Promoting alignment of campus-based practical sessions and clinical education in Physiotherapy education

Pedagogiskt docenturarbete

Anestis Divanoglou
Promoting alignment of campus-based practical sessions and clinical education in Physiotherapy education

Pedagogical reflection for acquiring the title of Docent

Anestis Divanoglou, PT, PhD

Contact person
Pia Tingström

Linköping, April 2023
Challenges

Physiotherapy curricula comprise campus-based modules (including theoretical sessions, tutorials, practical hands-on classes) and clinical components (clinical placements). Clinical components are typically facilitated by clinicians who assume the role of clinical educator as a complement or often on top of their regular duties. With half of the county councils in Sweden reporting a shortage of physiotherapists (Socialstyrelsen, 2020), and the high pressure on available clinical education positions, it is important that both campus- and clinic-based components of physiotherapy education become as effective as possible. That is important in order to minimise burden on clinical educators and increase their willingness to offer clinical placements, as well as increase student retention and work readiness.

Physiotherapy students are expected to be work-ready as independent practitioners at graduation (O’Connor et al., 2018). For that to happen, clinical educators and students need to have an understanding of the expected level of competence on graduation, and at any given part of the curriculum. Some universities use term/module-specific expected level, whereas some other use the graduate level as the reference point. World Physiotherapy (2022) has published specific standards of competencies that physiotherapy students are expected to have upon graduation. In the effort to reach that level of competence on graduation, clinical placements are often seen as an opportunity for clinical exposure and as a gatekeeper, with different curricula placing more focus on either of these functions.

Receiving and providing feedback, and engaging in reflective practice are considered important processes for physiotherapy students to become competent practitioners and active learners. O’Connor et al. (2017) studied the physiotherapy student perceptions on performance-based assessments, and found lack of frequency and clarity of feedback, with many students reporting an excess of critical feedback and insufficient guidance on how to improve. Fulfilling the role of the clinical educator, including provision of constructive feedback, takes time (Gibson et al., 2019). In regard to campus-based practical assessments, there are cases where providing feedback to students is considered an optional component upon request. How can feedback in campus-based components and clinical placements become more useful for the student? How can reflective practice be strengthened already during campus-based components and clinical placements?

There are numerous reports of students suffering from mental health issues (Orygen - The National Centre of Excellence in Youth Mental Health, 2017). In Sweden, suffering with mental health issues was considered as one of the reasons behind higher attrition rates in physiotherapy students (Fysioterapi, 09/03/2020). Students may also report lack of motivation to study, and perceived lack of transparency in terms of grades and expectations (O’Connor et al., 2017). Clinical educators report that one of the greater challenges that students face during clinical placements is in relation to mental health (Lo et al., 2017). How can we design campus- and clinic-based components in a way to address such challenge? How can students reach an adequate level of competence while achieving a good level of
well-being, motivation to become active life-long learners, and without putting too much burden on clinical educators?

**Campus-based practical sessions and assessment**

Physiotherapy curricula typically last between 2-4 years. World Physiotherapy (2022) stipulates that one third of the total hours of a physiotherapy curriculum should be allocated to clinical experiences, with many universities allocating as many as 1,000 hours comprising:

- Campus-based practical classes involving demonstrations of techniques, roleplaying and simulation;
- observation visits to health clinics and non-clinical settings;
- clinical placements
  - as part of modules combining university content and clinical content
  - as a pure clinical placement module
  - as an intermediate milestone after completion of the degree and as a pre-registration requirement.

Campus-based practical experiences can assist students to develop skills and prepare them for meeting real patients during clinical placements. Terry et al. (2020) described that summative assessments embedded within discreet coursework subjects are direct measures of the knowledge, skills, and behaviours that must be implemented in a subsequent clinical practice experience. In some physiotherapy programs, the grade from a practical assessment contributes 50% to the course grade, and often, passing the practical assessment is a requirement for students to pass the course.

The Objective Structured Clinical Examination (OSCE) is a type of practical assessment that was introduced in Physiotherapy programs more than 20 years ago. It was initially developed in medical programs, to implement objectivity and structure in the assessment of performance of medical students. More recently, Khan et al. (2013) defined OSCE as “An assessment tool based on the principles of objectivity and standardisation, in which the candidates move through a series of time-limited stations in a circuit for the purposes of assessment of professional performance in a simulated environment. At each station candidates are assessed and marked against standardised scoring rubrics by trained assessors”. The approach has also been adapted to physiotherapy curricula. OSCEs are considered to assess the “knows how” (in simulated environments) aspects of Miller’s pyramid, as compared to clinical placements who assess the “does” aspects (Khan et al., 2013). Research has shown the more the stations at an OSCE, the more reliable and valid the outcome (Terry et al., 2017).

