Diversity Matters!
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EFFECTIVE LEARNING THE PROPEL-LEARN WAY: AN EVIDENCE BASED, MOBILE DELIVERED PROGRAM ENGENDERING SELF-DIRECTED LIFELONG LEARNING HABITS AND STRATEGIES FOR DISTANCE EDUCATION STUDENTS AND STAFF

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The Reality – too much to know

To be human is to learn. We learn from the day we are born until the day we die. Education aims at making learning more effective and more focussed. The question is, however, when has education reached its goal?

For a very long time education focussed on the content of the discipline or subject that is being taught, and assessment centred around testing whether the content has been mastered. That did bring about some success, as can be seen from the progress made in many fields by humankind. However, this is not adequate anymore.

So much has happened in the history of the sciences, that we are faced with an information overload as never before. The knowledge explosion is a reality. According to Eric Schmidt, the CEO of Alphabet-Google,

> *"Every two days now we create about five exabytes of data. That is as much information as humans did from the dawn of civilisation up until 2003." (http://techcrunch.com/2010/08/04/schmidt-data/)*

There is just too much to know, too much to keep up with, too much to master – even in well demarcated fields of skills and knowledge. Knowing how to master knowledge and skills is crucial for navigating life, and the rapid obsolescence of knowledge calls for self-directed life-long learning, to continue after formal studies.

The Need – knowledgeable people

For this reason, the focus is shifting towards also developing learning skills in humans. According to the 2030 Development goals (Goal 4), humankind strives to "Ensure inclusive and equitable education and promote life-long learning opportunities for all".

Learning as a prerequisite for sustainable development of humanity is underscored in goal 4 of the 2030 Development goals: "Ensure inclusive and quality education for all and promote lifelong learning."

According to sub-goal 4.4 "By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship."

The reason being an explicit goal, is because it is not happening and 103 million youth worldwide lack basic literacy skills, and more than 60 per cent of them are women is seen as of particular interest to students at Distance Education institutions, and especially to people in the workplace after completion of their formal studies which continues to the end of their careers and even thereafter.

The Challenge – ill prepared learners

The importance of this is because of the reality of a world-wide skills shortage, made more pertinent because of the fact that learners are actually unprepared for studying and learning the knowledge and skills they really need. Often learners are being coached to pass school, instead of being taught how to learn and master the necessary skills and knowledge in the field they are working in. To address this in the long term, education and training needs to be carried out more efficiently. In the short term, current learners and also employees need to be continuously up-skilled and re-skilled, coupled with developing the ability of life-long learning.

When Frederick Taylor published his pioneering principles (Taylor, 1911) of scientific management in 1912, the repetitive and mundane nature of most jobs required employees to think as little as possible. Breaking down each task into basic components and standardizing workers' behaviours to eliminate choice and flexibility could help managers turn employees into productive machines, albeit with alienated spirits.

Fast forward to the present and we see that most jobs today demand the exact opposite from employees: the capacity to keep learning and developing new skills and expertise, even if they are not obviously linked to one's current job. As academic reviews (Hogan, Chamorro-Premuzic, & Kaiser, 2013) have pointed out, people's employability – their ability to gain and maintain a desired job – no longer depends on what they already know, but on what they are likely to learn.

In other words, higher career security is a function of employability, and that in turn depends on learnability. Thus Eric Schmidt notes that a major pillar in Google's recruitment strategy is to hire "learning animals," (Stone, 2014) while EY recruiters (Tkaczyk, Chew, & Groden, 2016) observe that "to be a standout, candidates need to demonstrate technical knowledge in their discipline, but also a passion for asking the kind of insightful questions that have the power to unlock deeper insights and innovation for our clients."

Sadly, most organizations have yet to wake up to this reality, so they continue to pay too much attention to academic qualifications and hard skills, as if what entry-level employees had learned during university actually equipped them for today's job market. Although

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learnability does boost academic performance (von Stumm, Hell, & Chamorro-Premuzic, 2011), just because someone is job-ready when they obtain their educational credentials does not mean that they are also learning-ready (Chamorro-Premuzic & Swan, 2016).

The Red Herrings – neuromyths and other unworkable solutions

There is a myriad of study method programs available, varying substantially in terms of effectiveness, validity and groundedness in reputable research. Many are based on what can be called neuromyths, which are ideas claiming to have a solid foundation in neuro- and cognitive science research, but which are devoid of any scientific basis. Examples are programs utilizing the left brain – right brain distinction, learning styles such as Visual, Auditory and Kinesthetic, and the use of baroque music while studying.

