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CTI & PIHE

Efficacy Research Report



Pearson

cti
Education Group
by Pearson

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Our mission

To transform the higher
education landscape in South Africa

Product Summary

CTI and PIHE (Pearson Institute of Higher Education, formerly known as MGI) are two separately registered entities that serve over 9,000 students across 12 shared campuses in South Africa. Both focus on arming students with real-life career skills, and train them to succeed as employable graduates in a competitive 21st century economy. CTI and PIHE have degree-conferring status in South Africa, thus enabling learners the opportunity to study towards a degree at any of their campuses.

CTI and Pearson Institute are both registered in South Africa with the Department of Higher Education and Training (DHET) as a private higher education institution. Its programmes are accredited by the Higher Education Quality Committee (HEQC) of the Council on Higher Education (CHE) and registered on the National Qualifications Framework (NQF) by the South African Qualifications Authority (SAQA). These programmes include Bachelor degrees, Higher Certificates and Short Learning Programmes.

In May 2016, MGI was formally registered with the Council on Higher Education (CHE) as the Pearson Institute of Higher Education (PIHE). Students in their final year in 2016 who complete successfully, will graduate as PIHE students and receive Pearson Institute graduation certificates in 2017. All qualifications started in 2017 going forward will be conferred under the new institutional name.

With 11 CTI and 12 PIHE campuses situated on the same premises, combined sites of delivery provide students with the opportunity to benefit from various campus facilities and face-to-face interaction with other students and staff members.

The qualifications and programmes offered and supported through

- CTI range across two faculties:
- Information Technology
- Commerce

PIHE offers 15 undergraduate and two postgraduate degrees, across three faculties:

- Humanities
- Commerce and Law
- Applied Science

In addition, PIHE offers two foundation programmes which prepare students for entry into a degree qualification. One of these is an English Language Foundation Programme and the other is a Pre-degree Foundation Programme. Students who typically enter these programmes are those who pass their Grade 12 National Senior Certificate and did not meet the specified entry requirements for certain degree qualifications, or did not have the correct subject combinations for entry into the degree programmes. Modules in these foundation programmes focus on developing English literacy, Mathematics and general study skills, which will assist students in a tertiary education environment. Specific faculty preparation options are offered depending on which degree the students want to proceed to.

Intended Outcomes

As can be seen in the foundational research section that follows, students who are engaged in the learning process, have a positive learning experience and achieve well, tend to persist and successfully complete their qualification (Kuh, Cruce, Shoup, Kinzie, 2008). All of these outcomes are fundamental to what CTI and PIHE are aiming to achieve for their students, with the ultimate goal of developing real-world ready and employable graduates.

Intended Outcome 1: Students have a positive learning experience

Students provide feedback about their learning experience through the Lecturer and Module Review at the end of each semester. Graduates can give a retrospective perspective on their learning experience through a graduate survey six months after they have completed their qualification. The review also forms part of a quality assurance exercise as required by the HEQC in terms of the accreditation and reaccreditation process for CTI and PIHE.

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

Due performance at CTI and PIHE is more widely known in other parts of the world as coursework. It comprises several assignments and tests during the semester, building up towards a semester mark which the student has to pass to be allowed to sit for the exam.

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

For a student to pass the module, he or she must achieve 50% overall across the due performance and examination. Blended learning approaches are used in CTI and PIHE to maximise the benefits provided by technology (via tablets, ebooks, and computer labs), while retaining the advantages of high contact learning opportunities in classrooms, seminars, and lecture theatres.

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 in the next semester in the same year or in 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 and PIHE, 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 result of having completed tasks, passing their exams, and completing modules successfully, students will be able to achieve the qualification that they had enrolled for at CTI and PIHE. 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 continued drive to extend and improve employability skills and support for students to progress to employment, further education, or training post-graduation. In 2016, the virtual employability centre launched for all students and alumni, with seven physical centres will have been launched by end of May 2017. The goal is to equip students with 'world-ready' skills so that they continue to be successful in their lives beyond CTI and PIHE. Based on the findings of the literature review on employability best practices (Blackmore, Bulaitis, Jackman, & Tan, 2016), the Head of of Employability and Career success is now an integral member of regular meetings with all campus directors and efficacy meetings (which aims to track and improve learner outcomes) to ensure that the employability program is firmly coordinated across all campuses and is embedded in all aspects of teaching and learning at CTI and PIHE.

Foundational Research

Student throughput

"In South Africa, about a third of those enrolled will have dropped out in the first or second year and 40-50% will not graduate at all"

(CHE, 2013).