Gorman et al. (2010) described a structure of an OSCE comprising four stations utilizing a standardized patient interaction of 45-60 minutes broken into 3 x 15-minute periods to perform patient history and interview, examination, and intervention. They also included an additional 4 stations consisting of written or videotaped scenarios with questions for
students to answer. In courses that I have designed and coordinated, I have used a modified version of OSCE, that had 4-6 stations, some with a focus on demonstrations, some on documentation and some on discussing clinical reasoning. The more realistic recreation of assessment scenarios at the OSCE stations, the higher educational impact (Khan et al., 2013).

Formative OSCE can allow student to practice without the stress of marking, reflect on their performance and provide peer feedback, and familiarize with the format of the assessment. Students can work in pairs or groups of 3-4. One student roleplays the patient, 1-2 students the therapist and/or assistant, and another the observer. Students rotate between these roles. Students would typically have a longer time to prepare and can also collaborate in terms of analysing the case as well as planning the intervention.

Bosse et al. (2012) showed that training with both peer roleplay and standardized patients has a significant effect on self-efficacy ratings and objective performance measures. This effect was more pronounced when training with peer roleplay than with standardized patients. Their post-hoc analyses revealed that students undergoing roleplay, and therefore exposed both to the role of a clinician and that of the patient, were able to actively explore and better understand the patient perspective (Bosse et al., 2012).

At the model that I used, students who have completed their OSCE and after a short rest, they enter the room to roleplay the patient for another student. The student required to roleplay the patient receives a script that describes the clinical presentation and context. The educator is checking with the roleplaying student if there are any questions and unclear points in their role. In case of poor roleplaying performance, the educator can interrupt and provide further instructions to the roleplaying student.

OSCE grades during campus-based courses have been strongly correlated with performance during clinical placements. Terry et al. (2020) correlated the marks from preclinical campus-based assessment tasks and marks from clinical placements using the Assessment of Physiotherapy Practice (APP) (an Australia-wide standardised tool to assess student performance during clinical placement). They reported a strong correlation between OSCE and APP scores, moderate correlation between written exam and APP, and low correlation between seminars and APP. OSCE comprised 2-3 x15 min stations on a written case scenario, and an additional 30-minute station where students watched and analysed video material. They concluded that an OSCE could be used to identify students who may need additional support to improve their performance and skills during clinical placements (Terry et al., 2020).

OSCEs are typically assessed through an assessment rubric. The assessment rubric can include a checklist and/or global ratings. By aligning the assessment rubric used in OSCE in preclinical courses and the assessment tool used in clinical placement, it is likely that students will perceive an even higher relevance of the assessment to the real-life profession. Terry et al. (2020) reported that the similarities between the domains of competence and the levels of performance measured can provide a good basis for the positive relationship between students OSCE scores and their future clinical performance.
And they concluded that the OSCE scores could be used by educators as a method of identifying students that may be at risk of low performance in a clinical practice setting until a more robust measure is available (Terry et al., 2020).

**Assessment rubric for practical assessment aligned with tool used during clinical placements**

I am hereby discussing design aspects of a rubric to assess student performance at OSCEs in campus-based courses. One example of such rubric is provided in Appendix 1 of this report, and a similar example can be also found in Appendix 6 of the World Physiotherapy (2022) guidance for developing a curriculum for physiotherapist entry level education programme. Both examples are aligned with the APP, which is in turn aligned with the Australian Standards for Physiotherapy. The latter includes a comprehensive list of behaviors that all graduates in Australia are required to demonstrate competently by the time of their graduation. APP is a tool to assess student performance in clinical placements that was developed in Australia by Dalton et al. (2011). APP is currently used as the single assessment tool across Australia and has even been translated and implemented in other countries, including China and Iceland.

For each of the 20 domains in APP, there are examples of performance indicators that the student could demonstrate. These indicators are important for transparent communication between student and the educator. The exact performance indicators can be even used to provide feedback to the student in formative and summative assessments. The indicators should not be considered as a checklist, but rather as a guidance and as a resource. To provide a more holistic assessment of performance, without being focused too much on the grade, a global rating scale (GRS) can be added for each section of the assessment. Students report that feedback formatted around this rubric allows them to see more clearly how their campus-based practical assessments prepare them for their clinical placements, and subsequently for the skills they are required to demonstrate as clinicians.

