

# **AnalyseLearning**

**A hypothetical venture**

**For**

**ETEC 522**

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## AnalyseLearning

AnalyseLearning is a start up venture offering a customised solution that provides a personalised learning environment and visualised learning analytics designed to enhance the learning for Australia's general practitioner registrars in training.

### The Market for AnalyseLearning

In Australia vocational training for general practitioners has grown significantly in the last few from a total of 400 positions in 2005 (often not filled) to 1,100 positions for 2013 (with 1,700 applicants).

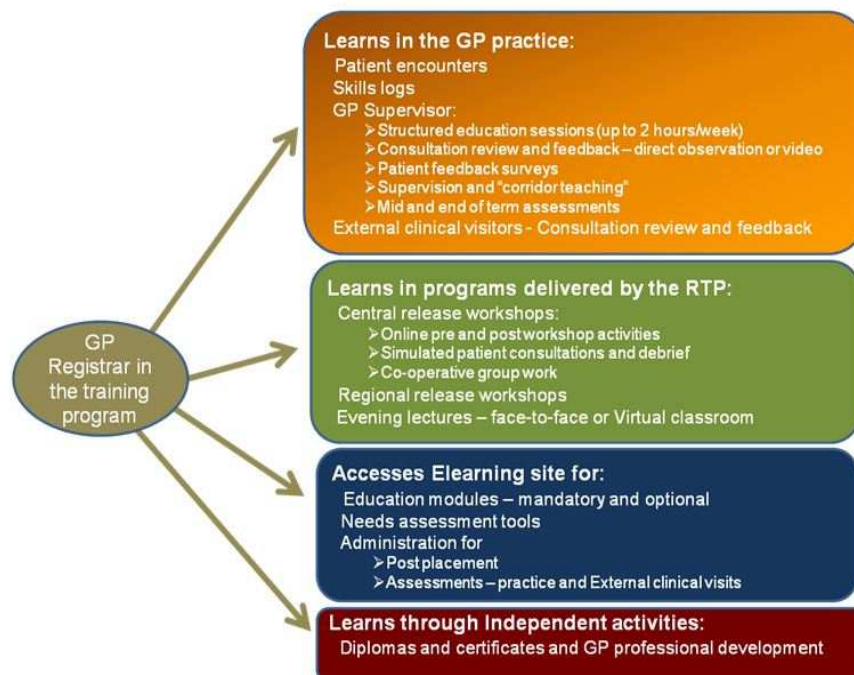
There are 17 not-for-profit regional training providers (RTPs) for general practice training in Australia. Each RTP has developed their own program to deliver training according to the standards and curricula of the Royal Australian College of General Practitioners (RACGP) and the Australian College of Remote and Rural Medicine (ACRRM).

All RTPs use a learning management system (LMS). These support the registrar learner and supervisor with online learning plans and content delivery, and are important for administration of each RTP's training program and the regular reporting requirements for the Government fundholder General Practice Education and Training (GPET).

Essentially an apprenticeship style training program the registrar's learning is based in a workplace. The regional training providers provide additional learning and ensure in training assessment processes. Diagram1 highlights the learning that occurs in the program, with the vast majority of the training, teaching and assessment occurring in general practice.

GP training is founded on the principles of adult, self-directed learning, and life-long learning.

Diagram 1 – Overview of Australian GP training



## The AnalyseLearning Concept

AnalyseLearning is a venture that combines two significant emerging technologies identified in The NMC Horizon Higher Education Report 2012<sup>(1)</sup> and The Technology Outlook for Australian Tertiary Education 2012-2017<sup>(2)</sup>:

- ❖ personalised learning environments (PLE) and
- ❖ visualised learning analytics (LA)

## Personal Learning Environment

Personal learning environments support self-directed learning and encourage learners to take control of their own learning networks – both formal and informal<sup>(2,3)</sup>.

The AnalyseLearning tool is designed to integrate with an LMS, providing a platform that can be personalised by each learner and accessed through server or mobile technology. The AnalyseLearning PLE allows each learner to choose from two styles (figure 1), customise their personal settings and includes links to:

- ❖ specific LA tools defined by each RTP
- ❖ any aspect of the LMS that learners want to have readily at hand
- ❖ personal learning applications

Figure 1 – two PLE platform styles



## Visual Learning Analytics

The literature on learning analytics initially focused on organisational benefits in identifying factors in attrition or student dropout, assessment of progress, early identification of “at risk” learners and thus development of appropriate interventions<sup>(2-8)</sup>.

