

Redesigning a more learner centred prescribing curriculum for medical students



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There are three central ideas behind learning design; that learning should be active, that activities are orchestrated (using workflow) and that learning designs can be recorded, modified, shared and re-used (Britain, 2004). Taking this into consideration, the Curriculum and Training Unit (CAT) at the National Prescribing Service are re-designing existing web based prescribing modules. Currently used by over 2000 senior medical students in 13 Australian medical schools, the modules were originally designed to improve prescribing confidence in recent graduates.

The conversion of the existing units to LAMS (*Learning Activity Management System*) software, provides learners with a more activity based learning environment along with opportunities for peer and expert feedback. The flexibility of the software gives greater control over the design and update process. Sharing of (LAMS) sequences within the health sector internationally will be explored. In order to provide a much more student focused design and more appropriate and extensive feedback to learners, we have engaged in a process of consultation with content writers, lecturers and students. Staff at LAMS International will develop three new tools within LAMS to meet the needs of our learners.

Currently the most common mode of delivery for the modules within universities is self paced and therefore our initial template is for a self paced delivery model. We hope however, to be able offer templates for delivery in a blended environment (for example tutorial or PBL) by working in consultation with individual universities.

Keywords: learning design, LAMS, activity based learning, feedback, self paced, prescribing education

A template for self paced delivery

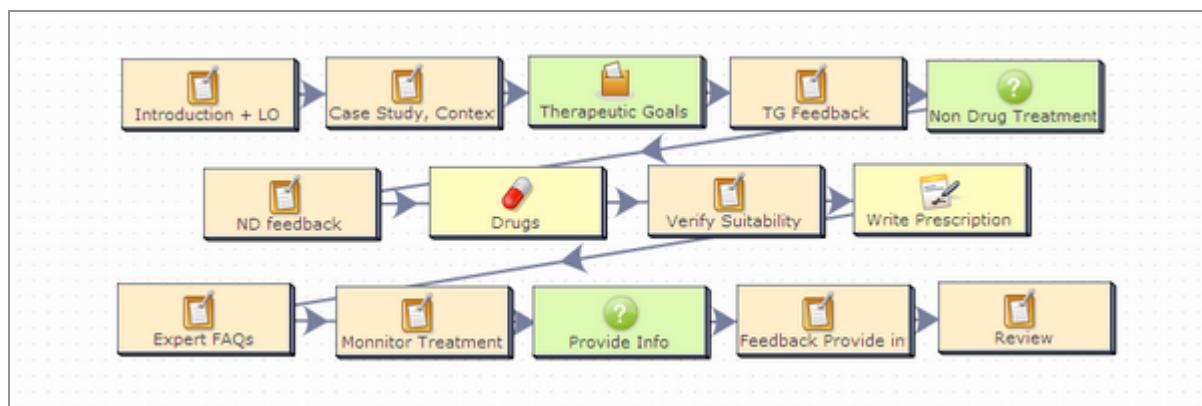


Figure 1: A learning module represented in the LAMS authoring screen

The National Prescribing Curriculum [<http://nps.unisa.edu.au/NPSStart/>] is based on the World Health Organisation (WHO) *Guide to Good Prescribing*. Every activity in each module is linked to a key stage outlined in this document. Additionally each stage now has an activity associated with it, making learning more active. Opportunities for peer and expert feedback have also been added to give learners a more accurate report on their prescribing ability. The table below summarises each activity in the self paced template.