The term 'throughput', in South Africa, is used to denote the number of the students who enroll and complete an undergraduate programme of study in higher education within the maximum duration. Although this denotes graduation throughput, the term 'throughput' may be used to indicate students progressing through to the next year of study in different institutions, this report restricts the term to progression within CTI or PIHE from one semester to the next, or from one year to the next, of the same qualification, and we term this as module or year throughput. Studies (e.g. REAP, Jones, Coetzee, Bailey, & Wickham, 2008), have found that the main factors influencing throughput are socio-economic, academic (including quality of secondary schooling and prior achievement), or socio-cultural.

Academic challenges to student throughput in higher education, include the use of English as a teaching and learning medium despite it being many students' second or third language (Van Rooy & Coetzee-Van Rooy, 2015; Steyn, Harris, Hartell, 2014), numeracy literacy, comfort with educational technology, and the ability to adapt to independent learning (Kilfoil, 2015).

Socio-cultural factors are more complex and are rooted in the apartheid history of South Africa (Boughey, 2012), but essentially these speak to the inequality of education provision for Black Africans compared to Whites, resulting in a dearth of social resources and feelings of misplacement in the culture of higher education for Black African students (Council of Higher Education, 2010).

Employability

Employability has been defined as

"A combination of knowledge, competences, and personal attributes that make graduates more likely to gain employment and progress during their career"

(EACEA, 2015, p.15).

In South Africa, there is a further debate about the definition of a 'graduate', especially in the context of defining the level of graduate unemployment. Whilst many (e.g. DPRU, 2006) include any of those who have successfully completed a post-secondary qualification, Broekhuizen and Berg (2013) distinguish between those who completed post-secondary certificates and/or diplomas ('diplomates'), and degree qualifications ('tertiaries'). With this delineation, Broekhuizen and Berg place the unemployment rate for diplomates to be 16% in 2012 and 6% for tertiary. As the proportion of diplomates is higher than tertiary, the overall graduate unemployment rate that includes both groups is just above 12% as measured for their study in 2012. More recently, Statistics South Africa measured the unemployment rate for tertiary graduates (which includes those with post-secondary certificates, diplomas, degrees, honours) to be 13.2% in the 3rd quarter of 2016 (Statistics South Africa, 2016).

The importance of accurately measuring and examining graduate destinations upon leaving higher education institutions may be primarily concerned with unemployment rates and providing either an institutional or national picture of what graduates are doing (e.g. Graduate Careers Australia, 2016; Van Der Berg and Van Broekhuizen, 2012). However, other valuable reasons for tracking what happens to graduates include:

- Providing evidence that higher education institutions are contributing to the economy by supplying it with skilled graduates (e.g. OECD, 2012),
- Generating marketing information for the institution (e.g. [Coventry University](#)),
- Improving the experience for the institution's current students based on feedback from graduates about their learning experiences (e.g. Botha, Snowball, de Klerk, and Radloff, 2013).

Bhorat (2004) also notes that graduate unemployment rates vary by field of study and by ethnicity; a statistic backed up by [Statistics South Africa](#) in their quarterly labour force survey reports. As CTI and PIHE offer diplomas, higher certificates, and foundation programmes as well as degree qualifications, knowing how each group progresses will help them to better support current and prospective students while at CTI and PIHE. Evidence also suggests that teaching employability skills at the earliest stage of students entering an institution is crucial for the progression to employment, and for 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 improve the teaching and learning of employability skills at CTI and PIHE. Ever mindful of the changing landscape in higher education and the labour force in terms of supply and demand, recommendations were suggested to government and policy makers, as well as to university management teams, faculty/department heads, and heads of employability services. Examples of recommendations include: encouraging the formal publishing of practice and research carried out by employability professionals to disseminate exemplar practice; developing methods to assess the level of employability skills attained in higher education qualifications, as well as discipline-specific skills; enhancing management structures to ensure that all the relevant directorates are working together more effectively together to deliver employability goals; and, applying predictive analytics to help students inform their own career planning and securing graduate-level employment upon leaving.

The principles highlighted in the paper are currently being implemented in the virtual employability centre, which was launched at the end of September 2016 and the three physical centres, with three more being launched in 2017.

