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The link between English language proficiency and academic performance among NC(V) first-year engineering students at a South African TVET college

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Abstract: There is significant existing scholarship on the relationship between the English language proficiency (ELP) and academic performance (AP) of English Additional Language (EAL) learners at South African schools and universities. However, this relationship has not been explored in the Technical and Vocational Education and Training (TVET) sector in South Africa, particularly not among National Certificate (Vocational) (NC(V)) engineering students, where the failure rate is exceptionally high, and the graduation and certification rates disconcertingly low. Since English is the language of learning and teaching (LOLT) in the South African TVET sector, but the vast majority of TVET students speak English as an additional language, it is important to understand the implications of this for student progress and success. This article reports on the initial quantitative phase of a mixed-method study, conducted at one Eastern Cape TVET college to investigate this gap in existing knowledge. For the purpose of this article, ELP is defined based on Cummins's basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP) distinction. The study found that NC(V) students' ELP is significantly associated with their throughput rate and their performance in each of their subjects. Poor ELP therefore acts as a barrier to students' academic progress in NC(V) engineering courses. Students' performance in the subject English First Additional Language (EFAL) in the initial year of study can be a predictor of academic progress and throughput. However, students' performance in the English component of the performance assessment of competency education (PACE) proficiency test administered at TVET colleges were found to not accurately predict their performance in English as a subject. This article can serve as a point of departure for further research about predictors of and barriers to ELP at TVET colleges and in trades-focused courses and for the development and implementation of suitable interventions.

Introduction

Recognising and addressing how the English language might be a barrier to academic success among entrants to post-schooling and tertiary education in developing countries is an important aspect of a decolonised curriculum (Makoni 2017). This is particularly important in a country such as South Africa where there is a legacy of historical inequality, poor schooling systems, high levels of poverty, high rates of unemployment, especially among the country's youth, and shortages of skilled artisans. These factors combine to form complex social problems that in particular play out in the space occupied by the Technical and Vocational Education and Training (TVET) sector. In the ongoing national language debate, schools and universities consistently receive media attention, but the TVET sector is ignored. This is surprising, especially considering the target student group that TVET colleges attract, namely mother tongue speakers of indigenous languages. Unlike universities, TVET colleges also provide educational opportunities for people who have not completed secondary education. In its 2013 report, the Department of Higher Education and Training (DHET) declared TVET colleges as the highest priority in the South African education sector, aiming to increase enrolments at TVET colleges from over 345 000 in 2010 to 2,5 million in 2030 (DHET 2013).

However, the extremely low throughput and certification rates at TVET colleges, especially in NC(V) programmes, may prevent colleges from optimally participating in alleviating the national unemployment and scarce skills dilemmas. NC(V) programmes were introduced in 2007, on the argument that they would be responsive to the South African economy (Kraak and Paterson 2016), and with the intention to phase out and replace the earlier NATED (National Accredited Technical Education Diploma) programmes. Because of pressure from business and industry leaders, the NATED programmes were, however, not abolished and both NC(V) and NATED programmes are simultaneously presented at South African TVET colleges (DHET 2012). One of the differences between the two streams is that NC(V) programmes have a lower entry requirement, i.e. secondary schooling up to Grade 9, whereas NATED programmes require schooling up to Grade 12 level. However, it has been reported that as few as 2% of students who start NC(V) courses complete the entire qualification within the minimum period of three years, as opposed to the 12.3% of NATED engineering students (Pienaar et al. 2016). As early as 2009, Papier found that reasons for these high failure rates included the low entry requirements for NC(V), poor quality primary and secondary schooling, that learners lacked the prerequisite language and mathematical skills, problems with the National Student Financial Aid Scheme (NSFAS) funding, and the lack of effective screening and placement at TVET colleges. On average, NC(V) three-year programmes receive 80% higher funding than NATED semester programmes per student as these programmes are of longer duration (Pienaar et al. 2016). The low certification rates in the NC(V) programmes is therefore a matter of great concern, given the higher cost of NC(V) relative to NATED programmes.

