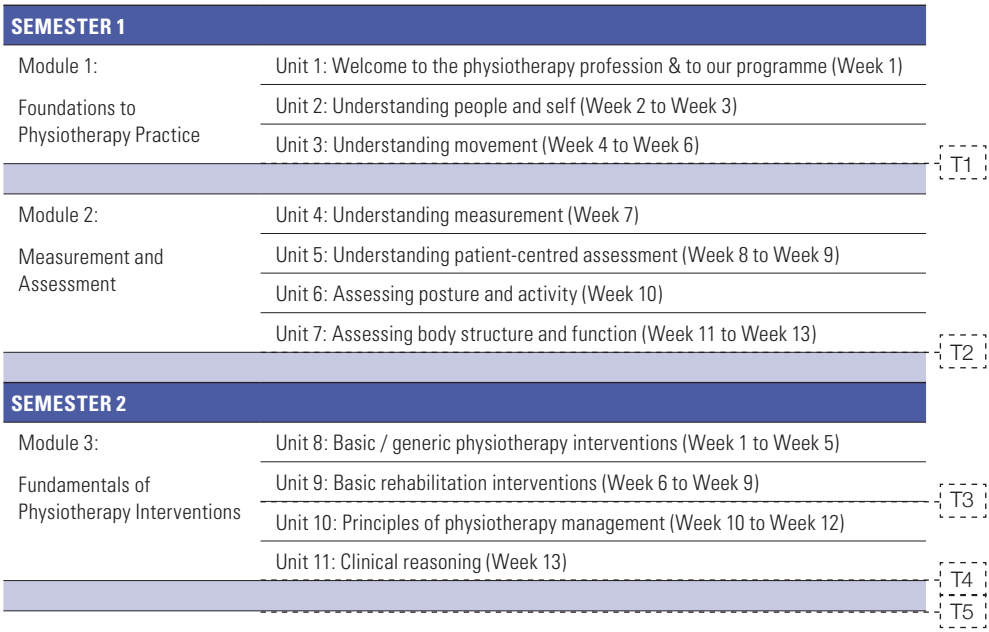
Methods

The context

The outcome was the reconstruction of the physiotherapy courses Physiotherapy Rehabilitation Sciences I (Phty 254) and Physiotherapy Clinical Practice I (Phty 255), with a focus on the integration of content matter, for delivery in 2018. Instead of groups of physiotherapy discipline-specific staff teaching three semester-long components of Phty 254, almost as courses in their own right, the new look Phty 254 course comprised three modules and 11 units taught by integrated multidisciplinary (in terms of disciplines of physiotherapy) groups of staff in a shorter and more concentrated manner. The new look Phty 255 course runs concurrently with and complements the Phty 254 course and has a strong focus on interactive authentic patient learning activities and enquiry-based case studies. A core of 20 staff contributes to the teaching of Phty 254 and 12 staff to Phty 255.

Figure 1

Curriculum Structure and the Time Points of Evaluation



Focus group discussions were conducted and questionnaires were distributed at five time points (T1 to T5).

Study design

Guided by the continuous real-time curricula feedback model, staff and students were asked to evaluate the new look courses at regular intervals throughout the academic year. Evaluation occurred at five time points, as follows: end of module 1, end of module 2, middle of module 3, end of module 3 and end of year (Figure 1). In turn, analysed and summarised data, along with responses and proposed actions to requested changes, were regularly fed back to staff and students. To collect data, we used a mixed methods design involving concurrent qualitative (focus group interviews, anonymous written comments placed in a "suggestion" box and survey) and quantitative (evaluation survey) approaches. The study was approved by the School of Physiotherapy Ethical Committee (D18/091) and was conducted between February 2018 and December 2018.

An advisory board comprising the project researchers, staff (Phty 254 and Phty 255 course co-ordinators), a University of Otago Higher Education Development Centre (HEDC) staff member and two students was first formed. This board met regularly and advised on interview and survey questions, data analysis and interpretation, what immediate and long-term changes were required for the new look courses and the content of the feedback reports.

