



PRIORITY PROJECT PP6-28

Development of the APP (Assessment of Physiotherapy Practice) Instrument

A standardised and validated approach to assessment of
clinical competence in physiotherapy

Final Project Report
March 2009

Funding

Support for this project was provided by the Australian Learning and Teaching Council, an initiative of the Australian Government Department of Education, Employment and Workplace Relations. The views expressed in this report do not necessarily reflect the views of the Australian Learning and Teaching Council Ltd.

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Citations of this work should have the following format: Dalton M., Keating J., Davidson M. (2009, March). Development of the Assessment of Physiotherapy Practice (APP): A standardised and valid approach to assessment of clinical competence in physiotherapy.
[Australian Learning and Teaching Council (ALTC) Final report PP6-28]. Brisbane: Griffith University.
Available online at: www.altc.edu.au

2009

Executive summary

The purpose of this project was to develop a standardised instrument to assess clinical performance of physiotherapy students. An assessment instrument was required to meet the needs of students and educators and provide valid and reliable measurements of clinical competence.

Specific project aims were to:

- develop a competency based assessment instrument to evaluate the performance of physiotherapy students in the workplace;
- investigate and refine the psychometric properties of the instrument; and
- investigate the viability of using the instrument as a measure of physiotherapy competency in the practice environment.

The process of instrument development was planned with consideration of:

- feasibility of the instrument for monitoring and measuring performance in the complex and variable practice environment;
- utility of the instrument for educators and students;
- validity of the measurements;
- reliability of assessment outcomes;
- refinement of the instrument utilising feedback from educators and students; and
- alignment of the instrument with best practice in assessment.

The steps in the process of test development (listed below) reflected the integration of an action research approach and implementation of strategies for effective dissemination, adoption and adaptation of education innovations (Wilson 2005, McKenzie et al., 2005).

- Test Design (involving input from all key stakeholders).
- Pilot investigation (involving relevant stakeholders and accessing feedback to inform, evaluate and steer instrument modification): 1 university, 295 students.
- Field Test #1 (involving relevant stakeholders, accessing feedback): 9 universities, 747 students.
- Field Test #2: 9 universities, 695 students.
- Inter-rater reliability testing: 5 universities, 30 students and 30 pairs of educators.
- Production of Training /Learning Guides to facilitate effective adoption, implementation and ongoing evaluation of the instrument.

The project achieved its primary goal of developing an instrument to assess practice competencies of physiotherapy students. Representatives of all universities with entry-level physiotherapy programs had input into instrument development and refinement. At the time of writing this report, eight universities have adopted the Assessment of Physiotherapy Practice (APP) as their sole method of assessment of physiotherapy practice, and a further three are planning to adopt the instrument within the next 12 months. Instrument validation included Rasch analysis that indicated desirable scale properties, factor analysis that indicated a single dominant underlying construct, and positive student and educator feedback regarding instrument suitability. Inter-rater reliability was established using with two independent ratings of 30 students ($r = .96$, $SEM = 2$ APP units).

This project has delivered important benefits for physiotherapy education in that a single instrument with known validity and reliability is now available to replace the twenty-five distinct assessment forms

formerly in use. In addition, the instrument provides unprecedented opportunity for national discussion regarding measurable standards of practice.

Resources that provide ongoing support for clinical educators and students using the APP have been developed, but more can still be done. Further research is suggested to advance support material, develop an on-line version of the APP and investigate the long term impact of assessment standardisation.

Acknowledgements

The project team would like to thank the university academic and clinical staff, physiotherapy clinical educators and physiotherapy students across Australia and New Zealand for their enthusiasm, support and hard work throughout the period of this project. We would particularly like to thank Libby Henderson and Wendy Harris for their roles as research assistant and administrative managers and the clinical education administrative assistants at each of the Schools of Physiotherapy involved in the project. The library staff at Griffith University were always generous with their time and support.

The Clinical Education Managers from each of the Physiotherapy university programs throughout Australia and New Zealand who formed the reference group, and the Council of Deans of Physiotherapy, Australia and New Zealand (CPDANZ) also contributed valuable expertise and support.

Special thanks to Liz Molloy, Wendy Nixon and physiotherapy students from Monash University who assisted in the production of the APP training DVD.

Sue McAllister from the University of Newcastle/University of Sydney, who has conducted similar project with Speech Pathology Australia, was a valuable resource and provided constructive suggestions and moral support. In addition the project team would like to thank the Australian Physiotherapy Council, Gail Wainwright, Dalhousie University, Nova Scotia and Jody Gandy from the American Physical Therapy Association for their input.

A special vote of thanks must go to Associate Professor Norm Morris and all the physiotherapy staff within the School of Physiotherapy and Exercise Science at Griffith University for providing the chief investigator with the time required to complete the project.

The project team is indebted to the Australian Learning and Teaching Council for enabling this work with funding and support.

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1. Introduction

This document provides a final report on the Priority Project PP6-28, "Development of the Assessment of Physiotherapy Practice (APP): A standardised and valid approach to assessment of clinical competence in physiotherapy".

This is a collaborative project conducted in the discipline of physiotherapy from November 2006 to November 2008, supported by a priority project grant from the Australian Learning and Teaching Council (ALTC).

The project embraces the values of the ALTC through its commitment to excellence, diversity and collaboration, and aims to create long-term systemic change in the way the physiotherapy profession in Australia collaborates and standardises the assessment of physiotherapy practices.

1.1. Background and purpose

McMeeken, Webb, Krause, Grant & Garnett (2005), in a report on Australian physiotherapy education, claimed that "appropriate clinical education is fundamental to preparing safe and effective graduates reaching the expected competency levels as designated [and regulated] by ACOPRA and the demands of the workplace" (p.iii). Ideally then, students should learn professional competencies in the practice environment (Janssen-Noordman, Merrienboer, van der Vleuten, & Scherpbier, 2006). Valid, reliable and standardised assessment formats and procedures, suited to application in the workplace, are important for meaningful and consistent assessment of the clinical performance of physiotherapy students.

In 2005, the Queensland Health Clinical Education Project (2005) acknowledged the variability of procedures and instruments for assessment of physiotherapy practices across different universities in Australia (and New Zealand). There are 16 entry-level physiotherapy programs in Australia. All programs are accredited by the Australian Physiotherapy Council (APC, previously ACOPRA) and are required to demonstrate that graduates meet the competencies outlined in the Australian Physiotherapy Competency Standards (Australian Physiotherapy Council 2006). Despite each program having curriculum designed to meet the same set of competencies, when this project commenced each physiotherapy program used unique clinical assessment forms and assessment criteria. The choice of clinical assessment tools for physiotherapy schools in Australia has typically been influenced by historical precedents and personal experiences of assessors rather than by the known strengths and weaknesses of an assessment instrument, a situation common to that observed in medical programs (Newble, Jolly, & Wakeford, 1994). The Queensland Health Clinical Education Project (2005) emphasised this deficiency as a burden on assessors who supervise students from more than one program and as an important barrier to the placements of students.

A standardised instrument for assessing the clinical competence of physiotherapy students is attractive because it is the necessary first step in the ongoing evolution and refinement of an instrument with desirable measurement properties. Achieving standardisation of clinical assessment formats is a complex task, particularly given the forces shaping and changing the Australian health and education sectors. Any standardised instrument would need to provide valid assessment despite variations in assessment conditions.

Norcini (2003) argued for performance based assessments that facilitate evaluation of the complex domains of competency in the context of the practice environment within which competence is desirable. Assessment of habitual performance in the health service environment is essential for making judgments about clinical competence and professional behaviours and importantly, for guiding students towards expected standards of practice performance (Govaerts, 2002). In addition the important sociocultural perspective of learning is addressed as students are able to construct their own learning within the context specific clinical environment (Sfard, 1998). This target was the driver for the development of the Assessment of Physiotherapy Practice (APP) instrument presented in this report.

Test development was supported by a grant from the ALTC. The process of instrument development was planned with consideration of:

- feasibility of the instrument for monitoring and measuring performance in the complex and variable practice environment;
- utility of the instrument for
 - educators as it needed to provide a vehicle for valid assessment of performance and enable formative feedback to guide the development of desirable performance;
 - students as it needed to facilitate appropriate reflection on learning needs and unambiguous development of performance targets;
- validity of the measurements;
- reliability of assessment outcomes;
- refinement of the instrument utilising feedback from educators and students; and
- alignment of the instrument with best practice in assessment.

The steps in the process of test development (listed below) reflected the integration of an action research approach and implementation of strategies for effective dissemination, adoption and adaptation of education innovations (McKenzie, 2005; Wilson, 2005).

- Test Design (involving input from all key stakeholders).
- Pilot investigation (involving all relevant stakeholders and allowing feedback to inform, evaluate and steer instrument modification) 1 university, 295 students.
- Field Test #1 (involving relevant stakeholders, accessing feedback): 9 universities, 747 students.
- Field Test #2: 9 universities, 695 students.
- Inter-rater reliability testing: 5 universities, 30 students and 30 pairs of educators.
- Production of Training /Learning Guides to facilitate effective adoption, implementation and ongoing evaluation of the instrument.

1.2 Aims of the Project

The overarching aim of the project was the development and embedding of a performance based assessment instrument within Physiotherapy curricula nationally. In 2006 when this project commenced there were 13 entry level physiotherapy programs in Australia.

1.2.1. Primary aims of the Research

- The development of a competency based assessment instrument, the APP, to evaluate the performance of physiotherapy students in the workplace.
- To investigate and advance the psychometric properties of the APP.
- To investigate the viability of using the APP as a measure of student physiotherapy competency.

The action research nature of the project and methods used for effective dissemination, application, evaluation and adaptation of the instrument (McKenzie, 2005), enabled the collaborative involvement of the physiotherapy profession in its development and testing and, hopefully, a sense of ownership of the instrument.

1.3. The Project Team

The project brought together academic and academic/clinical physiotherapists from Griffith, Monash and La Trobe Universities (*Appendix 26: Project team – qualifications and experience*)

Project Team	Griffith University	Megan Dalton Chief Investigator & Project Leader: School of Physiotherapy Griffith University Gold Coast Campus Qld 4222 Telephone: 61 7 5552 8388 Email Megan.Dalton@griffith.edu.au
	Monash University	Professor Jennifer Keating
	La Trobe University	Associate Professor Megan Davidson
	Griffith University	Dr Heather Alexander
Research Assistant and administrative assistance	Griffith University	Wendy Harris (2008) Libby Henderson (2006-2007)
Partner Institutions	Curtin University of Technology	Kerry Saunders Professor Anthony Wright Amanda Bosokovic
	University of Sydney	Dr Cath Dean
Collaborating Partner Institutions :	James Cook University	Anne Bent
	Auckland University of Technology	Cheryl Keals-Smith
	Charles Sturt University	Dr Megan Smith
	University of Otago	Dr Margot Skinner Sandy Ferdinand

Reference Group	Griffith University	Dr Liisa Laakso Megan Dalton
	Monash University	Wendy Nixon Liz Molloy
	La Trobe University	Merrilyn McKenzie
	The University of Sydney	Evelyn Argyle
	Curtin University	Kerry Saunders Amanda Bosokovic
	Charles Sturt University	Rosemary Corrigan
	James Cook University	Anne Bent
	Otago University	Sandy Ferdinand
	Auckland University of Technology	Cheryl Keals-Smith
	The University of Qld	Ruth Dunwoodie
	Notre Dame University	Anne Marie Hill
	University of SA	Mitch de Jong Dr. Lucy Chipchase
	Newcastle University	Cath Johnson
	The University of Melbourne	Associate Professor Gillian Webb Clarissa Martin
	The University of Canberra	Jenny Scarvell / Wendy Chesworth

1.4. The significance of the Project

Development of a competency based assessment instrument to evaluate student's performance in the workplace had been achieved within the Speech Pathology profession (McAllister, 2005). The Assessment of Physiotherapy Practice (APP) was the first attempt in Australia to develop, test and refine a standardised instrument for assessment of physiotherapy students.

2. Design and Development of the APP

2.1. Approach and Methodology

The project team were guided by the *Standards for Educational and Psychological Testing*, (American Educational Research Association., American Psychological Association., National Council on Measurement in Education., & Joint Committee on Standards for Educational and Psychological Testing (U.S.), 1999). The process of test design was based on the “four building blocks’ approach outlined by Wilson (2005)

- Construct mapping;
- Items design;
- Outcome space; and
- Measurement model.

Wilson (2005) argued that construction of an instrument should start by defining the construct. In this project the target construct was competency of physiotherapy students. Items are then developed together with a scoring system (outcomes space). The measurement model is then applied to analyse the scored items and these measures can be used to reflect on success in measuring the construct. This enables modification and re-evaluation.

Cycles of action and reflection on outcomes (an action research approach) were utilised. Action research is an appropriate method for considering real-life organisational problems in a systematic and participatory manner and has been used effectively by occupational therapists to assess student fieldwork performance (Allison & Turpin, 2004). The action research cycles include preliminary information gathering, instrument development, trial / field test stages, and continuous refinement of the instrument based on evaluation throughout the different phases (Coghlan & Brannick, 2001).

2.2. Test design

2.2.1. Step 1: Map the construct

A construct map was used to clarify the underlying construct of ‘clinical competence’. Clinical competence was thought of as a continuum of performance from very poor (incompetent) through to very high levels of competence. Individual students may demonstrate more or less of the variable.

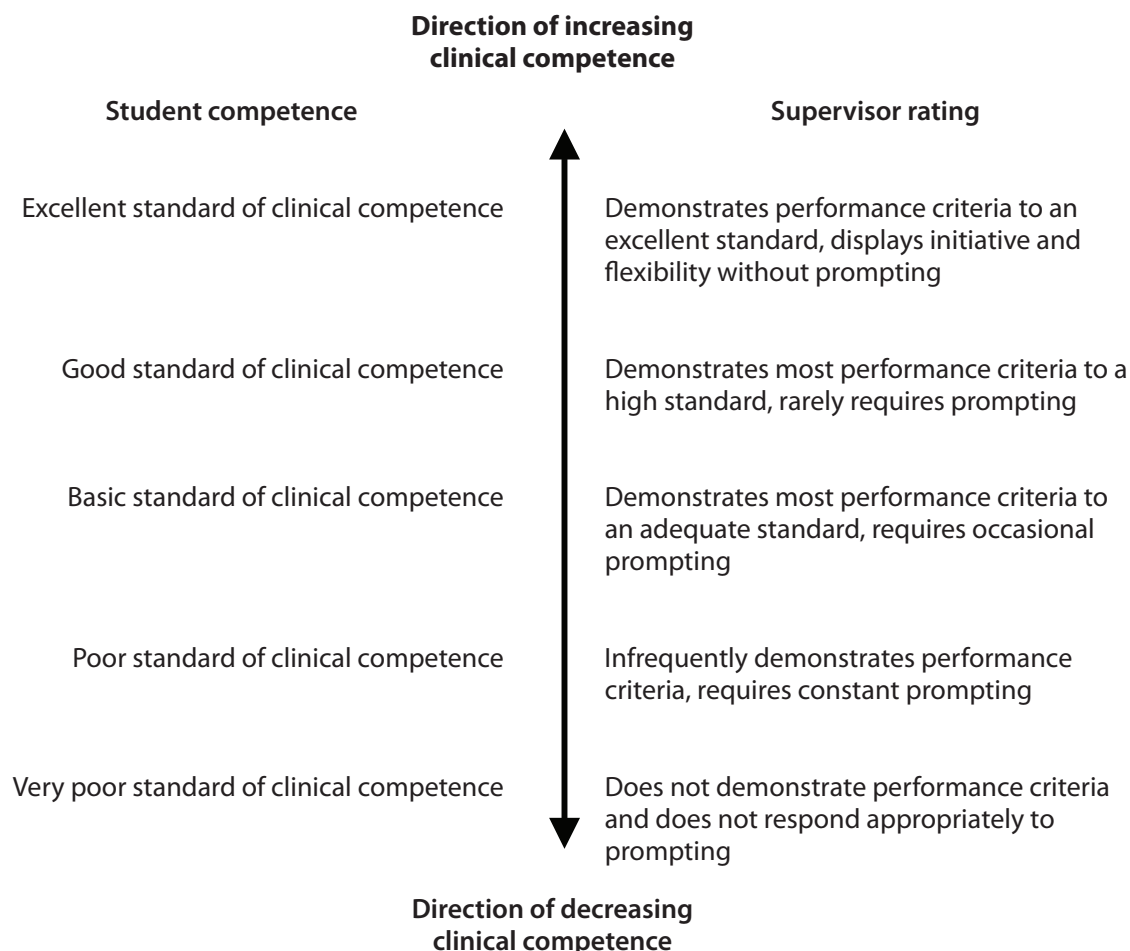


Figure 2-1: Construct map for the APP

A comprehensive search was conducted for relevant instruments and items. A comprehensive string of search terms were used to search multiple data bases (*Appendix 1: Search terms used in systematic review*). The pool of items was also assembled by drawing of a broad range of relevant sources that included:

- all existing instruments in use in Australia and New Zealand (Streiner & Norman, 2003);
- Australian Physiotherapy competency standards (ACOPRA, 2002);
- Australian Standards for Physiotherapy (APC 2006);
- National Patient Safety Framework (Australian Council for Safety and Quality in Health Care 2005);
- National OT competency assessment document (Allison & Turpin, 2004);
- National Speech Pathology competency based assessment tool, COMPASS™ (McAllister, 2005); and
- The Australian Council on Healthcare Standards EQuIP Standards (2002).

Overall approximately 600 potentially relevant items were assembled. Items in common across source documents were identified and duplicates were removed, retaining the least ambiguous version. As a finite and relevant number of assessment items are required for practical assessment of clinical skills, a parsimonious item set was considered desirable. Item reduction was approached by application of the following criteria. Included items must:

- target one attribute (explicit learning outcome);
- describe an observable and measurable behaviour;
- be unambiguous, clear and defensible;
- be important to students, educators and/or key stakeholders;
- be described without jargon;
- be without value-laden words – e.g. the term trivial in “do you often go to the doctor with trivial symptoms?”;
- not address more than one explicit learning target e.g. written and verbal communication skills;
- be as concise as validity coefficients tend to fall as the number of letters in an item increases. (Holden, 1985); and
- avoid negative wording e.g. not or never.

Construct domains were determined based on observed relationships between items. Eight domains (7 domains initially until after the pilot trial) were identified:

1. communication;
2. professional behaviour;
3. assessment;
4. analysis;
5. planning;
6. intervention;
7. evidence based practice; and
8. risk management.

For each item examples of relevant performance indicators were developed that would provide the evidence for scoring each item. These performance indicators were developed with consideration of source documents and in particular the Australian Standards for Physiotherapy. The performance indicators were a non-exhaustive list of behaviours that would be evidence of competence. These were intended to serve as a learning guide for students and to provide educators with examples of unambiguous descriptions of behaviours to facilitate communication about student learning needs and indicate the path to the target competence.

A draft set of items and performance indicators was then discussed with an eight member item panel consisting of academics, clinical supervisors and clinical managers at Monash University. The investigators refined the item wording, item performance indicators, and developed a practical, one-page test layout. This foundation document (called the CAPS: clinical assessment of physiotherapy skills) signalled the opportunity to commence the development of the target instrument Refer to *Appendix 2: Initial draft CAPS instrument (version 1)*.

2.2.2. Development of the outcomes space (rating scale)

All available scoring systems were considered based on reported best practice. These were discussed in forums and focus groups and a five level rating scale for each item was chosen (0 – 4, where 2 is a pass standard for the item).

2.2.3. Measurement model

The object of the measurement model is to relate the scored items back to the original construct. In this project, the measurement model chosen was the construct modelling approach of Wilson (2005) that utilises Rasch analysis. Rasch analysis was originally developed by the Danish mathematician Georg Rasch (Rasch, 1960). Rasch analysis calibrates item difficulty and person ability on a single underlying scale with interval-level units called logits (log-odds units). Where item responses are polychotomous (as they are for the APP) each item threshold, the transition between levels on the response scale, has a logit location. Rasch analysis is a probabilistic modelling strategy. The probability of a rater selecting each of the five levels of achievement should rise in a consistent way with increasing competence of the student being rated. The probability of a rater selecting a given response is a logistic function of the relative distance between the ratee's overall ability and the level of difficulty denoted by that item.

Rasch analysis provides validity evidence based on instrument internal structure. It enables analysis of unidimensionality (considered an essential quality of a scale scored by adding results of items) and identification of gaps in the targeting of items to the students' abilities. Rasch analysis also enables assessment of the stability of the rating scale when applied to students with different characteristics (e.g. age, gender) or applied by assessors with different characteristics (e.g. years of experience as a clinical educator) .

2.3. Chronological overview of design, development and testing of the APP

Table 2-1: Brief outline of stages in the project

Timeline, Participant no & Location	Activity	Outcome
May 2005 (n= 15) Griffith University, Gold Coast	Clinical Education Managers meeting at Griffith. The concept of research into clinical education and assessment was tabled. This group became the reference group for the project (<i>Appendix 3: Reference Group - Australia and New Zealand Clinical Education Managers</i>)	<i>Decision to commence development of CAPS</i>
October 2005 (n=3) Melbourne	Project team met in Melbourne and first draft of CAPS/APP started	<i>Work on item construct map, item design, scoring system.</i>
October 2005 (n=8) Melbourne	Meeting with academics/clinicians of Monash University - Melbourne	<i>First version of CAPS developed (version 1) (Appendix 2: Initial draft CAPS instrument (version 1)</i>
September-December 2005	Pilot trial with 295 La Trobe students	<i>Rasch analysis supports continuation to formal Field Testing</i>
April 2006	Submitted ALTC grant	
May 2006	Notification of grant awarded.	
May 2006 (n=19) Melbourne	Forum group with academics and clinical managers from Australia and NZ (<i>Appendix 4: Attendees at initial forum group discussion of CAPS</i>)	<i>Refinements to CAPS Name change from CAPS to APP recommended APP (version 2) developed (Appendix 8: APP (version 2)). Megan Dalton enrolled in PhD</i>
November 2006	Libby Henderson commenced as Research Assistant	<i>Systematic review of existing items relevant to assessment of physiotherapy practice extended ALTC Priority Project commenced</i>

Timeline, Participant no & Location	Activity	Outcome
May - December 2006	Focus groups/ information sessions held across Qld, Vic and NSW	Commitment from physiotherapy profession firmly established. Further refinements of APP ready for Field Test #1. (Appendix 9: APP (version 3) for Field Test #1)
November 2006	Mapping of revised Australian Physiotherapy Council standards onto APP	All standards covered in APP
April 2007 (n=16) Dunedin New Zealand	Australia and New Zealand Clinical education managers meeting Dunedin, April 2007	Reference group meeting Discussion of progress of project
January – June 2007	Ethics applications, development of training / support package for all stakeholders involved in Field Test.	Ethics clearances for participating universities through and protocol for Field Test #1 in place. (Appendix 6: Ethical approval protocol numbers)
June/July - December 2007 (n=747)	Data collection for Field Test #1 at following universities: Griffith University La Trobe University Monash University James Cook University The University of Sydney Curtin University Charles Sturt University University of Otago Auckland University of Technology	Numerous meetings, teleconferences, discussions, training sessions with all stakeholders involved in Field Test #1
January 2008	First Rasch analysis on Semester 2 2007 data Collation of qualitative data	Quantitative and qualitative data analysed
January 2008		APP version 4 developed (Appendix 10: APP (version 4) for Field Test #2)

Timeline, Participant no & Location	Activity	Outcome
May 2008 (n=16) Perth	Australia and New Zealand Clinical education managers and heads of physiotherapy programs meeting (Appendices 3 and 5)	<i>Reference group meeting Discussion of progress of project</i>
February – July 2008 (n= 695)	Field Test #2 – data collection La Trobe University Monash University Griffith university James Cook University The University of Sydney Curtin University University of Otago Auckland University of Technology	<i>Numerous meetings, teleconferences, discussions, training sessions with all stakeholders involved in Field Test #2</i>
August 2008	Rasch analysis of Semester 1 2008 data Collation of qualitative results	<i>APP (version 5) developed (Appendix 11: APP (version 5) for Field Test #3) Reliability data collated and analysed</i>
July – November 2008 (n= 60- 30 pairs)	Inter rater reliability protocol established and trial conducted at: Griffith University La Trobe University Curtin University James Cook University	
September – December 2008	Field Test #3 – data collection James Cook University La Trobe University	<i>Data from Field Test #3 still being collated. Final results will come in after completion of final ALTC report</i>

3. Pilot Trial and Focus Groups

Pilot Trial

The purpose of the pilot trial was to test the utility of the 5-level rating scale and to determine whether the items were likely to form a unidimensional scale. The pilot trial allowed testing of assumptions and refinements to the instrument prior to Field Testing.

3.1. Method

Ethics approval was obtained from the Human Ethics Committee of Griffith University and from the Human Ethics Committees of each university where a physiotherapy program leader had agreed to participate in data collection in either the pilot trial or any of the subsequent Field Tests. (refer to *Appendix 6: Ethical approval protocol numbers*)

Participants

To ensure that the pilot trial was conducted on a group of students who were representative of the range of typical physiotherapy students (Wilson, 2005), the CAPS (as it was then titled) was administered across one semester by clinical educators during usual 5-week clinical placements. Participants were 295 La Trobe University students undertaking either their first major clinical placement in third year, or the final two placements in fourth year.

Pilot trial testing procedure

On completion of the clinical placement, the students were assessed on their performance by their primary clinical educator using the CAPS. The completed forms were returned to La Trobe University. Data were permanently de-identified once entered into spread sheets for statistical analysis.

Data Analysis

Data analyses were performed using SPSS 14.0 (SPSS Inc.)¹ and RUMM2020² software (Andrich, Lyne, Sheridan, & Luo, 2003) for Rasch analysis using a partial credit model. The sample size of 295 was more than adequate for initial Rasch analysis.

3.2. Results

To formally assess the measurement properties of the CAPS/APP total scale Pallant and Tennant (2007) recommend investigation of the following:

- Overall model fit;
- Overall person fit and item fit;
- Individual item fit;
- Thresholds;
- Targeting;
- Person separation index;

¹ SPSS14.0 (SPSS Inc)

² RUMM2020 RUMM Laboratory Pty Ltd, www.rummlab.com

- Differential item functioning; and
- Local independence (dimensionality).

A summary of the pilot trial results of Rasch analysis is presented below. For full Rasch analysis output on the results under each of these areas refer to *Appendix 7: Pilot trial results of Rasch analysis*.

Overall Model Fit

The chi-square probability value of $p = 0.40$ indicated excellent fit between the data and the model.

Overall Person Fit

The overall person fit statistic provides information about the distribution of the scores across the range of the scoring scale. There was no serious misfit of persons (students) in the sample.

Overall Item Fit

This statistic assesses how well the item behaves in accordance with the rest of the items in the scale while also indicating how well the item fits the assumptions of the Rasch model. There was adequate overall fit to the model of the 20 items.

Individual Item Fit

There was no misfit of any individual items.

Thresholds

Ordered thresholds indicate that the respondents (clinical educators) are able to use the response categories (scoring scale) in a manner consistent with the level of the trait (competency) being measured. This occurs when the educators have no difficulty discriminating between response options. There were no disordered thresholds for any item in the pilot trial.

Targeting

It is important, particularly in clinical practice, that the assessment items are appropriately targeted at the population being assessed i.e. neither too easy or too hard.

Poorly targeted measures result in floor or ceiling effects. Overall the instrument was well targeted to the student population in the pilot trial.

Person separation

The Person Separation Index (PSI) provides an indication of the power of the APP to discriminate amongst respondents with different levels of the trait (competency) being measured. In the pilot trial the PSI was 0.93 indicating the ability to discriminate between 4 or more levels of performance. The scores had excellent person separation reliability.

Dimensionality

One of the primary tenets underpinning item response theory is the concept of unidimensionality, The underlying construct being measured must not be multifaceted/multidimensional. The pilot trial data ($n = 295$) supported a unidimensional construct that we called competency.

The pilot trial supported the continuation of the project into the Field Test phase, Refinement of the APP based on stakeholder evaluation prior to Field Testing continued.

3.3. Focus Groups, Face to face presentations/discussions.

The purpose of the focus groups and other face-to-face meetings was to ensure comprehensive feedback was gathered from relevant stakeholders prior to Field Testing.

The aims of the focus groups, presentations and discussions were to:

- disseminate information about the project and inform stakeholders;
- gather opinions and feedback from stakeholders on the instrument name, content and scaling; and
- engage the physiotherapy profession in the participatory nature of the research.

3.3.1. Method

To ensure the input of a qualified group of respondents, purposive sampling was used. Purposive sampling also accentuated homogeneity of the group which facilitated interaction as group members shared similar backgrounds and experiences.

Recruitment was designed in order to optimise representation by:

- geographic location (metropolitan, regional/rural and remote);
- clinical area of practice;
- years of experience as a clinical educator/supervisor or manager; and
- organization (private, public, hospital based, community based and non-government).

A list of clinical educators/supervisors was generated for locations throughout Australia. These lists formed the potential participant pool for each location and were based on prior knowledge by the research team of individuals and organizations involved in clinical education of physiotherapy students. Potential focus group participants were contacted with information about the project and an invitation to participate. Participants provided written consent, and were given an opportunity to review a summary of the discussions (*Appendix 12: Focus group explanatory statement and consent form*).

Data Analysis

The Leximancer 2.25¹ (2008) software was used to identify evidence in the transcripts/summaries of the most frequently raised issues (manifest content analysis). Concepts were located and their co-occurrences retrieved from the text. The context within which concepts/issues were frequently raised was identified (latent concept analysis). The evidence was then colour-coded and categorised relative to the concepts/issues that the researchers initially perceived to be the most frequently raised/important.

3.3.2. Results

Overall eight focus groups with a total of 79 participants were conducted, in addition to four presentations/discussions with a further 73 members of the profession (*refer to Table 3-1 and Table 3-2*).

¹ Leximancer 2.25, Leximancer Pty Ltd, , www.leximancer.com, 2008.