While these are all benefits for the Australian RTPs the real value of the AnalyseLearning tools is the learner focus - through transparent data collection and analysis directed to the learner. Presented visually, at regular intervals, AnalyseLearning encourages the learner to be an active, conscious participant in their own learning, who adapts their learning based on this feedback. This approach further enhances self directed learning.

By tagging all registrar learning provided in the practice and for RTP face-to-face and online learning registrars will be able to immediately view their coverage of either or both College curriculum after completion of education activities, identifying their gaps and strengths. Their own independent learning can be tagged and mapped to a curriculum matrix.

Figure 2 – Curriculum matrix

Curriculum Statements and Topics	Time (in hrs.)	RACGP Domains					Professional and ethical role (in hrs.)
		Communication skills and the patient-doctor relationship (in hrs.)	Applied professional knowledge and skills (in hrs.)	Population health and the context of general practice (in hrs.)	Organisational and legal dimensions (in hrs.)	Show ACRRM Domains	
Aboriginal and Torres Strait Islander health	18.00	10.05	0.45	5.25	1.95	0.30	
Acute serious illnesses and trauma	13.70	0.43	9.18	0.33		3.75	
Aged care	11.00	3.61	3.98	1.41	1.25	0.73	
Children's and young people's health	15.50	4.41	4.33	2.81	2.23	1.67	
Chronic conditions	45.95	13.06	17.77	12.78	1.22	0.97	
Critical thinking and research	4.00	0.93	2.73	0.33			
Dermatology	7.50	2.09	3.09	1.34	0.50	0.50	
Disability (intellectual, developmental and physical)							
Doctor's health	3.50				0.40	3.10	
Drug and alcohol medicine	6.83	1.27	2.87	1.67	0.33	0.66	
Genetics							
GP as teacher and mentor	14.50	2.81	2.06	2.51	1.90	5.20	
Health informatics							
Integrative medicine	2.50	1.37	0.37	0.37	0.20	0.20	
Men's health	3.00	0.99	0.79	0.59	0.45	0.20	
Mental health	14.20	3.00	7.30	1.17	1.68	1.08	
Multicultural health	2.00	1.80			0.20		
Occupational health and safety	0.50	0.25	0.25				
Oncology							
Pain management	3.00	0.33	1.63	1.03			
Palliative care							
Philosophy and foundation of general practice							
Population health	6.08	1.51	3.03	0.63	0.67	0.25	
Practice management	18.50	1.98	1.83	1.48	6.75	6.45	
Rural general practice							
Sexual health	6.03	1.74	2.44	0.74	0.70	0.40	
Sports medicine	5.50	1.73	2.03	0.50	1.03	0.20	
Women's health	22.70	8.46	6.03	3.98	2.52	1.66	
Communication & consulting skills	20.00	9.79	3.04	2.08	3.15	1.95	
ENT	2.50	0.33	1.83	0.33			
Exam Preparation	12.50	2.68	2.48	1.90	1.23	4.23	

All in-training assessments can be located in one place including:

- ❖ External clinical teaching visits
- ❖ In-practice consultation reviews
- ❖ Supervisor mid and end of term assessments
- ❖ Knowledge assessments – MCQs, KFPs
- ❖ Clinical reasoning assessments
- ❖ Patient feedback surveys

These assessments can also be aggregated, benchmarked and mapped to the curriculum.