Participants and recruitment

All students (n = 127) enrolled in the Phty 254 and Phty 255 courses were invited to participate in the focus groups and evaluation surveys and to contribute to the suggestion box. For the staff focus groups, only the staff teaching the module to be evaluated were invited (whilst a total of 20 staff contribute overall to Phty 254, the number of staff per module vary).

Focus groups

We conducted focus groups (staff and students separately) of no more than eight participants per group after the completion of each of the three modules, at the midpoint of module 3 (because it was particularly long) and at the endpoint of Phty 254. Whilst these focus groups explored perceptions of, and sought feedback for, each module and its units; importantly, views on the continuous feedback model were also sought. As Phty 255 is so aligned to Phty 254, both courses were discussed in these focus groups.

To ensure anonymity, student focus group discussions (approximately 1 hour each) were conducted in a venue outside the School of Physiotherapy. For staff, the focus groups took place at the School of Physiotherapy. An assistant research fellow not involved in teaching in the School of Physiotherapy arranged and facilitated the focus group discussions. A semi-structured interview guide with pre-specified questions and probes was used (see Table 1). The guide was co-developed with the advisory board and informed by student feedback provided by the Physiotherapy Student Council president. The focus group discussions also explored the new method of cyclic evaluation as compared to that of the

more traditional end-of-course evaluation and whether this new method should be used in future evaluations, and how often. All interviews were audio-recorded and transcribed verbatim by a commercial transcribing service.

Table 1

Focus Group Questions

Questions	Focus Groups (FG)
1. What do you think was the purpose of the module?	FG1–FG5
2. What went well?	FG1–FG5
3. What did not go so well?	FG1–FG5
4. Which areas do you think could be improved in this module/unit?	FG1–FG5
5. What ideas would you suggest to improve this module's units?	FG1–FG5
6. What changes do you think could be immediately incorporated in the following upcoming module/units to make it better than previous module/units?	FG1–FG4
7. Do you think your previous feedback was incorporated in the current module/units? (If not, what was not incorporated?)	FG2–FG5
8. What do you think about the continuous feedback model as opposed to the standard (end-of-year) evaluation method?	FG5
9. Would you like the continuous feedback model to be incorporated in future?	FG5
10. What do you think about the three methods of feedback, i.e., suggestion boxes, evaluation questionnaires and focus group discussions? Which would you prefer?	FG5
11. Were the reports of student feedback provided (periodically) to the staff helpful to tailor teaching?	FG5
12. Any other comments?	FG1–FG5

Suggestion box

All students and staff were invited to provide short written notes, feedback or comments in suggestion boxes strategically located at the school. This feedback was also used as points of further discussion in the focus groups.

Evaluation surveys

We further evaluated perceptions of students and staff using a short evaluation survey (course-based survey) administered at the end of each of the three modules and the middle of module 3. Additionally, staff were invited to complete an end-of-course survey and students completed the normal formal university evaluation questionnaire at course end. The project surveys included 5-point Likert scale questions, rating responses to statements from strongly agree to strongly disagree, and open-ended questions inviting

written responses. The project survey questions evaluated the following constructs: content organisation, clarity of expectations, balance/appropriateness between assessment and teaching, specific skill development, theory/content knowledge, workload, learning, delivery, the overall effectiveness of the module and incorporation of previous feedback. The final surveys included additional questions to explore perceptions of the new cyclic method of evaluation.

Cyclic data feedback

After each module data collection point, the quantitative data from the surveys were analysed descriptively by frequency, with data collated into 3 groups: strongly agree/agree, neutral, and disagree/strongly disagree. The qualitative data pertaining to opinions about the new look courses were thematically analysed by the author (DA) and a research fellow into summary points. Both sets of data were then discussed by the research team and the advisory board. The student data were summarised into student suggested changes and how these changes were to be actioned or an explanation as to why they could not be actioned. We then integrated this summary of identified changes and actions with all quantitative (with graphs presenting frequency responses to survey statements) and qualitative data (through collated qualitative data and illustrating quotes) into a report sent out via email after each module to both staff and students.