Table 3-1: Focus Groups after pilot trial and prior to Field Test #1

Facility and date	No. of participants	Date
QEI Hospital Brisbane	13	11 December 2006
Griffith University School of Physiotherapy and Exercise Science staff seminar presentation, Gold Coast	10	7 February 2007
Australia and New Zealand Clinical education managers meeting Dunedin,	14	April 2007
Heads of Physiotherapy Depts NSW Northern Area Health District, Ballina	9	4 May 2007
Physiotherapy staff, Westmead Hospital, Sydney	12	8 May 2007
Prince of Wales Hospital, Sydney	11	9 May 2007
Townsville Hospital meeting of senior clinicians (all areas)	6	19 May 2007
JCU Townsville,	4	19 May 2007

Table 3-2: Details of presentations and discussions

Facility and date	Format of Presentation	No. of participants
Australia and New Zealand Clinical education managers meeting (Reference Group) Melbourne May 2006	Face to face discussion	18
Australia and New Zealand Clinical education managers meeting (Reference Group) Dunedin, April 2007	Face to face presentation and discussion.	16
Griffith University School of Physiotherapy and Exercise Science staff of school of physiotherapy Gold Coast April 2007	Face to face presentation	14
The University of Queensland School of Health and Rehabilitation Sciences staff seminar presentation, St Lucia, May 2007	Face to face presentation	25

A number of changes were made to the assessment form as a result of the data analysis, focus groups, meetings and discussions with stakeholders (*Table 3-3 and Appendix 9: APP (version 3) for Field Test #1*).

3.4. Summary - Pilot trial results

Analysis of the pilot data indicated that the data had adequate fit to the chosen measurement model, the rating scale was operating as intended, the items were sufficiently targeted to the intended group and the instrument could discriminate at least four levels of performance. Qualitative evaluation supported the APP with some modifications suggested prior to Field Testing phase.

The results of the pilot testing allowed the first Field Test of the APP to proceed with confidence.

Table 3-3: Refinements of CAPS (APP) following pilot trial prior to Field Test #1*Refer to Appendix 9: APP (version 3) for Field Test #1*

Feedback/suggested modifications – why	Why the change	Accepted	Changes made: APP version 2
Remove the word clinical from the name of the instrument: CAPS (Clinical Assessment of Physiotherapy Skills)	Clinical was considered not to be representative of all of the areas that physiotherapists work. Skills was seen to reflect a technician-level competence rather than professional competence	Yes	Name of instrument changed to APP (Assessment of Physiotherapy Practice)
Change the wording on the scoring scale descriptors	Wording was confusing as it had too many variables for the educator to consider when marking the student's performance. ie, both the standard of performance and the level of prompting required	Yes	New scoring scale descriptors written prior to Field Test #1.
Change to scoring scale from 1 – 5 to 0 – 4	Easier for scoring/ collating	Yes	Scale changed to 0 - 4
Reorganization of order of 7 aspects of physiotherapy practice. Professional behaviour was placed above communication	To mirror current assessment forms in use with which the clinical educators are more familiar. In addition this highlights the importance of professional behaviour to the students	Yes	
Change of wording of scoring scale descriptors eg. change word "some" performance indicators to "few" in scoring level = 1.	Some was seen to be "too positive" for students and they may interpret this that they are passing.	Yes	Wording changed for scoring descriptor for 1.
Adding in an additional scoring level on the scale from 0-4 to 0-5.	Some educators requested this while others preferred the existing number of scoring levels	No	Rasch analysis of pilot trial results showed scale was working appropriately

Feedback/suggested modifications – why	Why the change	Accepted	Changes made: APP version 2
Ensure wording on PIs caters for all patient age groups eg children through to the elderly	Paediatric physiotherapists requested this	Yes	Wording of PIs checked to ensure various ages are covered.
Scoring rule: If a score falls between numbers on the scale the higher number will be used to calculate a total	To provide unambiguous scoring rules	Yes	
Place scale definitions at the top of the form rather than at the bottom	Clear placement of rating definitions	Yes	

4. Field Tests

The aims of the Field Tests were to:

- generate evidence for validity based on test content, response process and internal structure; and
- gather opinions and feedback from stakeholders on the instrument name, content and scaling.

Refinements to the APP were made following Field Test #1 and the modified APP was then tested in Field Test #2. In addition to investigating the measurement properties of the APP, the field trials also provided an important avenue to continue to disseminate information about the project, give clinicians a sense of ownership in the project and keep stakeholders informed of progress.

4.1. Method

The APP was used either as the sole assessment instrument (n=3), or administered in parallel with an existing instrument (n=6) at 9 universities. Field Test #1 was conducted in second semester in 2007 and Field Test #2 in first semester 2008.

The universities that participated in one or both of the Field Tests were:

- Auckland University of Technology;
- Charles Sturt University;
- Curtin University of Technology;
- Griffith University;
- James Cook University;
- La Trobe University;
- Monash University;
- The University of Sydney; and
- University of Otago

4.2. Participants

A broad approach to recruiting participants was employed to ensure comprehensive data collection and involvement of all stakeholders and is described below:

1. All Australian physiotherapy programs were approached and provided with information briefly describing the APP project and requesting their support and interest in involvement in the project. Out of a total of 14 Australian based programs there was in principal support from all programs. In addition both New Zealand programs also indicated their desire to be involved. Logistically it was not possible to obtain ethical clearance and manage data collection from 16 programs. Nine were included, based on interest, timely responses and logistics. Five of the nine participating universities were part of the original ALTC application. Ethics clearance was obtained from the human ethics committee of each participating university (*for full details refer to Appendix 6: Ethical approval protocol numbers*).
2. Information on the project was provided to students undertaking major clinical placements from each of the participating universities, and their consent was sought.

3. Clinical educators who were to assess students were sent an information sheet and consent form and invited to participate (*Appendix 13: Field Test #1: information sheet and consent form for educators and students*).

Participant training

A training package to support clinical educators in the application of the instrument was developed and refined with clinician feedback prior to Field Test #1. The training package consisted of a brief easy-to-read manual providing all relevant information on assessment of physiotherapy students in relation to the APP. Included in the manual was a 'Frequently asked questions' section, a collation of questions and answers regarding appropriate use of the APP that had been raised by educators or students during assessment and training activities. The manual was updated prior to the second Field Test (*refer to separate APP resource manual*).

Before and during Field Test #1 visits to universities and clinical agencies across Australia were undertaken by the project team (*Table 4-1*) for the purposes of providing information about the project and training clinical educators in the use of the form. Where possible visits were timed to coincide with regular clinical educator workshop activities to limit the organisational burden and maximise clinician attendance.

In addition to the site visits listed in Table 4-1, 85 teleconferences were held with clinicians during the Field Test to standardise messages about the use of the APP, clarify confusion and provide ongoing support.

Table 4-1: Information and training sessions conducted for Field Test #1

Locations	No. of participants
Victoria Angliss Hospital, Box Hill Hospital, Maroondah Hospital, The Alfred Hospital, Caulfield General Medical Centre, MacKellar Centre, Northern Health Network, Monash University Peninsula Campus and Gippsland Campus	70
Tasmania Launceston	5
Western Australia Royal Perth Hospital Perth and Shenton Park Campuses, Charles Gairdner Hospital	31
New South Wales Westmead Hospital, Prince of Wales Hospital, University of Sydney clinical educators	55
Queensland <u>Brisbane</u> : Royal Brisbane Hospital, Royal Children's Hospital, Paediatric Statewide Rehabilitation Service, Princess Alexandra Hospital, The Prince Charles Hospital, QEII Hospital, Bayside health service district, Redlands Hospital, Royal Children's Hospital, Gait Laboratory (teleconference), Interdisciplinary community rehabilitation therapists meeting <u>Far North Queensland</u> : Townsville Hospital including videoconference to surrounding districts (Cairns, Mackay, Proserpine, Mt Isa)	88 23
New Zealand Otago Clinical Educators (Teleconference)	14
Australia and New Zealand Teleconference with clinical educators during each clinical unit to answer questions regarding completion of the APP.	85
Total	371

4.3. Data collection

Clinical educators were provided with the APP, a resource manual that standardised the instructions in how to use the APP, a demographic data collection form *Appendix 14: Clinical educator demographic form* and a feedback survey *Appendix 15: Clinical educator survey for Field Test #1*.

Students from the 9 participating universities completed clinical units ranging in length from 4 to 6 weeks. The clinical units were spread across all major areas of physiotherapy practice and included musculoskeletal, cardiorespiratory, neurological, paediatric and gerontological physiotherapy. For the 6 programs using the APP in parallel with a current university-specific form, the educators were instructed to complete the APP at the end of the clinical unit prior to completing the required university assessment documents. In the 3 university programs where the APP was the sole assessment instrument, the educators completed the APP at the end of the unit.

In order to ensure a representative sample and to allow assessment of differential item functioning, students also completed a demographic form at the end of the clinical unit (*see Appendix 16: Student demographic form*).

To summarise, the following data were collected for each student on each clinical rotation:

- consent form (student and educator);
- a completed APP;
- demographic data (student and educator); and
- educator survey responses.

On completion of each placement all completed forms were returned reply-paid to the project manager. If either the educator or student did not consent the data were not entered into the spreadsheet for analysis. All data were de-identified once entered into spread sheets for statistical analysis and names of educators, students and physiotherapy programs were replaced by codes. Data were checked for accuracy and the links between names and codes were then permanently destroyed.

4.4. Gathering opinions and feedback

4.4.1. Methods

Due to the participatory nature of the project, feedback on the APP and its performance indicators was continuously collected. All training and information sessions (face to face and by teleconference or videoconference) provided opportunities for feedback on the APP.

To allow triangulation of data, several methods were employed to gather opinions and feedback from stakeholders prior to and during Field Test #1:

- ‘think-aloud’ interviews;
- focus groups;
- survey; and
- training and information sessions.

Think-aloud interviews

Think-aloud interviews were conducted to provide insight into the cognitive processes of the raters as they administered the instrument and explored how the items and rating scales were used. Misunderstandings and inconsistencies in interpretation helped to identify the need for modifications to the instrument.

Nine clinical educators were invited and agreed to participate in think-aloud interviews. Interviews were conducted by an independent research assistant. Raters were instructed to “think-aloud” as they completed the APP. The interviewer used questions to prompt clinicians to reveal information about cognitive processes that raters used in arriving at a rating for each item. Each interview was digitally recorded, downloaded onto a computer and transcribed. A thematic analysis was then conducted initially by the research assistant. A project team member then reviewed the transcripts and thematic analysis report. Disagreements in content/themes were discussed and consensus reached in all cases. Once this process was complete the original recordings were deleted.

Focus groups

A similar method to that used in the pilot trial was employed. (refer 3.3, p.15).

Surveys

The clinical educator questionnaire *Appendix 15: Clinical educator survey for Field Test #1* was developed prior to Field Test #1 to provide data on the practicality and feasibility of using the APP in the clinical context.

The educator was requested to complete the survey at the end of the clinical unit and return along with the completed APP to the project manager.

Once the information from this survey was collated and analysed some modifications were made to the survey prior to Field Test #2. In particular the question relating to preferred methods for training in the use of the APP was altered to obtain more specific information in subsequent surveys.

4.4.2. Data Analysis*Rasch and factor analysis*

Analysis of APP results was conducted on fully de-identified data. Rasch analysis using a partial credit model was performed using RUMM2020 software (Andrich et al., 2003) using the method described previously for the pilot trial (see section 3.2, p.13). Twenty random samples of 200 cases were drawn from each of the two Field Test datasets.

Principal Components Analyses (PCA) were performed using SPSS 14.0 (SPSS Inc.) PCA can be thought of as revealing the internal structure of the data in a way that best explains the variance in the data and is an additional method for examining dimensionality of a scale.

Opinions and feedback

All qualitative feedback, comments and suggestions from all sources were collated and sorted by topic and content. Feedback from the think aloud interviews and formal focus groups conducted at the end of Field Test #1 were analysed initially by an independent research assistant using the Leximancer software.¹ A project team member then reviewed the transcripts and thematic analysis report cross checking for accuracy. Disagreements in content/theme were discussed and a consensus reached.

Survey data were analysed by descriptive statistics using SPSS version 14.0 (SPSS Inc.)² and the open-ended question responses were pooled with other qualitative feedback for analysis.

Qualitative analysis provided the basis for refinement of the APP after Field Test #1 and before commencement of Field Test #2.

¹ Leximancer 2.25, Leximancer Pty Ltd, , www.leximancer.com, 2008

² SPSS14.0 (SPSS Inc)

4.5. Results – Field Test #1

In Field Test #1 a total of 747 APP (*Appendix 9: APP (version 3) for Field Test #1*) forms from 629 students were completed by 557 clinical educators and sent for analysis. Multiple assessments occurred for a small proportion of students. Independence of participants is not a requirement for Rasch analysis as the relationship of interest, between item and total scores, is considered independent under repeated assessments. (*Table 4-2 summarises student and clinical educator demographics*).

4.5.1. Participant demographics

Table 4-2: Field Test #1 - demographics of students and educators

9 Universities Australia = 7 NZ = 2		Field Test 1 N = 747
Student age	Mean (SD)	22.6 (3.4)
Gender	M (%) F (%)	31 68
Clinical Educator age	Mean (SD)	34.4 (8.9)
Gender	M (%) F (%)	22 78
Years experience as a clinical educator	Mean Range	7 0 - 36
Clinical area (%)	Cardiorespiratory physiotherapy	21
	Neurological physiotherapy	22
	Musculoskeletal physiotherapy	46
	Paediatric physiotherapy	5
	All other clinical areas	6
Type of facility where students completed clinical units (%)	Public hospital	53
	Community Health centre	8
	Private Hospital	4
	Private practice	2
	Non-government organisation	1

4.5.2. Rasch and Factor analysis

Appendix 17: Results Field Test #1 20 random samples (n=200) provides the results of Rasch analysis of Field Test #1 data that is summarised below.

Overall Model Fit

Eighty percent (16 of 20) samples demonstrated adequate overall fit to the Rasch model.

Overall Person Fit

Both the mean Fit Residual and the Standard Deviation Fit Residual indicated no serious misfit among the persons (students) in any of the 20 samples, therefore indicating that none of the respondents (students) was scoring in a way significantly different to all other students.

Overall and Individual Item Fit

Eighty percent (16 of 20) samples demonstrated some overall item misfit. This indicates that in these samples some items are either under or over discriminating.

Individual item misfit was also observed for items 3,6 and 19 in 80% of samples.

The positive fit residual values obtained for these items suggest low levels of discrimination and that these items may possibly measuring another construct (de Morton N, 2007).

Thresholds

There were disordered thresholds for items 3, 6 and 19 in 85% (17 of 20) of samples shown in *Appendix 17: Results Field Test #1 20 random samples (n=200)*. The presence of some disordered thresholds indicated that clinical educators were not always able to use the response categories in a manner consistent with the level of the trait (competency) being measured. This can occur when respondents have difficulty discriminating between scoring options. The source of the disordered thresholds was discrimination between scoring options zero and one, and may be an artefact arising due to the very infrequent use of a zero score.

Targeting

Overall there was reasonable matching of item difficulty with person abilities, reinforcing earlier pilot study results. The APP items again appeared to provide appropriate targets for the spectrum of abilities in the physiotherapy student population.

Person separation

In the 20 random samples the range of the PSI was 0.92 to 0.96 confirming the ability of the APP to discriminate at least four levels of student performance.

Differential Item Functioning (DIF)

No significant DIF was demonstrated in any of the 20 random samples for the variables:

- Clinical area (neurosciences, musculoskeletal sciences, cardiorespiratory sciences);
- Student age and gender;
- Clinical educator age;
- Clinical educator sex;
- Clinical educator level of self-rated experience;

- Clinical educator completion of clinical educator workshop;
- Facility type, e.g. public hospital, private hospital, community health centre; and
- University.

This indicates the APP item ratings were not systematically affected by any of those eight variables.

Dimensionality

Sixty percent (16/20) of the samples in the Rasch analysis indicated departure from unidimensionality via t-test procedure. (*Appendix 17: Results Field Test #1 20 random samples (n=200)*).

Analysis of t test results indicates that the APP may be measuring two underlying constructs

- Professional behaviour / communication skills (items 1-6), and
- Competency in physiotherapeutic skills (items 7 to 20).

Factor analysis

The 20 items of the APP were subjected to principal components analysis (PCA) using SPSS version 14. (SPSS Inc.). Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Olkin value was 0.98, exceeding the recommended value of 0.6 and the Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix. (*Appendix 18: Results of Principal components analysis (PCA) Field Test #1 data, Table 19-1*)

Principle Component Analysis (PCA) demonstrated the presence of 1 dominant factor with an eigenvalue exceeding 1, explaining 59% of the variance (*Appendix 19: Results of Principal components analysis (PCA) Field Test #1 data, Table 19-2*). An inspection of the scree plot (*Appendix 18: Results of Principal components analysis (PCA) Field Test #1 data, Figure 19-1*) revealed a clear break after the first component. Using the scree test, it was decided to retain only one component for further investigation. This was further supported by the results of the Parallel Analysis (Pallant 2005) that showed only one component with an eigenvalue exceeding the corresponding criterion values for a randomly generated data matrix of the same size (20 variables x 747 respondents) (*Appendix 18: Results of Principal components analysis (PCA) Field Test #1 data, Table.19-3.*). Parallel analysis is an additional method to determine the number of factors to retain.

4.5.3. Results Field Test #1 – Qualitative evaluation

Think Aloud Interviews

Themes arising from think aloud interviews are summarised below.

- 1) Clinical educators provided positive feedback on the APP layout (practicality and comprehensiveness).
- 2) The one page format was viewed very positively.
- 3) Overall the results of the think aloud interviews indicated that clinical educators agreed the items were an adequate representation of the competencies required of new graduate physiotherapists and that items were very transparent for both educator and student.

- 4) Weighting of areas of practice by number of items was of some concern, for example, “communication and professional behaviours” have 6 items, while “intervention” has 5 and some clinicians felt that this over-weighted professional behaviours relative to practical skills.
- 5) Educators recommended that the concept of risk management rather than ‘safety’ (a term used previously in many assessment instruments) was more appropriate terminology.
- 6) Educators felt that the Performance Indicators (PIs) were very useful especially as they were written as observable behaviours, which they felt assisted them in giving specific feedback to students on the areas of their performance that are adequate and those that need improvement.
- 7) Educators were of the opinion that the PIs for Item 18 Discharge Planning need to be clearly worded so that the students are able to differentiate that this item relates to both when they discharge patients from their care (eg at the end of a unit) and when the patient is discharged from the health service. Educators felt that this was particularly important in those areas of physiotherapy where the patients have chronic long term management requirements that will continue on long after the student has completed their clinical unit.
- 8) Educators were of the opinion that the rating scale and scoring categories were reasonable, but there was some concern about students in their first clinical units being able to achieve a pass standard (score of 2) on items if the pass level is set at entry level/beginning physiotherapist.
- 9) Some educators felt that 3 passing categories (scores of 2, 3 and 4) are sufficient to be able to adequately assess the performance of students while others expressed a preference for additional rating categories.
- 10) Educators felt that it was appropriate that levels of prompting required was not a component of the definition for a passing grade.
- 11) Some educators felt that students should have to obtain a minimum score of 2 on each of the 20 items to pass overall.
- 12) Educators considered the Global Rating Scale (GRS) to be a useful internal check on item scoring and valuable as an overall impression of student performance. Educators, however, were using two different benchmarks for the GRS, with some using entry-level, and others rating the student globally on their performance relevant to their progress through the clinical program and against other students in the cohort.
- 13) Educators thought the training manual was very comprehensive, and that the FAQs section and information on avoiding rater bias was particularly helpful.

Focus Groups and meetings

Two focus groups were conducted after Field Test #1 prior to Field Test #2 (Table 4-3). The themes arising from focus groups and meetings are summarised in Table 4-4.

Table 4-3: Focus groups

Facility	No. of Participants	Date
Eastern Area Health Service Melbourne, Victoria	8	December 2007
University of Sydney clinical educators workshop, Sydney, New South Wales	12	October 2007

Table 4-4: Key findings of focus groups, teleconferences and meetings post Field Test #1

Scoring Scale	Items	Performance indicators	Global Rating Scale (GRS)	Confidence/ ease of use / Layout	Training
Happy with the scale as is	Trouble assessing item 19 (EBP)	Excellent, very comprehensive	Easy to use	Great very easy to use	Resource manual very comprehensive
Extra scoring category requested	Prof behaviour too heavily weighted	Great for use at mid unit to give formative feedback	The GRS more accurately reflects student's performance	Time taken is excellent	Training needs minimal as it is a very self explanatory instrument and manual
Would prefer 1-5 rather than 0-4 scale	Would prefer if student has to score a 2 on all 20 items to be able to pass	Takes away difficulty of finding the right words to use to give feedback to student	Preferred to the rating scale	Confident this reflected the student's real level of performance	Training in decision making on scoring items is helpful
Scale descriptors excellent and easy to use	Would like item 20 "risk management" to be a compulsory pass	Very good as they clearly outline behaviours student needs to be demonstrating	The word 'poor' is a bit harsh, maybe find another word	Great, fair, comprehensive and equitable tool	Face to face training is the best method but not always possible.
Scale descriptors a bit vague eg., Demonstrates most Pls to an adequate standard. What is most?	Item 18 'undertakes discharge planning' is not relevant to all clinical areas	Very good spread across all required	Difficult to differentiate between good and excellent. Would like and additional category	The layout and structure is excellent, makes it very clear and easy to use	
Maybe scoring is skewed toward passing a student who should fail	Ensure wording covers all age categories of patients			Would like space to write comments.	

Scoring Scale	Items	Performance indicators	Global Rating Scale (GRS)	Confidence/ ease of use / Layout	Training
Using pass as the minimum competency level expected of an entry level physiotherapist is too hard for students completing their first clinical units.	Time management could be listed as a separate item			No space for students and educators to sign off on completed assessment form at end of unit.	
Entry level competency as passing means students can sometimes receive a very low total score				Standardised assessments throughout all clinical schools would be great as we assess students from 4 different universities here	
Very good that level of prompting required by student was removed as a scoring scale descriptor.				Liked the one page layout	
Liked the definition of entry level					
Wanted definition of score of 4.					
Perhaps more useful to split the instrument into 2 – professional behaviour and physiotherapy clinical skills					

Surveys

Table 4-5: Results of the survey questionnaire collected during Field Test #1 (n=246)

Question	Mean*	SD
Confident using 0 – 4 rating scale	3.9	0.7
Confident using Global Rating Scale	4.0	0.7
APP practical in the clinical environment	4.1	0.6
Performance Indicators (PIs) useful	4.1	0.7
PIs easy to understand	4.1	0.6
Time taken to complete APP acceptable	4.2	0.7
Beginning practitioner definition helpful	4.0	0.8
Scoring rules helpful	4.1	0.7
Resource manual information on how to complete the APP was comprehensive	4.2	0.7

*Each item rated from 1 = strongly disagree to 5 = strongly agree.

4.5.4. Discussion

Overall the clinical educators found the APP practical to use in the clinical environment with an average time of 17 minutes taken for completion of the instrument. The performance indicators were very useful when providing feedback to the students on their performance. Similarly the definition for the passing score of two was viewed as very helpful. The educators reported that the resource manual was very comprehensive and assisted them when they were completing the APP.

In response to the question "In the future, I would prefer to complete the APP on-line rather than posting/faxing hard copies", 20% of clinical educators preferred to continue posting in hard copies of the APP, 41% agreed that completing the APP on-line was preferable and 39% were undecided (refer to *Appendix 15: Clinical educator survey for Field Test #1* for complete survey).

In response to the final two open ended questions on the survey:

Q11: Were there any additional performance indicators that you consider could be added to the APP?
and,

Q12: Do you have any additional comments on the APP and Performance Indicators?

The educators' comments were as follows.

- There were no additional performance indicators that the clinical educators wished to add.
- Most educators (90%) found the performance indicators to be very comprehensive.
- The APP was user friendly, comprehensive and time efficient.
- The educators felt confident that the score given to a student was an accurate reflection of their performance.
- Item 20 (risk management) should be a hurdle to passing overall.
- An additional passing category was requested by 30% of educators.

The results of the data analysis following completion of the first Field Test provided the basis for a number of changes made to the assessment form. A summary of the refinements made to the APP following Field Test #1 are outlined in Table 4-6.

Table 4-6: Refinements of APP following Field Test #1 implemented prior to Field Test #2

Feedback/suggested modifications – why	Accepted	Why/why not the change?	Changes made: APP version 2
Wording of entry level to minimum entry level standard. (ie just competent)	Yes	To ensure that educators do not have unrealistic expectations of the passing standard	Yes – added to scoring rules on APP
For each item a score of 2 is the minimum requirement to pass the clinical unit	No	This is a post test hurdle that can be decided upon or not by each individual university	No hurdle requirements put into place
Item 11 could be broken up into 2	No	Qualitative and quantitative results did not support this change	Item 11 remains as is
Justifies prioritisation of problem list – add this in as a performance indicator to item 11	Yes	Additional performance indicator requested by numerous educators to highlight the importance of clinical reasoning	PI added in
Item 8 – PIs need to be clarified	Yes	Educators reported this item was difficult to assess at times as the PIs were not clear	Item 8 PIs reworded
Item 13 change wording	Yes	Educators considered that wording order put too much emphasis on patient collaboration rather than selection of intervention	Wording changed from “In collaboration with patient selects appropriate intervention to “selects appropriate intervention in collaboration with the patient”
Item 15 – no paediatric related performance indicators. Uses principles appropriate to age group	Yes	Wording altered to be more inclusive of all age groups	Item 15 PIs modified
Time management – needs to be a separate item	No	This aspect of practice is covered under 4 different items and their PIs. Not considered appropriate to have as a separate item.	More information in FAQs to be included to inform educators where time management is to be assessed.

Feedback/suggested modifications – why	Accepted	Why/why not the change?	Changes made: APP version 2
On the GRS change 'satisfactory' to 'adequate' to align with language in the scoring rules	Yes	Makes for a more consistent link in the educators mind between the GRS and the scoring scale	Satisfactory replaced with adequate on APP GRS.
Additional scoring category to be added in	No	On balance the qualitative evaluation data supports the current scale and Rasch analysis says scale is working effectively as is. May be some educators that could cope with an extra category but scale has to function across a broad range of educator experience and clinical area	Scale to remain 0 - 4
On the GRS change 'satisfactory' to 'adequate' to align with language in the scoring rules	Yes	Makes for a more consistent link in the educators mind between the GRS and the scoring scale	Satisfactory replaced with adequate on APP GRS.
Additional scoring category to be added in	No	On balance the qualitative evaluation data supports the current scale and Rasch analysis says scale is working effectively as is. May be some educators that could cope with an extra category but scale has to function across a broad range of educator experience and clinical area	Scale to remain 0 - 4

Feedback/suggested modifications – why	Accepted	Why/why not the change?	Changes made: APP version 2
Collapse scoring categories 0 and 1 into one category as these are both failing scores	No	Collapsing into one category reduced the overall fit to the model and therefore we need to be careful about removing items. Also 0 and 1 important to have both levels to ensure clear formative mid unit feedback is given to the student. One failing category would not provide constructive feedback to student	0 and 1 remain on scale.
Change scale from 0-4 to 1-5	No	Rasch analysis and qualitative evaluation did not support this	Scale remains at 0 - 4
Divide the APP into 2 subscales 1. Competency in physiotherapy skills Professional behaviour / communication skills	No at this stage. Review this decision after further Field Testing	Factor analysis suggested APP was measuring a unidimensional construct whereas Rasch analysis was as not definitive.	Currently remains as one instrument of 20 items.
<i>Requested clearer definition of student achieving mainly scores of 4</i>	Yes		Added into resource manual

-refer to Appendix 10: APP (version 4) for Field Test #2 for version 4 of APP.

4.6. Field Test #2

4.61. Method

Participant Recruitment and Procedures for Field Test #2

A similar method of participant recruitment and procedures were followed for Field Test #2 as for Field Test #1. A total of 695 APP (version 3) forms from 538 students were collected by 450 clinical educators for analysis in Field Test #2 (*Table 4-7*).

Table 4-7: Details of student and clinical educator demographics Field Test #1 and #2

Variable		Field Test 1 N = 747	Field Test 2 N = 695
Student age	Mean (SD)	22.6 (3.4)	22.0 (3.6)
Gender	M (%) F (%)	31 68	35 64
Clinical Educator age	Mean (SD)	34.4 (8.9)	36 (8.8)
Gender	M (%) F (%)	22 78	23 77
Years experience as a clinical educator	Mean range	7 0 - 36	9 0 - 32
Clinical area%	Cardiorespiratory physiotherapy	21	23
	Neurological physiotherapy	22	21
	Musculoskeletal physiotherapy	46	47
	Paediatric physiotherapy	5	4
	All other clinical areas	6	7

Note: 9 Universities Australia=7 NZ=2

Data Analysis

To formally assess the measurement properties of the APP total scale, analysis of data from Field Test #2 mirrored that of Field Test #1. The sample size in Field Test #2 was similar to that of Field Test #1, so again twenty random samples of 200 cases were taken from the total sample in each Field Test and analysed.

4.7. Results – Field Test #2

4.71. Rasch and Factor analysis

A summary of the Field Test #2 Rasch analysis is presented below. For full Rasch analysis refer to *Appendix 19: Results of Rasch analysis of Field Test #2*.

As similar methods and data analysis were followed for Field Tests #1 and #2, the trial results are presented side by side for ease of comparison.

Table 4-8: Rasch analysis summary

Rasch analysis	Results: Field Test #1	Results: Field Test #2
Overall model fit	80% of samples showed excellent fit to the model	100% of samples showed excellent fit to the model
Overall person fit	100% of samples showed no misfit to the model	100% of samples showed no misfit to the model
Overall and individual item fit	80% of samples showed overall item misfit. Items 3,6,19 exhibited disordered thresholds in the 0 and 1 scoring categories in	20% of samples showed overall item misfit. Items 3 and 6 exhibited mildly disordered thresholds in the 0 and 1 scoring categories
Item thresholds	85% of samples (17 of 20) showed mildly disordered thresholds for items 3,6, and 19	60% of samples (12 out of 20) showed mildly disordered thresholds for items 6 and 3
Targeting	APP was well targeted to the student population (no floor or ceiling effect)	Well targeted to the student population (no floor or ceiling effect)
Person separation	APP demonstrated good person separation reliability.ie APP able to discriminate between 4 or more groups	APP demonstrated good person separation reliability.ie APP able to discriminate between 4 or more groups
DIF	No significant DIF demonstrated for any variable	No significant DIF demonstrated for any variable
Dimensionality	80% (16 of 20) samples indicated departure from unidimensionality, ie 20% (4 of 20) samples showed unidimensionality.	40% of samples showed unidimensionality

Factor analysis

Both Field Tests #1 and #2 revealed the presence of one dominant factor when a PCA was performed (*Appendix 20: results of Principal components analysis (PCA) Field Test #2 data for full details*).

