Accelerated Reader Intervention Programme

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Illiteracy is one of the major challenges that African countries grapple with and South Africa is no exception. In 2016 South Africa was ranked last in the International Reading Literacy Study (Pirls) survey. The study found that 78% of South African pupils at Grade 4 could not read for meaning. That percentage is high and increases the chances significantly that the number of learners progressing to the next grades without mastering literacy skills is increasingly likely. The report also notes that there has been NO significant progress in improving learners reading skills since the last survey conducted five years ago in 2011. Reading is recognised as the foundation of all learning. Louden et al. (2000) argues that 80% of all learning difficulties can be ascribed to poor reading skills. This is exacerbated by a new world order that is characterised by the abundance, proliferation and readily available information through computer networks. Information has become ubiquitous and can be obtained at any time and in any location making the ability to make sense of this available information increasingly critical.

The development of lifelong learners is central to the vision and missions of educational institutions in the 21st century and Technical and Vocational Education and Training colleges (TVET) need to be at the forefront of this development. It is therefore, critical to enhance reading capabilities amongst TVET college learners given the glaring statistics illustrated by the Pirls study. Academic institutions need to equip learners with the skills needed to immerse themselves in factual information, to internalise this new information into their current body of knowledge and argue and engage with new facts. This encourages flexibility and adaptability in critical thinking skills.

Empirical research from previous studies has alluded to the fact that, the low levels of learners reading skills plays a critical role in academic results. Louden (2000) et al. argues that, poor reading skills not only have a great negative impact on academic achievement but also on emotional development, which in turn leads to poor life skills development, delinquency, not achieving academic potential and the inability to pursue a meaningful career. Reading proficiency is one of the most fundamental predictors of academic achievement in higher education and cannot be left to random accomplishment. TVET Colleges strive to produce lifelong learners who possess the intellectual ability to reason and think critically. Strong literacy skills multiply opportunities for learner's self-directed learning as they engage in using a variety of information sources to expand their knowledge base, ask informed questions and sharpen critical thinking skills (Association of College & Research Libraries, 2011).

This research project is based on an internet based reading programme that is called Accelerated Reader (AR) provided by a company called Renaissance Learning Company based in the United Kingdom. AR is a whole-group reading management and monitoring programme that aims to stimulate the habit of independent reading among primary and secondary age pupils. The platform was offered to the College on a trial basis to run with it over an 8-month period and assess progress made and report on the findings.

Objectives of the study

TVET colleges need to ensure that learners are in possession of reading skills that allow them to succeed in their studies and future careers. Reading development programmes should be high on the priority list of scaffolding processes aimed at first-year NCV learners and sustained as they progress with their studies. Cultivating a culture of reading needs to be a continuous process requiring collective effort amongst everyone involved in teaching and learning support at colleges.

This study sought to explore and examine the current reading levels of NCV Level 2 learners. It interrogated existing baseline reading skills of participating learners determined by their current reading age. Baseline AR results will be compared against the Pace Assessment Literacy component results collected at the beginning of the year when the learners started, a mid-year test result done by all the students in one selected subject and then against another post Pace

Assessment for the literacy component collected from the same cohort of learners on the 8th and 10th of October 2018. The objective is to check whether the reading age, pace literacy score and test score all support the premise that low reading skills will have an effect on the academic achievements of the learners.

The research project will attempt to provide answers to the following research questions:

- What are the current READING LEVELS or READING AGE of the incoming level 2 learners?
- What is the correlation between achieved reading age, and the results of a selected class midterm test administered to all NCV level 2 learners as part of their continuous assessment?
- What is the correlation between reading age result, and the Pace Assessments result for the Literacy component?
- What are the current challenges and lessons learnt during the implementation of the reading programme?

Methodology

The study is based on a population size of 90 level 2 learners within the Hospitality and Tourism faculty. It was conducted as a trial at False Bay College Muizenberg Campus. The selection of the NCV level 2 groups was strategic as the researchers wanted to ascertain the current reading age for incoming learners and see how this age impacted on their academic success.

A baseline pre-evaluation PACE literacy test was administered to the participants at the commencement of their studies. The pre-evaluation determined their literacy levels at the start of the academic year and the start of their programme. The Accelerated Reading test was performed in February to determine their actual reading age. We then took the results of a midyear common test written by all the NCV level 2 students to see if the academic result they achieved correlated with their reading age. Finally, we conducted another PACE assessment literacy evaluation in the last term of their academic year. We analyse these results to see if the reading age correlates with the PACE literacy test marks.

The prevailing TVET college landscape requires independent learners capable of constructing their own knowledge. The development of lifelong learning skills is vital as it empowers learners in their ability to learn how to learn, and assists in developing skills mandatory for one to attain information literacy competency and to be able to adjust to the rigours of the current information explosion. Out of a population of 90 participants, 71 learners completed the baseline test. Random data from the 71 participating learners will be presented and analysed in detail in an attempt to answer the research questions.