Data analysis

To explore staff and students' opinions of the continuous feedback model, we thematically analysed the qualitative data, as described by Braun and Clarke (2006). This analysis was conducted separate to that of the cyclic data. The author (DA) and a research fellow undertook the first analysis. Both individually read the qualitative data sets (focus group transcripts, suggestion box items and survey open-ended comments) multiple times, identifying text that specifically discussed participants' opinions of the continuous feedback model of evaluation. These identified texts were given preliminary codes. These two researchers then discussed and debated their preliminary codes with the other author (LH), and together, the research team arrived at a final coding scheme to apply across the data set. The final codes were further discussed to identify patterns within the coded data and the coded text collapsed and arranged into these labelled patterns, along with supporting participant quotes.

Results

The number of students and staff participants for each evaluation method at each time point is presented in Table 2. Table 2 shows that students were far more responsive to completing surveys than attending focus groups. Attendance at the first two focus groups was good, but no students attended the final two focus groups. Conversely, staff were better at attending the focus groups than completing the surveys. The suggestions box was marginally used by both staff and students.

Table 2

Participant Numbers at Each Evaluation Time Point

		Module 1	Module 2	Module 3a	Module 3b	Final	Median involvement across all time points
Focus group	Staff	5	8	6	3	7	6
	Student	8	5	0	0	N/A	3
Evaluation survey	Staff	2	0	2	0	5	2
	Student	72	43	62	53	N/A	58
Suggestion notes	Staff	1	1	0	0	0	1
	Student	5	4	2	0	0	2

Collectively, student feedback concentrated mainly around practical issues regarding logistics of timetabling, number of demonstrators, course objectives and availability of equipment. Additionally, some students were confused about examination expectations, as advice they had gleaned from the previous Year 2 students was no longer relevant. All student concerns were addressed, as appropriate, and this was appreciated. For example, at the focus group for module 2, one student attendee stated:

> *Can definitely tell you guys have integrated our feedback. Enjoying this part of semester much more!* (Student 01, Focus group)

Staff focus groups were generally more focused on the detail of content, sequencing, logistics and impact on their teaching.

Qualitative findings of the continuous feedback model

Several patterns were identified that spoke, albeit simply, to the appropriateness of the continuous feedback model for use within the context of this study. These patterns reflected both what students and staff liked or did not like about the evaluation method. They were labelled: recall and recency effects, details throughout the year, immediate changes to subsequent modules, safe feedback, structure and delivery of the curriculum, complementary to the standard end-of-year evaluation and disadvantages. Each is presented below, illustrated by student and staff quotes.

Recall and recency effects

Both students and staff felt that the continuous feedback model provided better evaluation than the standard end-of-year evaluations, as it helped them to provide feedback when the topics were fresh in their mind rather than relying on their memory

towards the end of the year. This allowed more specific and detailed feedback with improved validity. This point was illustrated by the following student quotes:

> *It's good because we remember how we felt about the time spent on a topic, etc, because it was recent.* (Student 02, Focus group)

> *Is better, as otherwise you will forget everything specific by the end of the year.* (Student, Survey)

Staff were like-minded. One member of staff stated:

> *I think it is good because I do not think we would remember quite the same if we are asked at the end of the year to try and recall what we did. Better to have brief sessions regularly.* (Staff 01, Focus group)

Details throughout the year

Both students and staff felt that the continuous feedback model was more specific and allowed for a focus on more detailed feedback for each module throughout the year, as the feedback for different modules/units of the course varied. However, staff felt that whilst some comments or feedback could be incorporated immediately (e.g., structure, delivery), others (e.g., content, time-tabling issue) could only be incorporated in the following year. Nevertheless, it was important and valuable to collect the finer details for each module. The following student quotes encapsulate these viewpoints:

> *You can give feedback throughout the year and can be more detailed towards more specific topics.* (Student, Survey)