4.7.2. Results Field Test #2 – Qualitative evaluation

Face to face presentations/discussions, survey questionnaires.

Evaluation following completion of Field Test #2 was conducted using methods described for Field Test #1 data analysis. Data were collected via teleconferences, face to face discussions / presentations and survey questionnaires. Formal focus groups were not conducted as saturation of data had been reached and no new content or themes were evident.

Survey: Clinical Educators

This questionnaire was developed and used during Field Test #2 (*Appendix 21: Clinical educator survey for Field Test #2*). The question relating to preferred methods for training in the use of the APP was altered following Field Test #1 to obtain more specific information rather than the more general information obtained with the first survey.

Table 4-9 shows results from the survey following Field Test #2 are very similar to those obtained following Field Test #1. Overall there was improvement in all aspects of confidence in use of the instrument. Educators agreed strongly that the APP was practical to use in the clinical environment.

Table 4-9: Results of survey questionnaire collected during

Field Tests #1 (n=246) and #2 (n=237)

Field Test	#2		#1	
Question	Mean*	SD	Mean	SD
Confident using 0 - 4 rating scale	4.0	0.7	3.9	0.7
Confident using Global Rating Scale	4.3	0.6	4.0	0.7
APP practical in the clinical environment	4.2	0.6	4.1	0.6
Performance Indicators (PIs) useful	4.1	0.8	4.1	0.7
PIs easy to understand	4.0	0.8	4.1	0.6
Time taken to complete APP acceptable	4.1	0.7	4.2	0.7
Beginning practitioner definition helpful	4.2	0.6	4.0	0.8
Scoring rules helpful	4.3	0.7	4.1	0.7
Resource manual information on how to complete the APP was comprehensive	4.2	0.7	4.2	0.7

***Each item rated from 1 = strongly disagree to 5 = strongly agree.**

Completing the APP on-line

Forty-two percent of clinical educators agreed or strongly agreed that completing the APP on-line was preferable while nineteen percent disagreed, preferring to continue posting in hard copies. Thirty-three percent were ambivalent.

Training preferences

Feedback from educators was that face to face training was the preferred method for training. However, given this is not always feasible it was important to investigate what other training methods were preferred by clinical educators. The results of the survey questionnaire collected during Field Test #2 were as follows:

- Teleconference – 20%;
- Self directed learning package (includes manual and CD/DVD) – 20%; and
- On-line training module (ie training module completed on-line) – 43%.

Survey: Students

Refer to *Appendix 22: Student Feedback on APP* for the complete student survey.

Table 4-10: Student feedback summary Field Test #2 Students (n=45)

Field Test #2			
Question	Mean*	SD	
I felt confident the 0 - 4 rating scale was used appropriately by the educator	4.1	1.0	
The items were easy to understand	3.9	0.7	
APP practical in the clinical environment	4.1	0.7	
Performance Indicators (PIs) useful when assessing my own performance	3.9	0.7	
The PIs assisted me to know where to improve my performance	3.9	0.7	
The performance required to score a 4 on an item was clear	3.9	1.0	
Beginning practitioner definition was clear	4.0	0.9	
The Scoring rules were appropriate	4.0	0.9	
Overall the scores I received were a fair indication of my performance	3.9	1.2	
The GRS score was a fair reflection of my performance	4.0	1.3	
Information received about the APP prior to the unit was adequate	4.1	0.7	

*Each item rated from 1 = strongly disagree to 5 = strongly agree.

4.7.3. Discussion

Overall the feedback from the students was positive regarding the APP. The questions regarding the students' opinions about their marks and if they considered them a fair reflection of their performance showed quite a large standard deviation suggesting that there were students who did not consider their marks appropriately reflected their performance. This was supported by the responses collated from one of the open ended questions where a number of students wrote comments like "I felt I deserved better scores in some areas", whilst other students commented "yes I think my marks were a reasonable summary of my performance".

The positive feedback on the 0 – 4 rating scale was also supported by the student's comments in the open ended questions, for example, "I like how they don't use the traditional percentage scale or C, D, HD scale as this limits educator bias". Equally though some students were also requesting an additional scoring level be added to the scale through comments like the following, "the scale needs a larger range 0 – 4 is a bit limited".

The average time taken to complete the APP in Field Test 2 was 28 minutes whereas in the first Field Test it was 17 minutes. In both cases the educators reported this to be acceptable.

Summary of refinements to the APP following Field Test #2.

A summary of the key findings from the Rasch analysis, teleconferences/ meetings and survey questionnaires collected during and following Field Test #2 is best shown in the refinements made to the APP and training material prior to any further Field Tests.

Table 4-11: Refinements of APP following Field Test #2 prior to Field Test #3

Refer to APP (version 5 Appendix 11) for full modifications

Feedback/suggested modifications – why	Accepted	Why/why not the change?	Changes made: APP version 4
On the global rating scale replace the rating level titled poor	Yes	Poor was too emotive / judgemental a word and could sway the educators toward not using this category	On the global rating scale the word poor has been replaced by not adequate
Reword item 3	Yes	NZ requested more obvious outlining of culturally related competencies. Item 3 was showing item misfit and so wording change may assist addressing this	Item 3: has been reworded and now reads – “Demonstrates ethical, legal & culturally sensitive practice”
Reword item 6	Yes	Item 6 was showing item misfit and so wording change may assist addressing this	Item 6: has been reworded and now reads – “Demonstrates accurate record keeping skills”
Rewording performance indicators for item 8,	Yes	Clinical educators commented on these performance indicators as being confusing at times	A few minor changes to the performance indicators to ensure clarity eg., performance indicators for item 8 have been reworded.
Update FAQs in the resource manual	Yes	To provide up to date information to educators on correct completion of the APP	The FAQs section in the resource manual has been updated to assist educators.
Rewording performance indicators for items 1, 2 and 3	Yes	NZ requested more obvious outlining of culturally related competencies.	Performance indicators modified to include more specific reference to cultural sensitivity.
Additional scoring category to be added to the existing 0, 1, 2, 3 or 4 options	No	On balance the qualitative evaluation data supports the current scale and Rasch analysis indicates that the scale is working effectively. May be some educators that could cope with an extra category but scale has to function across a broad range of educator experience and clinical area.	Scale to remain 0 - 4
Divide the APP into 2 subscales 1. Competency in physiotherapy skills 2. Professional behaviour / communication skills	Not at this stage. Review this decision after further Field Testing	Factor analysis suggested APP was measuring a unidimensional construct whereas Rasch analysis was as not definitive.	Currently remains as one instrument of 20 items.

4.8. Overall summary of the results following Field Test #1 and #2

The development of the APP has been successful and the results of the Field Tests support the continued use of the instrument. Importantly the clinicians have been engaged and were extremely supportive of this initiative and reported finding the APP acceptable and feasible. This project provides initial data on the measurement properties of the APP and forms a platform for discussion and ongoing refinement of the instrument. Overall the APP and the training resources have been well received by the profession.

5. Validity

Validity evidence based on content

This category of validity evidence is also known under Messicks's (1996) validity categories as content (relevance and coverage) validity.

Content validity was derived from the process of development that identified a large item pool from all relevant sources and used a set of decision rules to select the initial item set. The APP items reflect the content of the Australian Standards for Physiotherapy. The Standards reflect "a benchmark for the knowledge, skills and attributes of a safe and effective entry level physiotherapist" (Australian Physiotherapy Council 2006, p. 6). The process of item selection, wording and final inclusion were also the subject of multiple focus groups and meetings with a broad representation of the physiotherapy profession. In addition, iterative review of test content domain by diverse panels of experts and feedback from users enabled potential sources of irrelevance, difficulty or ambiguity to be identified.

Further evidence for content validity is provided by the systematic development design that followed the 4 building blocks approach of Wilson (2005):

- construct map;
- items design;
- outcome space; and
- measurement model.

Validity evidence based on response processes

The APP is intended to be used by clinical educators to provide both formative and summative assessment of physiotherapy student performance. Extensive data relating to response processes were gathered via surveys, focus groups and 'talk aloud' interviews with clinical educators. It was important to explore whether the educators found the APP acceptable, how they were interpreting the items, performance indicators and response scale, and to identify aspects of the instrument that were ambiguous or inconsistently interpreted. The APP was refined after each iteration to address problems identified with response processes.

Validity evidence based on internal structure

Evidence based on internal structures was derived from Rasch analysis and Principal Components factor analysis. The Rasch analysis examined the extent to which observed patterns of responses fit the pattern expected by the Rasch model. Person ability and item difficulty were calibrated onto a common interval (logit) scale. Rasch analysis examined the functioning of the rating scale, overall fit of data to the model, the fit of individual items and persons to the model and the stability of item functioning based on variables other than student performance (e.g. by gender or type of placement) that is, did particular items function differently for identifiable subgroups of examinees. Analyses showed no differential item functioning (DIF) of APP items by age, gender and gender of students and educators, clinical area, clinical educator experience and training, facility type and university.

The results of the Principal Components Analysis (PCA) in both Field Tests demonstrated that there was a single dominant factor supporting the concept of item homogeneity, or unidimensionality of the instrument. Refinement of the instrument is ongoing.

On each item, students were rated on a five level response scale from poor to excellent demonstration of competence. The expectation is that as student ability increases the probability that they would be rated at a higher level would increase in an ordered fashion from low to high performance. Analysis of the APP data showed that educators were using the five level response scale as intended providing evidence of validity for internal structure of the APP.

6. Reliability

6.1. Inter-rater reliability

The purpose of the reliability study was to determine the inter-rater reliability for the APP. For the APP to be clinically useful, two clinical educators completing the APP on the same student performance should make similar judgements.

Since inter-rater reliability contains all the sources of error contributing to intra-rater reliability, plus any differences that may arise between observers, a demonstration of high inter-rater reliability is sufficient, with the intra observer reliability bound to be higher (Streiner & Norman, 2003). As the clinical environment is dynamic, conducting test-retest reliability trials is not appropriate or relevant. Therefore in this project only inter-rater reliability trials were conducted.

6.1.1 Method

The ideal approach to the study of reliability entails independent replication of the entire measurement process as it occurs in real life. The method employed in this trial adhered to this principle as closely as possible within the constraints of a busy clinical environment.

Participants

A sample of convenience of clinical educators from 5 universities were invited to participate in the inter-rater reliability trial (*Table 6-1*). To be eligible for the reliability study there needed to be two clinical educators who were able to make sufficient observation of the student performance during the placement to independently complete an APP assessment blind to each other's decisions (refer to *Appendix 23: Inter-rater reliability trial invitation and consent forms for educators and students* for reliability trial invitation form).

Thirty-three pairs of clinical educators and thirty 3rd and 4th year physiotherapy students from 5 universities consented to take part in the reliability trial. Three pairs were excluded as the educators completed the APP instrument a week apart, allowing for errors due to the time lapse between the student's performance and completion of the APP. Of the 30 pairs 20 had participated in one of the Field Tests. The educators were provided with a resource manual specifically developed for the inter-rater reliability trial. In addition to the standard information on how to complete the APP, the protocol for the trial was described (*Appendix 24: Inter-rater reliability trial APP Clinical educator resource manual*).

During the clinical unit (range 4 to 6 weeks) the educators were advised that if they were sharing the education of the student they could have normal discussions about strategies to assist the student/s to improve their performance, but they were requested not to discuss actual marks or grading of the student.

Table 6-1: Demographics for inter-rater reliability trial

University	Programme & year of study	No. of students	Av. Yrs Educator Experience	Educator Av. Age	Educator Gender		APP Usage
					# Male	#Female	
Curtin	3 rd Year U/G	8	9.1	39.5	2	5	Parallel
JCU	3 rd Year U/G	12	3.0	36.5	2	5	Sole
LaTrobe	3 rd /4 th Year U/G	12	5.3	33.3	3	4	Sole
Uni Sydney	3 rd Year U/G	10	8.1	36.4	1	5	Parallel
Griffith Uni	5 th year U/G	18	5.7	35.4	3	7	Sole

Analysis

The Intraclass Correlation Coefficient 2,1 (two-way random effects model) was appropriate as the raters and students are not constant and it is intended for the results to be generalised to other, similar raters (Portney & Watkins, 1993). The standard error of measurement (SEM) was calculated using formula 1. The SEM provides a clinically interpretable measure of error expressed in APP scale units. The ICC2,1 was 0.96 (95%CI 0.93 to 0.98). The standard error of measurement was 2 APP points.

$$SEM = \sqrt{1 - ICC} \quad [\text{formula 1}]$$

6.1.2. Results

The APP marks given by the two raters for each student are shown on Figure 6.1.

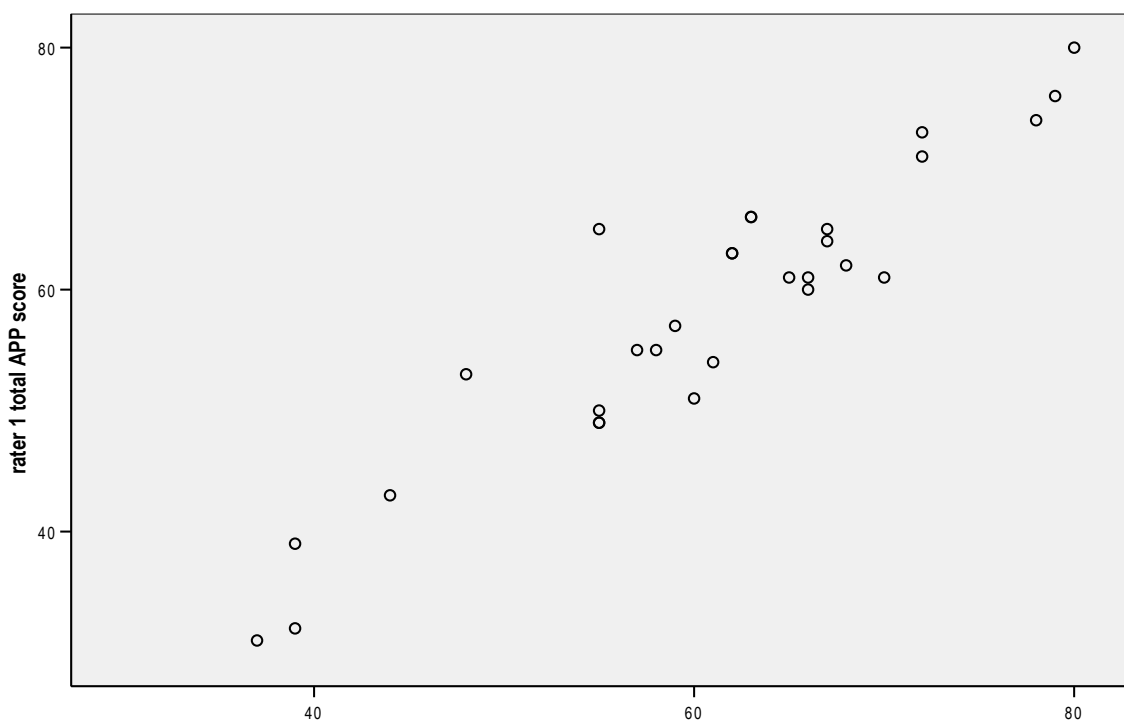


Figure 6-1: Scatterplot of APP scores rater 1 and rater 2

Summary

Inter-rater reliability was higher than the 0.90 recommended for making decisions about individual subject scores (Portney & Watkins, 1993). The SEM of 2 APP points indicate that a student's APP score is accurate to within plus or minus 2 points (at 68% confidence) or 4 points (at 95% confidence).

Validity evidence based on Consequences of testing:

This category of validity evidence refers to the value implications of score interpretation as a basis for action as well as the actual and potential consequences of test use, especially in regard to sources of invalidity related to issues of bias, fairness and distributive justice (Wolfe & Smith, 2007).

It is important to provide sufficient information on what was considered to be appropriate use of the APP. To facilitate this the following training resources were provided:

- DVD exemplars of student performance;
- resource manual – outlining appropriate usage; and
- face to face and/or teleconference training of educators.

7. Summary of achieved outcomes and dissemination

The project has achieved its primary goal of developing an instrument to assess the competence of clinical practice of physiotherapy students. Representatives of all universities with entry-level physiotherapy programs had input into the instrument development and refinement. A total of nine universities were involved in the field trials, and data were collected from several hundred physiotherapy students across Australia and New Zealand. In total more than 1000 clinical educators across Australia and New Zealand were involved in the development and testing of the APP. Four national and two international conference presentations have been presented along with a chapter in a text on clinical education due for publication in 2009.

To date eight universities have adopted the APP as the sole assessment form, and a further three are planning to adopt the form in the next 12 months. We anticipate that further adoption of the national form will be facilitated by clinical agencies who may decide to restrict placement opportunities to universities who use the common form, or on the recommendation of the Australian Physiotherapy Council in the process of course accreditation.

This project has delivered an important benefit for physiotherapy education in that a single instrument with known validity and reliability is now available to replace the twenty-five distinct assessment forms formerly being used.

7.1. Factors critical to success

Widespread recognition of the benefits of a single assessment form for physiotherapy clinical education facilitated the success of the project. There was support for the project from all relevant peak groups such as the Australian Physiotherapy Council, the recently incorporated Council of Physiotherapy Deans, Australia and New Zealand (formerly the Heads of Physiotherapy Programs) and the Clinical Education Managers' group. Support for the project was also expressed by managers of agencies taking students from multiple universities and the clinical educators at those agencies. The assessment burden for these agencies and educators has been considerably reduced by the common assessment form.

We remain indebted to Physiotherapy Profession in Australia and New Zealand for the support provided for this project. It has brought the profession together across and between countries in cooperation towards achieving a high quality instrument for assessment of physiotherapy practice. It will make a great contribution to physiotherapy and clinical education. This work also provides a useful model for related projects undertaken in other clinical areas. The role of clinical education managers, and the clinical educators in this project was pivotal to its success. These physiotherapists, who already had to deal with demanding work, were generous with their time and support for the project.

The staff academic studies program at Griffith University provided the chief investigator with designated time off-line. This was a significant factor critical to the success of the project.

The key ingredient to success was the funding provided by the ALTC. Without funding, this project simply would not have been achievable. The flexible approach adopted by the ALTC in relation to

requested extensions to the project time lines allowed for an additional Field Test to be conducted and a larger sample of educators for the inter-rater reliability trial.

7.2. Factors that impeded success

Attachment to current assessment forms in some universities is the strongest impediment to the adoption of the APP. A change to assessment requires universities and educators to experience the loss of a form that they may feel very comfortable with and the challenge of becoming familiar with a new form. Many universities and educators, however, have had little difficulty relinquishing their old forms and adopting the new form.

Progress on this project was initially slow due to applying for and obtaining ethical clearance from each of the participating universities. Initially it was thought that once clearance had been gained from Griffith University that all other universities would then expedite clearance. This did not eventuate with all participating universities requiring a full application. This difficulty was however, offset by the ALTC agreeing to an extension on the project time line. The resignation of the research assistant Libby Henderson in January 2008 also severely impacted on the progress of the project as an available replacement proved difficult to find.

7.3. Establishment of National and International Links

Throughout the project numerous collaborative links were established and will continue beyond this project facilitating further development of best practice assessment processes within the health professions. These links are summarised below:

- Discussions have been progressing with the Canadian Physiotherapy association in relation to adaptation of the APP for use within Canada. Meetings have been held in Canada and are continuing via teleconferences in 2009. The aim is to adapt the APP to meet the Canadian Physiotherapy competencies and then to conduct a pilot trial.
- Discussions commenced with colleagues at Limerick University in Ireland where similar research on clinical assessment is being conducted.
- Discussions have been progressing with Dr Jody Gandy of the American Physical Therapy Association (APTA) regarding a trial of the APP instrument in parallel with the Clinical Performance Instrument (CPI).
- Links to a project undertaken by the University of Technology, Sydney to develop a nationally applicable set of capabilities / standards for osteopathic practice to be utilised within a best practice model for the assessment of overseas candidates wishing to register in Australia. The project is being conducted by Professor Paul Hager, Professor David Boud and Ms Caroline Stone and is funded by NSW Osteopaths Registration Board Education and Research Fund, and supported by the Australian Osteopathic Association.
- Links to an Australia wide ARC linkage project headed by Professor Gwen Jull from The University of Queensland. The project team has given permission for the APP to be used to assessment students as part of this project.
- Discussions have commenced with Associate Professor Fiona Lake Associate Fellow of the ALTC funded 'Teaching on the Run' project. The proposal is to adapt this clinical education package

- for doctors to meet the educational requirements of allied health educators. As part of this an instructional DVD will be developed to guide physiotherapists on how to complete the APP.
- Links to speech pathology have been established through discussions with Dr Sue McAllister. This has highlighted the potential for collaborative research between the professions of physiotherapy and speech pathology in relation to the assessment of student whilst on professional practice placements.

7.4. Project Team's Self evaluation against stated outcomes

Evidence of the success of the project and the achievement of the originally stated outcomes. is provided in Table 7-1. It is important to note that one limitation of the project was in the area of student feedback. Whilst student opinions were collected via surveys and informal discussion groups, formal exit interviews were not conducted. It was considered prudent to wait until the instrument had been finalised and further modifications were not imminent. Interviews and focus groups with students will be conducted during 2009.

Table 7-1: Overview of outcomes achieved in relation to project aims

Project aims	Project target outcomes	Outcomes / deliverables achieved
- Development of a competency based assessment instrument, to evaluate physiotherapy students' performance in the workplace - To investigate the psychometric properties of the APP - To investigate the viability of using the APP as a measure of student physiotherapy competency	Completion of all forum groups, collation and thematic analysis of collated information. Completion of APP instrument and distribution for pilot testing Completion of pilot testing.	Completion of all forum groups, collation & thematic analysis of collated information. Completion of pilot CAPS for pilot testing Pilot testing completed on 295 students and initial Rasch analysis was completed. Minor adjustments to the item content and response scale were made in light of the results
	Completion of Field Test #1: Rasch and factor analysis.	Field Test #1 completed on 747 students and initial Rasch analysis was completed. Minor adjustments to the item content and response scale were made in light of the results
	Field Test #1: Collation of all feedback from clinical examiners and students on the instrument	Content and thematic analysis of collated information.
	Field Test #2: <i>(this is an additional Field Test that was not outlined in the original submission)</i> Rasch and factor analysis	Field Test #2 completed on 695 students and initial Rasch analysis was completed. Minor adjustments to the item content and response scale were made in light of the results
	Instrument guidelines and support material.	Resource manual completed Training DVD with student exemplars completed
	Conduct talk aloud interviews with clinical educators and exit surveys with students involved in Field Testing of the APP.	Interviews conducted and data analysed for interviews with clinical educators. Student surveys analysed but interviews were not completed.
	Inter-rater reliability studies.	Completed on 30 pairs of clinical educators
	Documentation of validity and reliability of APP instrument	Completed

7.5. General Lessons Learnt

The biggest lesson learnt was that the size and workload associated with the project was considerably underestimated in the beginning by the chief investigator. The unwavering support of the physiotherapy profession and the members of the project team provided a safety net at times of high stress related to the completion of the project within the allocated time frame.

It is a recommendation from the chief investigator on this project, that all project teams ensure that the administrative support they employ has a proven track record and possess the skill set required by the project, as efficient, co-operative administrative assistance is one of the most undervalued commodities in the current workforce.

An unexpected success arose out of the establishment of the international links to the American, Canadian and Irish physiotherapy associations who are also working on establishing valid and reliable clinical assessment instruments. These collaborations will continue on after the project completion.

In addition, development of a national standardised clinical assessment instrument has allowed for improved communication between universities and educators. The project has facilitated a focused approach to the specific training required by clinical educators. This is evidenced by the findings following Field Test #1, that the clinical educators were struggling to adequately assess item 19, evidence based practice. This finding then directly influenced the training offered to the clinical educators and promoted modifications to the resource manual.

7.6. Dissemination and communication of project activities

An effective strategy for successful dissemination of outcomes was to consult with potential users at various stages of the project, from planning through to pilot and Field Testing and evaluation. This has been included in the method section at each stage. In addition provision of implementation guidance, support, training sessions and exemplars of best use of the instrument also assisted successful dissemination and uptake by the physiotherapy profession. Dissemination through various forms of communication was achieved and is outlined below. Publication in quality peer reviewed journals is also essential and is planned for 2009.

Progress and outcomes from the ALTC-funded Priority Project on the Assessment of Physiotherapy Practice instrument have been presented to the following audiences:

Seminars/Forums/Workshops

1. Assessment Forum, ALTC, Melbourne, 6 December 2006.
2. The annual meeting of the Heads of Physiotherapy Schools and Clinical Education Managers for all Australian and New Zealand Universities held in Dunedin 16 April 2007.
3. Assessment Symposium University of Newcastle 18 June 2007.
4. Presentation to the Interprofessional clinical education workshop, Griffith University 10 July 2007, February 2008, July 2008.

5. The annual meeting of the Heads of Physiotherapy Schools for all Australian and New Zealand physiotherapy programs. November 2007, Brisbane.
6. Multiple presentations to facility staff involved in collection of the data
7. Presentation of the results of Field Test #1 to the annual meeting of the Heads of Physiotherapy Schools for all Australian and New Zealand physiotherapy programs, 20 May 2008, Perth.
8. Presentation on the APP development and outcomes of the ALTC priority project to Queensland Health facility State Directors of Physiotherapy Forum, 14 November 2008, Brisbane.
9. The Australian Physiotherapy Council (APC) formerly known as ACOPRA, the accrediting body for physiotherapy programs in Australia has regularly sought updates on the progress of the development and testing of the APP.
10. Meetings with Australian Physiotherapy Council to discuss implementation of the APP into accreditation of international physiotherapists applying for registration in Australia.

Conferences

1. Dalton, M., Keating, J. & Davidson, M. (2008). *Development of the Assessment of Physiotherapy Practice (APP) Instrument: pilot trial results*. 13th Ottawa International Conference on Clinical Competence (Ozzawa), 5-8 March 2008, Melbourne, Australia.
2. Dalton, M. B., Davidson, M., Keating, J., Alexander, H. (2008). *Development of the Assessment of Physiotherapy Practice (APP) Instrument: A standardised and valid approach to assessment of clinical competence in physiotherapy*. 13th Ottawa International Conference on Clinical Competence (Ozzawa), 5-8 March 2008, Melbourne, Australia.
3. Dalton, M., Keating, J. & Davidson, M. (2008) *Development of the assessment of physiotherapy practice (APP) instrument: results of Field Test one*. Australian Physiotherapy Association National Congress, 21-24 May 2008, Perth, Australia.
4. Dalton, M., Keating, J., & Davidson, M., de Morton N. Development of the Assessment of Physiotherapy Practice (APP) Instrument: investigation of the psychometric properties using Rasch analysis. International Conference on Outcomes Measurement, 11-13 September 2008, Bethesda, Maryland, USA.
5. Keating, J., Dalton, M., & Davidson, M., de Morton N. Development of a method to assess performance of entry level physiotherapists: the Assessment of Physiotherapy Practice (APP) WCPT-AWP & IAP Congress, 22-25 January 2009, Mumbai, India.

Publications

1. An article on the APP and its progress to date was published in the Australian Physiotherapy Association's (APA) InMotion publication. This publication is distributed nationally.
2. An e-news article was published by each state branch of the APA.
3. Keating, J., Dalton, M. & Davidson, M. (in press). Assessment in clinical education. In: C. Delaney & Molloy, E. *Clinical education: Evidence, practice and understanding*. Elsevier.
4. The Physiotherapy programs currently using the APP are as follows:
 - Auckland University of Technology
 - Charles Sturt University
 - Curtin University
 - Griffith University
 - James Cook University
 - La Trobe University
 - Monash University
 - The University of Sydney
 - University of Otago

8. Conclusions and recommendations

The project has delivered great immediate benefits to the profession of physiotherapy. Instrument evolution will continue as additional data is analysed. On-line completion of APP is likely to be incorporated as an option within the next two years. A central data base for gathering data collected using the APP will enable confirmatory analyses.

DVDs that support teaching the application of the APP will be further refined. The key reference standard for scoring is rating a student against the expected performance of a day one new entry-level graduate. This reference criterion requires additional research into standardisation as perceptions of desirable standards can vary between individuals.