Often people rely on "Study Method Courses", hoping that mastering a few "tricks and trades" of studying will be sufficient.

A growing body of evidence from the classroom, coupled with emerging research in cognitive psychology and neuroscience, is lending insight into how people learn, but teaching on most college campuses has not changed much, several speakers said here at Harvard University at a daylong conference dedicated to teaching and learning.

Too often, faculty members teach according to habits and hunches, said Carl E. Wieman, a Nobel Prize-winning physicist and associate director of the White House Office of Science and Technology Policy, who has extensively studied how to improve science education. In large part, the problem is that graduate students pursuing their doctorates get little or no training in how students learn. When these graduate students become faculty members, he said, they might think about the content they want students to learn, but not the cognitive capabilities they want them to develop.

The Proposal – a workable program

Responding to the need for a workable program on effective learning strategies for distance education students, the Propel-Learn Program was developed and tested with learners and students at South African schools, tertiary institutions and company employees. It is based on recent reputable research in the Mind, Brain, and Education sciences. The program is web-based, and therefore available on mobile devices for the sake of convenience and accessibility, but also on laptops and computers. The program is intended to focus on usability, and is therefore well-researched, but ultimately practical.

What is rather needed, is a comprehensive human development program, that aims to instil positive traits and habits in a person, linked to meaningful life goals. A truly effective approach should therefore address realities such as Identity, Mastery and Legacy:

- Addressing the *Identity* of the learner, attention is given to self-knowledge, determination as well as the ability to focus.

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- Attending to *Mastery*, the skills of Listening, Reading (on paper and on screen), Studying and Memory are shared.
- Striving for leaving a worthwhile *Legacy*, the ability to Perform and show what you know, as well as to apply and create is taught and coached.

Learners need to have the ability to master masses of information in short times – *binge learning*, as it were.

It also means that learners need to be able to discern, evaluate and weigh information as to its quality and reliability. Lots of available information also brings along lots of useless and plain erroneous information.

In all of this learners need to master the huge volumes of reliable information available, while at the same time mastering the ability to change information into useable knowledge to grapple with relevant issues.

The realities are, however, that teaching often still is archaic in the sense that it mainly focuses on the mere mastery of facts, which is necessary, but not sufficient to address the realities of our times.

Where there are attempts to transform teaching, it is sometimes based on pop psychology and neuro-myths, and might do more harm than good.

It is also true that there is solid research about minds, brain and education available, but often these research results are hidden from practical application in the real life situations where it is needed.

It is more than a "study method course", in the sense that it aims to assist student in launching habits for a life-long journey of self-directed learning.

The program is made available as web based lessons, which can be accessed from any mobile or computer device with access to the internet. It is aimed at being light on data, making useable for even for students in developing countries with older feature phones. The program is available in English, Afrikaans, Russian, and Chinese, with translations in more languages to be added soon.

More information about the program is available at www.cerebration.info, or on cerebration.teachable.com.