> *Good, as you were able to change things as we went on according to the suggestions we made.* (Student, Survey)

> *Good to write/express how we feel about the lectures/labs and to see things incorporated throughout the year.* (Student, Survey)

The staff agreed:

> *I thought it was good, in a way, that it identified issues and things that could be addressed as we went so that we learnt from one module going into the next.* (Staff 02, Focus group)

Immediate changes to subsequent modules

Both staff and students felt that the continuous model allowed the changes based on their feedback to be incorporated immediately within the next module/units. Students liked that their feedback was incorporated within the same year rather than the following year, which allowed them to better engage in the feedback process to improve their experience of the curriculum. As students noted:

> *We do not have to wait until the end of the year to have our say, and it provides* a *chance to improve our year.* (Student 02, Focus group)

> *Helped a lot as it fixed issues we were having this year rather than next year.* (Student, Survey)

> *Better chance things are improved within our year, so we are more interested in good feedback.* (Student 03, Focus group)

Staff acknowledged, however, that incorporation of immediate changes to subsequent modules was not always possible because many modules/units were different.

> *Each module was quite different, as well, so it [the feedback] didn't always advise [on the changes to be incorporated], and modules had different issues and things coming up in them.* (Staff 03, Focus group)

Control and safety

Students felt that the continuous feedback model allowed them to have better control over their course. Staff felt that the continuous feedback model was a "safer" way for students to provide feedback in contrast to formalised end-of-year meetings.

> *And I think that is perhaps where something like the continuous model is possibly a safer environment for students to give feedback because ... particularly if it is run by someone who isn't part of ... the teaching team. … Potentially it is a safer environment to give that feedback than [a] meeting with staff.* (Staff 01, Focus group)

Structure and delivery of curriculum

Staff felt that the multiple focus group discussions in the continuous feedback study and the student feedback reports helped them reflect on their teaching, helped with better organisation and consistency, and improved the curriculum structure and its efficient delivery. However, staff felt that the student feedback reports helped very little with curriculum content.

> *I think the student feedback definitely helped in [a] procedure[al] way. So, they were small quick fixes that we could introduce in time for the next module. And, those would be things like the signposting stuff, so having a PowerPoint at the beginning of a lab that outlined the [objectives], the lab, you know that they ask things like that. I am making sure that lecture slides were on board in a timely fashion, you know. So, they were kind of small things that we could tweak easily for the next module. ... But I think from a conceptual or a content perspective, I do not really think the students offered anything like that very much in their ... ongoing feedback.* (Staff 02, Focus group)

Complementary to the standard end-of-year evaluation

Staff felt that the continuous feedback model should be used complementary to end-of-year evaluation, as during the year, there is limited time to reflect on and incorporate some of the valuable feedback/comments received.

> *By using a continuous evaluation model ..., you are not quite given the time and space to capture and reflect and absorb all of those comments that are coming in. You know you need that time at the end of the year or the end of the semester to really kind of absorb and organise those comments. It is just another reason for perhaps needing both.* (Staff 04, Focus group)

Disadvantages

Staff felt that the continuous feedback model had some disadvantages, as the expectations that it created for students could sometimes be unhelpful. Further, although staff felt responsible to act on feedback, they also acknowledged that whether to incorporate some of the feedback was their choice, and they were not sure about how to best use the feedback reports. The following quotes capture staff perceptions:

> *I just think that is something that just needs to be kept in line in this whole thing, because if you ask for feedback, it is quite something to us and that carries quite a responsibility to do something with that information.* (Staff 06, Focus group)