Figure 3 – Patient survey benchmarked data – individual, all basic registrars, all supervisors

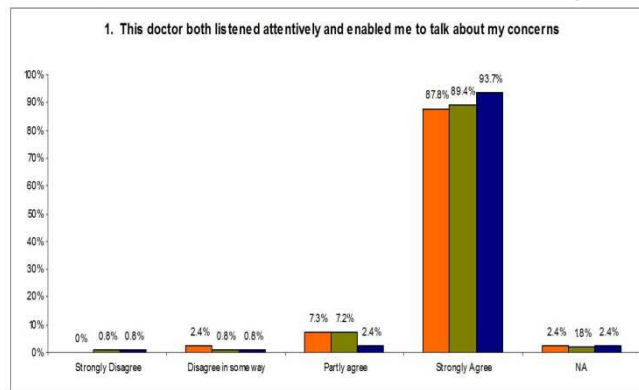


Figure 4 – MCQ results over time

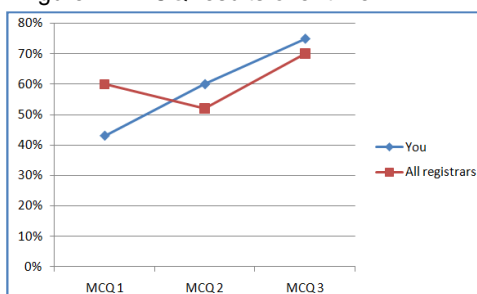
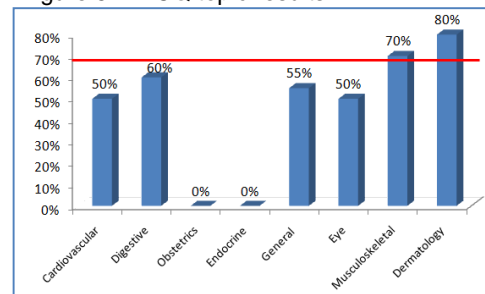
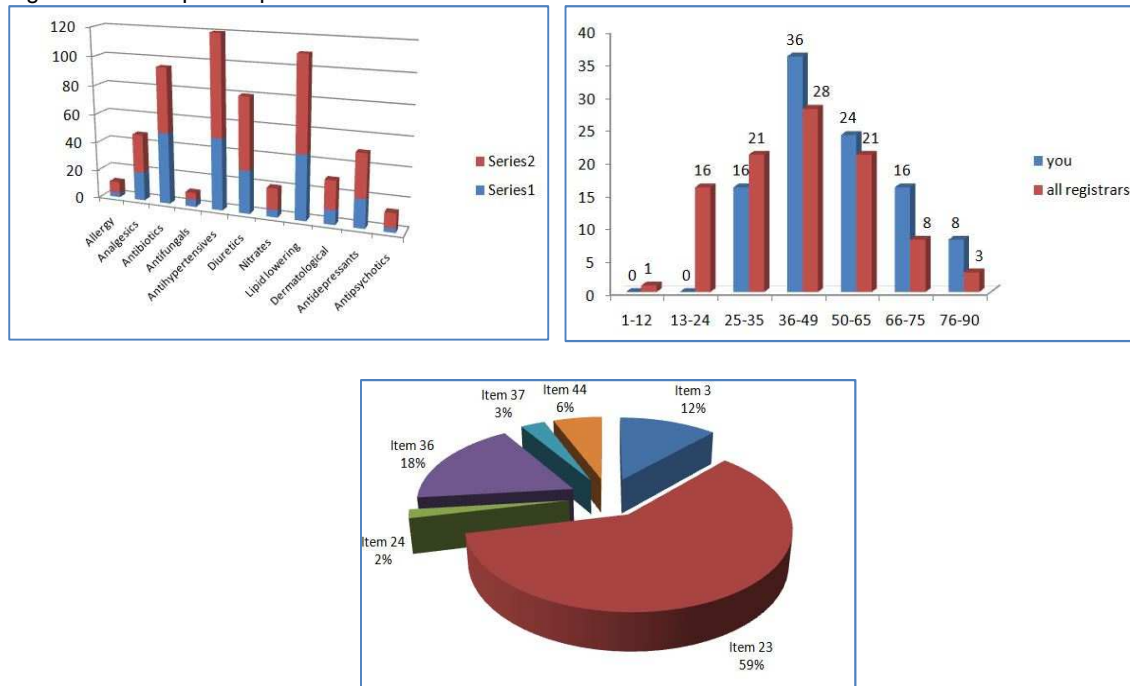


Figure 5 – MCQ topic results



Actual learning activities account for only part of the picture for a registrar, AnalyseLearning aims to include patient contact information over time – patient demographics, billing profiles, prescribing profiles. This data can be sourced from the Government Medicare and PBS statistics, exported from the common practice software company products, or from electronic audit logs.