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Appendices

Appendix 1: Search terms used in systematic review

A Systematic Review of Methods Used to Assess Competency in Physiotherapy Practice

Systematic search string

1. Clinical
2. Placement*
3. Practic*
4. Internship
5. Fieldwork
6. Experien*
7. Perform*
- 8. 1 or 2 or 3 or 4 or 5 or 6 or 7**
9. Assess*
10. Measur*
11. Evaluat*
12. Appraise
13. Review
14. Examin*
15. Certif*
16. Summative
17. Rat*
18. Valuat*
19. Analy*
- 20. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19**
21. Valid*
22. Reliab*
23. Clinimetric propert*
24. Measur* propert*
25. Psychometric propert*
26. Respons*
27. Standard*
28. Sensit*
29. Specif*
- 30. 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29**
31. Allied health
32. Physio*
33. Physical therap*
- 34. 31 or 32 or 33 (and)not nurs\$**

- 35. Competen*
- 36. Capab*
- 37. Skill*
- 38. Proficien*
- 39. Expert
- 40. Experien*
- 41. Capacity
- 42. Aptitude
- 43. Abilit*
- 44. 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43**
- 45. Scale
- 46. Instrument
- 47. Tool
- 48. 45 or 46 or 47
- 49. Study
- 50. Trial
- 51. Develop*
- 52. Evaluat*
- 53. 49 or 50 or 51 or 52**
- 54. Student
- 55. Undergraduate
- 56. Entry-level
- 57. Entry level
- 58. Postgraduate
- 59. Pre-registration
- 60. Beginning practitioner
- 61. Masters
- 62. PhD
- 63. Doctoral Thes*
- 64. 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63**

- 65. 20 or 44
- 66. 8 and 34 and 65
- 67. 53 and 66
- 68. 48 and 67
- 69. 64 and 68
- 70. 30 and 69

Appendix 2: Initial draft CAPS instrument (version 1)

Clinical Assessment of Physiotherapy Skills (CAPS) Scale

Circle one number

Communication	
1. Communicates effectively and appropriately - <u>Verbal/non-verbal</u>	1 2 3 4 5
2. Communicates effectively and appropriately - <u>Written</u>	1 2 3 4 5
Professional Behaviour	
3. Demonstrates an understanding of patient rights and consent	1 2 3 4 5
4. Demonstrates commitment to learning	1 2 3 4 5
5. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements	1 2 3 4 5
6. Demonstrates teamwork	1 2 3 4 5
Assessment	
7. Conducts an appropriate patient interview (subjective assessment)	1 2 3 4 5
8. Selects appropriate methods for measurement of relevant health indicators	1 2 3 4 5
9. Performs appropriate assessment procedures (objective assessment)	1 2 3 4 5
Analysis and Planning	
10. Sensibly interprets assessment findings	1 2 3 4 5
11. Collaborates with patient/carer to select appropriate intervention	1 2 3 4 5
Intervention	
12. Performs interventions appropriately	1 2 3 4 5
13. Is an effective educator	1 2 3 4 5
14. Monitors the effect of intervention	1 2 3 4 5
15. Progresses intervention appropriately	1 2 3 4 5
16. Undertakes discharge planning	1 2 3 4 5
Evidence-based Practice	
17. Applies evidence based practice in patient care	1 2 3 4 5
Risk Management	
18. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	1 2 3 4 5

Draft scoring schema for assessment criteria

1. Does not demonstrate performance criteria and does not respond appropriately to prompting
2. Infrequently demonstrates performance criteria, requires constant prompting
3. Demonstrates most performance criteria to an adequate standard, requires occasional prompting in unusual or challenging circumstances
4. Demonstrates most performance criteria to a high standard, rarely requires prompting
5. Demonstrates performance criteria to an excellent standard, displays initiative and flexibility without prompting

Guiding Criteria for Assessment

Communication

Criteria:

1. Communicates effectively and appropriately - Verbal/non-verbal

Performance Indicators include

- greets patients and carers appropriately
- questions effectively to gain appropriate information
- listens carefully and is sensitive to patient and carer views
- respects cultural and personal differences of others
- gives appropriate, positive reinforcement
- provides clear instructions
- uses suitable non-medical terminology & avoids jargon
- demonstrates an appropriate range of communication styles (eg patients, carers, administrative and support staff, health professionals, care team)
- recognises barriers to optimal communication
- uses a range of communication strategies to optimize patient rapport and understanding (eg hearing impairment, non-English speaking, cognitive impairment, consideration of non-verbal communication)
- appropriately uses accredited interpreters
- maintains effective communication with clinical educators
- actively explains to patients and carers their role in care, decision-making and preventing adverse events
- actively encourages patients to provide complete information without embarrassment or hesitation
- communication with client is conducted in a manner and environment that demonstrates consideration of confidentiality, privacy and patient's sensitivities
- negotiates appropriately with other health professionals

2. Communicates effectively and appropriately - Written

Performance Indicators

- writes legibly
- completes relevant documentation (record keeping including documentation of all physiotherapy assessments and interventions, statistical information as required by the organization, referral letters, written communications with appropriate patients consent, case notes, handover notes) accurately and consistently
- Maintains records compliant with State and Commonwealth legislative medico-legal requirements
- complies with organisational protocols and legislation for communication
- adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability)

Professional Behaviour

3. Demonstrates an understanding of patient rights and consent

Performance Indicators

- understands when formal patient consent is required
- informed consent is obtained and recorded according to protocol
- understands and respects patients' rights
- allows sufficient time to discuss the risks and benefits of the proposed treatment with patients and carers
- engages patients in discussion of the effects of treatments or no treatment
- records patient's refusal of treatment and advises supervisor
- refers patients to a more senior staff member for consent when appropriate
- advises supervisor or other appropriate person if a patient might be at risk
- manages time and resources effectively
- works collaboratively and respectfully with support staff

4. Demonstrates commitment to learning

Performance Indicators

- responds in a positive manner to questions, suggestions &/or constructive feedback
- develops and implements a plan of action in response to feedback
- seeks information/assistance as required
- demonstrates self-evaluation and reflects on progress
- reviews and prepares appropriate material before and during the placement
- takes responsibility for learning and seeks opportunities to meet learning needs

5. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements

Performance Indicators

- follows policies & procedures of the facility
- advises appropriate staff of circumstances that may affect adequate work performance
- observes infection control and workplace health and safety policies
- maintains patient confidentiality
- arrives fit to work
- arrives punctually and leaves at agreed time
- calls to report intended absence
- wears an identification badge and tells patients, carers and other workers who they are
- treats patients/clients within scope of expertise
- observes dress code
- completes projects/tasks within designated time frame
- reports inappropriate or unsafe behaviour of a co-worker or situations that are unsafe
- maintains appropriate professional boundaries with patients and carers

- demonstrates appropriate self-care strategies (eg stress management)
- acts ethically and applies ethical reasoning in all health care activities
- applies ethical principles to the collection, maintenance, use and dissemination of data and information
- acts within bounds of personal competence, recognizing personal and professional strengths and limitations

6. Demonstrates teamwork

Performance Indicators

- demonstrates understanding of team processes
- contributes appropriately in team meetings
- acknowledges expertise and understands the role of other team members and refers/liases as appropriate to access relevant services
- advocates for the patient when dealing with other services
- collaborates with the patient and the health care team to achieve optimal patient outcomes
- cooperates with other workers who are treating and caring for patients

Assessment

7. Conducts an appropriate patient interview (subjective assessment)

Performance Indicators

- positions person safely and comfortably for interview
- structures a systematic, purposeful interview seeking qualitative and quantitative details
- asks relevant and comprehensive questions
- politely controls the interview to obtain relevant information
- responds appropriately to important patient cues
- identifies patient's goals and expectations
- conducts appropriate assessment with consideration of biopsychosocial factors that influence health
- seeks appropriate supplementary information, accessing other information, records, test results as appropriate and with patients consent
- generates diagnostic hypotheses, identifying the priorities and urgency of further assessment and intervention
- completes assessment in acceptable time

8. Selects appropriate methods for measurement of relevant health indicators

Performance Indicators

- selects important, functional and meaningful outcomes relevant to treatment goals, including those to identify potential problems

- chooses appropriate methods/instruments to measure identified outcomes across relevant assessment domains e.g. impairment, activity limitations, participation restriction, well-being and satisfaction with care

9. Performs appropriate assessment procedures (objective assessment)

Performance Indicators

- considers patient comfort and safety
- respects patient's need for privacy and modesty (eg provides draping or gown)
- structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patients health status
- Plans assessment structure and reasoning process using information from patient history and supportive information
- demonstrates sensitive and appropriate handling during the assessment process
- applies all tests and measurements safely, accurately and consistently
- sensibly modifies assessment in response to patient profile, feedback and relevant findings
- appropriate tests are performed to refine diagnosis
- completes assessment in acceptable time
- assesses/appraises work home or other relevant environments as required

Analysis and Planning

10. Sensibly interprets assessment findings

Performance Indicators

- describes the implications of test results
- describes the presentation and expected course of common clinical conditions
- relates signs and symptoms to pathology
- relates signs symptoms and pathology to environmental tasks and demands
- interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis
- makes justifiable decisions regarding diagnoses based on scientific knowledge and clinical reasoning
- prioritises important assessment findings
- identifies and prioritises patient's problems
- considers whether physiotherapy treatment is indicated
- describes acceptable rationale (eg likely effectiveness) for treatment choices
- demonstrates a suitable range of skills and approaches to intervention

11. Collaborates with patient/carer to select appropriate intervention

Performance Indicators

- Options for physiotherapy intervention are identified and justified, based on the needs identified, and on best evidence and available resources
- engages with patient to explain assessment findings, discuss intervention strategies and develop an acceptable plan
- negotiates realistic short and long term treatment measurable goals in partnership with patient/carer
- balances needs of patients and care givers with the need for efficient and effective intervention
- considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention
- demonstrates understanding of contraindications and precautions in selection of intervention strategies
- advises patient about the effects of treatment or no treatment

Intervention

12. Performs interventions appropriately

Performance Indicators

- considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care.
- demonstrates appropriate patient handling skills in performance of interventions
- performs techniques at appropriate standard
- minimizes risk of adverse events to patient and self in performance of intervention (including observance of infection control procedures and manual handling standards)
- prepares environment for patient including necessary equipment for treatment
- identifies when group activity might be an appropriate intervention
- completes intervention in acceptable time
- demonstrates skill in case management
- recognises when to enlist assistance of others to complete workload
- refers patient on to other professionals when physiotherapy intervention is not appropriate, or requires a multi-disciplinary approach

13. Is an effective educator/health promoter

Performance Indicators

- demonstrates skill in patient education eg understands the principles of adult learning
- demonstrates skills in conducting group sessions
- a realistic self-management program for prevention and management is developed with the client
- provides information using a range of strategies that demonstrate consideration of patient needs

- confirms patient or caregivers understanding of given information
- uses appropriate strategies to motivate the patient and caregiver to participate and to take responsibility for achieving defined goals
- discusses expectations of physiotherapy intervention and its outcomes
- provides feedback to patient regarding health status
- educates the patient in self evaluation
- encourages and acknowledges achievement of short and long term goals

14. Monitors the effect of intervention

Performance Indicators

- incorporates relevant evaluation procedures within the physiotherapy plan
- monitors client throughout the intervention and makes modifications as appropriate monitors and analyses relevant health indicators appropriately

15. Progresses intervention appropriately

Performance Indicators

- implements safe and sensible treatment progressions
- modifications, continuation or cessation of intervention are made in consultation with the client, based on best available evidence
- discontinues treatment in the absence of measurable benefit

16. Undertakes discharge planning

Performance Indicators

- begins discharge planning in collaboration with the health care team at the time of the initial episode of care
- describes strategies that may be useful for maintaining or improving health status following discharge
- addresses consumer/patient/carer needs for ongoing care through the coordination of appropriate services

Evidence based practice

17. Applies evidence based practice in patient care

Performance Indicators

- locates and applies current evidence based clinical practice guidelines and systematic review recommendations
- assists patients and carers to identify reliable and accurate health information
- shares new evidence with colleagues
- participates in quality assessment procedures when possible

Risk management

18. Identifies adverse events and near misses and minimises risk associated with assessment and interventions

Performance Indicators

- monitors patient safety during assessment and treatment.
- complies with workplace guidelines on patient handling
- complies with organizational health and safety requirements
- describes relevant contraindications and precautions associated with assessment and treatment
- reports adverse events and near misses to appropriate members of the team
- implements appropriate measures in case of emergency

Appendix 3: Reference Group - Australia and New Zealand Clinical Education Managers

Name	Facility
Ruth Dunwoodie	The University of Queensland
Jenny Scarvell/ Wendy Chesworth	Canberra University
Peter Robinson/Kerry Saunders / Amanda Bosokovic	Curtin University
Anne Bent	James Cook University
Cath Johnson	Newcastle University
Cath Dean / Evelyn Argyle	The University of Sydney
Sandra Ferdinand	Otago University
Megan Smith / Rosemary Corrigan	Charles Sturt University
Anne Marie Hill	Notre Dame University
Wendy Nickson	Monash University
Cheryl Keals-Smith	Auckland University of Technology
Merilyn McKenzie	LaTrobe University
Gillian Webb / Clarissa Martin	The University of Melbourne
Megan Dalton/ Liisa Laakso	Griffith University

Appendix 4: Attendees at initial forum group discussion of CAPS

Name	Facility	Position
Gwen Jull	The University of Queensland	Head of Department
Ruth Dunwoodie	The University of Queensland	Clinical education liaison officer
Rosemary Isles	The University of Queensland	Clinician and Lecturer
Jenny Scarvell	Canberra University	Clinical Education Manager
Peter Robinson	Curtin University	Clinical Education Manager
Anne Bent	James Cook University	Clinical Education Manager
Anne Jones	James Cook University	Acting Head of School
Cath Johnson	Newcastle University	Clinical Education Manager
Cath Dean	The University of Sydney	Clinical Education Manager
Margot Skinner	Otago University	Head of School
Sandra Ferdinand	Otago University	Clinical Education Manager
Megan Smith	Charles Sturt University	Clinical Education Manager
Anne Marie Hill	Notre Dame University	Clinical Education Manager
Wendy Nickson	Monash University	Clinical Education Manager
Cheryl Keals-Smith	Auckland University of Technology	Clinical Education Manager
Merilyn McKenzie	LaTrobe University	Clinical Education Manager
Gillian Webb	The University of Melbourne	Acting Head of School
Clarissa Martin	The University of Melbourne	Clinical Education Manager
Margaret Green	University of South Australia	Clinical Education Manager
Megan Dalton	Griffith University	Clinical Education Manager
Jenny Keating	Monash University	Head of School
Megan Davidson	LaTrobe University	Head of School

Appendix 5: Heads of Physiotherapy Programs, Australia and New Zealand

Name	Facility
Professor Gwen Jull / Professor Bill Vicenzino	The University of Queensland
Professor Gordon Waddington	Canberra University
Professor Anthony Wright	Curtin University
Ms Anne Jones	James Cook University
Dr Darren Rivett / Dr Pauline Chiarelli	Newcastle University
Professor Jack Crosbie / Professor Jennifer Alison	The University of Sydney
Professor David Baxter	Otago University
Dr Megan Smith	Charles Sturt University
Professor Peter Hamer	Notre Dame University
Professor Jenny Keating	Monash University
Mr Peter Larmer	Auckland University of Technology
Professor Meg Morris / Assoc Professor Megan Davidson	LaTrobe University
Professor Joan McMeekan / Professor Meg Morris	The University of Melbourne
Assoc Professor Norman Morris	Griffith University

Appendix 6: Ethical approval protocol numbers

This research has been approved by the Human Research Ethics Committees of the following Universities:

1. Griffith University, GU Protocol Number: PES/09/06/HREC;
2. Auckland University of Technology - Application Number 07/139
3. Curtin University, Protocol Approval: HR 39/2007;
4. The University of Otago - project No 07/152;
5. Monash University - 2007/0599MC;
6. James Cook University - H2737
7. La Trobe University – approval 07-115
8. The University of Sydney – ref no: 08-2007/10243
9. Charles Sturt University – protocol no: 2007/268

Appendix 7: Pilot trial results of Rasch analysis

Sample	Model Fit Chi square	Model fit Y/N	Item fit resid SD	Person fit resid SD	Individual item misfit (+ve)	Individual item misfit (-ve)	Disordered item thresholds	T-test PerC <5% 95% CI:	Person Separation Index (PSI)
295	0.33	Y	0.94	1.14	Nil	Item 10 -2.79	Nil	95% CI: 0.05 <obs> 0.12	0.93

Appendix 8: APP (version 2)

Assessment of Physiotherapy Practice (APP)

		Circle one number				
Professional Behaviour						
1.	Demonstrates an understanding of patient/client rights and consent	0	1	2	3	4
2.	Demonstrates commitment to learning	0	1	2	3	4
3.	Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements	0	1	2	3	4
4.	Demonstrates teamwork	0	1	2	3	4
Communication						
5.	Communicates effectively and appropriately - <u>Verbal/non-verbal</u>	0	1	2	3	4
6.	Communicates effectively and appropriately – <u>Written</u>	0	1	2	3	4
Assessment						
7.	Conducts an appropriate patient/client interview (subjective assessment)	0	1	2	3	4
8.	Selects appropriate methods for measurement of relevant health indicators	0	1	2	3	4
9.	Performs appropriate assessment procedures (objective assessment)	0	1	2	3	4
Analysis						
10.	Appropriately interprets assessment findings	0	1	2	3	4
11.	Identifies and prioritises patient's/client's problems	0	1	2	3	4
Planning						
12.	Sets realistic short and long term goals with the patient/client	0	1	2	3	4
13.	Collaborates with patient/client to select appropriate intervention	0	1	2	3	4
Intervention						
14.	Performs interventions appropriately	0	1	2	3	4
15.	Is an effective educator	0	1	2	3	4
16.	Monitors the effect of intervention	0	1	2	3	4
17.	Progresses intervention appropriately	0	1	2	3	4
18.	Undertakes discharge planning	0	1	2	3	4
Evidence-based Practice						
19.	Applies evidence based practice in patient care	0	1	2	3	4
Risk Management						
20.	Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0	1	2	3	4

**** When scoring this form ensure you refer to the relevant performance indicators****

- 0 = Infrequently demonstrates performance indicators, requires constant prompting with usual/typical (non-complex) patient presentations
- 1 = Demonstrates some performance indicators to an adequate standard, requires frequent prompting with usual/typical (non-complex) patient presentations
- 2 = Demonstrates most performance indicators to an adequate standard, requires prompting in atypical or complex patient presentations
- 3 = Demonstrates most performance indicators to a high standard, requires occasional prompting
- 4 = Demonstrates most performance indicators to an excellent standard, rarely requires prompting

Note: a rating of 0 or 1 indicates that minimum acceptable competency has not been achieved

Assessment of Physiotherapy Practice (APP)

Performance Indicators

Professional Behaviour

1. Demonstrates an understanding of patient/client rights and consent

- understands when formal patient/client consent is required
- informed consent is obtained and recorded according to protocol
- understands and respects patients'/clients' rights
- allows sufficient time to discuss the risks and benefits of the proposed treatment with patients/clients and carers
- engages patients/clients in discussion of the effects of treatments or no treatment
- records patient's/client's refusal of treatment and advises supervisor
- refers patients/clients to a more senior staff member for consent when appropriate
- advises supervisor or other appropriate person if a patient/client might be at risk
- manages time and resources effectively
- works collaboratively and respectfully with support staff

2. Demonstrates commitment to learning

- responds in a positive manner to questions, suggestions &/or constructive feedback
- develops and implements a plan of action in response to feedback
- seeks information/assistance as required
- demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection
- reviews and prepares appropriate material before and during the placement
- takes responsibility for learning and seeks opportunities to meet learning needs

3. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements

- follows policies & procedures of the facility
- advises appropriate staff of circumstances that may affect adequate work performance
- observes infection control and workplace health and safety policies
- maintains patient/client confidentiality
- arrives fit to work
- arrives punctually and leaves at agreed time
- calls appropriate personnel to report intended absence
- wears an identification badge and tells patients/clients, carers and other workers who they are
- treats patients/clients within scope of expertise
- observes dress code
- completes projects/tasks within designated time frame
- reports inappropriate or unsafe behaviour of a co-worker or situations that are unsafe
- maintains appropriate professional boundaries with patients/clients and carers
- demonstrates appropriate self-care strategies (eg stress management)
- acts ethically and applies ethical reasoning in all health care activities
- applies ethical principles to the collection, maintenance, use and dissemination of data and information
- acts within bounds of personal competence, recognizing personal and professional strengths and limitations

4. Demonstrates teamwork

- demonstrates understanding of team processes
- contributes appropriately in team meetings
- acknowledges expertise and understands the role of other team members and refers/liases as appropriate to access relevant services
- advocates for the patient/client when dealing with other services
- collaborates with the patient/client and the health care team to achieve optimal patient/client outcomes
- cooperates with other workers who are treating and caring for patients/clients

Communication

5. Communicates effectively and appropriately - Verbal/non-verbal

- greets patients/clients and carers appropriately
- questions effectively to gain appropriate information
- listens carefully and is sensitive to patient/client and carer views
- respects cultural and personal differences of others
- gives appropriate, positive reinforcement
- provides clear instructions
- uses suitable non-medical terminology & avoids jargon
- demonstrates an appropriate range of communication styles (eg patients/clients, carers, administrative and support staff, health professionals, care team)
- recognises barriers to optimal communication
- uses a range of communication strategies to optimize patient/client rapport and understanding (eg hearing impairment, non-English speaking, cognitive impairment, consideration of non-verbal communication)
- appropriately uses accredited interpreters
- maintains effective communication with clinical educators
- actively explains to patients/clients and carers their role in care, decision-making and preventing adverse events
- actively encourages patients/clients to provide complete information without embarrassment or hesitation
- communication with patient/client is conducted in a manner and environment that demonstrates consideration of confidentiality, privacy and patient's/client's sensitivities
- negotiates appropriately with other health professionals

6. Communicates effectively and appropriately - Written

- writes legibly
- completes relevant documentation (record keeping including documentation of all physiotherapy assessments and interventions, statistical information as required by the organization, referral letters, written communications with appropriate patient/client consent, case notes, handover notes) accurately and consistently
- maintains records compliant with legislative medico-legal requirements
- complies with organisational protocols and legislation for communication
- adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability)

Assessment

7. Conducts an appropriate patient/client interview (subjective assessment)

- positions person safely and comfortably for interview
- structures a systematic, purposeful interview seeking qualitative and quantitative details
- asks relevant and comprehensive questions
- politely controls the interview to obtain relevant information
- responds appropriately to important patient/client cues
- identifies patient's/clients goals and expectations
- conducts appropriate assessment with consideration of biopsychosocial factors that influence health.
- seeks appropriate supplementary information, accessing other information, records, test results as appropriate and with patient's/client's consent
- generates diagnostic hypotheses, identifying the priorities and urgency of further assessment and intervention
- completes assessment in acceptable time

8. Selects appropriate methods for measurement of relevant health indicators

- selects important, functional and meaningful outcomes relevant to treatment goals, including those to identify potential problems
- chooses appropriate methods/instruments to measure identified outcomes across relevant assessment domains e.g. impairment, activity limitations, participation restriction, well-being and satisfaction with care

9. Performs appropriate assessment procedures (objective assessment)

- considers patient/client comfort and safety
- respects patient's/client's need for privacy and modesty (eg provides draping or gown)
- structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status
- Plans assessment structure and reasoning process using information from patient/client history and supportive information
- demonstrates sensitive and appropriate handling during the assessment process
- applies all tests and measurements safely, accurately and consistently
- sensibly modifies assessment in response to patient/client profile, feedback and relevant findings
- appropriate tests are performed to refine diagnosis
- completes assessment in acceptable time
- assesses/appraises work, home or other relevant environments as required

Analysis

10. Appropriately interprets assessment findings

- describes the implications of test results
- describes the presentation and expected course of common clinical conditions
- relates signs and symptoms to pathology
- relates signs symptoms and pathology to environmental tasks and demands
- interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es
- makes justifiable decisions regarding diagnoses based on scientific knowledge and clinical reasoning
- prioritises important assessment findings
- compares findings to normal

11. Identifies and prioritises patient's/client's problems

- generates a list of problems from the assessment
- collaborates with the patient/client to prioritise the problems
- considers patient's/clients values, priorities and needs

Planning

12. Sets realistic short and long term goals with the patient/client

- negotiates realistic short and long term treatment goals in partnership with patient/client
- Formulates goals that are specific, measurable, achievable, relevant and timely
- considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention

13. Collaborates with patient/client to select appropriate intervention

- considers whether physiotherapy treatment is indicated
- demonstrates a suitable range of skills and approaches to intervention
- describes acceptable rationale (eg likely effectiveness) for treatment choices
- options for physiotherapy intervention are identified and justified, based on the needs identified, and on best evidence and available resources
- engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan
- balances needs of patients/clients and care givers with the need for efficient and effective intervention
- demonstrates understanding of contraindications and precautions in selection of intervention strategies
- advises patient/client about the effects of treatment or no treatment

Intervention

14. Performs interventions appropriately

- considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care.
- demonstrates appropriate patient/client handling skills in performance of interventions
- performs techniques at appropriate standard
- minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards)
- prepares environment for patient/client including necessary equipment for treatment
- identifies when group activity might be an appropriate intervention
- completes intervention in acceptable time
- demonstrates skill in case management
- recognises when to enlist assistance of others to complete workload
- refers patient/client on to other professional s when physiotherapy intervention is not appropriate, or requires a multi-disciplinary approach

15. Is an effective educator/health promoter

- demonstrates skill in patient/client education eg understands the principles of adult learning
- demonstrates skills in conducting group sessions
- a realistic self-management program for prevention and management is developed with the patient/client
- provides information using a range of strategies that demonstrate consideration of patient/client needs
- confirms patient's/client's or caregivers understanding of given information
- uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals
- discusses expectations of physiotherapy intervention and its outcomes
- provides feedback to patient/client regarding health status
- educates the patient/client in self evaluation
- encourages and acknowledges achievement of short and long term goals

16. Monitors the effects of intervention

- incorporates relevant evaluation procedures within the physiotherapy plan
- monitors patient/client throughout the intervention and makes modifications as appropriate
- monitors and analyses relevant health indicators appropriately

17. Progresses intervention appropriately

- implements safe and sensible treatment progressions
- modifications, continuation or cessation of intervention are made in consultation with the patient/client, based on best available evidence
- discontinues treatment in the absence of measurable benefit

18. Undertakes discharge planning

- begins discharge planning in collaboration with the health care team at the time of the initial episode of care
- describes strategies that may be useful for maintaining or improving health status following discharge
- addresses patient/client and carer needs for ongoing care through the coordination of appropriate services

Evidence Based Practice

19. Applies evidence based practice in patient care

- locates and applies current evidence based clinical practice guidelines and systematic review recommendations
- assists patients/clients and carers to identify reliable and accurate health information
- shares new evidence with colleagues
- participates in quality assessment procedures when possible
- options for physiotherapy intervention are identified and justified, based on the needs of patient/client, and on best evidence and available resources

Risk Management

20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions

- monitors patient/client safety during assessment and treatment.
- complies with workplace guidelines on patient/client handling
- complies with organizational health and safety requirements
- describes relevant contraindications and precautions associated with assessment and treatment
- reports adverse events and near misses to appropriate members of the team
- implements appropriate measures in case of emergency

Appendix 9: APP (version 3) for Field Test #1



Assessment of Physiotherapy Practice (APP)

- 0 = Infrequently/rarely demonstrates performance indicators
 1 = Demonstrates few performance indicators to an adequate standard
 2 = Demonstrates most performance indicators to an adequate standard
 3 = Demonstrates most performance indicators to a good standard
 4 = Demonstrates most performance indicators to an excellent standard

Note. a rating of 0 or 1 indicates that minimum acceptable competency has **not** been achieved

Professional Behaviour	Circle one number
1. Demonstrates an understanding of patient/client rights and consent	0 1 2 3 4 n/a
2. Demonstrates commitment to learning	0 1 2 3 4 n/a
3. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements	0 1 2 3 4 n/a
4. Demonstrates teamwork	0 1 2 3 4 n/a
Communication	
5. Communicates effectively and appropriately- Verbal/non-verbal	0 1 2 3 4 n/a
6. Communicates effectively and appropriately- Written	0 1 2 3 4 n/a
Assessment	
7. Conducts an appropriate patient/client interview	0 1 2 3 4 n/a
8. Selects appropriate methods for measurement of relevant health indicators	0 1 2 3 4 n/a
9. Performs appropriate physical assessment procedures	0 1 2 3 4 n/a
Analysis	
10. Appropriately interprets assessment findings	0 1 2 3 4 n/a
11. Identifies and prioritises patient's/client's problems	0 1 2 3 4 n/a
Planning	
12. Sets realistic short and long term goals with the patient/client	0 1 2 3 4 n/a
13. Collaborates with patient/client to select appropriate intervention	0 1 2 3 4 n/a
Intervention	
14. Performs interventions appropriately	0 1 2 3 4 n/a
15. Is an effective educator	0 1 2 3 4 n/a
16. Monitors the effect of intervention	0 1 2 3 4 n/a
17. Progresses intervention appropriately	0 1 2 3 4 n/a
18. Undertakes discharge planning	0 1 2 3 4 n/a
Evidence-based Practice	
19. Applies evidence based practice in patient care	0 1 2 3 4 n/a
Risk Management	
20. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0 1 2 3 4 n/a
In your opinion as a clinical educator, the overall performance of this student in the clinical unit was:	
Poor ☐	Satisfactory ☐ Good ☐ Excellent ☐

Student No:

Date:

Scoring rules:

- ✓ Circle n/a (not assessed) only if the student has not had an opportunity to demonstrate the behaviour
- ✓ If an item is not assessed it is not scored and the total APP score is adjusted for the missed item.
- ✓ Circle one only number for each item
- ✓ If a score falls between numbers on the scale the higher number will be used to calculate a total.
- ✓ Evaluate the student's performance against the competency level expected for a beginning physiotherapist