Activity Title +LAMS Tool + WHO Guideline	Description
1. Title: Introduction Tool: Flash object inside a LAMS Noticeboard WHO: Flash object inside a LAMS Noticeboard	Learners are introduced to the topic, given the learning objectives and links to the AMH (Australian Medical Handbook), WHO and NPS Guides to Good Prescribing.
2. Title: Case Study and context Tool: Flash object inside a LAMS Noticeboard WHO: 'Defining the patient problem'	Learners are given the context where the prescriber is working and who they report to. They are also given enough information on the patient to make a provisional diagnosis.
3. Title: Therapeutic Goals Tool: Voting tool LAMS WHO: 'Specify the therapeutic objective'	A list of short term therapeutic goals (including red herrings) are given. Learners may nominate as many as they wish. They then see their peers answers represented in graphical format.
4. Title: Therapeutic Goals Feedback Tool: Flash object inside a LAMS Noticeboard WHO: 'Specify the therapeutic objective'	Expert feedback on the previous exercise is given.
5. Title: Non Drug Treatment Tool: Question and Answer tool LAMS WHO: 'Choose a treatment'	The next four steps are the most critical in the prescribing process. Drug options are not always the most appropriate form of treatment - non drug options must also be considered. The Q&A tool was chosen so that learners can see peer answers.
6. Title: Non Drug Treatment Feedback Tool: Noticeboard LAMS WHO: 'Choose a treatment'	Learners see expert feedback on the previous exercise.
7. Title: Drug Treatment Tool: Drug Tool +My Formulary LAMS WHO: 'Choose a treatment + Pdrugs'	Drug treatment should be based on: efficacy, safety, suitability and cost. This tool consists of 3 pages that narrow down the process from choosing drug classes to specific P-drugs to add to their own formulary. All drugs in this tool are linked with the most current information from The AMH and Therapeutic Guidelines.
8. Title: Verify Suitability Tool: Flash Object inside a LAMS Noticeboard WHO: 'Verify suitability'	The prescriber now needs to check that the P-drug is suitable for their individual patient. They are given more specific patient information to narrow down their choices before writing a prescription.
9. Title: Write a prescription Tool: Prescription tool LAMS WHO: 'Start treatment – eg write an accurate prescription'	Learners follow a process where they search for drugs in their formulary, select drugs for the prescription, enter doctor, patient and drug details into the prescription, preview and print the prescription and get feedback from an expert on the correct prescription. This process mirrors real life prescribing.
10. Title: Expert Feedback Tool: Flash Object inside a LAMS Noticeboard WHO: 'Start treatment'	Feedback from the previous section shows correct prescribing. This section allows feedback on incorrect answers, common mistakes, adverse reactions and allergies.
11. Title: Monitor Treatment Tool: Flash Object inside a LAMS Noticeboard WHO: 'Monitor treatment'	This activity involves learners thinking about what is needed to monitor a patient's progress. Learners choose between a list of possible options, get feedback on each individual choice and then see more detailed information.
12. Title: Provide Information + feedback Tool: Question and Answer tool LAMS WHO: 'Give information and instructions'	Learners are asked to list information that they need to provide to the patient and other health professionals. They then see their peers' answers and expert feedback.
13. Title: Review Tool: Flash Object inside a LAMS Noticeboard	This MCQ activity provides a quick review of the module. Learners can do the quiz as many times as they like and are provided with feedback.

We offer the National Prescribing modules free of charge and look forward to working with individual universities to modify this template to suit their individual needs. New tools (chat or forum for discussion), stop points and branching options can be added to suit a tutorial or PBL based curriculum.

Development of new tools

Prescribers see many patients in a day. How do they manage the right drug for the right patient in a short time? Confidence is enhanced by having a personal list of preferred drugs and becoming thoroughly familiar with their use (this includes the dosage form, dosage schedule and duration of treatment.) The emphasis on the National Prescribing curriculum is on learners building their own personal formulary of preferred drugs for specific conditions so that they can prescribe confidently and rationally. NPS have contracted LAMS International to create 3 new tools:

- The Drug Treatment tool
- My Formulary
- Write Prescription

References

Britain, S. (2004). *A review of learning design: Concept, specifications and tools.*
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Please cite as: Baskett, K., Mendrela, G. & Stuart, M. (2007). Redesigning a more learner centred prescribing curriculum for medical students. In *ICT: Providing choices for learners and learning. Proceedings ascelite Singapore 2007*. <https://doi.org/10.65106/apubs.2007.2832>

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