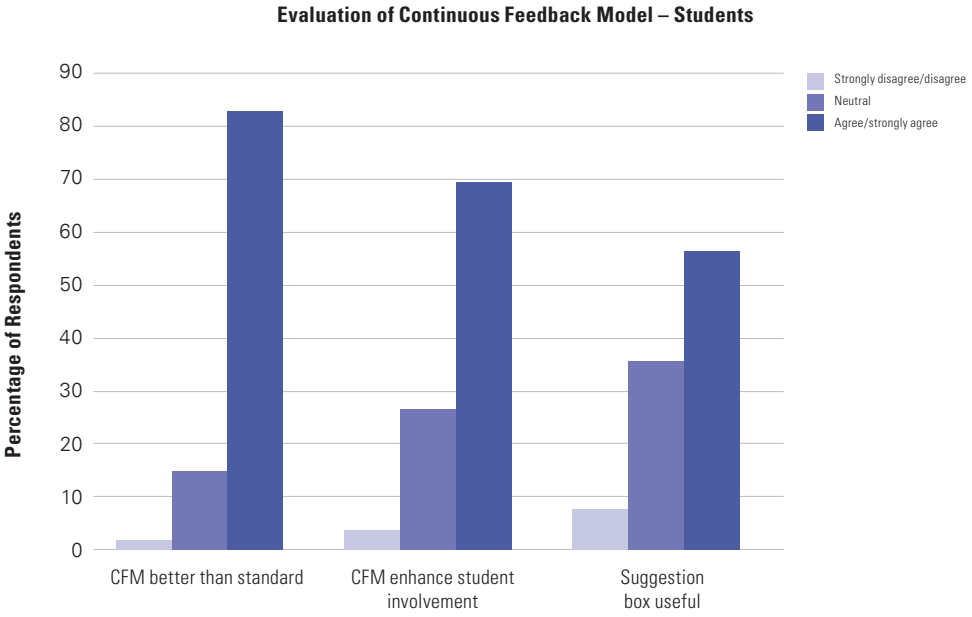
> *Just because students raise an issue, we do not have to address it. Sometimes we actually know what we are doing; other times we could do things better. ... Your point about the expectations, I think is an important one. We feel we have got to jump, because the students do not know the objectives, read, end of story. ... But if we think we have got to make a nice, coloured slide and put all this up because they would like it, is that an educational goal we need to worry about? No. So, I think ... you have got to be very careful.* (Staff 07, Focus group)

Quantitative findings of the continuous feedback model

The results from the student (n = 53) and staff (n = 5) final surveys are presented in Figure 2 below. The majority of students agreed that the continuous feedback model was better than the standard end-of-year evaluations, and it enhanced students' involvement in the development/improvement of curriculum and its delivery (Figure 2). Student evaluation of the overall effectiveness of the continuous feedback process, when compared to standard end-of-year evaluation (on a Likert scale of 0–10) was rated as 7.6 (SD 1.4). When compared to the end-of-year course evaluation, students' most preferred method of feedback was the continuous feedback survey (Figure 3).