This article is based on a larger mixed-method study which set out to investigate the relationship between the English language proficiency (ELP) and the academic performance (AP) of NC(V) level two (L2) engineering students at a TVET college in the Eastern Cape. The questions and objectives of the broader study were focused on determining the association between NC(V) L2 engineering students' performance in the compulsory subject English First Additional Language (EFAL) L2 and their AP over the past five years; whether the type of school attended and home language instruction influences their ELP; and if there is a significant relationship between their performance in EFAL L2 and in the English component of the PACE test, which is administered to students upon enrolling at TVET colleges in South Africa. This article focuses only on the quantitative results of the first phase of the study, as the qualitative results from second-phase interviews with TVET staff were reported elsewhere (Stander et al. 2022). This article specifically reports on findings related to the possible contribution of language to the low throughput rate among NC(V) L2 engineering students at South African TVET colleges, and in particular the impact of students' ELP on their academic success. This article can serve as a point of departure for further research about predictors of and barriers to ELP at TVET colleges and in trades-focused courses and for the development and implementation of suitable interventions.

Background and context

The relationship between poor AP and learning in an additional language has been proven by several international studies (Vinke and Jochems 1993; Aina et al. 2013; Sadeghi et al. 2013; Fakeye 2014; Ghenghesh 2015; Racca and Lasaten 2016). A strong relationship between ELP and AP was found in science and technical education at a college in Nigeria (Aina et al. 2013). Vinke and Jochems (1993) identified a range of English scores where improved English also improved academic success when they examined the influence of learning in a foreign language on the AP of ninety Indonesian engineers. South African studies confirm this relationship between poor AP and learning in an additional language among school children and university students (Stephen et al. 2004; Cekiso et al. 2015) and several research studies have shown that most South African university students do not have the reading skills necessary for academic success (Pretorius 2002; Nel et al. 2004; Zulu 2007).

However, these studies focused on school children and university students only, leaving a gap in knowledge about the TVET sector. This is one of the largest post-school education providers in South Africa (with 737 880 registrations nationwide in 2015 [DHET 2017]). Almost the entire student population at TVET colleges are English Additional Language (EAL) learners who are being taught

through the medium of English as the language of learning and teaching (LOLT) (Wedekind and Watson 2012). Students who enrol at TVET colleges usually come from lower socio-economic backgrounds and would likely also have been exposed to a poorer quality of schooling, often in rural or township schools, than children who had access to better resourced and funded schools. Dwyer and Chisango (2018) and Magxaki (2016) conducted research about TVET Business Studies and Tourism and Hospitality students' performance. Dwyer and Chisango (2018) found that only 10% of learners in Tourism and Hospitality had achieved a reading age of 14 years upon entering their TVET studies. This implies that 90% of these students were admitted without having achieved the appropriate reading age of Grade 9 level.

No equivalent research about TVET NC(V) engineering students has been conducted before, despite the fact that this group has the highest failure rate. To address this knowledge gap, a mixed-method study was conducted at a TVET college in the Eastern Cape province to more fully understand the implications of low student ELP and English as LOLT at South African TVET colleges. The broader aim of the study was to determine if the poor performance of NC(V) L2 engineering students could be related to their English language proficiency (ELP). In Phase One of the study, which is reported in this article, quantitative data were drawn from NC(V) L2 students. L2 students were selected from the first year of the NC(V) course. The influence of ELP on students' AP over the three-year course of study was assessed and therefore first-year students in particular were chosen as the target population to provide the most effective baseline for the study.

In response to the high early failure rates after the introduction of the NC(V) programme, colleges started introducing screening and placement tests. At the college where this research was conducted the Performance Assessment of Competency Education (PACE) assessment test is used to screen NC(V) students. The aim of the PACE test is to assess whether learners are ready to enter the programme (Taljaard 2013). Language comprehension and numerical reasoning are assessed, and learners' developmental needs in these areas are identified. The PACE test also allows for the identification of the areas in the Grade 9 curriculum that a student has not mastered. The college is then expected to offer support to students through supportive and remedial interventions based on this information (Taljaard 2013). In previous years, PACE tests were compulsory before students could register. However, students could still enrol even if they did not pass or complete the PACE test (Papier 2009), especially if they registered late, or the courses for which they registered were not yet filled to capacity. This served to increase TVET enrolment figures to meet the DHET's target numbers (Kraak and Paterson 2016). However, the DHET has more recently instructed colleges to refrain from this practice, because certification rates for the NC(V) programme are so low.

