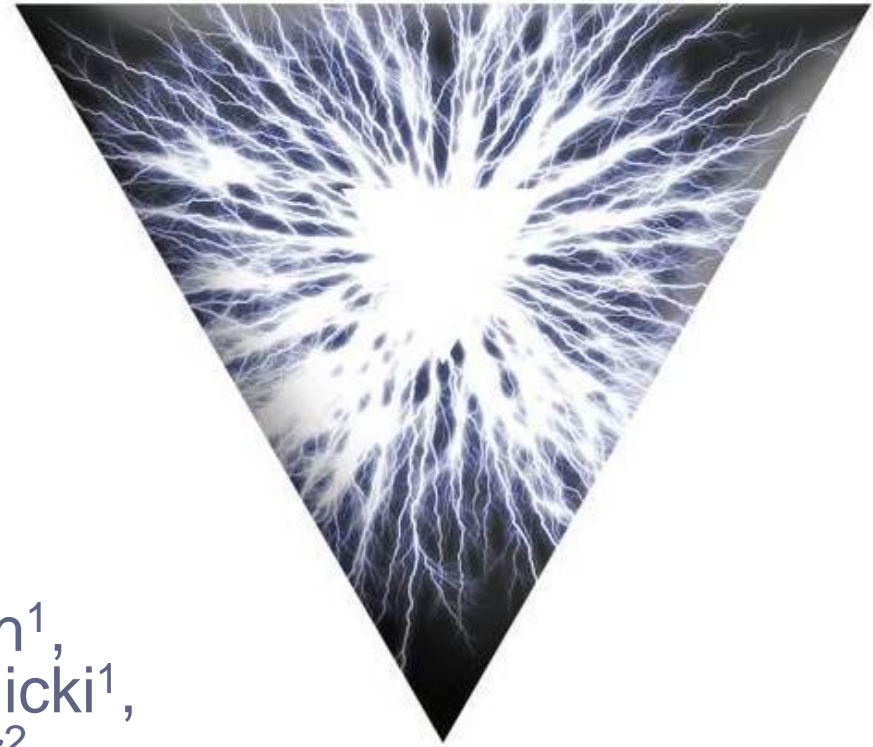


Development of a Benchmarking Tool for Pharmacy Students Using Threshold Learning Outcomes



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Introduction

- *Australian Pharmacy Council Accreditation Standards for Pharmacy Programs in Australia and New Zealand*¹
 - Pharmacy programs must have a “demonstrable and continuous quality improvement program...”
 - “... a focus on the quality improvement cycle (including benchmarking activities) is essential for sustaining a quality program”
- Challenges to benchmarking:
 - Points of difference between different pharmacy programs
 - 4-year BPharm vs. 2-year MPharm programs
- Development of pharmacy Threshold Learning Outcomes (TLOs) has created new opportunities

¹ Australian Pharmacy Council Ltd. Accreditation Standards for Pharmacy Programs in Australia and New Zealand. Canberra: Australian Pharmacy Council Ltd; December 2012.

Pharmacy Threshold Learning Outcomes²

- 1. Demonstrate professional behaviour and accountability in the commitment to care for and about people**
- 2. Retrieve, critically evaluate and apply evidence in professional practice**
- 3. Demonstrate team and leadership skills to deliver safe and effective practice**
- 4. Make, act on and take responsibility for clinically, ethically and scientifically sound decisions**
- 5. Communicate in lay and professional language, choosing strategies appropriate for the context and diverse audiences**
- 6. Reflect on current skills, knowledge, attitudes and practice; planning and implementing for ongoing personal and professional development**
- 7. Apply pharmaceutical, medication and health knowledge and skills**
- 8. Formulate, prepare and also supply medications and therapeutic products**

² Stupans I, Krass I, March G, Hughes J, Clifford R, McAllister S, et al. Pharmacy Learning Resource Database: Learning Outcomes and Standards; 2013 [cited 2013 Sep 11]; Available from: <http://pharmacylearning.edu.au/node/163>.