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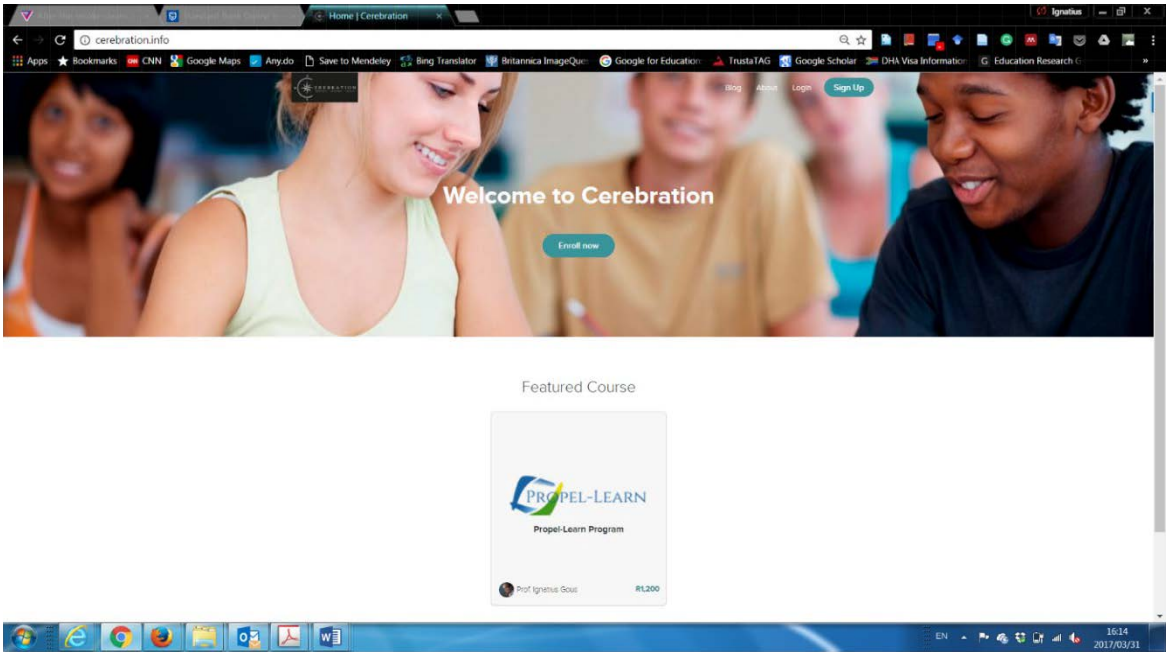
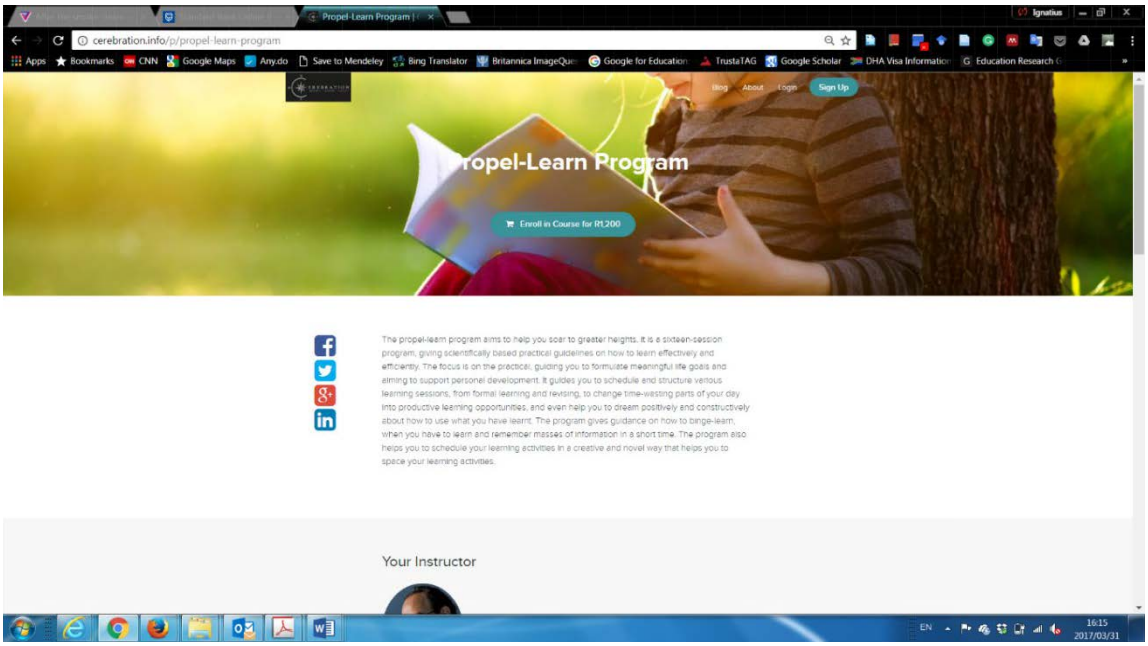


Figure 1.