In 2019, the DHET launched the Prevocational Learning Programme (PLP) to provide a foundational or bridging programme for students who may not meet the criteria for entry into a specific programme (DHET 2019). Students who did not meet the minimum pass requirements for the PACE test (40%) before registration were then streamed into the PLP bridging programme. But it is a concern that students are still being enrolled for NC(V) programmes despite not passing the PACE test. Another concern that emerged during this study is the fact that neither the data manager, the NC(V) head of department, nor the lecturers who administered the PACE tests had student results available when the study was conducted. Without knowledge of their students' abilities, ELP lecturers cannot provide appropriate remedial interventions to those students who fared poorly in the PACE test.

James Cummins's work on language development formed the theoretical basis for this study, specifically his distinction between basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP) (Cummins 2008), which facilitates an understanding of what it means to be proficient in an additional language. Since English is the additional language reported on in this article, a learner who is deemed proficient in English would possesses the skills required to use English as the medium of learning (CALP). Language proficiency is therefore not just defined as having the ability to carry out a conversation in English (BICS). Most NC(V) students do not have English as a home language, attended poorer quality and under-resourced schools, and likely also did not receive home language instruction for long enough to develop CALP skills in their home

language to transfer to English. As a result, they may have poor academic language skills and may consequently struggle to understand the subject content and to perform subject content tasks. These factors make Cummins's distinction especially relevant to NC(V) students.

Methodology

The target population of the quantitative phase of this mixed-method study consisted of all registered NC(V) L2 engineering students at a TVET college in the Eastern Cape between 2015 and 2020. This study relied mostly on non-probability total population sampling, but systematic probability sampling was used for the PACE test phase of the study. Data were collected using three tools. The first was an academic record review of all NC(V) engineering students' Internal Continuous Assessment (ICASS) results for the compulsory L2 English First Additional Language (EFAL) subject, from 2017 to 2019. Secondly, a questionnaire was developed by one of the authors to assess the possible influence of home language instruction and the type of school attended on the students' ELP. Thirdly, the PACE test results of participating students were used to assess students' English language comprehension.

EFAL is a compulsory subject during each year of the three-year NC(V) course, the focus of which is on supporting additional language learners to become proficient in the LOLT at the college, which is English, like at all other South African TVET colleges. There is no Home Language English subject in the NC(V) programme. Students' ICASS EFAL results were supplied in de-identified format by the academic data manager of the TVET college. Students who repeated the subject were excluded. In addition to helping learners become proficient in English, EFAL L2 is aimed at developing trades-focused language skills with the broader goal of preparing learners for the world of work. EFAL L2 ICASS consists of seven assessments. Specific attention was paid to the second formal test that assesses generic language skills. Students' performance in the functional writing assessment and oral presentation were used to assess their discipline-specific academic literacy. There was therefore a balance between theoretical and practical assessments.

The home language and school type questionnaire's clarity and relevance were tested by performing a pilot study with eight NC(V) L3 students, and a few minor changes were made to the questionnaire. NC(V) engineering students who were registered for EFAL in 2020 were eligible to participate and the data were collected in the first term of 2020 before the COVID-19 national lockdown was instituted and when campuses were still operational. The students who completed the PACE test were selected from the students who completed the questionnaires. The ICASS sample group size was 1 860 students enrolled from 2015 to 2019; 112 of the group registered in 2020 completed the language and schooling questionnaire, of which 85 then completed and were included in the PACE test sample. The quantitative data were initially organised, summarised and simplified by using descriptive statistics. To determine whether there were associations between variables, inferential analyses were performed. The magnitude of the correlation coefficients examined were interpreted by the guidelines provided by Guilford (1946). A large sample size, multiple assessments and random sampling contributed to the validity of the results. A qualified statistician assisted with the statistical analysis.

As human subjects were involved, ethical approval was obtained from all relevant institutional and individual parties before data collection commenced. The ethical clearance number for this study is NMU REC-H H19-EDU-ERE-014. Consent letters were written to learner participants (or their parents, in the case of minors), lecturer participants, the TVET college principal and the campus manager of the engineering campus where the study was conducted. All relevant parties gave their written permission for the study to continue, and participation was voluntary and anonymous.

Results and discussion

The results are here presented in accordance with the main objectives of the study, which were, first, to determine the association between students' EFAL AP and throughput rate, second, the impact of the type of schooling and home language instruction on the ELP the students, and third, to determine the association between students' performance in EFAL and their performance in the English component of the PACE test.