Clinical Educator Code: First Name Initial ☐ First 3 Letters of Surname ☐ ☐ ☐

Examples of Performance Indicators	
Professional Behaviour 1. Demonstrates an understanding of patient/client rights and consent - arrives fit to work - arrives punctually and leaves at agreed time - calls appropriate personnel to report intended absence - wears an identification badge and identifies self - understands scope of expertise - observes dress code - completes projects/tasks within designated time frame - reports inappropriate or unsafe behaviour of a co-worker or situations that are unsafe - maintains appropriate professional boundaries with patients/clients and carers - demonstrates appropriate self-care strategies (eg stress management) - acts ethically and applies ethical reasoning in all health care activities - applies ethical principles to the collection, maintenance, use and dissemination of data and information - acts within bounds of personal competence, recognizing personal and professional strengths and limitations	- listens carefully and is sensitive to patient/client and carer views - respects cultural and personal differences of others - gives appropriate, positive reinforcement - provides clear instructions - uses suitable language & avoids jargon - demonstrates an appropriate range of communication styles (eg patients/clients, carers, administrative and support staff, health professionals, care team) - recognises barriers to optimal communication - uses a range of communication strategies to optimize patient/client rapport and understanding (eg hearing impairment, non-English speaking, cognitive impairment, consideration of non-verbal communication) - appropriately uses accredited interpreters - maintains effective communication with clinical educators - actively explains to patients/clients and carers their role in care, decision-making and preventing adverse events - actively encourages patients/clients to provide complete information without embarrassment or hesitation - communication with patient/client is conducted in a manner and environment that demonstrates consideration of confidentiality, privacy and patient's/client's sensitivities - negotiates appropriately with other health professionals
2. Demonstrates commitment to learning - responds in a positive manner to questions, suggestions &/or constructive feedback - develops and implements a plan of action in response to feedback - seeks information/assistance as required - demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection - reviews and prepares appropriate material before and during the placement - takes responsibility for learning and seeks opportunities to meet learning needs	- complies with organisational protocols and legislation for communication - adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability)
3. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements - follows policies & procedures of the facility - advises appropriate staff of circumstances that may affect adequate work performance - observes infection control, and workplace health and safety policies - maintains patient/client confidentiality	Assessment 7. Conducts an appropriate patient/client interview (subjective assessment) - positions person safely and comfortably for interview - structures a systematic, purposeful interview seeking qualitative and quantitative details - politely controls the interview to obtain relevant information - responds appropriately to important patient/client cues - identifies patient's/clients goals and expectations - conducts appropriate assessment with consideration of biopsychosocial factors that influence health - seeks appropriate supplementary information, accessing other information, records, test results as appropriate and with patient's/client's consent - generates diagnostic hypotheses, identifying the priorities and urgency of further assessment and intervention - completes assessment in acceptable time
4. Demonstrates teamwork - demonstrates understanding of team processes - contributes appropriately in team meetings - acknowledges expertise and role of other team members and refers/liases as appropriate to access relevant services - advocates for the patient/client when dealing with other services - collaborates with the patient/client and the health care team to achieve optimal patient/client outcomes - cooperates with other workers who are treating and caring for patients/clients	8. Selects appropriate methods for measurement of relevant health indicators - selects important, functional and meaningful outcomes relevant to treatment goals, including those to identify potential problems - chooses appropriate methods/instruments to measure identified outcomes across relevant assessment domains e.g. impairment, activity limitations, participation restriction, well-being and satisfaction with care
5. Communicates effectively and appropriately - Verbal/non-verbal - g greets others appropriately - questions effectively to gain appropriate information	9. Performs appropriate assessment procedures (physical assessment) - considers patient/client comfort and safety - respects patient's/client's need for privacy and modesty (eg provides draping or gown)

Examples of Performance Indicators

- structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status - Plans assessment structure and reasoning process using information from patient/client history and supportive information - demonstrates sensitive and appropriate handling during the assessment process - applies all tests and measurements safely, accurately and consistently - sensibly modifies assessment in response to patient/client profile, feedback and relevant findings - appropriate tests are performed to refine diagnosis - completes assessment in acceptable time - assesses/appraises work, home or other relevant environments as required	- Formulates goals that are specific, measurable, achievable, relevant and timely - considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention	- completes intervention in acceptable time - demonstrates skill in case management - recognises when to enlist assistance of others to complete workload - refers patient/client on to other professional/s when physiotherapy intervention is not appropriate, or requires a multi-disciplinary approach	discontinues treatment in the absence of measurable benefit
10. Appropriately interprets assessment findings - describes the implications of test results - describes the presentation and expected course of common clinical conditions - relates signs and symptoms to pathology - relates signs symptoms and pathology to environmental tasks and demands - interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es - makes justifiable decisions regarding diagnoses based on scientific knowledge and clinical reasoning - prioritises important assessment findings - compares findings to normal	13. Collaborates with patient/client to select appropriate intervention - considers whether physiotherapy treatment is indicated - demonstrates a suitable range of skills and approaches to intervention - describes acceptable rationale (eg likely effectiveness) for treatment choices - options for physiotherapy intervention are identified and justified, based on the needs identified, and on best evidence and available resources - engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan - balances needs of patients/clients and care givers with the need for efficient and effective intervention - demonstrates understanding of contraindications and precautions in selection of intervention strategies - advises patient/client about the effects of treatment or no treatment	15. Is an effective educator/health promoter - demonstrates skill in patient/client education eg understands the principles of adult learning - demonstrates skills in conducting group sessions - a realistic self-management program for prevention and management is developed with the patient/client - provides information using a range of strategies that demonstrate consideration of patient/client needs - confirms patient's/client's or caregivers understanding of given information - uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals - discusses expectations of physiotherapy intervention and its outcomes - provides feedback to patient/client regarding health status - educates the patient/client in self evaluation - encourages and acknowledges achievement of short and long term goals	18. Undertakes discharge planning - begins discharge planning in collaboration with the health care team at the time of the initial episode of care - describes strategies that may be useful for maintaining or improving health status following discharge - addresses patient/client and carer needs for ongoing care through the coordination of appropriate services
Analysis 10. Appropriately interprets assessment findings - describes the implications of test results - describes the presentation and expected course of common clinical conditions - relates signs and symptoms to pathology - relates signs symptoms and pathology to environmental tasks and demands - interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es - makes justifiable decisions regarding diagnoses based on scientific knowledge and clinical reasoning - prioritises important assessment findings - compares findings to normal	13. Collaborates with patient/client to select appropriate intervention - considers whether physiotherapy treatment is indicated - demonstrates a suitable range of skills and approaches to intervention - describes acceptable rationale (eg likely effectiveness) for treatment choices - options for physiotherapy intervention are identified and justified, based on the needs identified, and on best evidence and available resources - engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan - balances needs of patients/clients and care givers with the need for efficient and effective intervention - demonstrates understanding of contraindications and precautions in selection of intervention strategies - advises patient/client about the effects of treatment or no treatment	15. Is an effective educator/health promoter - demonstrates skill in patient/client education eg understands the principles of adult learning - demonstrates skills in conducting group sessions - a realistic self-management program for prevention and management is developed with the patient/client - provides information using a range of strategies that demonstrate consideration of patient/client needs - confirms patient's/client's or caregivers understanding of given information - uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals - discusses expectations of physiotherapy intervention and its outcomes - provides feedback to patient/client regarding health status - educates the patient/client in self evaluation - encourages and acknowledges achievement of short and long term goals	19. Applies evidence based practice in patient care - locates and applies current evidence based clinical practice guidelines and systematic review recommendations - assists patients/clients and carers to identify reliable and accurate health information - shares new evidence with colleagues - participates in quality assessment procedures when possible - options for physiotherapy intervention are identified and justified, based on the needs of patient/client, and on best evidence and available resources
11. Identifies and prioritises patient's/client's problems - generates a list of problems from the assessment - collaborates with the patient/client to prioritise the problems - considers patient's/clients values, priorities and needs	14. Performs interventions appropriately - considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care. - demonstrates appropriate patient/client handling skills in performance of interventions - performs techniques at appropriate standard - minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards) - prepares environment for patient/client including necessary equipment for treatment - identifies when group activity might be an appropriate intervention	16. Monitors the effects of intervention - incorporates relevant evaluation procedures within the physiotherapy plan - monitors patient/client throughout the intervention and makes modifications as appropriate - monitors and analyses relevant health indicators appropriately	20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions - monitors patient/client safety during assessment and treatment. - complies with workplace guidelines on patient/client handling - complies with organizational health and safety requirements - describes relevant contraindications and precautions associated with assessment and treatment - reports adverse events and near misses to appropriate members of the team - implements appropriate measures in case of emergency
Planning 12. Sets realistic short and long term goals with the patient/client negotiates realistic short and long term treatment goals in partnership with patient/client	17. Progresses intervention appropriately - demonstrates or describes safe and sensible treatment progressions - modifications, continuation or cessation of intervention are made in consultation with the patient/client, based on best available evidence		

Appendix 10: APP (version 4) for Field Test #2



Student Name:

Date:



Assessment of Physiotherapy Practice (APP)

- 0 = Infrequently/rarely demonstrates performance indicators
 1 = Demonstrates few performance indicators to an adequate standard
 2 = Demonstrates most performance indicators to an adequate standard
 3 = Demonstrates most performance indicators to a good standard
 4 = Demonstrates most performance indicators to an excellent standard
 n/a = (not assessed)

Note. a rating of 0 or 1 indicates that minimum acceptable competency has not been achieved

Professional Behaviour	Circle one number					
1. Demonstrates an understanding of patient/client rights and consent	0	1	2	3	4	n/a
2. Demonstrates commitment to learning	0	1	2	3	4	n/a
3. Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements	0	1	2	3	4	n/a
4. Demonstrates teamwork	0	1	2	3	4	n/a
Communication						
5. Communicates effectively and appropriately - Verbal/non-verbal	0	1	2	3	4	n/a
6. Communicates effectively and appropriately - Written	0	1	2	3	4	n/a
Assessment						
7. Conducts an appropriate patient/client interview	0	1	2	3	4	n/a
8. Selects appropriate methods for measurement of relevant health indicators	0	1	2	3	4	n/a
9. Performs appropriate physical assessment procedures	0	1	2	3	4	n/a
Analysis & Planning						
10. Appropriately interprets assessment findings	0	1	2	3	4	n/a
11. Identifies and prioritises patient's/client's problems	0	1	2	3	4	n/a
12. Sets realistic short and long term goals with the patient/client	0	1	2	3	4	n/a
13. Selects appropriate intervention in collaboration with patient/client	0	1	2	3	4	n/a
Intervention						
14. Performs interventions appropriately	0	1	2	3	4	n/a
15. Is an effective educator	0	1	2	3	4	n/a
16. Monitors the effect of intervention	0	1	2	3	4	n/a
17. Progresses intervention appropriately	0	1	2	3	4	n/a
18. Undertakes discharge planning	0	1	2	3	4	n/a
Evidence-based Practice						
19. Applies evidence based practice in patient care	0	1	2	3	4	n/a
Risk Management						
20. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0	1	2	3	4	n/a

In your opinion as a clinical educator, the overall performance of this student in the clinical unit was:

Poor ☐ Adequate ☐ Good ☐ Excellent ☐

Scoring rules:

- ✓ Circle n/a (not assessed) only if the student has not had an opportunity to demonstrate the behaviour
- ✓ If an item is not assessed it is not scored and the total APP score is adjusted for the missed item.
- ✓ Circle only one number for each item
- ✓ If a score falls between numbers on the scale the higher number will be used to calculate a total.
- ✓ Evaluate the student's performance against the minimum competency level expected for a beginning/entry level physiotherapist.

Clinical Educator Code: First Name Initial ☐ First 3 Letters of Surname ☐ ☐ ☐

Examples of Performance Indicators

- Professional Behaviour**
- Demonstrates an understanding of patient/client rights and consent**
 - informed consent is obtained and recorded according to protocol
 - understands and respects patients' /clients' rights
 - allows sufficient time to discuss the risks and benefits of the proposed treatment with patients/clients and carers
 - refers patients/clients to a more senior staff member for consent when appropriate
 - advises supervisor or other appropriate person if a patient/client might be at risk
 - Demonstrates commitment to learning**
 - responds in a positive manner to questions, suggestions &/or constructive feedback
 - reviews and prepares appropriate material before and during the placement
 - develops and implements a plan of action in response to feedback
 - seeks information/assistance as required
 - demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection
 - takes responsibility for learning and seeks opportunities to meet learning needs
 - uses clinic time responsibly
 - Demonstrates practice that is ethical and in accordance with relevant legal and regulatory requirements**
 - follows policies & procedures of the facility
 - advises appropriate staff of circumstances that may affect adequate work performance
 - observes infection control, and workplace health and safety policies
 - maintains patient/client confidentiality
 - arrives fit to work
 - arrives punctually and leaves at agreed time
 - calls appropriate personnel to report intended absence
 - wears an identification badge and identifies self
 - understands scope of expertise
 - observes dress code
 - completes projects/tasks within designated time frame

- reports inappropriate or unsafe behaviour of a co-worker or situations that are unsafe
 - maintains appropriate professional boundaries with patients/clients and carers
 - demonstrates appropriate self-care strategies (eg stress management)
 - acts ethically and applies ethical reasoning in all health care activities
 - applies ethical principles to the collection, maintenance, use and dissemination of data and information
 - acts within bounds of personal competence, recognizing personal and professional strengths and limitations
- Demonstrates teamwork**
 - demonstrates understanding of team processes
 - contributes appropriately in team meetings
 - acknowledges expertise and role of other health care professionals and refers/raises as appropriate to access relevant services
 - advocates for the patient/client when dealing with other services
 - collaborates with the health care team and patient/client and to achieve optimal outcomes
 - cooperates with other people who are treating and caring for patients/clients
 - works collaboratively and respectfully with support staff
- Communication**
- Communicates effectively and appropriately - Verbal/non-verbal**
 - greet others appropriately
 - questions effectively to gain appropriate information
 - listens carefully and is sensitive to patient/client and carer views
 - respects cultural and personal differences of others
 - gives appropriate, positive reinforcement
 - provides clear instructions
 - uses suitable language & avoids jargon
 - demonstrates an appropriate range of communication styles (eg patients/clients, carers, administrative and support staff, health professionals, care team)

- structures a systematic, purposeful interview seeking qualitative and quantitative details
 - asks relevant and comprehensive questions
 - politely controls the interview to obtain relevant information
 - responds appropriately to important patient/client cues
 - identifies patient's/clients goals and expectations
 - conducts appropriate assessment with consideration of biopsychosocial factors that influence health.
 - seeks appropriate supplementary information, accessing other information, records, test results as appropriate and with patient's/client's consent
 - generates diagnostic hypotheses, identifying the priorities and urgency of further assessment and intervention
 - completes assessment in acceptable time
- Selects appropriate methods for measurement of relevant health indicators**
 - Lists possible variables to be measured at baseline from WHO ICF domains of impairment, activity limitation and participation restriction.
 - Select appropriate variable/s to be measured at baseline.
 - Identifies and justifies variables to be measured to monitor treatment response and outcome.
 - Selects appropriate tests/measures of each variable for the purpose of diagnosis, monitoring and outcome evaluation.
 - Links outcome variables with treatment goals
 - Performs appropriate physical assessment procedures**
 - considers patient/client comfort and safety
 - respects patient's/client's need for privacy and modesty (eg provides draping or gown)
 - structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status
 - plans assessment structure and reasoning process using information from patient/client history and supportive information
 - demonstrates sensitive and appropriate handling during the assessment process
 - applies all tests and measurements safely, accurately and consistently

Assessment

7. Conducts an appropriate patient/client interview

- positions person safely and comfortably for interview

Examples of Performance Indicators

• sensibly modifies assessment in response to patient/client profile, feedback and relevant findings • appropriate tests are performed to refine diagnosis • assesses/appraises work, home or other relevant environments as required • completes assessment in acceptable time	13. Selects appropriate intervention in collaboration with the patient/client • engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan • options for physiotherapy intervention are identified and justified, based on patient/client needs, on best evidence and available resources • considers whether physiotherapy treatment is indicated • demonstrates a suitable range of skills and approaches to intervention • describes acceptable rationale (eg likely effectiveness) for treatment choices • balances needs of patients/clients and care givers with the need for efficient and effective intervention • demonstrates understanding of contraindications and precautions in selection of intervention strategies • advises patient/client about the effects of treatment or no treatment	intervention is not appropriate, or requires a multi-disciplinary approach 15. Is an effective educator/health promoter • demonstrates skill in patient/client education eg modifies approach to suit patient/client age group, uses principles of adult learning • demonstrates skills in conducting group sessions • a realistic self-management program for prevention and management is developed with the patient/client • provides information using a range of strategies that demonstrate consideration of patient/client needs • confirms patient's/client's or caregivers understanding of given information • uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals • discusses expectations of physiotherapy intervention and its outcomes • provides feedback to patient/client regarding health status • educates the patient/client in self evaluation • encourages and acknowledges achievement of short and long term goals	• discontinues treatment in the absence of measurable benefit 18. Undertakes discharge planning • begins discharge planning in collaboration with the health care team at the time of the initial episode of care • describes strategies that may be useful for maintaining or improving health status following discharge • arranges appropriate follow-up health care to meet short and long term goals • addresses patient/client and carer needs for ongoing care through the coordination of appropriate services
Analysis & Planning 10. Appropriately interprets assessment findings • describes the implications of test results • describes the presentation and expected course of common clinical conditions • relates signs and symptoms to pathology • relates signs symptoms and pathology to environmental tasks and demands • interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es • makes justifiable decisions regarding diagnoses based on knowledge and clinical reasoning • prioritises important assessment findings • compares findings to normal	Intervention 14. Performs interventions appropriately • considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care. • demonstrates appropriate patient/client handling skills in performance of interventions • performs techniques at appropriate standard • minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards) • prepares environment for patient/client including necessary equipment for treatment • identifies when group activity might be an appropriate intervention • demonstrates skill in case management • recognises when to enlist assistance of others to complete workload • completes intervention in acceptable time • refers patient/client on to other professional/s when physiotherapy	16. Monitors the effects of intervention • incorporates relevant evaluation procedures/outcome measures within the physiotherapy plan • monitors patient/client throughout the intervention • makes modifications to intervention based on evaluation • records and communicates outcomes where appropriate 17. Progresses intervention appropriately • demonstrates &/or describes safe and sensible treatment progressions • modifications, continuation or cessation of intervention are made in consultation with the patient/client, based on best available evidence	Evidence Based Practice 19. Applies evidence based practice in patient care • considers the research evidence, patient/client preferences, clinical expertise and available resources in patient/client management • locates and applies relevant current evidence eg, clinical practice guidelines and systematic reviews • assists patients/clients and carers to identify reliable and accurate health information • shares new evidence with colleagues • participates in quality assessment procedures when possible Risk Management 20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions • monitors patient/client safety during assessment and treatment • complies with workplace guidelines on patient/client handling • complies with organizational health and safety requirements • describes relevant contraindications and precautions associated with assessment and treatment • reports adverse events and near misses to appropriate members of the team • implements appropriate measures in case of emergency
12. Sets realistic short and long term goals with the patient/client • negotiates realistic short treatment goals in partnership with patient/client • negotiates realistic long treatment goals in partnership with patient/client • Formulates goals that are specific, measurable, achievable and relevant, with specified timeframe • considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention			

Appendix 11: APP (version 5) for Field Test #3

Student No:

Date:



Assessment of Physiotherapy Practice (APP)

0 = Infrequently/rarely demonstrates performance indicators

1 = Demonstrates few performance indicators to an adequate standard

2 = Demonstrates most performance indicators to an adequate standard

3 = Demonstrates most performance indicators to a good standard

4 = Demonstrates most performance indicators to an excellent standard

n/a = (not assessed)

Note. a rating of 0 or 1 indicates that minimum acceptable competency has not been achieved

Professional Behaviour	Circle one number
1. Demonstrates an understanding of patient/client rights and consent	0 1 2 3 4 n/a
2. Demonstrates commitment to learning	0 1 2 3 4 n/a
3. Demonstrates ethical, legal & culturally sensitive practice	0 1 2 3 4 n/a
4. Demonstrates teamwork	0 1 2 3 4 n/a
Communication	
5. Communicates effectively and appropriately - Verbal/non-verbal	0 1 2 3 4 n/a
6. Demonstrates accurate record keeping skills	0 1 2 3 4 n/a
Assessment	
7. Conducts an appropriate patient/client interview	0 1 2 3 4 n/a
8. Selects appropriate methods for measurement of relevant health indicators	0 1 2 3 4 n/a
9. Performs appropriate physical assessment procedures	0 1 2 3 4 n/a
Analysis & Planning	
10. Appropriately interprets assessment findings	0 1 2 3 4 n/a
11. Identifies and prioritises patient's/client's problems	0 1 2 3 4 n/a
12. Sets realistic short and long term goals with the patient/client	0 1 2 3 4 n/a
13. Selects appropriate intervention in collaboration with patient/client	0 1 2 3 4 n/a
Intervention	
14. Performs interventions appropriately	0 1 2 3 4 n/a
15. Is an effective educator	0 1 2 3 4 n/a
16. Monitors the effect of intervention	0 1 2 3 4 n/a
17. Progresses intervention appropriately	0 1 2 3 4 n/a
18. Undertakes discharge planning	0 1 2 3 4 n/a
Evidence-based Practice	
19. Applies evidence based practice in patient care	0 1 2 3 4 n/a
Risk Management	
20. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0 1 2 3 4 n/a
In your opinion as a clinical educator, the overall performance of this student in the clinical unit was:	
Not adequate ☐ Adequate ☐ Good ☐ Excellent ☐	

Scoring rules:

- ✓ Circle n/a (not assessed) only if the student has not had an opportunity to demonstrate the behaviour
- ✓ If an item is not assessed it is not scored and the total APP score is adjusted for the missed item.
- ✓ Circle only one number for each item
- ✓ If a score falls between numbers on the scale the higher number will be used to calculate a total.
- ✓ Evaluate the student's performance against the minimum competency level expected for a beginning/entry level physiotherapist.

Clinical Educator Code: First Name Initial ☐ First 3 Letters of Surname ☐ ☐ ☐

Examples of Performance Indicators

Professional Behaviour			
1. Demonstrates an understanding of patient/client rights and consent - informed consent is obtained and recorded according to protocol - understands and respects patients' /clients' rights - allows sufficient time to discuss the risks and benefits of the proposed treatment with patients/clients and carers - refers patients/clients to a more senior staff member for consent when appropriate - advises supervisor or other appropriate person if a patient/client might be at risk - respects patients' /clients' privacy and dignity - maintains patient/client confidentiality - applies ethical principles to the collection, maintenance, use and dissemination of data and information		- calls appropriate personnel to report intended absence - wears an identification badge and identifies self - observes dress code - completes projects/tasks within designated time frame - maintains appropriate professional boundaries with patients/clients and carers - demonstrates appropriate self-care strategies (eg stress management) - acts ethically and applies ethical reasoning in all health care activities - Practises sensitively in the cultural context - acts within bounds of personal competence, recognizing personal and professional strengths and limitations	
2. Demonstrates commitment to learning - responds in a positive manner to questions, suggestions &/or constructive feedback - reviews and prepares appropriate material before and during the placement - develops and implements a plan of action in response to feedback - seeks information/assistance as required - demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection - takes responsibility for learning and seeks opportunities to meet learning needs - uses clinic time responsibly		4. Demonstrates teamwork - demonstrates understanding of team processes - contributes appropriately in team meetings - acknowledges expertise and role of other health care professionals and refers/liaises as appropriate to access relevant services - advocates for the patient/client when dealing with other services - collaborates with the health care team and patient/client and to achieve optimal outcomes - cooperates with other people who are treating and caring for patients/clients - works collaboratively and respectfully with support staff	
3. Demonstrates ethical, legal & culturally sensitive practice - follows policies & procedures of the facility - advises appropriate staff of circumstances that may affect adequate work performance - observes infection control, and workplace health and safety policies - arrives fit to work - arrives punctually and leaves at agreed time		5. Communicates effectively and appropriately - Verbal/non-verbal - greet others appropriately - questions effectively to gain appropriate information - listens carefully and is sensitive to patient/client and carer views - respects cultural and personal differences of others - gives appropriate, positive reinforcement - provides clear instructions	
6. Demonstrates accurate record keeping skills - writes legibly - completes relevant documentation to the required standard (eg, patient/client record, statistical information, referral letters) - maintains records compliant with legislative medico-legal requirements - complies with organisational protocols and legislation for communication - adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability, age of patient/client)		6. Demonstrates accurate record keeping skills - writes legibly - completes relevant documentation to the required standard (eg, patient/client record, statistical information, referral letters) - maintains records compliant with legislative medico-legal requirements - complies with organisational protocols and legislation for communication - adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability, age of patient/client)	
7. Conducts an appropriate patient/client interview positions person safely and comfortably for interview		7. Conducts an appropriate patient/client interview positions person safely and comfortably for interview	
8. Selects appropriate methods for measurement of relevant health indicators - selects <u>all</u> appropriate variable/s to be measured at baseline from WHO ICF domains of impairment, activity limitation and participation restriction - identifies and justifies variables to be measured to monitor treatment response and outcome - selects appropriate tests/outcome measures of each variable for the purpose of diagnosis, monitoring and outcome evaluation - links outcome variables with treatment goals - communicates the treatment evaluation process and outcomes to the client - identifies, documents and acts on factors that may compromise treatment outcomes		8. Selects appropriate methods for measurement of relevant health indicators - selects <u>all</u> appropriate variable/s to be measured at baseline from WHO ICF domains of impairment, activity limitation and participation restriction - identifies and justifies variables to be measured to monitor treatment response and outcome - selects appropriate tests/outcome measures of each variable for the purpose of diagnosis, monitoring and outcome evaluation - links outcome variables with treatment goals - communicates the treatment evaluation process and outcomes to the client - identifies, documents and acts on factors that may compromise treatment outcomes	
9. Performs appropriate physical assessment procedures - considers patient/client comfort and safety - respects patient's/client's need for privacy and modesty (eg provides draping or gown) - structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status - plans assessment structure and reasoning process using information from patient/client history and supportive information - demonstrates sensitive and appropriate handling during the assessment process		9. Performs appropriate physical assessment procedures - considers patient/client comfort and safety - respects patient's/client's need for privacy and modesty (eg provides draping or gown) - structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status - plans assessment structure and reasoning process using information from patient/client history and supportive information - demonstrates sensitive and appropriate handling during the assessment process	

Examples of Performance Indicators

- applies all tests and measurements safely, accurately and consistently
 - sensibly modifies assessment in response to patient/client profile, feedback and relevant findings
 - appropriate tests are performed to refine diagnosis
 - assesses/appraises work, home or other relevant environments as required
 - completes assessment in acceptable time
- Analysis & Planning**
- 10. Appropriately interprets assessment findings**
- describes the presentation and expected course of common clinical conditions
 - relates signs and symptoms to pathology
 - relates signs symptoms and pathology to environmental tasks and demands
 - interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es
 - makes justifiable decisions regarding diagnoses based on knowledge and clinical reasoning
 - prioritises important assessment findings
 - compares findings to normal
- 11. Identifies and prioritises patient's/client's problems**
- generates a list of problems from the assessment
 - justifies prioritisation of problem list based on knowledge and clinical reasoning
 - collaborates with the patient/client to prioritise the problems
 - considers patient's/clients values, priorities and needs
- 12. Sets realistic short and long term goals with the patient/client**
- negotiates realistic short treatment goals in partnership with patient/client
 - negotiates realistic long treatment goals in partnership with patient/client
 - Formulates goals that are specific, measurable, achievable and relevant, with specified timeframe
 - considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention
- 13. Selects appropriate intervention in collaboration with the patient/client**
- engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan
 - options for physiotherapy intervention are identified and justified, based on patient/client needs, on best evidence and available resources
 - considers whether physiotherapy treatment is indicated
 - demonstrates a suitable range of skills and approaches to intervention
 - describes acceptable rationale (eg likely effectiveness) for treatment choices
 - balances needs of patients/clients and care givers with the need for efficient and effective intervention
 - demonstrates understanding of contraindications and precautions in selection of intervention strategies
 - advises patient/client about the effects of treatment or no treatment
- Intervention**
- 14. Performs interventions appropriately**
- considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care.
 - demonstrates appropriate patient/client handling skills in performance of interventions
 - performs techniques at appropriate standard
 - minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards)
 - prepares environment for patient/client including necessary equipment for treatment
 - identifies when group activity might be an appropriate intervention
 - demonstrates skill in case management
 - recognises when to enlist assistance of others to complete workload
 - completes intervention in acceptable time
- 15. Is an effective educator/health promoter**
- demonstrates skill in patient/client education eg modifies approach to suit patient/client age group, uses principles of adult learning
 - demonstrates skills in conducting group sessions
 - a realistic self-management program for prevention and management is developed with the patient/client
 - provides information using a range of strategies that demonstrate consideration of patient/client needs
 - confirms patient's/client's or caregivers understanding of given information
 - uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals
 - discusses expectations of physiotherapy intervention and its outcomes
 - provides feedback to patient/client regarding health status
 - educates the patient/client in self evaluation
 - encourages and acknowledges achievement of short and long term goals
- 16. Monitors the effects of intervention**
- incorporates relevant evaluation procedures/outcome measures within the physiotherapy plan
 - monitors patient/client throughout the intervention
 - makes modifications to intervention based on evaluation
 - records and communicates outcomes where appropriate
- 17. Progresses intervention appropriately**
- demonstrates &/or describes safe and sensible treatment progressions
 - modifications, continuation or cessation of intervention are made in consultation with the patient/client, based on best available evidence
- discontinues treatment in the absence of measurable benefit
- 18. Undertakes discharge planning**
- begins discharge planning in collaboration with the health care team at the time of the initial episode of care
 - describes strategies that may be useful for maintaining or improving health status following discharge
 - arranges appropriate follow-up health care to meet short and long term goals
 - addresses patient/client and carer needs for ongoing care through the coordination of appropriate services
- Evidence Based Practice**
- 19. Applies evidence based practice in patient care**
- considers the research evidence, patient/client preferences, clinical expertise and available resources in patient/client management
 - locates and applies relevant current evidence eg, clinical practice guidelines and systematic reviews
 - assists patients/clients and carers to identify reliable and accurate health information
 - shares new evidence with colleagues
 - participates in quality assessment procedures when possible
- Risk Management**
- 20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions**
- monitors patient/client safety during assessment and treatment.
 - complies with workplace guidelines on patient/client handling
 - complies with organizational health and safety requirements
 - describes relevant contraindications and precautions associated with assessment and treatment
 - reports adverse events and near misses to appropriate members of the team
 - implements appropriate measures in case of emergency
 - reports inappropriate or unsafe behaviour of a co-worker or situations that are unsafe

Appendix 12: Focus group explanatory statement and consent form



Focus Group Participant Explanatory Statement – Feedback Phase

Project Title: Development of the Assessment of Physiotherapy Practice (APP) Instrument

Project Manager: Ms Megan Dalton

Chief Investigator: Ms Megan Dalton (PhD candidate School of Primary Health Care, Monash University, Peninsula Campus, Victoria)
Senior Lecturer, Clinical Education
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Investigators: **Professor Jennifer Keating**
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Dr Megan Davidson
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Dr Heather Alexander
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Email: H.Alexander@griffith.edu.au

Ms Elizabeth Henderson
Research Assistant
School of Physiotherapy
Gold Coast Campus, Griffith University 4222
Phone: 07 3398-9317
Email: libby.Henderson@griffith.edu.au

This Explanatory Statement is to tell you about the Assessment of Physiotherapy Practice (APP) Project and is for you to retain.