Figure 2

Student and Staff Satisfaction With the Continuous Feedback Model



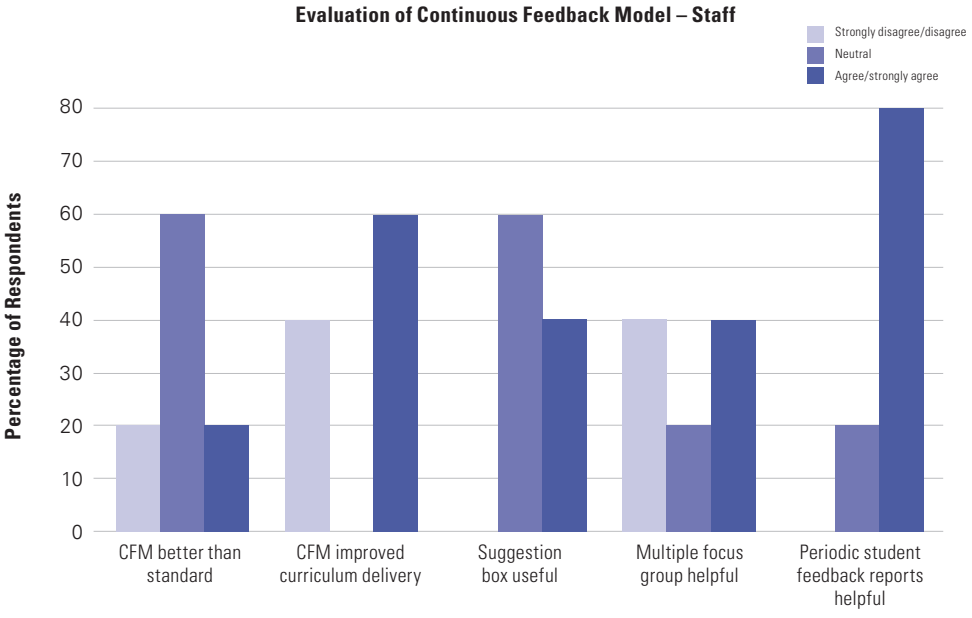
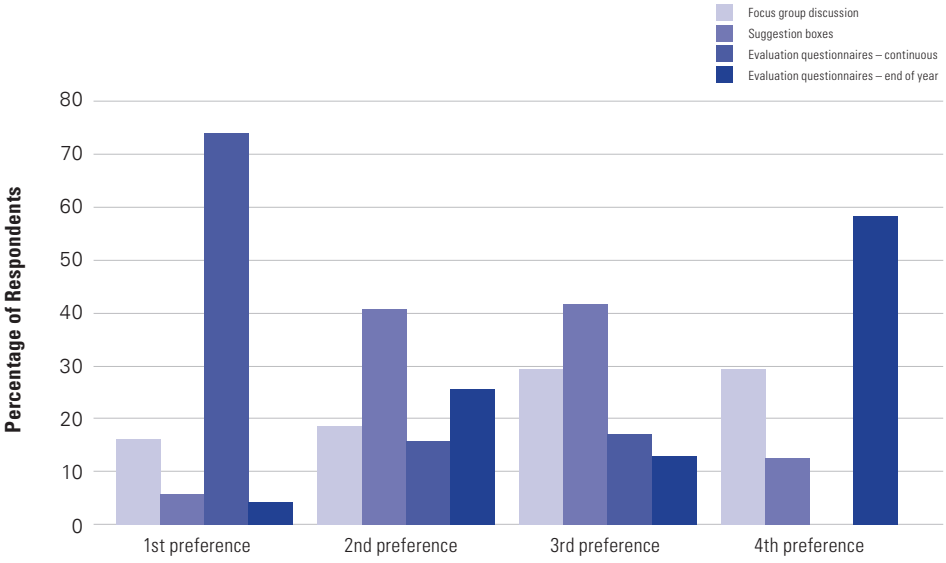


Figure 3

Students' Preferred Feedback Method



Discussion and implications

To our knowledge, the current study is the first to report the use of the continuous feedback model to evaluate a physiotherapy curriculum. We found the continuous real-time curricula feedback model to be helpful and liked by both staff and students. Students could provide feedback that we could either action within the year or explain why it was not possible to action, and they liked this. Students preferred this evaluation model to the typical end-of-course evaluation, as they could see change as a result of their feedback. Staff were more circumspect in their opinions, and whilst liking the method, felt that it should be used in conjunction with the typical end-of-course evaluation.

The preferred method of feedback differed between the students and the staff. More staff participated in the focus group discussions than the surveys or suggestion box, and in the focus groups they were far more focused on the content and delivery of the new-look courses. Students preferred the end-of-module survey over the focus group discussions (students eventually stopped attending) and the suggestion box (very few suggestions were received). Although focus group discussions can offer an invaluable source of rich feedback (Edgar & Gibson, 2016; Marra & McCullagh, 2018; Steyn et al., 2019), students did not prefer this method, mainly due to timing. All focus groups were conducted during the lunch hour at the end of modules/units. Although the timing of focus groups was carefully planned to not coincide with the assessment schedules

of courses, and a pizza lunch was provided, it often coincided with a week close to or before the assessment schedules of the different concurrently run courses (for example, a lab test, an assignment due or a group presentation to be done), which limited students' attendance at the focus groups. The other reason was the inclusion of open-ended qualitative questions in the surveys. Most students who completed the surveys included detailed responses to the open-ended questions, thereby conveying their perceptions without needing to attend an hour of focus group discussion.