Academic performance (AP) and throughput

The first objective of the quantitative phase of the study was to determine the association between NC(V) L2 engineering students' AP in 2017 (their initial year of registration) in the EFAL compulsory subject and their throughput rate in 2019, which is the minimum time (three years) for completion of the course. The sample size consisted of 414 students. Their ICASS marks for each subject were used and not their final marks for each subject. The rationale behind this was that students who did not qualify for the final examination, because of low ICASS marks would not be excluded from the study. The students who qualified to write examinations in different subjects are students who performed well academically, and therefore the poorer performers would have been excluded if final examination marks had been used.

The ICASS mark consists of multiple assessments that students complete throughout the year and is therefore a reliable and consistent indicator of students' performance and literacy. Literacy here refers to both the students' generic language skills and their discipline-specific discourse, which are two different skill sets. In their engineering subjects, students must read texts that present complex ideas, contain technical vocabulary, describe technically complicated processes and engage in theoretical discourse. They must also present technical reports and written procedures. They must explain the operation of machinery, follow and give directions and listen carefully to instructions. Some of these skills are also incorporated in the EFAL L2 curriculum, but is not the main focus of the subject. Only two assessments for EFAL L2 examine students' engineering discourse, and these make up 10% of students' EFAL L2 ICASS marks. Another assessment is a functional writing task that assesses writing skills in the engineering discipline where students must describe materials or equipment using technical vocabulary. Another assessment involves an oral report on an engineering-related topic.

The ICASS results for the sample were organised into three groups. The first group consisted of 329 students who had started NC(V) in 2017, but who did not reach Level 4, their final academic year, in 2019. The second group consisted of 73 students who had started NC(V) L2 in 2017 and made it to Level 4 in 2019, but did not pass all seven subjects in Level 4 in 2019 to graduate. The third group consisted of 12 students who started NC(V) L2 in 2017 and who successfully graduated from Level 4 in 2019, which is the envisaged time period for completion.

Data showed that there is indeed an association between students' EFAL performance and their eventual throughput. Students who showed the most progress in the three-year NC(V) course had much higher EFAL L2 marks in their first year of study (2017) compared to the students who showed the least progression and had lower marks. Only 3% of the sample who started NC(V) L2 in 2017 graduated from the three-year course at the end of 2019, but these students had significantly higher EFAL L2 marks than the students who did not complete their studies in the minimum of three years. All of the students who graduated within the minimum time achieved EFAL L2 marks higher than 52%, while 6% was the lowest result from the group who performed the worst in terms of progression achieved. From this sample, it can then be deduced that NC(V) engineering students' EFAL L2 performance in the initial year of study can be considered as a predictor of their throughput and that poor ELP indeed acts as a barrier to students' academic progress in the NC(V) course.

There were two further findings that stood out when the relationship between EFAL L2 results and progression was examined. Firstly, achieving very high marks in EFAL L2 does not guarantee success in the NC(V) course. There were students who achieved distinctions in EFAL L2, but who did not progress to Level 4 within the three years. This suggests that there could be factors other than ELP that influence students' academic progress, such as age, the extent to which students apply themselves, whether a student has certain required technical abilities, poverty, socio-economic status and poor health (Vinke and Jochems 1993; Fleisch 2008). Secondly, a certain level of ELP (52%) is necessary to show some progression in the three-year NC(V) course. However, the pass mark for EFAL L2 is 40%. One can then conclude that English marks higher than 52% will not necessarily equate with better AP, and that further improvement of the English skills of students who are already proficient will not lead to them performing even better in their other subjects. To best focus resources, ELP interventions must therefore ideally be compulsory for students who score below 52%, but could be voluntary for those who score above that level.

Performance in engineering as opposed to other subjects

English, Mathematics and Life Orientation (LO) are compulsory subjects in the NC(V) course. All 1 860 students were therefore included in the sample to determine associations between English and LO and English and Mathematics respectively. However, the sample sizes for the core engineering subjects differed. The majority of students who participated (34%) were registered for Electronic Control and Digital Electronics, followed by 16% for Fitting and Turning, 13% respectively for Automotive Repair and Maintenance and Mechatronic Systems, 10% for Carpentry and Plumbing, and 4% for Masonry.