The APP is a research project being conducted by Griffith University in conjunction with Monash, La Trobe, Sydney and Curtin Universities. This work is supported by a grant from the Carrick Institute for Learning and Teaching in Higher Education Ltd, an initiative of the Australian Government Department of Education, Science and Training. Additionally, the clinical coordinators of all physiotherapy programs in Australia form part of the reference group for this Project. This research also forms part of Megan Dalton's PhD research program within the School of Primary Health Care at Monash University, Victoria.

Project Aims

1. To develop a practical, standardized, valid and reliable assessment tool to measure clinical competency that meets the needs of students and clinical educators/supervisors.

As a member of the physiotherapy profession, we would like to invite you to participate in this study.

What your participation in this Project involves:

- Participation by student and graduate physiotherapists is sought via a focus group, during the feedback phase of the project.
- Focus groups will be held at venues central to the participants and will be conducted over a two hour period during standard working hours. The groups will be conducted by 2 members of the project team, Megan Dalton and research assistant Libby Henderson.
- The focus group sessions will be audio taped. Once the tape has been transcribed and checked it will be erased. If a request is made at the time of interview, participants may listen to the audio-tape and/or review a copy of the transcribed interview.
- A summary of the focus group discussion will be provided to all participants. Participants will be encouraged to provide feedback as to whether the summary is a true and accurate record of the group's discussion. The research assistant will revise the summary based on this feedback.
- All data will be permanently de-identified once it has been entered into spread sheets for statistical analysis.
- Demographic information on each of the focus group participants will be collected to ensure adequate representation of the student body and physiotherapy profession is achieved with respect to the areas of clinical practice, geography ie., metropolitan, rural, regional and remote areas of Australia, and facility type. Once demographic data have been entered, all data will be permanently de-identified. No-one other than Megan Dalton will have access to the original data sheets.

If you wish to take part in this Project, please read and sign the focus group participant consent form.

CONFIDENTIALITY STATEMENT

Your confidentiality is assured, and all information from participants will be de-identified prior to analysis and publication of results. Partners and the funding organisation will only have access to de-identified information. Audio-tapes will be wiped following analysis and all data collected will be stored at locked facilities at Griffith University by the Project Manager, before being destroyed after a standard retention time of 5 years.

Please note:

- Your participation is voluntary and you can withdraw from the project at any time without explanation or penalty up until the point where data are fully de-identified. It is envisaged that this will occur within 2 weeks of completion of the focus groups,.
- All information will remain confidential and no personal or identifiable information will appear on data that is analysed.
- Partners and the funding organisation will only have access to aggregated and de-identified data.
- At the completion of the study, you will receive summary feedback about the findings of the research via numerous media, eg Physiotherapy publications, PhD thesis, journal articles, conference proceedings or personally if you request such information from the chief investigator. No personal or identifiable information will appear in any of these publications.
- You can contact the researchers at any time (refer to the contact details listed at the start of this form).

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator Megan Dalton or Jenny Keating :	If you have a complaint concerning the manner in which this research <insert your project number here, i.e. 2006/011 > is being conducted, please contact:
Megan Dalton Megan.Dalton@griffith.edu.au Tel: +61 7 5552 8388 Fax: +61 7 5552 8674 Jenny Keating Jenny.keating@med.monash.edu.au Tel: +61 3 9904 4817 Fax: +61 3 9904 4812	Human Ethics Officer Standing Committee on Ethics in Research Involving Humans (SCERH) Building 3e Room 111 Research Office Monash University VIC 3800 Tel: +61 3 9905 2052 Fax: +61 3 9905 1420 Email: scerh@adm.monash.edu.au



Focus Group Participant Consent Form – Feedback Phase

Project Title: Development of the Assessment of Physiotherapy Practice (APP) Instrument

Project Manager: Ms Megan Dalton
Chief Investigator: Ms Megan Dalton
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Investigators: **Professor Jennifer Keating**
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Dr Megan Davidson
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Dr Heather Alexander
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Health Group
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Phone: 07 56780319
Email: H.Alexander@griffith.edu.au

Ms Elizabeth Henderson
Research Assistant
School of Physiotherapy
Gold Coast Campus, Griffith University 4222
Phone: 07 3398-9317
Email: libby.Henderson@griffith.edu.au

Consent Form

This is a consent form for physiotherapists who agree to participate in the focus group/survey phase of the APP for the purposes of research. The purpose of this phase is to obtain feedback from key stakeholder groups regarding the design and refinement of the APP instrument following Field Testing.

Background

The development of the APP is supported by a grant from the Carrick Institute. Griffith, Monash and La Trobe Universities are the lead institutions with academics/investigators from Sydney and Curtin Universities making up the APP research consortium. Additionally, the clinical coordinators of all physiotherapy programs in Australia are part of the reference group for this project.

At present, the APP represents the first version of a standardised assessment form being developed in Australian entry-level physiotherapy programs. Despite each physiotherapy program having curriculum designed to meet the same set of competencies, as defined by The Australian Physiotherapy Council, each physiotherapy program in Australia uses its own clinical assessment form and assessment criteria. None of these assessment methods have been subjected to rigorous validation.

The advantages of a standardised national form are that clinical educators/supervisors who have students from more than one physiotherapy program will not have to deal with multiple assessment forms. Other advantages of a standardised form will be a means to analyse and document evidence of test validity and reliability, and the ability to meaningfully compare scores between students, raters, sites and programs for benchmarking purposes.

The test developers will be guided by the Standards for Educational and Psychological Testing (American Educational Research Association, 1999). In addition, an action research approach is being utilised that involves stakeholder participation in each phase of the Project including preliminary information gathering, instrument development, trial/Field Test stages and refinement of the APP instrument.

What your participation in this Project involves:

- Participation by physiotherapists will be sought in either a focus group, or via survey or interview during the consultation phase of the project.
- Focus groups will be held at venues central to the participants and will be conducted over a two hour period during standard working hours. The groups will be conducted by 2 members of the project team, Megan Dalton and research assistant Libby Henderson.
- The focus group sessions will be audio taped. Once the tape has been transcribed and checked it will be erased. If requested, participants may listen to the audio-tape and/or view a copy of the transcribed interview.
- A summary of the focus group discussion will be provided to all participants. Participants will be encouraged to provide feedback as to whether the summary is a true and accurate record of the group's discussion. The research assistant will alter the summary based on this feedback. If requested a participant may listen to the full audio-tape and/or view a copy of the transcribed interview.
- All data will be de-identified once it has been entered into spread sheets for statistical analysis.

- Demographic information on each of the focus group participants will be collected to ensure adequate representation of the profession is achieved with respect to the area of clinical practice, geography ie., metropolitan, rural, regional and remote areas of Australia, and facility type. Once demographic data has been entered, all data will be permanently de-identified. No-one other than Megan Dalton will have access to the original data sheets.
- Consultation will also occur by way of survey. Surveys will be posted to participants and will include provision for the return of surveys. Completion of the survey will be entirely voluntary. Surveys will seek feedback on the APP across a range of aspects such as ease of use, time to complete etc
- Consultation will also occur by way of interview. Volunteers from a representative range of participating facilities will be sought via email. If a participant wishes to participate they will contact the researcher in response to this email. Interviews will be audio taped. Once the tape has been transcribed and checked it will be erased. If requested at the time of the interview, the participant may listen to the audio-tape and/or review a copy of the transcribed interview. Interviews will take approximately one hour while surveys are expected to take less than half an hour to complete. Once the information has been coded and entered into spread sheets all data will be permanently de-identified. No-one other than Megan Dalton will have access to the original data sheets.

Participation in this study is voluntary.

- If you do not wish to be a participant in this Project, there will be no disadvantage or penalty to you in any way from any University involved in this project.
- You may withdraw from the study at any time up to the point where data has been de-identified. It is anticipated that data entry and de-identification will occur 2 weeks after the focus group, interview or &/or survey.
-
- Participation in this part of the APP Project is entirely voluntary. Under no circumstances should potential participants feel obliged to participate in any way because, for example, of an existing relationship with one or more of the chief investigators. The chief investigators wish to assure potential participants that choosing not to participate will have no affect whatsoever on an existing relationship with either a/the chief investigator/s or the respective universities or Project sponsors.
- Additionally and in accordance with Section 3 of Booklet 27: Human research and unequal relationships, contact and recruitment for focus groups, surveys and interviews will be conducted by the Project's Research Assistant.
- Your contribution will be de-identified, and remain confidential (See confidentiality statement)

CONFIDENTIALITY STATEMENT

Your confidentiality is assured, and all information from participants will be de-identified prior to analysis and publication of results. Partners and the funding organisation will only have access to de-identified information. Audio-tapes will be wiped following transcription and checking of data.

All data collected will be stored at locked facilities at Griffith University by the Project Manager, before being destroyed after a standard retention time of 5 years.

I have read the attached Explanatory Statement and understand that:

- I am being asked whether I wish to participate in either a focus group, survey or an interview that will record my views about the content, development and likely performance of the APP.
- Any reports or publications from this study will be reported in general terms and will not involve identifying features.
- The data will be kept confidential at all times and all data collection materials and results will be stored at locked facilities at Griffith University and will not be disclosed to parties outside the research team. Data collection materials will be retained for a period of 5 years before being destroyed.
- At no time after data deidentification will any of the data be able to be traced to any individual clinical educator, facility, student or University.
- I understand that the investigators will audio-tape the focus groups and interviews and will immediately erase the tapes once they have been transcribed. I understand that I may listen to the audio-tapes and/or review a copy of the transcribed interview if I request to do so at the time of interview or focus group.
- A report about the study findings will be made available to me if I request this from the research team. I can contact the researchers at any time at Griffith University on telephone: 07 5552 8388; Fax 07 5552 8674.
- My participation in this data collection phase implies consent for the data to be used in research.

Yes, I agree to be a participant in this Project (please sign below)

YOUR NAME (please print)

YOUR SIGNATURE

DATE:_____

Thank you for your interest in this study.

If you have any concerns or complaints regarding the ethical conduct of this research project, you may discuss this issue with an independent person:

Manager, Research Ethics, Office for Research
Bray Centre, Nathan Campus, Griffith University
(07) 3875 5585 or research-ethics@griffith.edu.au

Appendix 13: Field Test #1: Information sheet and consent form for educators and students



Clinical Educator Explanatory Statement – APP Field Test #1

Project Title: Development of the Assessment of Physiotherapy Practice (APP) Instrument

Project Manager: Ms Megan Dalton

Chief Investigator: Ms Megan Dalton (PhD candidate School of Primary Health Care, Monash University, Peninsula Campus, Victoria)
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Email: Megan.Dalton@griffith.edu.au

Investigators: **Professor Jennifer Keating**
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Monash University
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Phone: 03 9904 4817
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Dr Megan Davidson
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Dr Heather Alexander
School of Medicine
Health Group
Griffith University
Queensland
Phone: 07 56780319
Email: H.Alexander@griffith.edu.au

This Explanatory Statement is to tell you about the Assessment of Physiotherapy Practice (APP) Project and is for you to retain.

The APP is a research project being conducted by Griffith University in conjunction with Monash, La Trobe, Sydney and Curtin Universities and is supported by a grant from the Carrick Institute for Learning and Teaching in Higher Education Ltd, an initiative of the Australian Government Department of Education, Science and Training. Additionally, the clinical coordinators of all physiotherapy programs in Australia form part of the reference group for this Project. This research also forms part of Megan Dalton's PhD research program within the School of Primary Health Care at Monash University, Victoria.

Project Aims

1. To develop a practical, standardized, valid and reliable assessment tool to measure clinical competency that meets the needs of students and clinical educators/supervisors.
2. To remove the burden on clinical educators/supervisors in relation to assessing students that has come about largely as a result of the variety of clinical assessment tools currently in use.

**As a clinical educator of physiotherapy students, we would like to
invite you to participate in this study.
Your contribution is vital to the development of the APP.**

What your participation in this Project involves:

- Participation by physiotherapy clinical educators/supervisors is required for field-testing the APP. Participation involves a clinical educator/supervisor using the APP format to grade students' clinical performance during clinical placements either in place of, or in addition to, existing clinical assessment formats. Completed forms are returned to the researcher. All data will be de-identified once it has been entered into spread sheets for to statistical analysis and names of students and Physiotherapy programs will be replaced by codes. Once data are checked for accuracy, the code list linking names to codes will be permanently destroyed.
- Feedback will be sought from clinical educators/supervisors in order to inform, evaluate and modify the developing APP instrument. Feedback will be sought either by way of interview and/or survey. Surveys will be anonymous (no identifying data). Interviews will be audio taped and the tapes will immediately be erased once they have been transcribed. You may listen to the audio-tapes and /or view a copy of the transcription if you request to.
- If the APP is trialled in addition to an existing university clinical assessment form, the APP will not contribute in any way to the student's marks/grading.
- Demographic information on the clinical educator will be collected to enable analysis of APP scores with consideration of educator experience and area of practice. Once demographic data has been linked to APP data, all data will be permanently de-identified. No-one other than Megan Dalton will have access to the original data sheets.
- It is envisaged that the time required for completion of the above documents will be approximately 20 minutes and forms part of the usual workload required of clinical educators when assessing students. This minimises any inconvenience to you as a participant in this research project. A subset of 6 clinical educators will be required for interviews. The interviews are voluntary. If you are involved in an interview regarding the APP this will take approximately one hour and will be conducted within your normal working hours. You do not have to participate in an interview if you choose not to do so and there is no penalty.

If you wish to take part in this Project, please read and sign the attached separate clinical educator consent form.

CONFIDENTIALITY STATEMENT

Your confidentiality is assured, and all information from participants will be de-identified prior to analysis and publication of results. Partners and the funding organisation will only have access to de-identified information. Audio-tapes will be wiped following analysis and all data collected will be stored at locked facilities at Griffith University by the Project Manager, before being destroyed after a standard retention time of 5 years.

Please note:

- Your participation is voluntary and you can withdraw from the project at any time without explanation or penalty.
- All other information will remain confidential and no personal or identifiable information will appear on that information.
- Partners and the funding organisation will only have access to de-identified information.
- At the completion of the study, you will receive summary feedback about the findings of the research via numerous media, eg Physiotherapy publications, PhD thesis, journal articles, conference proceedings or personally if you request such information from the chief investigator. No personal or identifiable information will appear in any of these publications.
- You can contact the researchers at any time, refer to the contact details listed at the start of this form.



Clinical Educator Consent Form – Field Test #1

Project Title: **Development of the Assessment of Physiotherapy Practice (APP): A standardised and valid approach to assessment of clinical competence in physiotherapy**

Project Manager: **Ms Megan Dalton**
Chief Investigator: **Ms Megan Dalton**
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 Griffith University, Gold Coast Campus
 PMB 50 Gold Coast Mail Centre Qld 9726
 Telephone: 61 7 5552 8388
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Investigators: **Professor Jennifer Keating**
 School of Primary Health Care
 Monash University
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 Email: Jenny.Keating@med.monash.edu.au

Dr Megan Davidson
 School of Physiotherapy
 La Trobe University
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 Phone: 03 9479 5798
 Email: m.davidson@latrobe.edu.au

Dr Heather Alexander
 School of Medicine
 Health Group
 Griffith University
 Queensland
 Phone: 07 56780319
 Email: H.Alexander@griffith.edu.au

Consent Form

This is a consent form for clinical educators/supervisors who agree to participate in the data collection phase of the APP Field Test #1 for the purposes of research.

In this Field Test data collection for clinical educators refers to completion of the APP form, a clinical educator demographic form and feedback form. These documents which will be returned to the project's research assistant to be de-identified and collated for statistical analysis.

Background

The development of the APP is supported by a grant from the Carrick Institute. Griffith, Monash and La Trobe Universities are the lead institutions with academics/investigators from Sydney and Curtin Universities making up the APP research consortium. Additionally, the clinical coordinators of all physiotherapy programs in Australia are part of the reference group for this project.

At present, the APP represents the first version of a standardised assessment form being developed in Australian entry-level physiotherapy programs. Despite each physiotherapy program having curriculum designed to meet the same set of competencies, as defined by The Australian Physiotherapy Council, each physiotherapy program in Australia uses its own clinical assessment form and assessment criteria. None of these assessment methods have been subjected to any rigorous validation.

The advantages of a standardized national form are that clinical educators/supervisors who have students from more than one physiotherapy program will not have to deal with multiple assessment forms. Other advantages of a standardised form will be the documented evidence of test validity and reliability, and the ability to meaningfully compare scores between students, raters, sites and programs for benchmarking purposes.

The test developers will be guided by the Standards for Educational and Psychological Testing (American Educational Research Association, 1999). In addition, an action research approach will be utilised that involves stakeholder participation in each phase of the Project including preliminary information gathering, instrument development, trial/Field Test stages and refinement of the APP instrument.

What your participation in this Project involves:

- Participation by physiotherapy clinical educators/supervisors is required for field-testing the APP. That is, a clinical educator/supervisor will complete the APP format for grading students' clinical performance during clinical placements either in place of or in addition to existing clinical assessment formats. This data will be de-identified prior to statistical analysis.
- Feedback will be sought from clinical educators/supervisors in order to inform, evaluate and modify the developing APP instrument. Feedback will be sought either by way of interview and/or survey.
- If the APP is trialled in addition to an existing university clinical assessment form, the APP will not contribute in any way to the student's marks/grading.
- In addition demographic information on the clinical educator will be collected to enable effective analysis of the APP. This demographic data will be de-identified and remain confidential.

Participation in this study is voluntary.

- If you do not wish to be a participant in this Project, there will be no disadvantage or penalty to you in any way from any University involved in this project.
- You may withdraw from the study at any time, without explanation or penalty.
- Your contribution will be de-identified, and remain confidential (See confidentiality statement)

CONFIDENTIALITY STATEMENT

Your confidentiality is assured, and all information from participants will be de-identified prior to analysis and publication of results. Partners and the funding organisation will only have access to de-identified information. Where applicable eg., interviews, audio-tapes will be wiped following analysis. All data collected will be stored at locked facilities at Griffith University by the Project Manager, before being destroyed after a standard retention time of 5 years.

I have read the attached Explanatory Statement and understand that:

- I am being asked to participate in field-testing the APP. This includes completion of one APP form/ student and provision of feedback to the investigators in order to inform, evaluate and modify the developing APP instrument. I am being asked to provide feedback by way of interview and/ or survey.
- If the APP is trialled in addition to an existing university clinical assessment form, the APP will not contribute in any way to the student's marks/grading.
- Any reports or publications from this study will be reported in general terms and will not involve identifying features.
- The data will be kept confidential at all times and all data collection materials and results will be stored at locked facilities at Griffith University and will not be disclosed to parties outside the research team. Data collection materials are retained for a period of 5 years before being destroyed.
- At no time will any of the completed APP, demographic and feedback data be able to be identified as coming from any individual clinical educator, student or University.
- I understand that the investigators may audio-tape the interview and will immediately erase the tapes once they have been transcribed. I understand that I may listen to the audio-tapes and/ or view a copy of the transcribed interview if I request to do so.
- A report about the study findings will be made available to me if I request this from the research team. I can contact the researchers at any time at Griffith University on telephone: 07 5552 8388; Fax 07 5552 8674.
- My participation in this data collection phase implies consent for the data to be used in research.

Yes, I agree to be a participant in this Project (please sign below)

YOUR NAME (please print)

YOUR SIGNATURE

DATE:_____

Appendix 14: Clinical educator demographic form



Clinical Educator Demographic Data Sheet

To be completed by the clinical educator

1. Name (4 letters): (please use initial of first name and first 3 letters of last name) e.g. Megan Dalton is mdal _____
2. Facility Name: _____
3. Type of facility (please tick all relevant boxes)
 - ☐ Hospital (public)
 - ☐ Hospital (private)
 - ☐ Community based service
 - ☐ Private practice
 - ☐ Non government organisation (NGO)
 - ☐ Other : _____
4. Gender: Female ☐ Male ☐
5. Age at last birthday: _____ years
6. How long have you been involved in the clinical education of physiotherapy students?
_____ years
7. How would you rate your level of experience as a clinical educator? Please circle

No previous experience					Very experienced
1	2	3	4	5	
8. Have you participated in a clinical educator's workshop or other training on assessment?
 Yes ☐ No ☐
9. What was the average time taken to complete the APP (approx, rounded to 5 minutes)
_____ minutes
10. Was the APP the only measure of student performance for this unit?
 - Yes ☐ Only the APP was used and it contributes to the student's grade for this unit
 - No ☐ The APP was completed only for this research project and will not contribute to the student's grade for this unit.

Appendix 15: Clinical educator survey for Field Test #1



Clinical Educator Feedback on APP

(Only one feedback sheet needs to be completed per clinical educator)

Please read each statement carefully, then circle one of the numbers on the right, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree	
1. I felt confident using the rating scale to judge the student's performance	1 2 3 4 5
2. On the APP you are asked to rate overall performance of the student using a global rating scale of poor to excellent. I felt confident using this global rating scale to judge the student's performance.	1 2 3 4 5
3. I found the performance indicators useful when assessing or providing feedback to the student	1 2 3 4 5
4. The scoring rules were helpful	1 2 3 4 5
5. The definition of competency level expected of a beginning physiotherapist was helpful	1 2 3 4 5
6. The performance indicators were easy to understand	1 2 3 4 5
7. Overall the APP was practical in the clinical environment	1 2 3 4 5
8. The time taken to complete the APP was acceptable	1 2 3 4 5
9. The information on how to complete the APP was comprehensive	1 2 3 4 5
10. In the future, I would prefer to complete the APP on-line rather than posting/faxing hard copies	1 2 3 4 5
11. Were there any additional performance indicators that you consider could be added to the APP ?	
12. Do you have any additional comments on the APP and Performance Indicators	

Thank you for your feedback, the APP Project Team appreciates your input

Appendix 16: Student demographic form



Student Demographic Data Sheet

To be completed by the student

1. Student Number: _____ Female ☐ Male ☐ (please tick)
2. Age at last birthday: ____ (yrs)
3. University: _____
4. Degree and Year of study:
Undergraduate: Year 1 ☐ Year 2 ☐ Year 3 ☐ Year 4 ☐ Year 5 ☐
 OR
Postgraduate (ie graduate entry): Year 1 ☐ Year 2 ☐ Year 3 ☐
 Year 4 ☐
5. How many weeks of clinical practice have you had **prior to** commencing this unit?
 _____ weeks
6. What was the duration of your current placement
 _____ days per week for _____ weeks
7. In this unit, indicate the approximate time spent in each of the following areas of practice
 Cardiorespiratory ____% Neurological ____% Musculoskeletal ____%
 Other (eg women's health, oncology, burns) _____%
 _____%
8. In this unit, estimate the approximate proportion of patients/clients you saw in the following age groups:
 Children _____%
 Adolescents _____%
 Adults _____%
 Older Persons _____%

Appendix 17: Results Field Test !1 20 random samples (n=200)

Sample N=200`	Model Fit Chi square	Model fit Y/N	Item fit resid SD	Person fit resid SD	Individual item misfit (+ve)	Individual item misfit (-ve)	Disordered item thresholds	T-test PerC <5% 95% CI:
1	.002	N	1.8	1.4	3,6,19	11,13	-	95% CI: 0.08 <obs> 0.15
2	.07	Y	1.4	1.3	-	10	1	95% CI: 0.15 <obs> 0.22
3	.00001	N	1.9	1.3	3,6,19	10,11,13,17	19	95% CI: 0.12 <obs> 0.18
4	.31	Y	1.7	1.3	6	11	-	95% CI: 0.1 <obs> 0.17
5	.055	Y	1.6	1.3	6	13,14	3	95% CI: 0.08 <obs> 0.14
6	.07	Y	1.2	1.3	-	-	6	95% CI: 0.07 <obs> 0.13
7	.25	Y	1.7	1.3	6	10,13,14	3	95% CI: 0.05 <obs> 0.12
8	.052	Y	1.7	1.3	19	11	-	95% CI: 0.09 <obs> 0.16
9	.10	Y	1.6	1.2	2,6	10,11,13	-	95% CI: 0.1 <obs> 0.16
10	.02	N	2.0	1.4	6,19	10,11,14	19	95% CI: 0.08 <obs> 0.14
11	.004	N	1.7	1.3	3,6	10,11,13	-	95% CI: 0.09 <obs> 0.16

Sample N=200`	Model Fit Chi square	Model fit Y/N	Item fit resid SD	Person fit resid SD	Individual item misfit (+ve)	Individual item misfit (-ve)	Disordered item thresholds	T-test PerC <5% 95% CI:
12	.002	N	2.0	1.2	6	10,11,13	-	95% CI: 0.09 <obs> 0.16
13	.10	Y	1.9	1.2	3,6,19	10,13,14	3	95% CI: 0.09 <obs> 0.15
14	.43	Y	1.6	1.2	3	-	-	95% CI: 0.04 <obs> 0.1
15	.23	Y	1.6	1.4	-	10,13,14	1,2,19	95% CI: 0.1 <obs> 0.17
16	.20	Y	1.5	1.3	19	14	19	95% CI: 0.07 <obs> 0.14
17	.07	Y	1.6	1.4	3	10,13	6	95% CI: 0.09 <obs> 0.15
18	.26	Y	1.7	1.3	6	10,13,14	3	95% CI: 0.05 <obs> 0.12
19	.45	Y	1.6	1.2	3	-	-	95% CI: 0.04 <obs> 0.1
20	.24	Y	1.2	1.3	-	13	-	95% CI: 0.08 <obs> 0.14

Appendix 18: Results of Principal components analysis (PCA) Field Test #1 data

Table 18-1: KMO and Bartlett’s Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.975
Bartlett’s Test of Sphericity	Approx. Chi-Square	
	df	190
	Sig.	.000

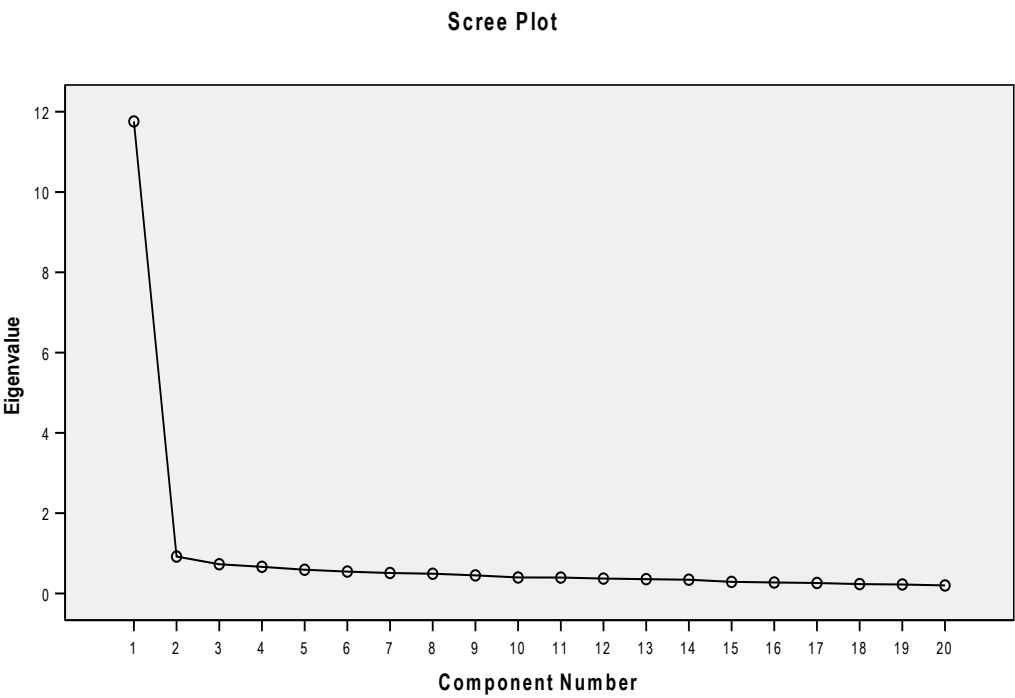


Figure 18-1: Scree Plot

Table 18-2: Component Matrix(a)

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.758	58.791	58.791	11.758	58.791	58.791
2	.920	4.599	63.390			
3	.728	3.641	67.031			
4	.664	3.320	70.351			
5	.591	2.955	73.305			
6	.546	2.728	76.033			
7	.510	2.549	78.582			
8	.491	2.456	81.038			
9	.451	2.254	83.292			
10	.398	1.990	85.282			
11	.396	1.980	87.262			
12	.370	1.852	89.115			
13	.356	1.779	90.893			
14	.342	1.712	92.605			
15	.289	1.443	94.048			
16	.274	1.368	95.417			
17	.260	1.301	96.718			
18	.233	1.165	97.883			
19	.224	1.120	99.003			
20	.199	.997	100.000			

Extraction Method: Principal Component Analysis.

	Component
	1
APP rating	.846
APP rating	.839
APP rating	.837
APP rating	.824
APP rating	.811
APP rating	.809
APP rating	.794
APP rating	.782
APP rating	.775
APP rating	.770
APP rating	.765
APP rating	.758
APP rating	.757
APP rating	.753
APP rating	.748
APP rating	.738
APP rating	.708
APP rating	.698
APP rating	.640
APP rating	.638

Extraction Method: Principal Component Analysis.

a 1 components extracted.