A further consideration around student attendance at focus groups was vulnerability. Although our study included an interviewer not involved in teaching, and the focus group discussions were conducted in a location outside the physiotherapy school, some students perceived that participation in the focus group discussion would break their anonymity and this might affect their relationship with staff, as well as their subsequent grades. This latter concern was one found by Afonso et al. (2005), who reported that the three most common barriers to optimal evaluation in medicine were an apprehension of possible encounters with the same attending physician in the future, destruction of working relationships with the attending and a feeling of frustration that the evaluation process would not improve the teaching performance. Thus, the fact that the anonymous surveys captured both qualitative and quantitative information and involved less time commitment were possibly why surveys were the students' preferred option.

The current study used the written summary reports to close the feedback loop. Both students and staff were informed about the process that followed each focus group discussion and the short evaluation surveys. The reports outlined the issues and the actions to be taken, and an explanation if the issue could not be addressed. Both staff and students appreciated the periodic feedback report—it helped staff improve their teaching strategies for consecutive modules/units, and students acknowledged that their feedback was being heard. Timely closing of the feedback loop also improved staff and students' engagement, as well as the commitment to the continuous process, and improved students' overall course satisfaction (Watson, 2003). These positive findings are not unusual, as many authors have highlighted that for the curriculum feedback process to be effective, it is essential to close the loop in a timely manner (Shah et al., 2017; Watson, 2003). Hounsell (2009) reports that a response to students at the end of the feedback cycle is important, as this conveys the value ascribed to student feedback. Murray and Smith (2013) highlight that feedback results are most useful if used in a timely manner.

Some staff, however, did point to difficulty processing the feedback reports and were not sure how to best use them. These staff highlighted the responsibility they felt receiving the feedback and, yet, not always being sure how they could appropriately respond to it. Staff also were concerned that this type of evaluation would falsely raise students' expectations that all their voiced criticism of the course would be actioned immediately. The use of student feedback from course evaluations is a complex process, with staff applying their values and assumptions to student feedback to evaluate it and then their

judgement with what to do with it (Arthur, 2009). Arthur (2009) describes a typology of lecturers' perceptions of student feedback, categorising perceptions of negative comments into shame, blame, tame and reframe. In the current project, staff's feelings of responsibility towards the feedback gifted to them from the students is admirable, but rather than shying away from receiving it, "reframing the criticism as a positive inducement to develop their practice", as described by Arthur (2009, p. 452), may be a more desirous strategy to use. We suggest that, in the future, additional periodic formal staff meetings to discuss the feedback reports would address and allay staff concerns and assist in this reframing.

Was the continuous real-time feedback model useful to gain the desired staff and student input into the evaluation of the revised courses and subsequent refinement and development of them? Obtaining regular feedback from students, and staff, meant we could determine and deal with students' main concerns timeously. The regular staff focus groups provided an opportunity for reflection and debate and a place for staff to voice concerns. Change brings uncertainty and apprehension, and enabling a safe (i.e., anonymous and neutral) method for those involved to voice concerns that are heard and acted upon is important for progression (Keesing-Styles et al., 2014).

We modified the model that Goldfarb and Morrison (2014) described by including short regular surveys and focus groups, as opposed to the more intensive meetings detailed by these authors. That said, the administration around organising, delivering, analysing data and reporting back to staff and students in our project was time consuming and required dedicated administrative and research staff. This is probably worthwhile for a new curriculum or a major curriculum revision for which extra funding can be sourced, as in our case. For routine course evaluation, whilst regular real-time feedback is deemed more beneficial than end-of-course evaluations, as previously argued, a more efficient method of delivery of this model is desirable. To this end, we suggest very short surveys (such as five Likert questions and one open-ended question) for students, completed regularly online (to assist efficient data analysis) but in class (to enhance response rate). Most importantly, feedback on the findings and the response to them must be provided regularly and, for efficiency, this could be via the course website announcements function. If students realise that their feedback has been taken seriously and actioned, this will increase future engagement in course evaluations and may also assist their learning (Tucker et al., 2008). Regular staff discussions in an open forum, as opposed to formal evaluation, should be encouraged to refine the course and should enable all staff voices to be heard without fear of condemnation; after all, the academy is about freedom of critical debate. Although consensus from all staff is unlikely, rigorous debate should underpin an approach promoting a shared understanding (Fraser & Bosanquet, 2006).