Data showed that there is a significant relationship between students' EFAL L2 marks and their performance in each one of the different engineering subjects, thus high EFAL L2 marks can be associated with high marks for engineering subjects. As a result, a learner who has poor ELP may obviously then struggle with their engineering subjects. Results showed associations between ELP and success in engineering subjects are especially high when the engineering subject has a strong qualitative component. Both LO and Mathematics were also significantly correlated with English, thus students who have high marks for EFAL L2 are likely to show high marks for LO and Mathematics. Poor ELP may therefore serve as a barrier to students' success in Mathematics, which is critical for engineering studies, because in addition to making sense of the mathematical problem, an EAL learner must also make sense of the language in which the problem presents itself.

Results also suggest that learners who have poor ELP, especially those who have poorly developed CALP skills are likely to perform poorly in LO. Although students achieved higher marks for practical assessments that examined engineering-specific literacy, good performance in these assessments were not associated with sound performance in their engineering subjects. The two ICASS assessments that examine engineering-specific literacy might be too limited in their assessment of the reading and writing skills of the engineering discipline and this could possibly explain the lack of a significant correlation. One of these assessments, an oral presentation, mostly requires BICS. Students' results in the formal test assessment that examines generic language skills was associated with their performance in all of their subjects, both engineering and otherwise. CALP therefore is strongly associated with students' overall AP.

Most NC(V) students are EAL learners. EAL learners are expected to use English as the LOLT from Grade 4, however, it is unlikely that learners would have already acquired CALP skills in an additional language in the first three years of school (Cummins 2008). The process of developing CALP in English as an additional language may be further delayed by not acquiring CALP in the home language and by poor English instruction. They may therefore not have acquired CALP skills in English by the end of Grade 3, which may have prevented them from effectively using English as the LOLT from Grade 4, which would further negatively influence their AP throughout their schooling.

Home language and type of school attended

The second objective of the study was to consider the influence of the type of school attended and home language instruction on the ELP of NC(V) L2 engineering students. There were 412 students enrolled for NC(V) engineering programmes at the start of 2020. Convenience sampling was used and a total of 112 students were included in the sample used to consider the relationship between ELP, home language and the type of schools attended by students. The number of students who completed the questionnaire depended on how many students were present on the day that the questionnaire was administered and how many students completed and returned assent and informed consent forms.

The home language data of the sample is consistent with the demographics of the city and area where the college is located. The student sample mostly spoke isiXhosa (88%) as home language, followed by English (8%). This confirms the fact that most students' home languages differ from the LOLT at South African TVET colleges. The racial demographics for this sample reflect the national demographics for the NC(V) programme (DHET 2017), since black African students made up the largest proportion of the sample (92%). In this particular sample, only three of the black African students' home languages corresponded with the LOLT (English). Black African students are also most likely to have attended poor quality schools in impoverished communities (Roodt 2018) where

they would have received neither consistent education in their mother tongue, nor sufficient training to achieve ELP. This places NC(V) students at TVET colleges at a distinct disadvantage in terms of their academic achievement (Roodt 2018).

A minority (41%) of the sample group reported that they were taught in a language different from their home language in the foundation phase of schooling. In the intermediate phase, however, 85% were taught in an additional language. This percentage rose to 95% in high school. It is important to note that in some cases, black African learners and their parents prefer that they be taught in English from as early as possible (Broom 2004; Wright 2012). Parents may believe that the earlier students are taught in English, the sooner they will gain proficiency and the better they will perform academically. In the sample group, students who received home language instruction from Grade 1 to Grade 3 performed better in their EFAL L2 ICASS compared to students who were instructed in an additional language during the initial phase of schooling. Though data indicated a positive trend, this difference was, however, not statistically significant, but it may highlight and support others' findings about the importance of mother tongue instruction, in especially the foundation phase, to help students to understand subject content that is presented in English and to achieve academic success (Alexander 2003; Gabela 2007; Lafon 2008; Webb et al. 2010; Skutnabb-Kangas 2014).

Out of the sample group, 68% reported attending a disadvantaged primary school, while 63% reported attending a disadvantaged high school. Data analysis showed that the association between AP among the sample group in EFAL L2, based on their ICASS marks, and the type of school attended was insignificant, thus it can be concluded that the type of school attended did not have a significant influence on students' ELP. The outcomes of this objective does not correspond with what is commonly reported in literature, namely that learners from disadvantaged schools are likely to receive a poor quality of education and would consequently have poorly developed ELP and show poor AP (Gabela 2007; Probyn 2006; 2009). A larger sample size might have led to different outcomes and further studies are needed to clarify this question. Students may have different understandings of a disadvantaged school and this could be probed differently in future studies. The results for the type of primary school attended showed a positive trend towards significance which the type of high school did not show. A future study could use a larger sample to examine this trend further.