Technology-Enhanced Learning

A key component of CTI and PIHE's program is the use of technology in instruction which supports the achievement of employability through developing relevant digital literacy and related skills for the workplace. All students in degree programs receive tablets although they can choose whether they use digital or printed textbooks. Offering choice makes sense, given that repeated studies have found that the majority of college students prefer printed textbooks for learning, but somewhere between 10 and 40% actively prefer digital and factors such as cost can have an impact on which format they choose (Baron, 2015; Mizrachi, 2015). Although there is a vast array of applications of technology in learning, looking across more than a thousand studies of technology, a recent "review of reviews" revealed that in general, technology has a small to moderate effect on learning (Tamim, Bernard, Borokhovski, Abrami, Schmid, 2011). Students in an experimental condition using technology on average scored at the 62nd percentile relative to a control group at the 50th percentile. However, there was significant variability in the size of the effect of technology across studies. So when does technology produce larger effect sizes? Further analysis indicated that applications using technology to supplement instruction impacted learning more than those that provided direct instruction. Other similar statistical combinations of studies also suggest that it is not always the case that "more is better". When being used for presentation, low and medium use resulted in better outcomes than high use. There were no differences in the impact of frequency when technology was being used for support (Schmid et al., 2009).

Product Research

The Pearson Efficacy & Research (E&R) team designed and implemented four research studies to measure and monitor outcomes for students enrolled at PIHE. The studies examine students' achievements in 2016, the experiences of learners from the perspective of current students and alumni, and employment circumstances of graduates. Data for these studies is derived from the institutions' learner management information system and regular student surveys. Analyses of data from these sources have also been used to improve student access, learning, and teaching quality which will lead to improved student outcomes.

Research Studies

A study of student attainment at CTI and PIHE

Study Citation	Cheng, J., Soul, F., van Wyk, C., & Erwee, L. (2017). A Study of Student Attainment at CTI and PIHE. London, UK: Pearson Education
Research Study Contributors	CTI, PIHE, Global Product Organisation: Efficacy & Research (Liana Erwee, Chris van Wyk, Frances Soul, Jacqueline Cheng)
Type of Study	Descriptive
Sample Size	2,834 CTI students 4,893 PIHE students
Description of Sample	The sample is the full population of students from CTI and PIHE who were enrolled in Semester 1 of the 2016 academic year.
Outcomes Measured	<ul style="list-style-type: none">• Students complete tasks (for due performance)• Students achieve relevant skills and competency and pass the module• Students progress to the next level of learning

Introduction

A common measure of student success in higher education in South Africa is the throughput rate, the percentage of students who complete an undergraduate programme of study in higher education within the maximum duration (e.g. Stroop, 2015; Bokanna & Tewari, 2014; Manik, 2015). As mentioned earlier in the Foundational Research section, although 'throughput' typically denotes graduation throughput, the term may be used to indicate students progressing through to the next year of study in different institutions, and is used in this way in this report.

Module throughput is determined by a student's performance in the due performance (the formative assessment) and exam (the summative assessment) of that module. Due performance pass rates are calculated by taking an average of all the formative assessments percentages of the students in the module, whilst the exam pass rate is the average of all the percentages students' have achieved in the exam for the module. A student is deemed to have passed the module, for example, if he/she has achieved 50% overall across the due performance and examination (and fulfilled the required assessments). The throughput rate for the module is then calculated by dividing the number of students who have achieved this, by the number of students enrolled in the module. The academic year in South Africa runs from January to December, with the first semester running until June and the second semester starting in July. At the end of each semester, student results are collated into a report which is provided to Senate. In the report, academic results are broken down to show the throughput rate by module for each qualification. The results presented here are for Semester 1 of 2016 for all undergraduate and postgraduate qualifications as well as the pre-degree programme. The results for Semester 2 were being finalised at the time this report was going to press as the supplementary examinations took place at the beginning of the academic year in 2017 and so have not been reported here.

Method

The data used in these analyses come from institutions' management information systems that contain basic information about students, such as number of student enrolments by qualification type (Pre-degree programme, Undergraduate certificates, Undergraduate diplomas, Undergraduate degrees, Postgraduate certificates & diplomas, Honours, Masters, PhDs, Occasional students); number of enrolments by major field of study; number of enrolments by race; number of enrolments by gender; number of enrolments in course modules; and student performance in course modules. This data is used to calculate a set of efficiency of success indicators.

For each semester, the due performance, exam pass rates and throughput overall are compiled for every student taking each module at CTI and PIHE.

- The rate of throughput is calculated by taking the number of students who passed the module by the number of students enrolled in that module.

Results

- 89% (785/882) of 1st year students and 93% (1,817/1,952) of senior year (2nd and 3rd year) students passed their required modules at CTI in 2016.
- 86% (1,777/2,071) of 1st year students and 89% (2,506/2,822) of senior year (2nd and 3rd year) students passed their required modules at PIHE.