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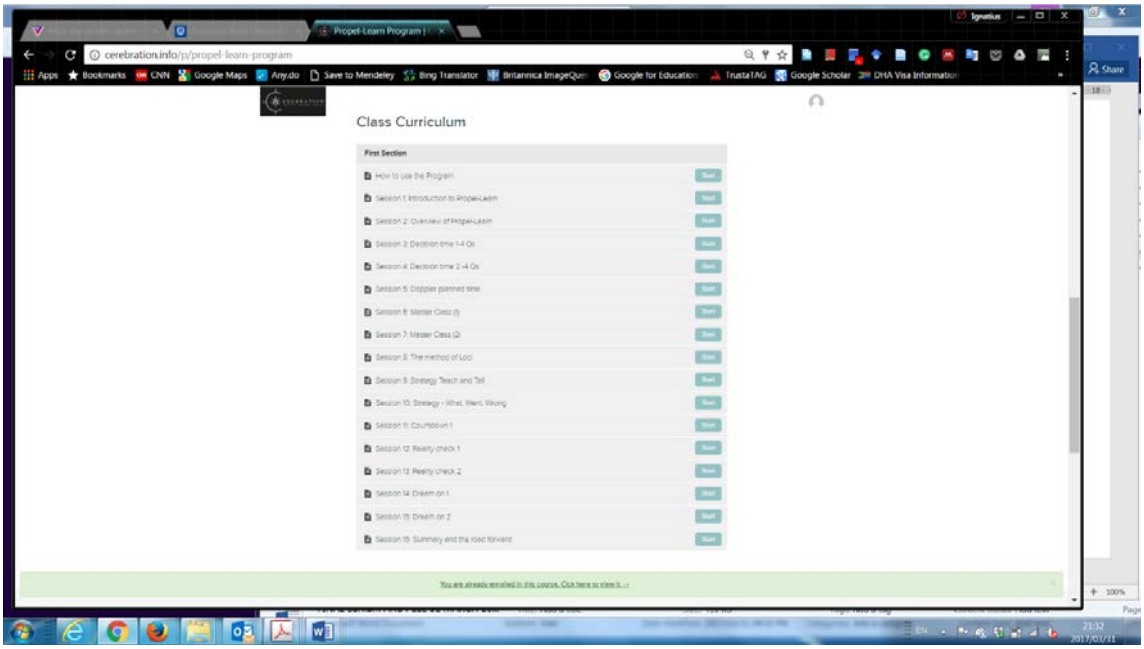

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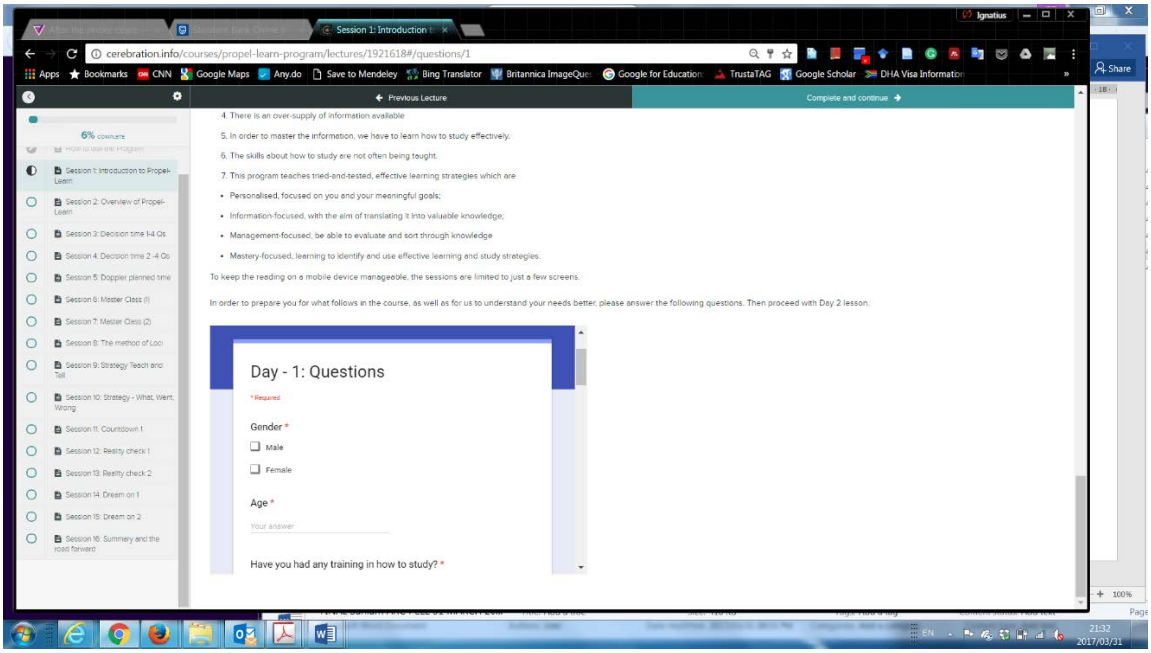

Figure 4.

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