Performance assessment of competency education (PACE) test

The third objective was to determine the association between NC(V) L2 engineering students' performance in EFAL and their performance in the English component of the PACE test. From the 112 students who completed the self-developed questionnaire, 85 completed the PACE test. The majority of participating students (39%) scored between 50% and 59%; followed by 21% who scored between 60% and 69%, the same number (21%) scored between 40% and 49%, 5% of the participants scored between 30–39% and 6% between 70–79%, and 8% of the participants scored between 20% and 29%. Eleven of the participating students (13%) failed the PACE test, which has a pass requirement of 40%. None of the students in the sample achieved 80% or more for the PACE test. The ICASS marks for EFAL L2 for only 75 students were available, so the ten students who completed the PACE test but for whom there were no marks were excluded, leaving a sample of 75 students. The minimum and maximum scores were 21% and 79% respectively, with a mean score of 53%.

The fact that 11 failed the PACE test is disconcerting, since they should upon registration have either been referred to the PLP bridging course, or placed on a waiting list for this programme. This implies that colleges still register students who do not meet the minimum ELP requirements for entry into NC(V). In addition to the 11 students failing the PACE test, 18 of the sample achieved a result between 40% and 49%. No student in the sample achieved above 79% for the test. This is discouraging, since the English component of the PACE test specifically assesses whether learners have mastered English reading at the level of a Grade 9 learner. The PACE test is usually completed on a computer, which arguably places students who lack computer literacy skills at a disadvantage. However, for this study, a hard copy of the test was administered to students because computers were not available. The PACE test was administered after a major student protest and campus shut down. Lecturers lost learning and teaching time and consequently could not use their computer

classrooms for the administration of the PACE test. The poor performance of some students could therefore not be attributed to a lack of computer literacy skills.

Students specifically struggled with the PACE test's questions that had longer reading passages. Very few students answered the more difficult questions correctly. Pretorius (2002) notes that learners are not taught how to use reading as a skill to process information. Learners can therefore only decode words, but struggle when it comes to comprehension. This study confirms this assumption since students specifically struggled with the questions that required higher order thinking. Results from the 2014 Annual National Assessment (ANA) (Department of Basic Education 2014) and 2016 Progress in International Reading Literacy Study (PIRLS) (Howie et al. 2017) school assessment systems equally show extremely low levels of literacy among South African school children. Students may therefore enter higher grades and TVET programmes without ever acquiring the necessary reading skills within the General Education and Training (GET) phase. Even at tertiary level it has been found that university students often do not have the required reading skills to succeed academically (Pretorius 2002; Nel et al. 2004; Zulu 2007).

Because the validity of the PACE test has been confirmed by other studies (Taljaard 2013; Dwyer and Chisango 2018), a greater correlation between students' EFAL L2 results and their results for the PACE test was expected. But, although the average percentages for the sample groups' performances in EFAL L2 and the PACE test were almost the same, there was surprisingly no significant association between how students performed in the PACE test and how they performed in English. The conclusion is then that the PACE test can therefore not be used as an effective predictive test, but can only be used to identify knowledge gaps of prospective students, based on whether they have mastered Grade 9 content. If these gaps are identified, students could then be supported according to their needs.

Conclusion and recommendations

Since the results of this study revealed that a certain level of ELP is required for progression in NC(V) engineering programmes, it is essential that proficiency testing should take place before students are allowed to register. This will increase the effective streaming of students to correct courses, either the PLP bridging course for students with low (less than 40%) PACE test results, or the NC(V) course for students who score higher than 40% in the PACE test. It will also allow for the identification of NC(V) students who are in need of ELP support, specifically those who achieve between 40% and 52% in the PACE test. Though the intention is clearly there for this to happen, this study has shown that, in reality, students who fail the PACE test are often still allowed to register for NC(V) programmes. Students who can clearly be identified as needing EFAL support with the PACE test often do not receive such support since their lecturers are unaware of their ELP levels and developmental needs. Until this problem is solved and the screening, streaming and support of students improve, the throughput, graduation and certification rates for NC(V) engineering students will remain a challenge.