Discussion

These results are based on analyses of student records maintained by the institutions and demonstrate the achievement of CTI and PIHE students, which is meaningful as these indicate what proportion of students are completing tasks, achieving skills and competencies, passing the module, and are able to progress to the next level of learning, one of the key learner outcomes that is being measured. Further studies could be conducted using this data to take into account other known predictors of student performance, such as class attendance, student engagement, and prior achievement.

Students' report of their learning experience at CTI and PIHE

Study Citation	Cheng, J. & Smith, C. (2016). Students' Report of their Learning Experiences at CTI and PIHE. London, UK: Pearson Education
Research Study Contributors	CTI, PIHE, Global Product Organisation: Efficacy & Research (Cheryl Smith, Jacqueline Cheng)
Type of Study	Descriptive
Sample Size	<p>In Semester 1, 202 CTI students out of a population of 2,838 (7% response rate) and 1205 PIHE students out of a population of 4,889 (25% response rate) responded to an online survey.</p> <p>In Semester 2, 654 PIHE students out of a population of 3,347 (20% response rate) and 1,046 PIHE students out of a population of 6,032 (17% response rate) responded.</p> <p>The response rates are small (especially for CTI in the 1st semester) so some caution must be exercised in generalising the results to the full population.</p>
Description of Sample	<p>The sample is a self-selected sample with graduates from 2015 representing all 12 campuses from CTI and PIHE.</p> <p>This survey was undertaken completely anonymously and therefore a further breakdown of demographics cannot be provided for this study.</p>
Outcomes Measured	Students have a positive learning experience.



Introduction

Students provide feedback about their learning experience through the Lecturer and Module Review at the end of each semester. The review also forms part of the quality assurance exercise as required by the Higher Education Quality Committee of the Council on Higher Education in terms of the accreditation and reaccreditation process for CTI and PIHE.

Method

At the end of each semester, an online survey, - the Lecturer and Module Review, is sent to all students to allow them to evaluate the modules that they have taken that semester and the lecturers who taught those modules. In Semester 1, the survey ran between 11th April - 25th April, 2016. In Semester 2, the survey ran between 17th October - 7th November, 2016. The questionnaire is split into three sections asking students about their module (9 questions), their lecturer (8 questions), and the rooms/facilities (5 questions) used for the module, as well as open-ended questions designed to solicit students' feedback on perceived strengths and weaknesses of the modules that they have completed.

Student responses to the survey are analyzed using simple descriptive statistics and provide anonymous feedback to the module coordinator in order to address any issues raised or to highlight lecturers whose performance has been rated highly by students.

Results

- In Semester 1, 56% of CTI respondents and 66% of PIHE respondents were satisfied with the quality of the module. In addition, 59% of CTI respondents and 64% of PIHE respondents were satisfied with the quality of their lecturer's teaching.
- In Semester 2, 79% of CTI respondents and 74% of PIHE respondents were satisfied with the quality of the module. In addition, 80% of CTI respondents and 75% of PIHE respondents were satisfied with the quality of their lecturer's teaching.

Discussion

The results provide initial evidence that a majority of CTI students have a positive learning experience. The majority of respondents were satisfied with the quality of the modules taken and their lecturer's teaching. This initial evidence can be built upon by increasing the number of responses from students in the next round of surveys so that the result can be more generalisable to the whole population. It would be worthwhile spending time to identify where best practices lie and areas which could improve, to provide management with an opportunity to intervene and effect improvements.

Graduates' satisfaction of their learning experience at CTI and PIHE

Study Citation	Internal report
Research Study Contributors	CTI, PIHE, Global Product Organisation: Efficacy & Research Chandra Grobler, Candice Naicker, Jacqueline Cheng
Type of Study	Descriptive
Sample Size	169 CTI graduates out of a population of 1,104 (15% response rate) 143 PIHE graduates out of a population of 765 (22% response rate)
Description of Sample	<p>The sample is a self-selected sample of graduates from 2015 representing all 12 campuses from CTI and PIHE.</p> <p>Demographic breakdown of CTI graduates: 78 females, 91 males, age range between 19 and 33 years with a median age of 22 years. 75 completed a Higher Certificate qualification, 5 completed a BTEC Higher National Diploma, and 89 graduated with a Bachelor's Degree.</p> <p>Demographic breakdown of PIHE graduates: 96 females, 47 males, age range between 19 and 41 years with a median age of 24 years. 147 graduated with a Bachelor's Degree, and 1 graduated with a Master's degree.</p> <p>The response rates are 15% and 19% for CTI and PIHE respectively so some caution must be exercised in generalising the results to the full population.</p>
Outcomes Measured	Students have a positive learning experience

Introduction

Keeping in touch with alumni is an important part of the employability strategy for two main reasons: (1) ensuring that CTI and PIHE's graduates continue to be supported after they leave the institutions; and (2) understanding graduates' circumstances and perspectives of CTI and PIHE will help improve the support provided to current students. Alumni receive a regular alumni newsletter in which they learn about the successes of fellow alumni and current students, and are also sent a survey six months after they graduate to ask how satisfied they were with the teaching and support they received whilst they were a student at CTI or PIHE.