Review of literature

Literacy is one of the most important skills that learners require in order to succeed within a higher education context. The term “literacy” applies to a set of skills that have long been accepted as fundamental to education. Learners who are incompetent readers disconnect themselves completely from the written word leading to a negative attitude towards school and education. Many higher education institutions in South Africa have progressed to technology-supported learning, as many learners who enter tertiary education are under-skilled and lack basic academic skills (Van Schalkwyk 2002:183-188). The lack of strong reading skills stops learners from achieving their educational goals especially in an African context where the language of instruction might not be their mother tongue. Van Rooy and Coetzee-Van Rooy (2015) emphasise the fact that language is regarded as one of the most important issues contributing to the poor academic performance of learners at South African universities and colleges. The argument is further supported by Palani (2012:91) who states that effective reading is the most important avenue of effective learning’ and the achievement of academic success requires successful reading.

It is clear from the literature reviewed that within the 21st century characterised by information abundance, reading is no longer a luxury but a necessity to survive and thrive in the information jungle that globally exists today.

Presentation of results and data analysis

The main objective of this study was to examine the current reading age of incoming NCV level 2 learners at False Bay

College Muizenberg campus. The study also sought to ascertain correlation between achieved reading age and the results of a class midterm test administered to NCV level 2 learners. The objective of the correlation analysis was to get an idea of whether a lower reading age achieved would result in one obtaining lower marks and vice versa as was argued by Van Rooy and Coetzee-Van Rooy (2015) who alluded to the fact that reading is the foundation of any leaning. A total of 71 learners participated in this case study and their selected participant results achieved will be presented and analysed in detail.

The table below identifies the READING AGE RANGE as set out by the Accelerated Reading (AR) programme.

LY	Lower Years	5-8 years
MY-	Middle Years -	9-12 years
MY+	Middle Years +	12 years and above
UY	Upper Years	14 years and above

Level 2 average reading age

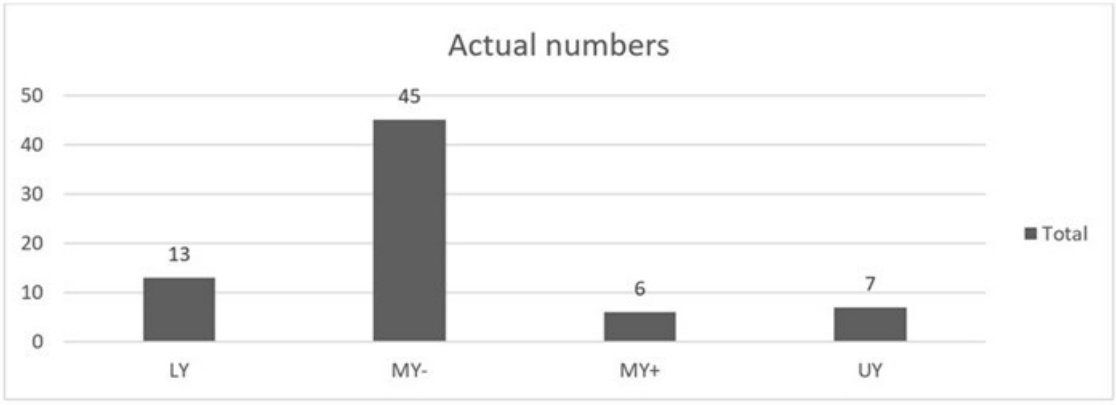
The table below presents the results for the average reading age achieved by the NCV level 2 learners according to the baseline AR test administered. The results show that:

- Only 10% of the Level 2's tested achieved the reading age range for the Upper Years which represent the age group of 14 years and above.
- 63% of the study cohort were reading at the Middle Year – age which represent 9 – 12 years reading age.
- 18% of the sample, according to the results fell under the Lower Years category meaning that their current reading age was between the ages of 5 – 8 years at the time the baseline study was conducted.

The lower year results are worrying as research has shown that the ability to read for meaning is a fundamental component needed for one to successfully cope with higher education requirements.

Column1	Count of RA	Column2
LY	13	18%
MY-	45	63%
MY+	6	8%
UY	7	10%
Grand Total	71	100%

Average reading age totals



Comparison of results of achieved AR reading age for selected learners

In order to achieve anonymity and abide by standard research ethics, random learners selected for analysis will not be identified with their names. They will be identified as participant 1 or participant 2. The random learners selected amongst the different categories will be as follows, 6 top performers, 5 middle performers and 6 lower performers.