Depending on the level of the course, some competence areas and/or performance indicators can be identified as being more relevant than others for a specific course. The course coordinator can then lift those behaviors and indicators, and even remove the ones that are not in the direct focus of the specific course. In some cases, some competence areas can receive a Pass/Fail grading property, which means that the specific competency does not contribute to the grade for the assessment but rather has a gatekeeping function.

Assessment has the potential to motivate students and hence influence their learning (Seale et al., 2000). Students tend to learn those elements of the curriculum that are known to be directly assessed. Perceived relevance and content of the assessment was reported by physiotherapy and occupational therapy students to be one of the most important factors influencing motivation (Seale et al., 2000). Students typically find clinical courses as most motivating and meaningful, but often struggle to make the connection between what they learn, to what they are assessed at, and to the requirements in the real-life profession.
Aligning these could potentially improve student motivation and performance, and even contribute positively to their self-efficacy. Improvements in these areas have been shown to have a supportive role in student mental health and academic performance (Grøtan et al., 2019).

**A note on the clinical placement assessment tool used at LiU**

The physiotherapy program at Linköping university (LiU) has adapted APP. While the adaptation appears to have improved the applicability of APP to the Swedish context, some considerations may still be relevant. Notably, the LiU Physiotherapy program lasts for 3 years, where students undertake clinical placements already from Term 2 (T2). In T2-T4 placements, students are assessed against the expected standard for the specific course, whereas at T5 the expected level resembles that of a newly graduate. During placements, students undergo a mid-term formative evaluation, followed by a pass/fail summative assessment at the end of the placement. In T4, after the placement is completed, the student undergoes a summative OSCE evaluated by the campus-based educators.

The Physiotherapy program where I worked in Australia comprised a 4-year curriculum where the students perform 5 clinical placements for 5 weeks each in core physiotherapy areas starting from T5. For each of the placements, students are assessed against the expected level of a newly graduate. Students undergo a formative mid-term assessment, followed by a summative end of term assessment involving a real patient. The result of that assessment and of the whole clinical period determines their mark for the whole placement.

O’Connor et al. (2018) conducted a systematic review comparing the psychometric properties of available clinical performance assessment tools (CPATs) in physiotherapy education. They included 20 studies describing 14 CPATs. Using a CPAT with good psychometric and educometric properties (ease of use; ease of interpretation; resources required; educational impact) is important and reported that rigorous and multiple institution involvement in psychometric testing is crucial. In cases of a small university developing their own CPAT or adapting an existing one, it is difficult to establish the psychometric properties, and most importantly to develop educational and support resources. Below, I discuss some areas of APP that are not directly represented in the modified version of APP used at LiU.

Progression or regression of assessment and treatment is an important aspect, both in physiotherapy education and physiotherapy practice. Typically, students are required to demonstrate assessment and treatment of a patient at a given phase. Being able to demonstrate how the student explicitly can lower or higher the degree of difficulty for both assessment and treatment is important, and is an indication of good clinical reasoning skills. In some cases, patients progress or regress rather quickly, so knowing how to progress an intervention program is crucial. Further, patient may respond in different ways to treatment, so further adjustments are typically needed.
Discharge planning and/or judging the need for referral are important quality indicators in healthcare. It is important for the student to learn how to plan for timely discharge, and/or continuously monitor for the need for further referral to other professional with the right level of competence and scope of practice. Both discharge planning and further referral typically involve interprofessional collaboration and communication. In my clinical and teaching experience, these are complex areas where students often experience difficulties. Therefore, it may be useful to make this area an distinct assessment criterion, in line with the World Physiotherapy (2022) Guidance for developing a curriculum for physiotherapist entry level education programme.

The LiU modification of APP does not provide any performance indicators. That could entail a risk for misinterpreting each criterion/competency. Also, it may make it difficult for the students to unpack what behaviors they need to learn and demonstrate. Performance indicators is an important resource for self-reflection, tutor to student feedback and peer feedback. For each of the different stages of the curriculum, it is important to be explicit and transparent on expected level of competency.