Method

The Graduate Destinations Survey (GDS) asks graduates what their employment circumstances are six months after they graduate and how satisfied they were with the teaching experience and support they received.

All graduates who graduated in the past six months were invited to take part in the survey, which ran from the end of June to the beginning of September.

Results

- 64% of CTI and 73% of PIHE graduates who responded were satisfied with the teaching they received at their institution
- 63% of CTI and 61% of PIHE graduates who responded were satisfied with the support that they received with their studies.

Discussion

These results provide initial evidence that shows that CTI and PIHE students had a positive learning experience based on reflections on their time there and were satisfied with the support they received with their studies. This initial evidence can be built upon by increasing the number of responses from graduates in the next round of surveys so that the results can be more generalisable to the whole population of graduates.

A study of employment circumstances six months after graduating

Study Citation	Cheng, J., Naicker, C., & Grobler, C. (2016). A study of employment circumstances six months after graduating. London, UK: Pearson
Research Study Contributors	CTI, PIHE, Global Product Organisation: Efficacy & Research (Chandra Grobler, Candice Naicker, Jacqueline Cheng)
Type of Study	Descriptive
Sample Size	169 CTI graduates out of a population of 1,104 (15% response rate) 143 PIHE graduates out of a population of 765 (19% response rate)
Description of Sample	<p>The sample is a self-selected sample of graduates from 2015 representing all 12 campuses from CTI and PIHE.</p> <p>Demographic breakdown of CTI graduates: 78 females, 91 males, age range between 19 and 33 years with a median age of 22 years. 75 completed a Higher Certificate qualification, 5 completed a BTEC Higher National Diploma, and 89 graduated with a Bachelor's Degree.</p> <p>Demographic breakdown of PIHE graduates: 96 females, 47 males, age range between 19 and 41 years with a median age of 24 years. 147 graduated with a Bachelor's Degree, and 1 graduated with a Master's degree.</p> <p>The response rates are 15% and 19% for CTI and PIHE respectively so some caution must be exercised in generalising the results to the full population.</p>
Outcomes Measured	Students progress to employment, further education, or training.

Introduction

In 2016, the virtual employability centre was launched for all students and alumni, with three physical centres launched at the Midrand, Pretoria, and Durbanville campuses as part of the continued drive to extend and improve employability skills and support for students to progress to employment, further education, training, or post-graduation. Three more of these centres will be launched in 2017 at the Bedfordview, Cape Town, and Durban campuses. The goal is to equip students with 'world-ready' skills so that they continue to be successful in their lives beyond CTI and PIHE. In order to better support future students and graduates, the results from the Graduate Destinations Survey (GDS) 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 were invited to take part in the survey, which was run from the end of June to the beginning of September.

Results

- 83% of all CTI graduates who responded to the Graduate Destination Survey are in full-time, part-time or voluntary work or in further education or training six months after graduating. This is split across the two types of programs as:
 - 82% for those who graduated with a higher certificate or a diploma
 - 84% for those who graduated with with a Bachelor's degree
- 69% of PIHE graduates who responded are in full-time, part-time or voluntary work or in further education or training six months after graduating. All of these graduates have a Bachelor's degree, apart from one graduate who has a Master's degree, and is in full-time employment.

Discussion

- The results from the survey provide early evidence about the employment circumstances of CTI and PIHE's graduates.
- The unemployment rates of CTI and PIHE graduates are both higher than the national unemployment rate in South Africa of 13.2% (in 2016). Efforts are being made by the Head of of Employability & Career Success to understand why this is and to help graduates plan their career path from the moment they start their higher education at CTI and PIHE. It also must be kept in mind that these results are only a small representation of the full cohort of graduates from CTI and PIHE as it is a self-selected survey sample. One possible reason for the high unemployment rate is that graduates who are unemployed may have been more inclined to respond, as offers to help with employment were made (e.g. CV writing, interview practice) alongside the request of survey responses.
- The launch of the virtual and physical employability centres, along with dedicated support staff in 2016, with more physical centres being opened in 2017, should help to improve employment efforts in the future.
- This results of the study do not imply causality, but still provide valuable data about what students are doing after they graduate. Once the employability programme has been fully implemented, we can carry out further analysis in the future about students who take part in all aspects of the employability programme and their employment circumstances.

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