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Efficacy Report

# CTI Education Group

March 23, 2016

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## **CTI's mission:**

to transform the higher  
education landscape in  
South Africa

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## Product Summary

CTI Education Group (CTI) is an institute of higher education that serves approximately 10,000 students across 12 campuses in South Africa. The institute consists of two separately registered entities, CTI and Midrand Graduate Institute (MGI), which together, referred to as CTI, focus on arming students with real-life career skills and training them to succeed as employable graduates in a competitive 21<sup>st</sup> century economy.

Because career-readiness is such a steadfast priority for the Institute, CTI has developed a number of strategies to ensure that all of its graduates are well prepared for a highly demanding labor market. For example, a virtual employability center will open in 2016 to serve as a resource hub for students looking to enter the job market. The virtual hub will be followed by six physical employability centers to provide personalized, face-to-face job coaching. Finally, employability competencies are firmly embedded into the CTI curriculum, which focuses primarily on information technology, commerce, and law.

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# Intended Outcomes

## Overview of Intended Outcomes

As can be seen in the research section that follows, students who are engaged in the learning process and have a positive learning experience, tend to persist and successfully complete their qualification (Kuh, Cruce, Shoup, Kinzie, 2009). All of these outcomes are fundamental to what CTI is aiming to achieve for its students so that its ultimate aim - for the students to develop real world ready skills and therefore gain employment - will be fulfilled.

### **Intended Outcome 1: Students have a positive learning experience and a high level of engagement with the course**

There is a growing focus on integrating technology into the learning process to improve access to and engagement with the course. Tablets are provided to every student at CTI with pre-loaded e-textbooks. Lecturers have been trained in the design and delivery of technology supported teaching methods with the aim of increasing student engagement and motivation, leading to increased achievement.

### **Intended Outcome 2: Students complete tasks (for due performance)**

Due performance at CTI is more widely known in other parts of the world as coursework. It can comprise several tasks over the duration of the student's qualification and is one component that a student has to complete in order to pass a module.

### **Intended Outcome 3: Students achieve relevant skills and competency and pass the module**

For a student to pass the module, he or she must complete the tasks for due performance successfully, and also pass the examination.

### **Intended Outcome 4: Students progress to next level of learning**

After students pass the required modules at one level, they should progress to the next level of learning - either to the next semester in the same year or to the next year of the same qualification. Some students may also progress to further education post-qualification (as per intended outcome 6). The academic teaching and support provided by staff at CTI, as well as interactive technological teaching tools, aims to keep students engaged throughout their learning process.

### **Intended Outcome 5: Students achieve their qualification**

As a culmination of completing tasks, passing their exams, and completing modules successfully, students will be able to achieve their qualification that they had enrolled at CTI to do. This in turn leads to the next intended outcome of progressing to employment, further education or training.

### **Intended Outcome 6: Students progress to employment, further education or training**

There is a drive to extend and improve employability skills and support for students aligning to Pearson's Vocational Employability strategy. Key strategies being rolled out are launching a virtual employability center in 2016, building a number of physical employability centers at large campuses, and embedding employability competencies into all module study guides. The goal for CTI students is to be equipped with 'world-ready' skills after they have achieved their qualification to give them the tools to be successful in their lives beyond CTI.

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# Foundational Research

## Overview of Foundational Research

### Technology and learning

To further embrace the advantages that technology confer, a literature review (Martinez, 2015) on blended learning (learning that is acquired through a combination of the traditional teacher/classroom model and online methods), was commissioned. The literature review revealed the strategies and best practices that can be used to enhance learning and also highlighted the potential challenges that might be encountered. As a consequence, lecturers at CTI and MGI can be more informed and prepared when integrating technology in their teaching.