The majority of the sample's home language was isiXhosa, which differed from the LOLT at the college, which is English. Despite the fact that English also dominated throughout the student sample's schooling, ELP is a major problem. Because NC(V) programmes attract students who are likely to have been disadvantaged, competency and placement testing should not aim at eliminating prospective students, but at identifying developmental needs. Based on this, colleges should then implement effective support interventions to increase students' ELP.

It is also important that students should be informed about their performance in the proficiency test. Students who are accepted without completing a proficiency test may be unaware of their poor ELP and how it can be a barrier to their learning. A student who is informed about this and who receives appropriate counselling and support interventions, can then take responsibility for their own development and improvement. Lecturers should also be informed of their students' ELP levels for them to ensure that appropriate student support and interventions take place in their classes.

The PACE test did not accurately predict the sample group's English ICASS L2 performance, possibly because it only assesses two aspects of ELP, comprehension and language. Careful thought should be given to the possibility of using a test at TVET colleges that may provide a more

comprehensive assessment of ELP. For example, the English Literacy Skills Assessment (ELSA) test used at some South African universities measures phonics skills, dictation, the language and grammar of spatial relations, reading comprehension, cloze procedure and vocabulary in context (Krugel and Fourie 2014).

It is essential that all interventions need to be intimately linked with the proficiency and placement testing of students. These interventions could include the introduction of a compulsory language module for students who are in the ELP critical zone (below 52% in the PACE test). There can also be closer collaboration between English lecturers and lecturers of other subjects. The more effective training of lecturers to supply, on the one hand, ELP support to students in engineering subjects and, on the other, engineering-specific contextualised teaching in English and LO is needed. Specialised training of lecturers for teaching in a multilingual context is crucial. Advocacy for NC(V) curriculum reform at national level is also essential to address the ELP and LOLT problems, along with other challenges, such as the consistent complaint that the imbalance between theoretical and practical aspects of the NC(V) programme is a barrier to success (Papier 2009).

The DHET prescribes how students must be taught and assessed through their subject and assessment guidelines. Final examinations contribute 75% toward the final year mark for fundamental subjects (LO, Mathematics and English) and 50% toward the final year mark for engineering subjects. These examinations are pen-to-paper-based assessments and require reading and writing skills, but poor ELP might prevent students from demonstrating that they have mastered the required practical learning outcomes. The way in which NC(V) students are assessed is therefore not in agreement with prominent contemporary theories of language that hold that there are multiple literacies. The assessment process should involve both practical and theoretical assessments in equal balance. High level paradigm shifts and curriculum reform are necessary to align the NC(V) programme with its intended audience to enhance the improved training and graduation of more South African artisans.

This descriptive study showed that there are significant correlations between English and other subjects in the NC(V) engineering programme at one TVET college in the Eastern Cape, and that students' performance in EFAL L2 is associated with their throughput rate. However, this does not necessarily mean that high ELP causes good AP. It is therefore recommended that the causal relationship between ELP and AP be investigated by future experimental or explanatory research.

Because the findings are confined to only one TVET college's NC(V) engineering programme, it cannot necessarily be regarded as representative of all TVET colleges, though it creates an expectation that similar results might emerge from replication studies at other colleges, since a national curriculum is followed by all colleges. Similar investigations of the relationship between ELP and AP in NC(V) programmes other than engineering would also be valuable as a comparison, as would a similar study to compare data from NATED programmes with those of NC(V) programmes.

The study only examined the influence of a particular schooling category (advantaged or disadvantaged) on the ELP of students, but there are many factors in a particular schooling category that could influence the ELP of students. The scope of this study did not allow for these factors to be examined, but further research into this matter is necessary. Likewise, the assessment of NC(V) L2 students' home language competence was beyond the scope of this study, but it is recommended that future studies assess the influence of mastering the home language in terms of CALP skills in ELP.

The PACE test was not successful in predicting students' performance in EFAL L2. An avenue for further research could be examining another English language proficiency test's correlation with EFAL L2 ICASS marks. Results also showed that there were NC(V) L2 students who achieved very high marks for English, but who did not show any progression to Level 4. Further research is needed to examine the influence of other factors on academic performance.

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