Table 18-3: Factor analysis parallel analysis Field Test #1 n=747

Component no.	Actual eigenvalue From PCA	Criterion value from Parallel analysis	Decision
1	11.75	1.30	Accept
2	0.92	1.24	reject
3	0.72	1.20	reject
4	0.66	1.17	reject
5	0.59	1.14	reject

Appendix 19: Results of Rasch analysis of Field Test #2

Sample N=200	Model Fit Chi square	Model fit Y/N	Item fit resid SD	Person fit resid SD	Individual item misfit (+ve)	Individual item misfit (-ve)	Disordered item thresholds	T-test PerC <5% 95% CI:
1	.45	Y	1.3	1.3	6	-	6,7	95% CI: 0.08 <obs> 0.15
2	.15	Y	1.4	1.1	-	13	6,7	95% CI: 0.15 <obs> 0.22
3	.37	Y	1.2	1.2	-	14	6	95% CI: 0.12 <obs> 0.18
4	.48	Y	1.5	1.2	6	13	3	95% CI: 0.05 <obs> 0.11
5	.42	Y	1.7	1.3	6	13	6	95% CI: 0.08 <obs> 0.14
6	.85	Y	1.2	1.3	-	-	6	95% CI: 0.07 <obs> 0.13
7	.26	Y	1.2	1.3	-	-	3	95% CI: 0.05 <obs> 0.12
8	.31	Y	1.6	1.3	6	11,13	3	95% CI: 0.09 <obs> 0.16
9	.25	Y	1.5	1.2	3	13	-	95% CI: 0.1 <obs> 0.16
10	.50	Y	1.5	1.2	6	13	-	95% CI: 0.08 <obs> 0.14
11	.85	Y	1.4	1.2	-	13	-	95% CI: 0.04 <obs> 0.1

Sample N=200	Model Fit Chi square	Model fit Y/N	Item fit resid SD	Person fit resid SD	Individual item misfit (+ve)	Individual item misfit (-ve)	Disordered item thresholds	T-test PerC <5% 95% CI:
12	.52	Y	1.7	1.3	3,6	-	2,3	95% CI: 0.09 <obs> 0.16
13	.13	Y	1.6	1.2	3	13	6	95% CI: 0.09 <obs> 0.15
14	.31	Y	1.4	1.2	6	13	-	95% CI: 0.04 <obs> 0.1
15	.93	Y	1.2	1.2	-	13	-	95% CI: 0.05 <obs> 0.12
16	.79	Y	1.4	1.4	-	13	-	95% CI: 0.07 <obs> 0.14
17	.36	Y	1.3	1.3	6	13	3	95% CI: 0.09 <obs> 0.15
18	.32	Y	1.5	1.4	3	-	6,7	95% CI: 0.05 <obs> 0.12
19	.89	Y	1.4	1.2	6	-		95% CI: 0.04 <obs> 0.1
20	.58	Y	1.3	1.2	6	13		95% CI: 0.05 <obs> 0.11
Totals	20/20	20/20	16/20 OK	20/20	6 & 3	13		

Appendix 20: Results of Principal components analysis (PCA) Field Test #2 data

Table 20-1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.977
Bartlett's Test of Sphericity	Approx. Chi-Square	
	df	190
	Sig.	.000

Scree Plot

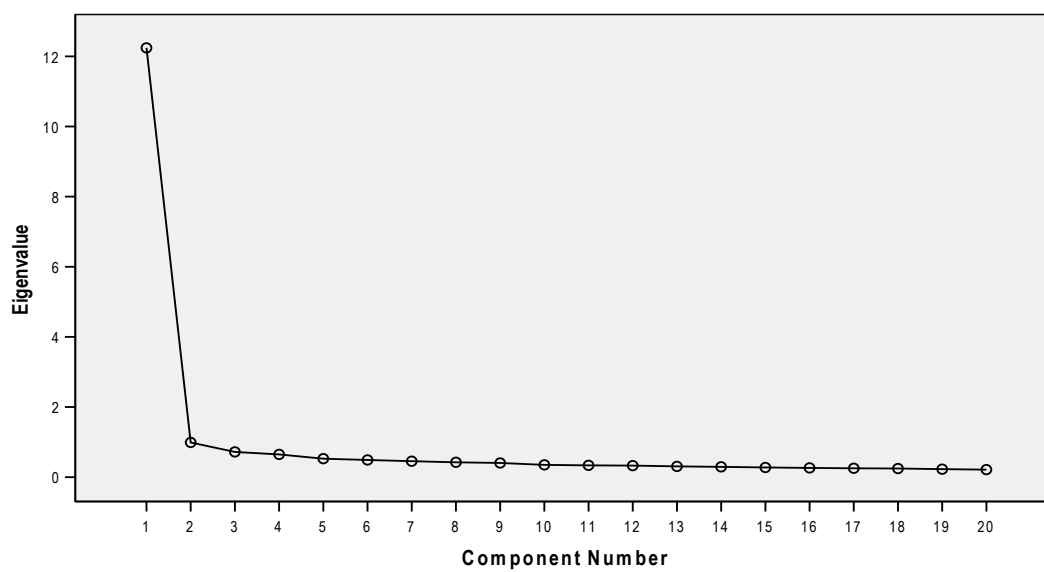


Figure 20-1: Scree Plot

Table 20-2: Component Matrix(a)

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.242	61.211	61.211	12.242	61.211	61.211
2	.989	4.947	66.158			
3	.719	3.596	69.753			
4	.648	3.240	72.994			
5	.527	2.634	75.628			
6	.490	2.452	78.080			
7	.455	2.276	80.356			
8	.424	2.120	82.477			
9	.404	2.021	84.498			
10	.351	1.757	86.255			
11	.337	1.685	87.940			
12	.329	1.646	89.586			
13	.307	1.535	91.121			
14	.294	1.471	92.592			
15	.277	1.383	93.975			
16	.263	1.316	95.291			
17	.253	1.264	96.555			
18	.247	1.233	97.788			
19	.228	1.141	98.928			
20	.214	1.072	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component 1
APP rating	.854
APP rating	.834
APP rating	.832
APP rating	.825
APP rating	.818
APP rating	.815
APP rating	.813
APP rating	.804
APP rating	.797
APP rating	.794
APP rating	.789
APP rating	.784
APP rating	.781
APP rating	.762
APP rating	.759
APP rating	.736
APP rating	.715
APP rating	.714
APP rating	.703
APP rating	.694

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 20-3: Factor analysis parallel analysis Field Test #2 n=695

Component no.	Actual eigenvalue From PCA	Criterion value from Parallel analysis	Decision
1	12.24	1.32	Accept
2	.98	1.26	reject
3	.71	1.22	reject
4	.64	1.18	reject
5	.52	1.15	reject

Appendix 21: Clinical educator survey for Field Test #2



Clinical Educator Feedback on APP

(Only one feedback sheet needs to be completed per clinical educator)

Please read each statement carefully, then circle one of the numbers on the right, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree	
1. I felt confident using the 0 – 4 rating scale to judge the student's performance on each of the 20 items	1 2 3 4 5
2. On the APP you are asked to rate overall performance of the student using a global rating scale of poor to excellent. I felt confident using this global rating scale to judge the student's performance.	1 2 3 4 5
3. I found the performance indicators useful when assessing or providing feedback to the student	1 2 3 4 5
4. The scoring rules were helpful	1 2 3 4 5
5. The definition of competency level expected of a beginning physiotherapist was helpful	1 2 3 4 5
6. The performance indicators were easy to understand	1 2 3 4 5
7. Overall the APP was practical in the clinical environment	1 2 3 4 5
8. The time taken to complete the APP was acceptable	1 2 3 4 5
9. The information on how to complete the APP was comprehensive	1 2 3 4 5
10. In the future, I would prefer to complete the APP on-line rather than posting/faxing hard copies	1 2 3 4 5
11. Given face to face training in the use of the APP is not always possible, please indicate which of the following training options you would find effective ☐ teleconference ☐ Self directed learning package (includes manual and CD/DVD) ☐ On-line training module (ie training module completed on-line) ☐ Other (please specify).....	
12. Do you have any additional comments on the APP and Performance Indicators	

Thank you for your feedback, the APP Project Team appreciates your input

Appendix 22: Student Feedback on APP



Student Feedback on APP **Unit:**..... **Facility:**

Please read each statement carefully, then circle one of the numbers on the right, where: 1 = Strongly <u>Disagree</u>, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly <u>Agree</u>	
1. I felt confident that the 0 – 4 rating scale used to judge my performance on each of the 20 items was used correctly by my educator	Disagree Agree 1 2 3 4 5
2. I found the performance indicators useful when assessing my own performance prior to mid unit feedback	1 2 3 4 5
3. The scoring rules were appropriate	1 2 3 4 5
4. The competency level expected of a beginning physiotherapist (score of 2) was clear to me	1 2 3 4 5
5. The items were easy to understand	1 2 3 4 5
6. Overall the APP was practical in the clinical environment	1 2 3 4 5
7. I understood the level of performance that was expected of me if I was to score a 4 on an item	1 2 3 4 5
8. The information provided to me prior to the clinical unit about the APP was adequate	1 2 3 4 5
9. On the APP the educators are asked to rate the overall performance of the student using a global rating scale (GRS) from poor to excellent. I consider the rating the educator gave me on the GRS for the unit was a fair reflection of my performance	1 2 3 4 5
10. Overall, I consider the scores I received for each of the 20 items were a fair indication of my performance	1 2 3 4 5
If not, please comment.....	
11. I found the performance indicators assisted me to know where I could improve my performance	1 2 3 4 5
12. I read the section on assessment in the policy and procedures manual	Yes / No
13. I attended the lecture about clinical assessment given at University prior to commencing my clinical unit	Yes / No
14. I received a copy of my mid unit feedback comments from my educator	Yes / No
15. I received a copy of the completed APP at the end of the unit	Yes / No
16. I signed off on my end of unit assessment results	Yes / No

17. What needs to be done prior to each clinical unit to ensure students fully understand the role of the APP in assessment?

18. What needs to be done prior to each clinical unit to ensure the clinical educators fully understand the role of the APP in assessment?

19. Do you have any additional comments on the APP and Performance Indicators

Thank you for your feedback, the APP Project Team appreciates your input

Appendix 23: Inter-rater reliability trial invitation and consent forms for educators and students



Inter-Rater Reliability Trials of the Assessment of Physiotherapy Practice (APP) Instrument.

What's happening with the APP research?

The Assessment of Physiotherapy Practice (APP) is the first attempt in Australia to develop, test and refine a standardized instrument for assessing competency of physiotherapy practice suitable for national use. The Australian Learning and Teaching Council have funded this project as a priority.

Summary – where we are currently:

The pilot trial (n=295), and the first Field Test (n=747) of the APP are now complete. Field Test #2 was commenced in semester 1, 2008 and will continue into the second semester of 2008.

In these two Field Tests physiotherapy programs throughout Australia and New Zealand will be using the APP either as the primary assessment form, or in parallel with current clinical assessment formats

The results to date on how the APP is working :

- Clinical educators are using the scale correctly ie., they are able to differentiate between levels of student performance using each of the scores from 0 – 4.
- Educators had clear understanding of passing standard ie beginning/entry level
- No differences in student scores from different clinical areas ie., APP worked equally well in clinical areas of cardiorespiratory, neurological rehabilitation and musculoskeletal
- Use of the APP is not affected by age or gender of the student or educator and importantly, it is not affected by the level of experience of the clinical educator
- It is appropriately targeted at the population being assessed, ie. Neither too easy or too hard.

Reliability of the APP

The reliability of a measurement instrument like the APP is obviously extremely important. If two clinical educators examine the same student performance do they score the APP for that student in a similar way?

This is a hugely important question to answer, and you can contribute to this process by agreeing to participate in the Inter-Rater reliability trials of the APP.

So what do you have to do?

The ideal approach to the study of reliability entails independent replication of the entire measurement process as it occurs in real life, so the sample for the trials will be a representative sample of the standard users of the APP ie 3rd and 4th year prequalification students and their educators during a usual clinical placement.

If you agree to participate, you would not be required to do any additional work during the placement. You would be required only to complete an APP assessment form at the end of the unit and this forms needs to be completed independent of the second clinical educator involved with the students who will also be completing an APP form on the students involved.

In its current form, the APP draft format consists of a practical, one-page test layout that reflects the APC Competency Standards and all current assessment forms in use in Australia. We expect that completing the APP assessment form will take approximately 10 mins and that completion of the remaining forms will take approximately 10-15 mins.

The Inter-Rater Reliability Trial protocol for the clinical educator looks like this:

Before the clinical placement commences:

- Complete the clinical educator consent form
- Familiarise yourself with the process of the trial, in particular, the APP instrument and the performance indicators. Information is provided in the resource manual.
- If you have any questions in relation to trial or the APP itself phone or email Megan Dalton for clarification.

During the clinical placement

- Observe and provide feedback on student performance as per usual.
- If you are sharing the education of the student, you can have normal discussions about strategies to assist the student/s to improve their performance but you are requested **NOT** to discuss actual marks or grading of the student.
- If it is your role as the primary clinical educator to provide mid unit formative feedback, you do this as you would normally give this feedback, but again **do not** discuss any specific marks or grading on the APP with the other clinical educator or the student.

At the end of the clinical placement:

- On your own, complete the **APP** instrument **BEFORE** having any discussion with your colleagues or the student about the end of unit grading/marks you have entered onto the APP.
- **Do not** show the end of unit completed APP to the student, or to your inter-rater reliability trial educator.
- If you have any questions in relation to how to complete the APP itself phone or email Megan Dalton for clarification.
- Complete the APP clinical educator demographic and feedback forms
- Request that the student/s complete the APP student demographic form

- Place APP instrument and all forms in the reply paid Griffith University envelope provided and post.
- **Now:** Complete the usual University clinical assessment forms and provide end of unit summative feedback and get signoff from the student as you would normally do.

Your participation is vital to the success of this project, and your time and support is much appreciated.

Kind regards,

A handwritten signature in black ink, reading 'Megan Dalton', written over a horizontal line.

(on behalf of the research team)

Megan Dalton
School of Physiotherapy and Exercise Science
Griffith University, Gold Coast Campus
Mobile: 0409648550
Ph: 61 7 5552 8388
Fx: 61 7 5552 8674
Email: Megan.Dalton@griffith.edu.au

Appendix 24

Clinical Educator Inter-Rater Reliability Trials Resource Manual 2008



What this package contains



Section A:

The Resource Manual – for the Clinical Educator to keep

1. Background – why develop a standardised and valid physiotherapy clinical assessment tool?
2. Assessment of Clinical Units
3. APP Inter-Rater Reliability Trial - Protocol for Physiotherapy Clinical Educators
4. Components of the APP
5. Completing the APP Form – helpful guidelines
6. FAQs
7. Procedure for Completion and Return of Section B
8. The APP instrument



Section B: Forms to be returned

The 5 documents in section B are to be returned to the
APP research team in the Reply paid envelope

1. 1 x clinical educator demographic form
2. 1 x clinical educator consent form
3. 1 x clinical educator feedback form
4. 1 x student demographic form (for each participating student)
5. 1 x APP assessment form (for each participating student)

1. Background – why develop a standardised and valid physiotherapy clinical assessment tool?

The Assessment of Physiotherapy Practice (APP) is the first attempt in Australia to develop, test and refine a standardized instrument for assessing competency of physiotherapy practice suitable for use across Australia and New Zealand. The Australian Learning and Teaching Council have funded this project as a priority and the initial consultation phase and pilot testing is completed. Use of the APP has already begun in a number of physiotherapy courses in Australia and the first Field Tests are taking place.

Advancement of the APP Project, led by a consortium of Griffith University (Qld), La Trobe University (Vic), Monash University (Vic), Curtin University (WA) and The University of Sydney (NSW), coincided with the release of the 2006 Australian Standards for Physiotherapy by the Australian Physiotherapy Council (APC). The APP Project has received unprecedented support from co-ordinators of all physiotherapy courses in Australia and New Zealand. The clinical co-ordinators of Australian and New Zealand physiotherapy programs form the reference group for this project.

Clinical education of physiotherapy students is essential. However, student numbers are increasing while clinical (or professional practice) placements are declining. A primary concern of physiotherapy clinical educators and supervisors is the burden of assessment brought about by the variability of assessment procedures and instruments. Despite each physiotherapy program in Australia having curriculum designed to meet the competencies defined by the APC, each program has to date used its own clinical assessment form and assessment criteria. An important advantage of a standardized clinical assessment instrument, such as the APP, is that evidence about its utility can be systematically gathered and assessed, and the instrument can be refined across time so that it serves the key stakeholders: the assessors, the assessed and the profession. Other advantages include the opportunities that standardisation brings such as benchmarking and meaningful comparison of scores between students, raters, sites and programs.

In its current form, the APP consists of a practical, one-page test layout that reflects the APC Standards for Physiotherapy and all current assessment forms in use in Australia. As the training provided to clinical educators from all universities follows a similar process, training for the APP aims to mirror this process. By doing so, training in the use of the APP will capitalize on existing training processes. The development of the APP training manual detailing test development, testing protocols and interpretation of test scores as well as the development of a training package and on-line assessment process is also underway.

Development of the APP has been reliant upon the input of academics, clinical educators, clinical managers, students and other stakeholders. All relevant publications and existing clinical assessment instruments have also been sourced. The method for development of the APP has been guided by the Standards for Educational and Psychological Testing (American Educational Research Association, et al. 1999) and the Project utilizes an action research cycle that includes preliminary information gathering, instrument development, trial/Field Test stages, and continuous refinement of the instrument based on evaluation throughout the different phases.

The embedding of the APP within Physiotherapy curricula nationally is progressing and has been facilitated by national meetings of clinical managers, site visits, focus group discussions throughout Australia and open communication and feedback lines between the Research Team and all physiotherapy programs throughout Australia. For example, a pilot trial of the APP began in semester two 2006 at La Trobe University. The data collected from this trial provided preliminary evidence that the APP is acceptable to students and educators and that the items and ratings perform as expected. Feedback from clinical educators involved in this trial led to modifications and refinements of the APP.

In the Field Testing that commenced in the second half of 2007, physiotherapy programs throughout Australia and New Zealand have used the APP either as the primary assessment form, or in parallel with current clinical assessment formats. This field-testing of the APP will allow for its psychometric properties to be fully tested and for progressive refinement of the instrument.

Feedback from stakeholders to this point has been very positive. Interest and support for the APP Project has grown and gathered momentum. For example, the meeting of Clinical Managers from all Schools of Physiotherapy in Australia and New Zealand that was held in Dunedin on 17th April, 2007, and sponsored by Otago University, allowed for progress reporting about APP development and testing. This meeting also provided a forum for discussion of the content and scaling of the current test version of the APP. Outcomes from this gathering included further quality input and feedback on the APP. In addition, reinforcement of support and commitment to the Project was given by the Heads of Physiotherapy Programs throughout Australia and New Zealand. Inter-university working relationships are developing and gaining strength and it is envisaged that these outcomes will facilitate dissemination, acceptance and widespread use of the APP tool.

References

American Educational Research Association, American Psychological Association, National Council on Measurement in Education (1999). *Standards for educational and psychological testing*. Washington, American Educational Research Association.

Australian Physiotherapy Council (2006). *Australian Standards for Physiotherapy*. Canberra: APC

If you have any further questions, please contact any member of the project research team:

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This research has been approved by the Human Research Ethics Committees of the following Universities:

Griffith University, GU Protocol Number: PES/09/06/HREC;
Auckland University of Technology - Application Number 07/139
Curtin University, Protocol Approval: HR 39/2007;
The University of Otago - project No 07/152;
Monash University - 2007/0599MC;
James Cook University - H2737
La Trobe University – approval 07-115
The University of Sydney – ref no: 08-2007/10243
Charles Sturt University – protocol no: 2007/268
(Ethical clearance is pending for the University of Queensland and Newcastle University).

If you have any concerns or complaints regarding the ethical conduct of this research project, you may discuss this issue with an independent person: Manager, Research Ethics, Office for Research Bray Centre, Nathan Campus, Griffith University (07) 3875 5585 or research-ethics@griffith.edu.au

Research Funding

Support for this activity has been provided by the Australian Learning and Teaching Council, an initiative of the Australian Government Department of Education, Employment and Workplace Relations.

The views expressed in this publication do not necessarily reflect the views of the Australian Learning and Teaching Council.

2. Assessment of Clinical Units

Assessment of student performance during clinical units is used for several different purposes and involves the learner, the university and the clinical educator who is a representative of the profession. Ideally assessment and learning are closely bound together. The style of assessment should reflect the learning experience.

Assessment of student learning serves to maintain standards, to demonstrate achievement, to guide and motivate learning, and to provide a basis for feedback to the student. Assessment should be fair, valid, reliable, practical and sufficient.

Some of the reasons why assessment is used during clinical placements are:

- To give students feedback on their strengths and areas requiring improvement in each particular area of physiotherapy clinical practice and provide specific strategies to improve performance
- To provide a basis for discussion in relation to student's performance
- To provide a record of student progress
- To act as a "gatekeeper" in regulating admission to the profession
- To monitor the performance of individual students as well as monitoring the overall success of a program of study.
- To Focus and motivate student learning in specific areas and guides and correct learning.
- To define what is important to learn

There are 2 key areas of assessment during a clinical unit: *formative and summative*.

Formative Assessment

Formative assessment is designed to help students understand how they are progressing. It happens during a clinical unit and does not count toward the final grade or unit mark. The student is able to benefit from feedback on their performance. The purpose of formative assessment is to improve the quality of student learning by providing information on strengths and weaknesses and to identify strategies for improvement. Formative assessments are relatively informal compared to summative assessments.

In the APP refer to the Examples of Performance Indicators for example behaviours that the student may demonstrate to indicate competency in a particular item. These sample behaviours are a very useful guide for students when providing formative feedback during the unit especially when outlining aspects of practice requiring improvement.

Encourage students to record key points from the feedback session to check for shared meaning.

Summative Assessment

This type of assessment takes place at the end of the unit when the student is given their final (provisional) grade. It quantifies the level of competency achieved and contributes to a grade for the unit.

Its purpose is to act as an indicator of achievement. In completing the assessment form the educator draws on experience over the final phase (last 1-2 weeks) of the placement and may also draw on the experience of colleagues who have also supervised the student.



3. APP Inter-Rater Reliability Trial – Protocol for Physiotherapy Clinical Educators

Before the clinical placement commences:

- Complete the clinical educator consent form
- Familiarise yourself with the process of the trial, in particular, the APP instrument and the performance indicators. Information is provided in the resource manual.
- If you have any questions in relation to trial or the APP itself phone or email Megan Dalton for clarification.

During the clinical placement

- Observe and provide feedback on student performance as per usual.
- If you are sharing the education of the student, you can have normal discussions about strategies to assist the student/s to improve their performance but you are requested **NOT** to discuss actual marks or grading of the student.
- If it is your role as the primary clinical educator to provide mid unit formative feedback, you do this as you would normally give this feedback, but again **do not** discuss any specific marks or grading on the APP with the other clinical educator or the student.
-

At the end of the clinical placement:

- On your own, complete the **APP** instrument **BEFORE** having any discussion with your colleagues or the student about the end of unit grading/marks you have entered onto the APP.
- Do not show the end of unit completed APP to the student, or to your inter-rater reliability trial educator.
- If you have any questions in relation to how to complete the APP itself phone or email Megan Dalton for clarification.
- Complete the APP clinical educator demographic and feedback forms
- Request that the student/s complete the APP student demographic form
- Place APP instrument and all forms in the reply paid Griffith University envelope provided and post.
- **Now:** Complete the usual University clinical assessment forms and provide end of unit summative feedback and get signoff from the student as you would normally do.

- Collect **ALL** documents and return in the reply paid envelope to:

Wendy Harris
Clinical Education Administrative Officer
School of Physiotherapy and Exercise Science
Gold Coast Campus
GRIFFITH UNIVERSITY QLD 4222

On behalf of the research team thank you for your assistance

Megan Dalton

4. Components of the APP - Page 1



Assessment of Physiotherapy Practice (APP)

Professional Behaviour	Circle one number					
1. Demonstrates an understanding of patient/client rights and consent	0	1	2	3	4	n/a
2. Demonstrates commitment to learning	0	1	2	3	4	n/a
3. Demonstrates ethical, legal & culturally sensitive practice	0	1	2	3	4	n/a
4. Demonstrates teamwork	0	1	2	3	4	n/a
Communication						
5. Communicates effectively and appropriately - <u>Verbal/non-verbal</u>	0	1	2	3	4	n/a
6. Demonstrates accurate record keeping skills	0	1	2	3	4	n/a
Assessment						
7. Conducts an appropriate patient/client interview	0	1	2	3	4	n/a
8. Selects appropriate methods for measurement of relevant health indicators	0	1	2	3	4	n/a
9. Performs appropriate physical assessment procedures	0	1	2	3	4	n/a
Analysis & Planning						
10. Appropriately interprets assessment findings	0	1	2	3	4	n/a
11. Identifies and prioritises patient's/client's problems	0	1	2	3	4	n/a
12. Sets realistic short and long term goals with the patient/client	0	1	2	3	4	n/a
13. Selects appropriate intervention in collaboration with patient/client	0	1	2	3	4	n/a
Intervention						
14. Performs interventions appropriately	0	1	2	3	4	n/a
15. Is an effective educator	0	1	2	3	4	n/a
16. Monitors the effect of intervention	0	1	2	3	4	n/a
17. Progresses intervention appropriately	0	1	2	3	4	n/a
18. Undertakes discharge planning	0	1	2	3	4	n/a
Evidence-based Practice						
19. Applies evidence based practice in patient care	0	1	2	3	4	n/a
Risk Management						
20. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0	1	2	3	4	n/a

Aspects of Physiotherapy Practice and related Items

There are 7 aspects of physiotherapy practice covering 20 items. Examples of Performance Indicators are provided as example behaviours that the student may demonstrate to indicate competency in a particular item. The Examples of Performance Indicators are not an exhaustive list of possible behaviours nor are they to be used as a checklist when assessing a student's performance.

All items must be scored.
n/a means not assessed and is only to be used when a student has not had an opportunity to demonstrate competency in a particular item. Ideally, the student will have opportunities to demonstrate competency on all 20 items

(Section 9 contains a copy of the APP if photocopying is required)

Global Rating Scale (GRS)

The GRS is on the form to assist the APP researchers in evaluating the performance of the APP relative to your overall impression of student ability.

Please complete the GRS **after** you have completed scoring all 20 items and **ONLY** at the end of unit summative assessment.

In your opinion as a clinical educator, the overall performance of this student in the clinical unit was:

Not adequate ☐

Adequate ☐

Good ☐

Excellent ☐

Scoring Scale Descriptors

These descriptors are to assist your judgment when rating a student's performance on each item at the end of the clinical unit.

0 = Infrequently/rarely demonstrates performance indicators

1 = Demonstrates few performance indicators to an adequate standard

2 = Demonstrates most performance indicators to an adequate standard

3 = Demonstrates most performance indicators to a good standard

4 = Demonstrates most performance indicators to an excellent standard

n/a = not assessed

***Note*: a rating of 0 or 1 indicates that minimum acceptable competency has not been achieved**

Evaluate the student's performance against the minimum competency level (common skill set) expected for a Entry level / Beginning physiotherapist. A rating of 2 indicates for this item, the student has met this standard regardless of their experience, place in the course or length of the placement

Scoring Rules

- ✓ Circle n/a (not assessed) only if the student has not had an opportunity to demonstrate the behaviour
- ✓ If an item is not assessed it is not scored and the total APP score is adjusted for the missed item
- ✓ Circle one only number for each item
- ✓ Evaluate the student's performance against the minimum competency level expected for a beginning/entry level physiotherapist
- ✓ If a score falls between numbers on the scale the higher number will be used to calculate the total.

Components of the APP - Pages 2 & 3.

Performance Indicators – Behavioural Examples of Performance Indicators

The performance indicators are provided as example behaviours that the student may demonstrate to indicate competency in a particular item.

The Examples of Performance Indicators are not an exhaustive list of all possible behaviours nor are they to be used as a checklist when assessing a student's performance.

However, when deciding on a student's score (0 – 4) for each of the 20 items, clinical educators are advised to refer to this list of examples of behaviours as indicators of the minimum competent performance for each item.