### Student engagement

It has been established that student engagement is one of the most important factors in predicting student persistence, completion, and success, after accounting for prior academic achievement (Kuh, Cruce, Shoup, Kinzie, 2009; Trowler, 2010). In addition, there is a strong relationship between a learner's expectations and experience and these are an indicator of student engagement in the first year (see, for example Hu & Kuh, 2002; McCarthy & Kuh, 2006). For these reasons, Pearson has implemented regular surveys at CTI to measure student engagement. The surveys at the beginning of the year gauge expectations and at the end of the year help them address any concerns. As a result, they increase the likelihood for students to complete all modules, progress to the next level of learning and achieve their qualification.

### Employability skills

Evidence suggests that teaching employability skills at the earliest stage of students entering an institution is crucial for the progression to employment, further education and training to happen (e.g. Ball & Manwaring, 2010). Pearson commissioned a literature review (Blackmore, Bulaitis, Jackman, & Tan, 2016) of best practice employability models in higher education institutions around the world to inform the design of the employability programme that is currently being implemented at CTI along with the pilot to improve student experience in the first four weeks.

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# Product Research

## Overview of Product Research

Efficacy activity in 2014 focused on defining, collecting and analysing a baseline of quantitative and qualitative data across the student lifecycle. Moving into 2015, full efficacy reviews were completed in March where the focus was on reviewing the CTI Education Group's central operations, as well as individual reviews of CTI and MGI higher education institutes. The basis of our 2015 efficacy improvement plans were informed by baseline data from 2014, identifying and defining measurable student outcomes, and findings from the 2015 efficacy reviews. The efficacy focus for 2015 has been to extend the comprehensiveness of the evidence base while also maintaining the quality of the data for a wide range of student performance and engagement data. An institution-wide curriculum review is in process and the employability strategy is being rolled out. A pilot will be conducted in 2016 to improve the access and engagement for students in the first four weeks of the semester. It will include a diagnostic placement test to identify appropriate pathways or remediation, extended onboarding support, and getting started with technology and learning for all students (and new lecturers).

Much progress has been made, with the introduction of a unique student identifier internally, access to the national South African matriculation data, and also improved qualitative student engagement data achieved through the introduction of a robust survey strategy. There is still work to do to secure fully valid and reliable evidence due to the ongoing development and extension of the data management systems, including improvements to the academic management system and also the introduction and integration of a Pearson-wide CRM as part of the One Pearson system.

Teaching at CTI has a focus on technology-enhanced learning and through 2014 and into 2015, a programme of lecturer professional development has been delivered across all sites. There is an institution-wide annual audit programme and regular student surveys that provide feedback to improve lecturer quality and impact. The data will also be used to drive institutional improvement and teaching quality which should lead to improved student outcomes. The impact of this programme is still being evaluated but is expected to have secured basic standards and competence in teaching with technology and improved student motivation and engagement.

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## Research Studies

<b>A study of student attainment at CTI</b>	
Study Citation	Internal report
Research Study Contributors	CTI, Higher Education Line of Business, Efficacy and Research
Type of Study	Descriptive
Sample Size	3,911 CTI students
Description of Sample	The sample is the full population of students from CTI (1,465 female, 2,445 male; 60% Black African, 22% White, 12% Coloured, 5% Indian, 1% Asian; age range: 16 - 54 years; median age: 19 years).
Outcomes Measured	<ul style="list-style-type: none"><li>• Students complete tasks (for due performance)</li><li>• Students achieve relevant skills and competency and pass the module</li></ul>

### Introduction

Student success is measured in South Africa in terms of three measures; due performance, exam pass rates and throughput overall. At the end of each semester, a report detailing student success and questions to address is provided to Senate.

### Method

- For each semester, the due performance, exam pass rates and throughput overall are compiled for every student taking each module at CTI. These results are collated and a report is submitted to Senate, detailing student success and questions to address.

### Results

- 78% of 1st year students, 75% of 2nd year students, and 92% of 3rd students passed their required modules in the first semester in 2015 at CTI.