Figure 6 – Examples of patient contact data



AnalyseLearning has the learner firmly in focus aiming to personalise and optimise their learning, and integrating concepts from participatory sensing. But all these analytic tools also allow supervisors and medical educators to be able to assess learner progress and be involved in supporting individual learners as required.

The RTP also has a wealth of information about their training, but significantly these tools also provide a transparent approach that supports patient quality care and safety.

## The Team

The team developing AnalyseLearning have many years of experience in general practice vocational training, LMS services and elearning development and delivery.

Dr Denise Findlay MBBS, MEd, FRACGP is a general practitioner and Director of Education at one of Australia's main RTPs Western Australia General Practice Education and Training (WAGPET). She has been involved in undergraduate, postgraduate and vocational training for over 25 years. Denise has implemented two LMS integrations, one for the RACGP and the other for WAGPET and has developed numerous interactive online education modules.

Media Forward has been Australia's leading innovator in elearning, multimedia and video for over 25 years. They provide a one stop shop for elearning services including creating online courses (instructional design, multimedia and video production) and including their own production team and twin broadcast quality edit suites, a studio, camera crew and

journalists. They are full service provider of learning management services include installation, hosting, consultancy, customisation and support.

Media Forward have a solid reputation for delivery with many clients including:

- ❖ St Vincent's Hospital
- ❖ TAFE NSW
- ❖ National Gallery of Victoria
- ❖ BHP Billiton
- ❖ CSIRO
- ❖ Price Waterhouse Coopers

WAGPET is one of the largest RTPs in Australia and is planning to be the RTP pilot site. While Media Forward has an effective project management team the WAGPET Development team will be involved in the project management. The WAGPET Development team has managed a number of large projects including the complete customisation of a Customer Relationship Management system with LMS and financial package integrations.

### Investing in AnalyseLearning

While there are risks in any start up venture AnalyseLearning is in a unique position. It is a totally new venture with currently no other competitors in Australia or internationally. It is focused on a growing niche market, GP training. In addition there are other growth areas for RTPs in the near future with training of the increasing number of prevocational doctors in primary care/general practice settings, and Overseas Trained Doctors programs on the horizon.

AnalyseLearning offers a complete customised solution to RTPs, which can integrate with their current systems. It expands from a traditional LMS approach to provide personalised learning environments and learning analytics that are designed to promote self directed learning and focus not just on education, but also the learning experiences that arise through apprentice style vocational training.

Should an RTP does not want the complete solution, AnalyseLearning has been developed as modules which can be individually integrated.

Recognising that there is a marketing "chasm" between innovators/early adopters and early majority WAGPET, will be the pilot RTP site. This will mean that the remaining market will have an innovation that has been developed and implemented, and can see this functioning successfully even though it might be considered a disruptive new innovation.

Once successful in the GP training arena in Australia there are possibilities internationally. AnalyseLearning also has the potential to be modified for hospital specialist training or other apprentice style vocational training streams, however these markets would require further investment to customise to the specific industry requirements.

### The Venture Plan

The team and WAGPET are looking for an investor. On current estimates the outstanding venture capital estimates are \$500,000 and a full business case will be prepared. WAGPET is investing in the project with in-kind support in the form of the project management and will release Dr Findlay to the project development at 0.5 FTE.

Once investor(s) are secured it is envisaged that the time to completion of the project will be 12 months. The timeline will include:

- ❖ Full business case developed (prior to the 12 months)
- ❖ Customisation brief developed
- ❖ Negotiations with the Australian Government for regular release of registrar patient data and comparative data
- ❖ Development of export structures for patient data from the common GP software packages
- ❖ Development of PLE
- ❖ Testing of PLE
- ❖ Development of mobile app for PLE
- ❖ Development of Learning Analytics from LMS data
- ❖ Testing of LA
- ❖ Testing of LA from patient data
- ❖ Marketing to other RTPs on completion of pilot site

The complete AnalyseLearning solution will cost each RTP a minimum of \$100,000 and any additional customisation requested by an RTP will be costed as an additional fee. Thus a return on investment will commence with the seventh RTP purchasing the solution. This is likely to eventuate in year 3/4 of the project. At year 2/3 further markets would begin to be explored.

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