Professional Behaviour

1. Demonstrates an understanding of patient/client rights and consent

- informed consent is obtained and recorded according to protocol
- understands and respects patients'/clients' rights
- allows sufficient time to discuss the risks and benefits of the proposed treatment with patients/clients and carers
- refers patients/clients to a more senior staff member for consent when appropriate
- advises supervisor or other appropriate person if a patient/client might be at risk
- respects patients'/clients' privacy and dignity
- maintains patient/client confidentiality
- applies ethical principles to the collection, maintenance, use and dissemination of data and information

2. Demonstrates commitment to learning

- responds in a positive manner to questions, suggestions &/or constructive feedback
- reviews and prepares appropriate material before and during the placement
- develops and implements a plan of action in response to feedback
- seeks information/assistance as required
- demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection
- takes responsibility for learning and seeks opportunities to meet learning needs
- uses clinic time responsibly

3. Demonstrates ethical, legal & culturally sensitive practice

- follows policies & procedures of the facility
- advises appropriate staff of circumstances that may affect adequate work performance
- observes infection control, and workplace health and safety policies
- arrives fit to work
- arrives punctually and leaves at agreed time

- calls appropriate personnel to report intended absence
- wears an identification badge and identifies self
- observes dress code
- completes projects/tasks within designated time frame
- maintains appropriate professional boundaries with patients/clients and carers
- demonstrates appropriate self-care strategies (eg stress management)
- acts ethically and applies ethical reasoning in all health care activities
- Practises sensitively in the cultural context
- acts within bounds of personal competence, recognizing personal and professional strengths and limitations

4. Demonstrates teamwork

- demonstrates understanding of team processes
- contributes appropriately in team meetings
- acknowledges expertise and role of other health care professionals and refers/liases as appropriate to access relevant services
- advocates for the patient/client when dealing with other services
- collaborates with the health care team and patient/client and to achieve optimal outcomes
- cooperates with other people who are treating and caring for patients/clients
- works collaboratively and respectfully with support staff

Communication

5. Communicates effectively and appropriately - Verbal/non-verbal

- greets others appropriately
- questions effectively to gain appropriate information
- listens carefully and is sensitive to patient/client and carer views
- respects cultural and personal differences of others
- gives appropriate, positive reinforcement
- provides clear instructions
- uses suitable language & avoids jargon
- demonstrates an appropriate range of communication styles (eg patients/clients, carers, administrative and support staff, health professionals, care team)
- recognises barriers to optimal communication
- uses a range of communication strategies to optimize patient/client rapport and understanding (eg hearing impairment, non-English speaking, cognitive impairment, consideration of non-verbal communication)
- appropriately uses accredited interpreters
- maintains effective communication with clinical educators
- actively explains to patients/clients and carers their role in care, decision-making and preventing adverse events
- actively encourages patients/clients to provide complete information without embarrassment or hesitation

- communication with patient/client is conducted in a manner and environment that demonstrates consideration of confidentiality, privacy and patient's/client's sensitivities
- negotiates appropriately with other health professionals

6. Demonstrates accurate record keeping skills

- writes legibly
- completes relevant documentation to the required standard (eg., patient/client record , statistical information, referral letters)
- maintains records compliant with legislative medico-legal requirements
- complies with organisational protocols and legislation for communication
- adapts written material for a range of audiences (e.g. provides translated material for non-English speaking people, considers reading ability, age of patient/client)

Assessment

7. Conducts an appropriate patient/client interview

- positions person safely and comfortably for interview
- structures a systematic, purposeful interview seeking qualitative and quantitative details
- asks relevant and comprehensive questions
- politely controls the interview to obtain relevant information
- responds appropriately to important patient/client cues
- identifies patient's/clients goals and expectations
- conducts appropriate assessment with consideration of biopsychosocial factors that influence health.
- seeks appropriate supplementary information, accessing other information, records, test results as appropriate and with patient's/client's consent
- generates diagnostic hypotheses, identifying the priorities and urgency of further assessment and intervention
- completes assessment in acceptable time

8. Selects appropriate methods for measurement of relevant health indicators

- selects all appropriate variable/s to be measured at baseline from WHO ICF domains of impairment, activity limitation and participation restriction.
- identifies and justifies variables to be measured to monitor treatment response and outcome.
- selects appropriate tests/outcome measures of each variable for the purpose of diagnosis, monitoring and outcome evaluation.
- links outcome variables with treatment goals
- communicates the treatment evaluation process and outcomes to the client
- identifies, documents and acts on factors that may compromise treatment outcomes

9. Performs appropriate physical assessment procedures

- considers patient/client comfort and safety
- respects patient's/client's need for privacy and modesty (eg provides draping or gown)
- structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient's/client's health status
- plans assessment structure and reasoning process using information from patient/client history and supportive information
- demonstrates sensitive and appropriate handling during the assessment process
- applies all tests and measurements safely, accurately and consistently
- sensibly modifies assessment in response to patient/client profile, feedback and relevant findings
- appropriate tests are performed to refine diagnosis
- assesses/appraises work, home or other relevant environments as required
- completes assessment in acceptable time

Analysis & Planning**10. Appropriately interprets assessment findings**

- describes the implications of test results
- describes the presentation and expected course of common clinical conditions
- relates signs and symptoms to pathology
- relates signs symptoms and pathology to environmental tasks and demands
- interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es
- makes justifiable decisions regarding diagnoses based on knowledge and clinical reasoning
- prioritises important assessment findings
- compares findings to normal

11. Identifies and prioritises patient's/client's problems

- generates a list of problems from the assessment
- justifies prioritisation of problem list based on knowledge and clinical reasoning
- collaborates with the patient/client to prioritise the problems
- considers patient's/clients values, priorities and needs

12. Sets realistic short and long term goals with the patient/client

- negotiates realistic short treatment goals in partnership with patient/client
- negotiates realistic long treatment goals in partnership with patient/client
- formulates goals that are specific, measurable, achievable and relevant, with specified time frame
- considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention

13. Selects appropriate intervention in collaboration with the patient/client

- engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan
- options for physiotherapy intervention are identified and justified, based on patient/client needs, on best evidence and available resources
- considers whether physiotherapy treatment is indicated
- demonstrates a suitable range of skills and approaches to intervention
- describes acceptable rationale (eg likely effectiveness) for treatment choices
- balances needs of patients/clients and care givers with the need for efficient and effective intervention
- demonstrates understanding of contraindications and precautions in selection of intervention strategies
- advises patient/client about the effects of treatment or no treatment

Intervention**14. Performs interventions appropriately**

- considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care.
- demonstrates appropriate patient/client handling skills in performance of interventions
- performs techniques at appropriate standard
- minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards)
- prepares environment for patient/client including necessary equipment for treatment
- identifies when group activity might be an appropriate intervention
- demonstrates skill in case management
- recognises when to enlist assistance of others to complete workload
- completes intervention in acceptable time
- refers patient/client on to other professional/s when physiotherapy intervention is not appropriate, or requires a multi-disciplinary approach

15. Is an effective educator/health promoter

- demonstrates skill in patient/client education eg modifies approach to suit patient/client age group, uses principles of adult learning
- demonstrates skills in conducting group sessions
- a realistic self-management program for prevention and management is developed with the patient/client
- provides information using a range of strategies that demonstrate consideration of patient/client needs
- confirms patient's/client's or caregivers understanding of given information
- uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals

- discusses expectations of physiotherapy intervention and its outcomes
- provides feedback to patient/client regarding health status
- educates the patient/client in self evaluation
- encourages and acknowledges achievement of short and long term goals

16. Monitors the effects of intervention

- incorporates relevant evaluation procedures/outcome measures within the physiotherapy plan
- monitors patient/client throughout the intervention
- makes modifications to intervention based on evaluation
- records and communicates outcomes where appropriate

17. Progresses intervention appropriately

- demonstrates &/or describes safe and sensible treatment progressions
- modifications, continuation or cessation of intervention are made in consultation with the patient/client, based on best available evidence
- discontinues treatment in the absence of measurable benefit

18. Undertakes discharge planning

- begins discharge planning in collaboration with the health care team at the time of the initial episode of care
- describes strategies that may be useful for maintaining or improving health status following discharge
- arranges appropriate follow-up health care to meet short and long term goals
- addresses patient/client and carer needs for ongoing care through the coordination of appropriate services

Evidence Based Practice

19. Applies evidence based practice in patient care

- considers the research evidence, patient/client preferences, clinical expertise and available resources in patient/client management
- locates and applies relevant current evidence eg., clinical practice guidelines and systematic reviews
- assists patients/clients and carers to identify reliable and accurate health information
- shares new evidence with colleagues
- participates in quality assessment procedures when possible

Risk Management

20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions

- monitors patient/client safety during assessment and treatment.
- complies with workplace guidelines on patient/client handling
- complies with organizational health and safety requirements
- describes relevant contraindications and precautions associated with assessment and treatment
- reports adverse events and near misses to appropriate members of the team
- implements appropriate measures in case of emergency

5. Completing the APP Form – helpful guidelines

Scoring:

- You are required to circle the rating from 0 – 4 that best represents your judgement of the student's level of performance.
- All items should be scored and scoring is based on direct observation and interpretation of student performance.
- ***Evaluate the student's performance against the minimum competency level (common skill set) expected for a Entry level / Beginning physiotherapist. A rating of 2 indicates for this item, the student has met this standard regardless of their experience, place in the course or length of the placement.***
- Refer to the Examples of Performance Indicators for example behaviours that the student may demonstrate to indicate minimum competency in a particular item.
- N/A means not assessed. This scoring option should only be used when the student has not had an opportunity to demonstrate competency in a particular Item. Ideally, a student would encounter opportunities to demonstrate their clinical competence on all 20 items.
- The clinical educator/supervisor is not required to collate the final score.

**So what is the minimum competency level expected
for a beginning / entry level physiotherapist?**

Rating 2

Demonstrates most performance indicators to an adequate standard

A student is performing at the minimum entry level standard when they are able to:

manage a variety of non-complex patients such that the patient/client's major problems are identified, major goals established and treatment is completed safely and effectively within a reasonable time frame. While achieving this, the student is aware of their limitations and where to seek assistance.

Ratings 3 and 4 provide the clinical educator with 2 scoring categories indicating the student's performance is above minimum entry level/beginning physiotherapist standard (either good or excellent).

Rating 4

Demonstrates most performance indicators to an excellent standard

A student is performing at an excellent entry-level standard when they are able to manage a variety of patients, including complex patients, meeting the minimum level standard, but at a superior level.

The excellent student is characterized by:

- an ability to work relatively independently, thoroughly and sensitively.
- fluid, efficient and sensitive handling skills
- an ability to be flexible and adaptable
- easily and consistently linking theory and practice
- a high level of self reflection and insight
- an ability to present cogent and concise arguments or rationale for clinical decisions.

Challenges in Scoring - pitfalls to be avoided**Unrealistic expectations of students – too high or too low**

- A genuine difficulty that will be encountered is the ability of clinicians to recall beginner attributes. While experienced educators may have a well developed concept of Entry Level attributes, inexperienced educators may be unsure and are encouraged to discuss uncertainties with experienced clinicians.
- Experienced clinicians may suffer from “upward creep” of the passing standard for students. This means too high a passing standard is used to judge student performance

Rater bias

- All people and rating scales are susceptible to biases, the key is to be aware of these and ensure their effect is minimised.
- **Halo effect** occurs when an overall impression (for example, a general liking) of the student influences ratings of specific items. This tends to artificially increase item scores because of this overall impression.
- A corollary to the halo effect is the **devil effect**, or **horns effect**, where students judged to have a single undesirable trait are subsequently judged to have many poor traits, allowing a single weak point or negative trait to influence others’ perception of the person in general. Halo and devil effects may be reduced by careful attention to the performance indicators/sample behaviours that are typical for each item and also by suppressing general impressions of the student. An example : a student’s performance in the Professional Behaviour category (particularly if it is weak) may influence the educator’s rating of other categories.
- **Leniency** is the tendency to avoid harsh assessment, usually in order to avoid discomfort in the student/educator relationship and to avoid negative effects on student morale. To avoid this bias, remember that students can only achieve entry-level competency when they are provided with constructive and accurate feedback relative to their performance throughout the placement.
- **Central Tendency**: The habit of assessing almost everyone as average. A person applying this bias will not use the full extent of the scoring scale
- **Anchoring**: the tendency to rely too heavily, or “anchor,” on a past incident or on one trait or piece of information when making decisions. An example may be an incident or poor performance of a student in the first week of the placement that continues to influence the educator’s rating of the student’s performance 4 weeks later at the end of the unit.

Clinical Educator Information Overload

- For busy clinical educators there is always a large amount of paperwork and information to read. With this in mind, the manual has been kept brief and provides the answers to most of your questions concerning the APP. Keep it handy!

6. APP FAQ's



Below are a list of frequently asked questions and answers about the APP

Question

When should I score an item using a '2'?

Answer

When the student has demonstrated performance of the item that is the minimum performance that you would consider necessary to pass the student i.e. ***with respect to this competency***, does just enough to be considered entry level standard.

Question

When should I score an item using a '3'?

Answer

When the student has demonstrated performance of the item in a way that leaves no doubt that they are at entry level standard i.e. ***with respect to this competency***.

Question

When should I score an item using a '4'?

Answer

When the student has demonstrated very competent performance of an item ie ***with respect to this competency***.

Question

How is the APP scored?

Answer

The item scores are summed to a total, divided by the number of items completed, and multiplied by 100.

Question

How do I assess a student if they don't demonstrate one of the performances described in the examples of performance indicators provided?

Answer

The list of performance indicators are not meant to be exhaustive. They are meant to provide a representative range of examples and demonstrate the principle that feedback to students needs to be in the form of ***what behaviour does the student need to demonstrate in order to achieve a higher grade***. If the student has not had a chance to demonstrate any behaviours in a particular area (e.g 17. Progresses intervention appropriately) then the N/A scoring option should be selected.

Question

Should I rate the student on each performance indicator?

Answer

No. The student is rated on each of the 20 items on the APP. The performance indicators provide

examples of observable behaviours that indicate competency for particular items. The educator may use these and other relevant examples to provide feedback to students on the behaviours they are looking for as evidence of competence on a particular item.

Question

The student was not happy with a 2 and complained. What should I say?

Answer

Describe to the student the behaviours they would need to demonstrate in order for you to feel comfortable about their abilities and award them a 3, or delighted with their abilities and award them a 4. Students need to be clear about why you think their behaviours demonstrate the minimal acceptable performance level. The aim of feedback is to encourage students to become the best practitioners they can be. Provide the student with specific examples to illustrate behaviours that would achieve a higher grade.

Question

When a student first begins clinical practice experience, it can be very hard for them to demonstrate even minimally acceptable performance with respect to expected entry level standards. If they get 1's and 2's will they fail the unit?

Answer

Universities have the option to standardise grades and may exercise this option for the first clinical rotation(s). It is very important that students are given explicit advice regarding the behaviours that they would need to demonstrate to achieve a pass or better.

Question

I have a student who has been outstanding. Can I give them a 4?

Answer

Certainly. Raters have a tendency to avoid scale extremes, however, it is very important to use the entire score range. Students should be given the worst or best scores if that is the most appropriate rating. All students should be told what it is they need to do to score a 4 and they should aim for excellence. It is important that educators remember that the student is aiming for day 1 new graduate excellence, not the excellence that you would expect after some time in practice.

Question

Is the student judged against a beginning (entry-level) practitioner or their expected ability for their stage of the course?

Answer

Some programs have traditionally used entry-level competencies as the benchmark against which to judge student performance, while others have used the performance that would be expected at the particular stage of the course. For consistent use of the APP across programs, the student should be judged on each item against the minimum target attributes required to achieve beginner's (entry-level) standard and register to practice.

Question

What do you mean by 1 = “Demonstrates few performance indicators to an adequate standard”?

Answer

A score of 1 indicates that the student has not reached the minimal acceptable standard for that item. It is very important that students who do not achieve the minimal acceptable standard are provided with very clear examples of the behaviours that they need to demonstrate in order to achieve this. Some performance indicators are provided to assist educators to give appropriate feedback and direction.

Many relevant performance indicators have not been listed. For example, ‘does not take calls on mobile phone while assessing a patient’ is not listed as a performance indicator, but it could clearly be raised by an educator who chose to mark a student below 2 for professional behaviour. Educators and students should collaborate to ensure that performance targets and strategies to achieve the required improvement are clear.

Question

What is a fair definition of a minimum entry level standard?

Answer

In overall terms a student who scores a 2 for most items is performing at the minimum entry level standard and they are likely to be able to:

- acceptably manage a variety of non-complex patients
- identify the patient/client’s major problems
- establish major goals
- complete treatment safely and effectively within a reasonable time frame
- demonstrate an awareness of limitations and where to seek assistance.

Question

What is a fair definition of an excellent entry level standard?

Answer

In overall terms a student who scores a 4 for most items is performing at an excellent entry level standard and is likely to demonstrate all performances expected for minimum entry level standard and also demonstrate:

- the ability to work relatively independently, thoroughly and sensitively.
- fluid, efficient and sensitive handling skills
- flexibility and adaptability
- competent linking of theory and practice
- appropriate reflection and insight
- cogent and concise arguments for clinical decisions

Students who score 3’s for most items will be on a path between minimal acceptable and excellent **entry level** performance

Question

Time management is an important attribute for a graduate. Where is it rated on the APP?

Answer

Time management is not listed as a separate item as it is an important component of several of the

aspects of practice. You will observe in the performance indicators that time management is assessed under the following items 2,7,9,and 14.

Question

How do I assess Item 19 –Applies evidence based practice in patient care, during a clinical unit?

Answer

Perusal of the performance indicators for EBP shows that if the student is applying EBP to patient care they are considering not only available current research evidence but also patient/client preferences, expertise of clinicians and available resources in deciding on the best management plan for their patient/client. This item also means that the student shows the ability to seek out any information relevant to the care of their patients. The student should access “pre-appraised” research evidence – ie clinical practice guidelines and systematic reviews. Students should make use of available online databases to locate relevant “pre-appraised” evidence (eg Cochrane, Clinical Evidence, PEDro). It does not mean that the student has to do a literature review whilst on clinical placement, however if time is allocated to the student during the placement to search the literature on a particular topic, this is appropriate and would form part of this item. Involvement of the student in quality assurance activities whilst on placement is also an important component of this item.

7. Procedure for Completion and Return of Section B

Place the following forms in the reply paid envelope – these documents all have this envelope symbol on them



At the end of the Clinical Unit complete the following:	
1. ☐	Signed clinical educator Consent Form
2. ☐	Clinical educator Demographic Form
3. ☐	Clinical educator Feedback survey on the APP
4. ☐	The student's demographic data sheet (completed by the student) 1/ each student
5. ☐	Completed final APP form 1/each student

*****Remember complete the above forms independently and before you have any discussion about the grading of the student's performance during their clinical unit*****

- Collect ALL documents and return in the reply paid envelope to:

Wendy Harris
Clinical Education Administrative Officer
School of Physiotherapy and Exercise Science
Gold Coast Campus
GRIFFITH UNIVERSITY QLD 4222

On behalf of the research team thank you for your assistance



Student No:

Date:

Assessment of Physiotherapy Practice (APP)

0 = Infrequently/rarely demonstrates performance indicators

1 = Demonstrates few performance indicators to an adequate standard

2 = Demonstrates most performance indicators to an adequate standard

3 = Demonstrates most performance indicators to a good standard

4 = Demonstrates most performance indicators to an excellent standard

n/a = (not assessed)

Note. a rating of 0 or 1 indicates that minimum acceptable competency has not been achieved

Professional Behaviour	Circle one number					
1. Demonstrates an understanding of patient/client rights and consent	0	1	2	3	4	n/a
2. Demonstrates commitment to learning	0	1	2	3	4	n/a
3. Demonstrates ethical, legal & culturally sensitive practice	0	1	2	3	4	n/a
4. Demonstrates teamwork	0	1	2	3	4	n/a
Communication						
5. Communicates effectively and appropriately - Verbal/non-verbal	0	1	2	3	4	n/a
6. Demonstrates accurate record keeping skills	0	1	2	3	4	n/a
Assessment						
7. Conducts an appropriate patient/client interview	0	1	2	3	4	n/a
8. Selects appropriate methods for measurement of relevant health indicators	0	1	2	3	4	n/a
9. Performs appropriate physical assessment procedures	0	1	2	3	4	n/a
Analysis & Planning						
10. Appropriately interprets assessment findings	0	1	2	3	4	n/a
11. Identifies and prioritises patient's/client's problems	0	1	2	3	4	n/a
12. Sets realistic short and long term goals with the patient/client	0	1	2	3	4	n/a
13. Selects appropriate intervention in collaboration with patient/client	0	1	2	3	4	n/a
Intervention						
14. Performs interventions appropriately	0	1	2	3	4	n/a
15. Is an effective educator	0	1	2	3	4	n/a
16. Monitors the effect of intervention	0	1	2	3	4	n/a
17. Progresses intervention appropriately	0	1	2	3	4	n/a
18. Undertakes discharge planning	0	1	2	3	4	n/a
Evidence-based Practice						
19. Applies evidence based practice in patient care	0	1	2	3	4	n/a
Risk Management						
20. Identifies adverse events/near misses and minimises risk associated with assessment and interventions	0	1	2	3	4	n/a
In your opinion as a clinical educator, the overall performance of this student in the clinical unit was:						
Not adequate ☐ Adequate ☐ Good ☐ Excellent ☐						

Scoring rules:

- ✓ Circle n/a (not assessed) only if the student has not had an opportunity to demonstrate the behaviour
- ✓ If an item is not assessed it is not scored and the total APP score is adjusted for the missed item.
- ✓ Circle only one number for each item
- ✓ Evaluate the student's performance against the minimum competency level expected for a beginning/entry level physiotherapist.
- ✓ If a score falls between numbers on the scale the higher number will be used to calculate a total.

Clinical Educator Code: First Name Initial ☐ First 3 Letters of Surname ☐ ☐ ☐

Professional Behaviour		Examples of Performance Indicators	
1. Demonstrates an understanding of patient/client rights and consent - informed consent is obtained and recorded according to protocol - understands and respects patients' /clients' rights - allows sufficient time to discuss the risks and benefits of the proposed treatment with patients'/clients and carers - refers patients'/clients to a more senior staff member for consent when appropriate - advises supervisor or other appropriate person if a patient/client might be at risk - respects patients' /clients' privacy and dignity - maintains patient/client confidentiality - applies ethical principles to the collection, maintenance, use and dissemination of data and information	2. Demonstrates commitment to learning - responds in a positive manner to questions, suggestions &/or constructive feedback - reviews and prepares appropriate material before and during the placement - develops and implements a plan of action in response to feedback - seeks information/assistance as required - demonstrates self-evaluation, reflects on progress and implements appropriate changes based on reflection - takes responsibility for learning and seeks opportunities to meet learning needs - uses clinic time responsibly	3. Demonstrates ethical, legal & culturally sensitive practice - follows policies & procedures of the facility - advises appropriate staff of circumstances that may affect adequate work performance - observes infection control, and workplace health and safety policies - arrives fit to work - arrives punctually and leaves at agreed time - calls appropriate personnel to report intended absence	4. Demonstrates teamwork - demonstrates understanding of team processes - contributes appropriately in team meetings - acknowledges expertise and role of other health care professionals and refers/liases as appropriate to access relevant services - advocates for the patient/client when dealing with other services - collaborates with the health care team and patient/client and to achieve optimal outcomes - cooperates with other people who are treating and caring for patients'/clients - works collaboratively and respectfully with support staff
9. Performs appropriate physical assessment procedures - considers patient/client comfort and safety - respects patient' s/client' s need for privacy and modesty (eg provides draping or gown) - structures systematic, safe and goal oriented assessment process accommodating any limitations imposed by patient' s/client' s health status - plans assessment structure and reasoning process using information from patient/client history and supportive information - demonstrates sensitive and appropriate handling during the assessment process			

Examples of Performance Indicators

- applies all tests and measurements safely, accurately and consistently
 - sensibly modifies assessment in response to patient/client profile, feedback and relevant findings
 - appropriate tests are performed to refine diagnosis
 - assesses/appraises work, home or other relevant environments as required
 - completes assessment in acceptable time
- Analysis & Planning**
- 10. Appropriately interprets assessment findings**
- describes the implications of test results
 - describes the presentation and expected course of common clinical conditions
 - relates signs and symptoms to pathology
 - relates signs symptoms and pathology to environmental tasks and demands
 - interprets findings at each stage of the assessment to progressively negate or reinforce the hypothesis/es
 - makes justifiable decisions regarding diagnoses based on knowledge and clinical reasoning
 - prioritises important assessment findings
 - compares findings to normal
- 11. Identifies and prioritises patient's/client's problems**
- generates a list of problems from the assessment
 - justifies prioritisation of problem list based on knowledge and clinical reasoning
 - collaborates with the patient/client to prioritise the problems
 - considers patient's/client's values, priorities and needs
- 12. Sets realistic short and long term goals with the patient/client**
- negotiates realistic short treatment goals in partnership with patient/client
 - negotiates realistic long treatment goals in partnership with patient/client
 - Formulates goals that are specific, measurable, achievable and relevant, with specified timeframe
 - considers physical, emotional and financial costs and relates them to likely gains of physiotherapy intervention
- 13. Selects appropriate intervention in collaboration with the patient/client**
- engages with patient/client to explain assessment findings, discuss intervention strategies and develop an acceptable plan
 - options for physiotherapy intervention are identified and justified, based on patient/client needs, on best evidence and available resources
 - considers whether physiotherapy treatment is indicated
 - demonstrates a suitable range of skills and approaches to intervention
 - describes acceptable rationale (eg likely effectiveness) for treatment choices
 - balances needs of patients/clients and care givers with the need for efficient and effective intervention
 - demonstrates understanding of contraindications and precautions in selection of intervention strategies
 - advises patient/client about the effects of treatment or no treatment
- Intervention**
- 14. Performs interventions appropriately**
- considers the scheduling of treatment in relation to other procedures eg medication for pain, wound care.
 - demonstrates appropriate patient/client handling skills in performance of interventions
 - performs techniques at appropriate standard
 - minimizes risk of adverse events to patient/client and self in performance of intervention (including observance of infection control procedures and manual handling standards)
 - prepares environment for patient/client including necessary equipment for treatment
 - identifies when group activity might be an appropriate intervention
 - demonstrates skill in case management
 - recognises when to enlist assistance of others to complete workload
 - completes intervention in acceptable time
- 15. Is an effective educator/health promoter**
- demonstrates skill in patient/client education eg modifies approach to suit patient/client age group, uses principles of adult learning
 - demonstrates skills in conducting group sessions
 - a realistic self-management program for prevention and management is developed with the patient/client
 - provides information using a range of strategies that demonstrate consideration of patient/client needs
 - confirms patient's/client's or caregivers understanding of given information
 - uses appropriate strategies to motivate the patient/client and caregiver to participate and to take responsibility for achieving defined goals
 - discusses expectations of physiotherapy intervention and its outcomes
 - provides feedback to patient/client regarding health status
 - educates the patient/client in self evaluation
 - encourages and acknowledges achievement of short and long term goals
- 16. Monitors the effects of intervention**
- incorporates relevant evaluation procedures/outcome measures within the physiotherapy plan
 - monitors patient/client throughout the intervention
 - makes modifications to intervention based on evaluation
 - records and communicates outcomes where appropriate
- 17. Progresses intervention appropriately**
- demonstrates &/or describes safe and sensible treatment progressions
- 18. Undertakes discharge planning**
- begins discharge planning in collaboration with the health care team at the time of the initial episode of care
 - describes strategies that may be useful for maintaining or improving health status following discharge
 - arranges appropriate follow-up health care to meet short and long term goals
 - addresses patient/client and carer needs for ongoing care through the coordination of appropriate services
- Evidence Based Practice**
- 19. Applies evidence based practice in patient care**
- considers the research evidence, patient/client preferences, clinical expertise and available resources in patient/client management
 - locates and applies relevant current evidence eg, clinical practice guidelines and systematic reviews
 - assists patients/clients and carers to identify reliable and accurate health information
 - shares new evidence with colleagues
 - participates in quality assessment procedures when possible
- Risk Management**
- 20. Identifies adverse events and near misses and minimises risk associated with assessment and interventions**
- monitors patient/client safety during assessment and treatment
 - complies with workplace guidelines on patient/client handling
 - complies with organizational health and safety requirements
 - describes relevant contraindications and precautions associated with assessment and treatment
 - reports adverse events and near misses to appropriate members of the team
 - implements appropriate measures in case of emergency
- 21. Identifies and manages risk associated with assessment and interventions**
- monitors patient/client safety during assessment and treatment
 - complies with workplace guidelines on patient/client handling
 - complies with organizational health and safety requirements
 - describes relevant contraindications and precautions associated with assessment and treatment
 - reports adverse events and near misses to appropriate members of the team
 - implements appropriate measures in case of emergency

Appendix 25: Project team – qualifications and experience

Megan Dalton

Megan Dalton is currently Senior Lecturer Clinical Education and Convenor of the Masters of Physiotherapy Programme in the School of Physiotherapy and Exercise Science at Griffith University. She has 16 years experience in overseeing the development of clinical education programs at both Griffith University and previously at The University of Queensland. In the last 7 years she has been involved in the establishment of the two new Physiotherapy Programmes (MPhty and BPhy/BExSc) at Griffith University. This has included planning, implementation and evaluation of clinical placements, writing of the curriculum and documentation for accreditation of both programmes with ACOPRA. . She is currently enrolled in a PhD investigating the assessment of clinical competence.

Professor Jennifer L Keating

Professor Jenny Keating is a physiotherapist with postgraduate qualifications in musculoskeletal physiotherapy and a PhD (completed in 1997). Career highlights include the management of amputee rehabilitation at St Vincent's hospital, Victoria, work in a private practice providing primary care services, senior lectureship at La Trobe University in 2001 and appointment as Inaugural Professor and Head of Department of Physiotherapy at Monash University in 2005. Since this appointment, she has been the Course Convenor of the Bachelor of Physiotherapy and Bachelor of Physiotherapy (Honours) programs and has been actively writing and delivering the innovative new curricula. The outstanding features of the Bachelor of Physiotherapy include a fully integrated curriculum, a focus of best practice built on high quality evidence, best practice in teaching and learning methods, interprofessional teaching and learning and workforce preparation including the development of practical skills required for quality practice in rural and regional environments. In addition she is the course coordinator of the Bachelor of Physiotherapy with Honours program, teaching and coordinating both the coursework and thesis units of the program. Professor Keating is also building a Monash based research team, with extensive interdepartmental collaborations within Monash. She has 6 PhD students supported by NHMRC stipends (x2), ALTC awards (x1) PCRED Fellowship (x1) and an APRA (x1) and 10 honours students.

Her research focus is the assessment and management of back pain and she is one of the inaugural members of the National Network of Spine Scientists. She has skills in the development of high quality, practical outcome measures and methods for rigorous evaluation of clinical practices. She is an active author on two Cochrane reviews and two Cochrane review protocols. Professor Keating teaches research methods and statistical analysis and brings quality outcome measurement and qualitative data analysis skills to the project. Her career research funding totals more than \$1.4 million and she has a strong record of project completion and dissemination of results with more than 52 peer reviewed publications and 4 book chapters. Professor Keating has supervised to completion 10 successful Honours theses, 2 Masters by Coursework theses and 4 Doctoral theses. She is committed to quality education and high quality work and her research students consistently receive awards for excellence.

Jenny Keating is a panel reviewer and external reviewer for NHMRC grant applications. She is a past Chair of the Research Committee of the Victorian Branch of the Australian Physiotherapy Association and recently appointed as the inaugural president of the Council of Physiotherapy Deans Australia and New Zealand. She is on the Editorial Board of 'Isokinetics and Exercise Science' and the International

Advisory Board of 'Physical Therapy in Sport'. Prof Keating regularly reviews submissions to Physical Therapy, Physical Therapy in Sport, Australian Physiotherapy Journal, Medical Education, Physiotherapy Research International, Physical Therapy, Biomed Central publications, Isokinetics and Exercise Science and others.

Associate Professor Megan Davidson

Megan Davidson is Associate Professor and Head of School at the School of Physiotherapy at La Trobe University. She has been a member of the interprofessional and inter-university Foundation for Quality Supervision for 11 years and during that time was the coordinator of the clinical education program in the School of Physiotherapy. Her research is focussed on the use of Rasch analysis to develop psychometrically sound measurement instruments in health care and used this analytic technique in her PhD studies. She has published 20 articles in international peer-reviewed journals and 6 book chapters, including works relating to clinical education. Dr Davidson has been consulted by and completed analyses and reports for various Victorian government organisations.