### Discussion

- This study design provides 'level 1 - justify' evidence as these attainment results are contributing to the evidence base for CTI to show it is "appropriate to its purpose".
- This statement does not imply causality. These results demonstrate the achievement of CTI students and are still meaningful as they indicate what proportion of students are completing tasks for due performance, achieving skills and competencies, passing the module, and also are able to progress to the next level of learning - one of the key learner outcomes that is being measured.



<b>A study of graduate circumstances six months after graduating</b>	
Study Citation	Internal report
Research Study Contributors	CTI Education Group, Higher Education Line of Business, Efficacy and Research
Type of Study	Descriptive
Sample Size	629 graduates (25% response rate)
Description of Sample	The sample is a self-selected sample with graduates representing all 13 campuses. There were 331 females, 298 males, ages ranged between 19 and 49 - median age of 22 years. 158 graduated with a Higher Certificate qualification, 97 graduated with a BTEC HND, and 273 graduated with a Bachelor's Degree. The response rate is 25% so some caution must be exercised in generalising the results to the full population.
Outcomes Measured	<ul style="list-style-type: none"> <li>• Students progress to the next level of learning</li> <li>• Students progress to employment, further education, or training.</li> </ul>

### **Introduction**

An important outcome for CTI students is that they are ready for the 'real-world' upon graduating from the institution. In 2016, there is a drive to extend and improve the employability skills and support for students and key strategies are being rolled out, including launching a virtual employability centre, building a number of physical employability centers on campuses, and embedding employability competencies into all module study guides. In order to better support future students and graduates, the results from the Graduate Destinations Survey (GDS) will help us to understand more about their needs and celebrate their successes.

### **Method**

- The Graduate Destinations Survey (GDS) asks graduates what their employment circumstances are six months after they graduate. Graduates are emailed the survey and depending on which circumstance they indicate (e.g. working full-time, studying part-time etc), go on to answer more detailed questions about that circumstance. All graduates who graduated in the past six months are invited to take part in the survey, which is run from the end of June to the beginning September.
- This year, 629 graduates out of a possible 2,510 took part - a 25% response rate.

### **Results**

- 68% of CTI graduates are in full time, part time or voluntary work or in further education or training six months after graduating.

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## Discussion

- The results from the survey provide evidence at 'level 1 - justify' as it is providing data about the employment circumstances of CTI's graduates.
- This statement does not imply causality, but still provides valuable data about what students are doing after they graduate. Once the employability programme has been fully implemented, we can carry out some correlational analysis in the future about students who take part in all aspects of the employability programme and their employment circumstances.

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## Future Research Plans

### Overview of Future Research Plans

In 2014 and 2015 we have been capturing descriptive information about the characteristics, prior attainment and educational motivation and intentions of students using standardized valid and reliable surveys. We also capture information about students' education and employment status upon completion of their courses at CTI. However, at this moment it is not possible to link student responses across surveys and from surveys to their actual course data.

Currently, CTI is improving its data infrastructure in order to collect information about students longitudinally from the moment they enroll at CTI until they graduate.

In 2016, we will implement studies that will systematically describe the interventions that Pearson is putting in place to improve student achievement and progression and to also gather information from students about their experiences within these interventions to support improvements across the institution. The goal is to complete additional studies by the end of 2016 that will assess the correlation between students' prior educational attainment and motivational inclinations with their achievement in courses at CTI. This will be followed by longitudinal cohort studies that follow the student journey from entry to employment. An interrupted time series design will allow us to analyze how the implementation of a variety of programmatic elements (e.g. the introduction of tablets to support learning and employability programs) lead to changes in students' achievement, progression while at CTI and their employment status after graduation.