Physiotherapists supervising and assessing clinical placements have a key ‘gate-keeping’ role in students transitioning to being registered physiotherapists (Engström et al., 2017). According to Hattie and Timperley (2007), effective feedback must answer three major questions, asked by a student, a lecturer or preceptor: ‘Where am I going?’ (What are the goals?), ‘How am I going?’ (What progress is being made towards the goals?), and ‘Where to next?’ (What activities need to be undertaken to make better progress?). Clinical educators need to be trained in providing effective feedback without having to increase their workload more than necessary. Attending a workshop on how to assess students and provide feedback during clinical placements is a requirement for clinical educators in Australia. These workshops typically last for a full day. An example is provided by Milne et al. (2022).

Support to clinical educators

It cannot be assumed that good clinicians are automatically good clinical educators. It has been reported that clinical educators tend to use methods that their own clinical educators used previously. Instead of basing clinical education on previous experiences, a more evidence-based and systematic approach is needed to ensure good quality of clinical education (Milne et al., 2022).

At LiU, physiotherapy clinical educators are expected to attend an online self-paced module on clinical education that contains components such as provision of feedback, PBL etc. Further, for each clinical education module, there is a gathering of all clinical educators at the start of the course to provide an opportunity to ask questions and discuss issues in relation to clinical education.

At Australian universities, in addition to a self-paced course, clinical educators are also expected to participate at a one-day course focusing on APP. Six Universities in Queensland, Australia comprising the Queensland University Clinical Education Collaborative (QUCEC) developed a standardised one-day face-to-face workshop for CEs
The workshop was developed to provide consistent material and to limit variance by university facilitators when delivering content. As part of the program, the participating clinical educators had the possibility to observe video vignettes, rate student performance and then participate in a facilitated group discussion about the basis for that mark. Further, a large focus area of the workshop was to guide understanding of entry-level practice thresholds, which is commonly a challenging area.

Milne et al. (2022) reported that attendance at a collaboratively designed and standardised one-day workshop, resulted in significantly improved perceived knowledge, skills and attributes regarding clinical education assessment of physiotherapy students. Additionally, after attending the one-day workshop, CEs reported increased confidence in their ability to undertake a standardised assessment of student performance on clinical placement using the APP (Milne et al., 2022).

Generic educational modules for clinical educators may be a good opportunity to provide an introduction on aspects such as providing feedback, managing challenging situations, introducing problem-based learning, supporting student mental health and well-being etc. However, additional effort needs to be made in terms of training the clinical educators on how to provide feedback specifically to physiotherapy students, how to use an assessment tool as APP in an effective way, and what constitutes the adequate level of performance at various milestones of the curriculum, as well as the newly graduate level. It has also been suggested that periodic training is needed to recalibrate their assessment skills to produce accurate performance-based scores (Milne et al., 2022).

APP clinical education website provides a number of free resources that can be used both by students, academics and clinical educators:

- Video vignettes of poor, acceptable and good performance, including sessions where clinical educator provides feedback to the student, and debriefing sessions (https://appeducation.com.au/videos/2015-video-vignettes.html)
- There are vignettes for each of the core areas in physiotherapy, i.e. cardio-respiratory, orthopaedic, musculoskeletal and neurological

**Final note**
The World Physiotherapy has established and published standards for entry level physiotherapists (World Confederation for Physical Therapy - European Region, 2018). Different programs may follow different approaches and paths with assisting students in reaching the expected outcomes. It is important that key methodological decisions are aligned so that these can help student reach the expected outcomes. For example, the timing of clinical placements in relation to the duration of the program, the focus and purpose of each clinical placement, the extent and method that simulation training is
integrated in the program and is aligned with practical and non-practical sessions, the expected level of competence at the start/ middle/ end of the placement, whether the placement focus on a specific body system, and how the degree of difficulty and expected level of competence in each placement is gradually increasing. Different combinations of these issues will have implications on forming the unique identity of each program.

**Conclusion**

Practical components in Physiotherapy education comprise campus-based practical classes and clinical education, together corresponding typically to one third of the total contact hours of a curriculum. The Assessment of Physiotherapy Practice (APP) is a standardized tool to assess student performance during clinical placement comprising 20 domains with examples of performance indicators. Use of an assessment rubric in campus-based practical classes aligned and scaffolded on APP could prepare students even more in behaviours, knowledge and skills they will need during clinical placements and as competent practitioners. The use of such rubric could facilitate tutor to student communication, peer-feedback and reflective practice. In the current report, I have also discussed some advantages with using the full version of APP as an assessment tool in clinical placements, as compared to using an adapted version.

**Acknowledgement**

I would like to thank Karin Valeskog, pedagogical developer and physiotherapist, Linkoping University, for providing me with constructive feedback and with an overview of the clinical education system at Linköping University.
References