Although we did not fully engage students as partners, as described by Mercer-Mapstone et al. (2017), in this project, we provided the opportunity for participation in some aspects, for example, in the third theme discussed by the authors, which had "a focus

on partnership activities that are small scale, at the undergraduate level, and focused on teaching and learning enhancement" (p. 1). The focus group findings suggested students liked that their feedback was incorporated within the same year rather than the following year. The findings also indicated that students appreciated being able to provide feedback in a safe way and that staff heard what they had to say. We are not sure whether involving students as partners enhanced their learning, as we did not evaluate this aspect. Future research should address this.

Our findings, however, are moderated by the study's limitations. Whilst we achieved what could be considered a good student response rate to our surveys (range 34–57% across the four timepoints, median 46%) (Ahmad, 2018; Luo, 2020), some students did not respond, and we do not know why. Students may not have responded because they were not present at the time, because of apathy, or because students consciously decided not to respond for unknown reasons. Our high response rate is most likely due to the survey being paper-based and administered in person, since online surveys have much lower response rates, lower than 30% (Ahmad, 2018; Luo, 2020). We also noted that our response rates fluctuated across time (57%, 34%, 49%, 42%, respectively). Future use of such surveys may eventually lead to survey fatigue and reduced response rates. With the university's formal evaluations now delivered online, these surveys are likely to also be delivered online, potentially further reducing response rates. Students who respond to multiple rounds of feedback may systematically differ from those students who do not, as engaged students who obtain good grades are more likely to complete online surveys (Chapman & Joines, 2017). Thus, using online surveys for continuous feedback may lack feedback from those students who are not engaged, and their non-engagement may be the result of course flaws. One way of mitigating against this may be to ensure that student feedback results in genuine timeous and visible course amendments (Chapman & Joines, 2017). Allowing time in class for completing short salient online surveys may also increase response rates (Chapman & Joines, 2017). Further, we acknowledge that our evaluation of the use of the continuous feedback model in this study is based on descriptive and qualitative data, and that for more conclusive findings, a longitudinal study design collecting more quantitative data to permit statistical comparisons is required.

Going forward, we propose continuing to use the end-of-module surveys to complement the formal end-of-year evaluations rather than focus groups or suggestion boxes. We will discuss student feedback in staff discussion and feedback sessions, in a timely manner, taking a considered approach to responding to feedback. We suggest that the concept of enabling students to provide continuous feedback is good, but how this is implemented will depend on the purpose of the feedback. When a new curriculum is being developed or there is major curriculum revision, authentically engaging students as partners takes time and effort, and this needs to be adequately resourced. For continuous quality course improvements, using regular short online surveys, completed during class time, may be sufficient. What is important is ensuring students know that their feedback is heard and actioned.

Conclusion

We proposed that the continuous feedback model would enable our students to be genuine partners with staff in curriculum development. Our model of continuous feedback partially fulfilled this proposition; students were pleased to see feedback being actioned, but it still seemed a fairly burdensome method of input for them, and much of their feedback could not be actioned due to timing or to reasons beyond staff control. Although the continuous feedback model does not eliminate the need for formal end-of-year quantitative evaluation, it does provide useful qualitative information, a safe environment for student feedback and the opportunity to correct issues in the curriculum as they arise. Additionally, students liked that they could see their feedback actioned or be provided with an explanation as to why this was not possible. Use of the continuous feedback model appears to be in its infancy, therefore more research is required to determine how to effectively engage students as partners in course evaluations and the impact this has on student learning.

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