### Future Research Plans

<b>Improving student retention and attainment through the use of MyFoundationsLab</b>	
Intended Start Date	22nd March 2016
Anticipated Length of Study	1 year
Type of Study	Correlation, case study design
Research Leads	CTI, Higher Education Line of Business, Efficacy and Research
Intended Sample Size	Pre-degree population
Description of Sample	Sample size is representative of the population as the full population will be used.
Outcomes to be Measured	<ul style="list-style-type: none"><li>• Students have a positive learning experience and a high level of engagement with the course</li><li>• Students complete tasks (for due performance)</li><li>• Students achieve relevant skills and competency and pass the module</li><li>• students pass the course</li></ul>

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## **Introduction**

The pre-degree foundation program was introduced at MGI in 2003 with the aim of preparing students for a degree program. The program is targeted at students who did not pass their matric Senior Certificate (now Grade 12 National Senior Certificate); however students who do not meet entry requirements or those who have the incorrect subject combinations for a desired MGI degree can complete the program as an alternative access path.

The pre-degree program is a full year course of study, with the aim of teaching students the academic skills, knowledge and attitudes required to succeed at the tertiary level. Upon passing the appropriate subjects, students will be permitted to register for a degree program. Most students in the programme do not speak English as their first language. The focus on developing academic and English literacy enables students to succeed within a tertiary education institution where English is the primary language. In addition this programme has faculty specific options which permit meeting faculty specific requirements when entering the degree programme. For example, to progress to an accounting degree, the student should have completed the pre-requisite accounting modules in the pre-degree programme.

As the programme aims to serve students who did not pass their matric Senior Certificate, and/or whose first language is not English, students in the programme are from diverse backgrounds with diverse abilities, which can contribute to poor retention rates.

The purpose of this study is to investigate whether the use of MyFoundationsLab (MFL) supports students who are struggling in English and Maths as demonstrated by their performance on a diagnostic test in MFL taken at the beginning of the pre-degree program; and then their engagement with the appropriate remediation content from MFL through the course.

The analysis in this study will investigate the difference in academic ability (as measured by course grades) and student perceptions (as measured by the Beginning University Survey of Student Engagement survey (BUSSE, 2015) and the South African Survey of Student Engagement (SASSE; SASSE, 2015) between students who participated in the MFL pilot and students who did not.

## **Methods**

Results of the MFL diagnostic test will be analysed and students will be categorized as “struggling” or “not struggling”. Descriptive statistics on the background, demographic, and experience variables that we have on each student will be run for each group and compared. Differences between retention rates, pass rates, and academic ability will also be compared.

Descriptive statistics run from responses to the BUSSE and SASSE related to expectations of time spent on activities will be analyzed for both groups and compared for systematic differences.

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## Results

The study is currently planned so we do not have results at this time.

<b>The relationship between student attainment and student engagement</b>	
Intended Start Date	June 2016
Anticipated Length of Study	2 years
Type of Study	Correlation
Research Lead	Pearson
Intended Sample Size	1,000 - 2,000 students
Description of Sample	Student attainment will be tracked for all students, but student engagement will be assessed via a survey for all students who are not obliged to respond if they choose not to. It is hoped that a 30% response rate will be achieved at a minimum.
Outcomes to be Measured	<ul style="list-style-type: none"><li>• Students have a positive learning experience and a high level of engagement with the course</li><li>• Students complete tasks (for due performance)</li><li>• Students achieve skills and competencies and pass the module</li><li>• Students pass the course</li><li>• Students progress to next level of learning</li></ul>

## Introduction

It has been established that student engagement is one of the most important factors in predicting student persistence, completion, and success, after accounting for prior academic achievement (Kuh, Cruce, Shoup, Kinzie, 2009; Trowler, 2010). In addition, there is a strong relationship between a learner's expectations. A strong alignment between a learner's expectations and experience is an indicator of student engagement in the first year (see, for example Hu & Kuh, 2002; McCarthy & Kuh, 2006).

## Methods

Descriptive statistics run from responses to the BUSSE and SASSE related to spending time and effort in educationally purposive activities will be analyzed for all students, broken down by major demographic groups compared for systematic differences. These results will also be correlated with student attainment results to see if there are relationships between student engagement and attainment.

## Results

The study is currently planned so we do not have results at this time.

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## References

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