Aim

- To develop, refine and validate a tool based on the pharmacy TLOs to facilitate benchmarking of students' performances in verbal 'capstone' assessments in Australian pharmacy programs



Methods

1. Pilot tool **developed** in collaboration between UTAS, UoN and JCU
2. Pilot tool **trialled** by internal and external examiners during UTAS final verbal exams in October 2013
3. Examiner **usability and acceptability** assessed using a survey
4. Tool evaluated for validity and **inter- and intra-rater reliability** using Pearson correlation coefficients (R)
5. Tool **refined** using these results
6. Late 2014/early 2015 - **validation exercise**

Methods – Pilot Tool Draft 1

CSA430 Verbi

Student:

Threshold Learning Outcomes
Upon completion of their program, the student is able to:

0 Not demonstrated at all	1 Attempts made however significant deficiency for the expected level of a pharmacy graduate
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PHARMACY THRESHOLD LEARNING OUTCOME (and Exemplars)	SCALE
<p>7. Apply pharmaceutical, medication and health knowledge and skills</p> <ul style="list-style-type: none"> • <i>Within their scope of practice, in the assessment of individual health status and medication needs, and where necessary, develop, implement and monitor management plans in consultation with patients/clients and other health professionals to improve patient outcomes</i> • <i>To promote and optimise the health and welfare of communities and/or populations</i> <ul style="list-style-type: none"> • <i>Demonstrate evidence-based clinical practice by locating, evaluating, synthesising and applying evidence, and evaluating outcomes</i> • <i>Collaborate with patients, the public and other healthcare professionals to provide patient-centred, collaborative care and improve patient outcomes</i> • <i>Communicate effectively (verbally, non-verbally and in writing) about medication management and other health care needs within a practice environment.</i> • <i>Develop accurate, efficient patient therapeutic and monitoring plans that incorporate best practice and respect the autonomy of the patient</i> • <i>Interpret, access and respond in a prompt and effective/timely manner to medication related requests</i> 	0 1 2 3 4 5
<p>8. Formulate, prepare and also supply medications and therapeutic products</p> <ul style="list-style-type: none"> • <i>Clarify medication orders, assess appropriateness of prescribed medicines, use pharmaceutical calculations to verify the safety of doses and administration rates and follow systematic dispensing procedures</i> • <i>Use a safe and consistent approach to medication provision with review and regular quality checks in place</i> 	0 1 2 3 4 5

Overall this student was:

Satisfactory

Borderline

Unsatisfactory

Results

- 44 of UTAS 60 students (73.3%) provided informed consent (verbal exams, October 2013)
- ≥1 UTAS examiner completed a benchmarking tool for 39 students; 2 were completed for 29 students
- Correlations generally good or very good

Variables	n	Pearson Correlation Coefficient (R)	p
<i>UTAS Examiners</i>			
TLO1	29	0.878	<0.001
TLO2	29	0.809	<0.001
TLO4	29	0.844	<0.001
TLO5	29	0.855	<0.001
TLO7	29	0.728	<0.001
TLO8	29	0.773	<0.001
<i>UTAS Examiners (average) vs. Observer</i>			
TLO1	12	0.593	0.042
TLO2	12	0.481	0.113
TLO4	12	0.735	0.006
TLO5	12	0.685	0.014
TLO7	12	0.624	0.030
TLO8	12	0.694	0.012
<i>UTAS Examiners' Mark vs. TLO</i>			
TLO1	29	0.619	<0.001
TLO2	29	0.751	<0.001
TLO4	29	0.738	<0.001
TLO5	29	0.776	<0.001
TLO7	29	0.830	<0.001
TLO8	29	0.848	<0.001

Table 1: Correlations between student marks and TLO scores for the draft benchmarking tool.

Results cont'd...

- Survey feedback received from 11 of 14 examiners (response rate 78.6%)

- Recommendations:
 1. ***Educate academics in the use of tool.***
 2. ***Ensure alignment of the TLOs with assessment questions.***
 3. ***Shorten the description of TLOs, and highlight only one or two highly relevant exemplars – aim for a one-page tool.***
 4. ***Review the scales.***
 5. ***Ensure adequate time for completion.***

Revised Benchmarking Tool

Verbal Examination Benchmarking Study Tool v8 – July

Threshold Learning Outcomes

Upon completion of their program of study, pharmacy graduates (at end of degree, prior able to:

Fail (F) - No attempt made	Not Competent (NC) - Attempt made however not clearly at the level expected of a pharmacy graduate	Competent (C) - demonstrates performance at the expected level of a pharmacy graduate	Outstanding (O)
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PHARMACY THRESHOLD LEARNING OUTCOME (and Exemplars)	Sample 'tasks' within assessment
1. Demonstrate professional behaviour and accountability in the commitment to care for and about people <ul style="list-style-type: none"> Display appropriate personal presentation in all situations Recognise own professional limitations and seek support if necessary 	<ul style="list-style-type: none"> Appearance – clean, professional uniform Greets client/patient and introduces self Refers client/patient to other health professionals when outside scope of practice; appropriate referrals made to texts and other resources unsure of knowledge Contacts another health professional in a scenario (if appropriate)
2. Retrieve, critically evaluate and apply evidence in professional practice <ul style="list-style-type: none"> Apply multiple approaches for solving problems that apply within a specific context 	<ul style="list-style-type: none"> Provision of non-pharmacological management suggestions and lifestyle advice as well as regarding medical management; suggests multiple suitable treatment options (e.g. antibiotics, antihypertensives) where appropriate
3. Demonstrate team and leadership skills to deliver safe and effective practice <ul style="list-style-type: none"> Demonstrate leadership skills for health care delivery 	<ul style="list-style-type: none"> Demonstrates clinical leadership (takes the lead/makes decisions/directs activities) in relation to medication-related issues (doesn't 'pass buck')
4. Make, act on and take responsibility for clinically, ethically and scientifically sound decisions <ul style="list-style-type: none"> Apply sound scientific principles to support decision-making Determine and facilitate patient preferences for treatment 	<ul style="list-style-type: none"> Makes evidence-based suggestions to add to the given scenario, quoting literature where appropriate Demonstrates a patient-centred approach acknowledges the client's requests, provides options and engages the patient in the choice respecting the patient's autonomy

PHARMACY THRESHOLD LEARNING OUTCOME (and Exemplars)	Sample 'tasks' within assessment	RATING			
		F	NC	C	O
5. Communicate in lay and professional language, choosing strategies appropriate for the context and diverse audiences <ul style="list-style-type: none"> Apply key principles of communication Use clear and unambiguous oral and written language targeted to the audience Listen actively Present information in a timely, professional and effective manner 	<ul style="list-style-type: none"> Appropriate introduction and greeting Appropriate use of open- and closed-ended questions – builds rapport with the client, encourages and provides time for them to talk and provide information Actively listens: responds to/acknowledges client questions/answers Involves client in the conversation – looks at client, shows client information/product Encourages client to ask questions Explains 'why' when giving instructions Summarises information/paraphrases/checks for understanding Provides information/instructions concisely – does not cause confusion Reassures client/displays empathy and understanding Clear speech/diction – easy to understand and hear Uses appropriate lay language (non-technical) when addressing client, and appropriate clinical/professional language when addressing other healthcare professionals Body language, consistent with verbal communication Logical flow to conversation/counselling Addresses scenarios in given time 				
7. Apply pharmaceutical, medication and health knowledge and skills <ul style="list-style-type: none"> Collaborate with patients, the public and other healthcare professionals to provide patient-centred, collaborative care and improve patient outcomes Develop accurate, efficient patient therapeutic and monitoring plans that incorporate best practice and respect the autonomy of the patient Support individual and community access to health and associated resources required to prevent disease and promote health and well-being Interpret, access and respond in a prompt and effective/timely manner to medication related requests 	<ul style="list-style-type: none"> Effective history taking and patient-centred response Selects correct product Advices on correct dose/administration instructions Advices about adverse effects Advices about interactions/cautions to use Provides pharmaceutical and non-pharmaceutical health related advice – including CMI and referral to other healthcare professionals Appropriately identifies and prioritises MRP, and provides suitable evidence-based resolutions to these problems, with monitoring where necessary 				

Overall this student was:

Competent ('Competent' or 'Outstanding' in all criteria)

Not competent

Comments:

Training DVD



Conclusions

- Progress is underway towards the development of a relatively simple, flexible and validated benchmarking tool to facilitate high quality student outcomes across Australian pharmacy programs
- Academic feedback has resulted in significant amendments to the original draft tool
- Training in the use of the tool has been identified as a major enabler of its successful and consistent application
- One tool may not fit all purposes!!

Where To From Here?

- Validation exercise late 2014/early 2015
- Electronic format?
- National implementation?
 - ISG or OLT grant?? Application across other disciplines?
- Ongoing benchmarking relationships