AR Reading Age Top performers

The main objective of this projects was to ascertain the current reading age of NCV level 2 learners. The report also explores the correlation between achieved reading age average, against a mark of a selected subject undertaken by both the Tourism and Hospitality learners. The subject selected was Client Services and Human Relations L2 (CSHR). The table below represents results of the top tier learners that received the highest reading age average.

- According to the results, the majority of the top tier participants also attained higher marks on the CSHR test, for instance participant 4 achieved an upper year reading age of 15 years and above, with an 83% mark for the Pace assessment literacy component and they went on to achieve 72% in the client services test and were one of the top performers for that test.
- Participant 16 also got an upper year reading and achieved a 75% in the CSHR test.

These results support inferences that reading is the foundation of any successful learning. However, it has to be said that reading alone is not the sum and total of academic success. Learners also need to put in the hours of study to attain higher marks but conversely it provides them with a solid foundation for academic success.

The results show that the majority of the learners that scored higher reading age averages also performed well in their Pace Assessment as well as the CSHR L2 test as shown in the table below for the selected student participants.

Participant	AR Reading Age Pre-evaluation	Pace Assessment Pre-evaluation	CHSR TM2 MARK
Participant 1	**UY – 15.09**	**65%**	**No mark**
Participant 2	**UY – 14.00**	**60%**	**72%**

Participant 3	**UY- 14.00**	**72%**	**50%**
Participant 4	**UY – 15.10**	**83%**	**72%**
Participant 13	**UY – 13.09**	**74 %**	**53%**
Participant 16	**UY- 15.00**	**No mark**	**75%**

AR Reading Age Middle performers

MY minus (reading age 9-12 years) participants got average marks of between 40 and 50% as shown by table below.

Participant	AR Reading Age Pre-evaluation	Pace Assessment Pre-evaluation	CHSR TM2 MARK
Participant 5	**MY- : 9.11**	**46%**	**No mark**
Participant 6	**MY- : 9.08**	**44%**	**59%**
Participant 7	**MY- : 11.00**	**51%**	**63%**
Participant 8	**MY- : 9.00**	**41%**	**No mark**
Participant 14	**MY- : 10.10**	**40 %**	**No mark**

AR Reading Age Lower performers

The table below presents the marks for learners that did not do well in reading age average pre-evaluation test. The results reviewed show that most of them did not do well in the Pace test as well as the CSHR test. For example, participants 9, 10 and 11 scored the lowest reading age average and got an average of 30% for the CSHR L2 test. These results support the notion that the lower the reading age average that a student achieves, the more likely they are to struggle in their studies and attain lower results.

Participant	AR Reading Age Pre-evaluation	Pace Assessment Pre-evaluation	CHSR TM2 MARK
Participant 9	**LY : 6.10**	**32 %**	**30%**
Participant 10	**LY : 6.10**	**34 %**	**30%**
Participant 11	**LY : 7.08**	**39 %**	**25%**
Participant 12	**LY : 7.10**	**46%**	**32%**
Participant 15	**LY : 6.10**	**30 %**	**50%**
Participant 17	**LY : 7.08**	**No mark**	**25%**

Pace assessments: Pre and post evaluation result comparison

As a final comparison the table below shows data from the pre-evaluation and post evaluation PACE assessment. The results show that the majority of the learners increased their PACE mark. The average percentage increase was 4.8% over a 6-month period between the pre and post evaluation timeframe. An analysis of the Open Learning Centre (OLC) database was conducted to determine the number of reading books the participants had taken out of the library. From the data presented below, the majority of the learners took at least one item and above with the exception of participant 25 and 32 who did not take out any item from the library. Inferences cannot be made on whether the learners borrowed and read items from anywhere else besides the OLC and the items borrowed are only based on the OLC data.

Participant	Pace Assessment Pre-evaluation	PACE ASSESSMENT Post-evaluation	Diff	Library items taken out
Participant 18	**41%**	**51%**	**10**	**2**
Participant 19	**60%**	**62%**	**2**	**1**
Participant 20	**62%**	**65%**	**3**	**1**

Participant 21	**74%**	**74%**	**0**	**3**
Participant 22	**48%**	**55%**	**7**	**1**
Participant 23	**53%**	**58%**	**5**	**1**
Participant 24	**79%**	**74%**	**-5**	**2**
Participant 25	**30%**	**34%**	**4**	**0**
Participant 26	**46%**	**51%**	**5**	**1**
Participant 27	**72%**	**74%**	**2**	**1**
Participant 28	**58%**	**65%**	**7**	**1**
Participant 29	**44%**	**48%**	**4**	**2**
Participant 30	**39 %**	**46 %**	**7**	**2**
Participant 31	**51 %**	**58 %**	**7**	**1**
Participant 32	**41 %**	**55 %**	**14**	**0**
Average increase			**4.8%**	

Reflections

The execution of the project did not come without challenges. The challenges experienced by the researchers in conducting the research should be taken as lessons learnt and these should form the basis of prescribing recuperative solutions to effectively run a reading development and intervention campaign. A review of the study in retrospect through the analysis of the data presented earlier highlights the success of the project in accomplishing its set objectives. The study sought out to determine the incoming reading age of Level 2 learners and it managed to achieve that according to the results presented earlier. It further probed the existence of any correlation between reading age average and academic success through the analysis of results for a mid-year test administered to the level 2 learners. The data presented showed that the majority of

the learners that scored a higher reading age average also performed exceptionally well in the mid-year assessment results that was analysed. On the other hand, participants that achieved the lowest reading age average, also achieved the lowest marks for the mid-year test. This supports the assertion that learners that struggle with reading for meaning possess a much higher propensity to face challenges with their academic studies.

The comparison of the pre-and post-PACE assessment results showed a very small increase in the participants' average marks. On average the participants attained a 4.8% increase between their pre and post evaluation marks. The increase is somewhat marginal and leaves a lot of room for improvement. For the campus to attain a more upward and sustained trajectory of reading levels a lot needs to be done and this would require collective effort from all departments that supports teaching and learning at the college.

Key challenges experienced

- Accelerated Reader offered us a pilot programme in order to see if the product would be useful to meet our defined need. As it was a pilot there was no training that went with the product so the staff had to familiarise themselves with the product, the set up needed and how to implement the project.

- Extensive use of the online chat portal was made in order to set the classes up correctly and this chat function was bot user-friendly and very useful.

- Groups were determined based on the reading age and in order to avoid any discrimination or stereotyping, we used colours instead of ages to group the different reading age groups together.

- The Muizenberg OLC is well resourced with regards to young adult literature but did not have any reading material that was suitable for the Lower reading years. Some material was purchased but we would need to ensure that we can supply material to all levels. Unfortunately, this is not the case with all of our OLC's as some campuses have less reading resources than others.

- We would like to have implemented the full reading intervention but due to a lack of facilities with regards to availability of the EBay and their computers we were unable to do this.

Recommendation

- The campus administration needs to envisage ways of integrating Literacy Development programmes for incoming learners into the curricula as the data presented has showed that 18% of the participants achieved a lower reading age average which is between 5-8 years according to the AR data. It is that group of learners that we should be concerned about as their poor performance on the AR baseline test as well as the Pace assessment results translated into lower marks for the CSHR mid-year test for the majority of them according to the data presented earlier. These results correlate with the assertion from previous studies that the ability to read for meaning is the foundation of any successful learning. Learners with reading deficiencies are more likely predisposed to encountering challenges with their academic studies.

- Literacy skills development programmes are more likely to be effective if they are securely embedded in all Subjects. Collaboration is a vital component that is required in order to successfully implement a reading development programme for the NCV learners. Collaboration should involve all the key role players that support Teaching and learning at the campus and should include the Campus Management, OLC staff, Lecturers and the E-Learning Department. The involvement of these key role players provides for a forum where - role players can meet discuss their roles and responsibilities and cross pollinate ideas with regards to the successful implementation of the Reading Programme.

- One of the main challenges that we encountered was to do with the high usage of the EBay, as the project required learners to make use of the computers located in the EBay to complete the test. The test sessions were not formally timetabled and the Campus Head had to negotiate with staff to move around lessons and free the EBay and learners for the testing sessions. If the college envisages the rollout of the AR reading development programme (as a full reading intervention) across all the campuses, for it to be effectively run, it has to be formally timetabled and implemented through collaborative effort of all key stakeholders mentioned earlier.

- The evidence gathered in this study recognises that literacy is a key issue regardless of the subject taught. The random analysis of the CSHR test was meant to give a general picture of the connection between academic performance and reading competence. The onus of ensuring that all academics are well equipped with an understanding of literacy development programmes rests with educational leaders. Literacy Training programmes should be implemented, when needed, and some sort of monitoring with regards to how effectively academics are developing pupils' literacy skills as an integral element of their wider learning. That responsibility should not only rest with English lecturers, but it should be a shared campus wide responsibility amongst lecturers across subjects and involving OLC Coordinators.

- NCV Level 2 learners need to have at least one timetabled reading lesson in the OLC per week. This engagement would allow the OLC staff to impart continuous library and research skills support, assist learners with book selection and keep track of what each student has read. Making FULL USE of the reading intervention and development part of AR reading programme would then get the learner to complete an online quiz or better still write a short summary of what they have read and why it was interesting or memorable to them. This can be done effectively if the reading periods have been incorporated into the timetable and the OLC then collaborates with lecturers to run the intervention effectively. The consolidation and development of basic skills in this year will prepare them for success at Level 3 and beyond

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