

Research Report

PACE Institute Research into the minimum literacy and numeracy reasoning required in order to pass the various NCV programmes.

Research conducted in association with:

The Centre for Access Assessment Testing (CAAR) at Nelson Mandela University.

Research Outcomes:

- 1. Identify the minimum competency required in literacy and numeracy reasoning to pass individual NCV programmes.
- 2. Set up norms for literacy and numeracy reasoning that could assist TVET Colleges in predicting success of learners in particular NCV programmes.
- 3. Measuring the readiness of learners in Grade 9 to deal with the academic demands of the NCV programme.

November 2008



WORKSHOP SUMMARY

- 1. Date of workshops: The week of the 24 November 2008.
- **2. Venue:** The following WCED FET Colleges: Northlink, West Coast College, False Bay, College of Cape Town and South Cape College.
- **3. Target Group:** Student Support staff. Academic Support and HoD's for various departments were invited to participate.
- 4. Method of delivery: Workshop at each of the colleges individually.

5. Aims of the workshop:

- To provide colleges with norms and cut-offs of the literacy and Numeracy guestionnaire.
- Provide colleges with additional resources to support their assessment procedure in 2009.
- To get feedback from colleges on early recruitment and placement strategy with regards to College Assessment Week (month) that was initiated in 2007.
- To get feedback from colleges on their experiences in testing, selection and placement.
- To plan the selection and placement process for January 2009.
- To get create a forum for communication between student support and academic support and academic programme managers.
- To discuss assessment and selection in the light of *employability* students exiting in 2009.



6. Programme

The workshop followed a semi-structured format. This was done because college had their own needs and limitations with respect to time and personnel availability (end of year).

PROGRAMME

BACKGROUND

- Why Literacy / Numeracy
- Pilot in October 2007
- The need for Norms and cut-offs per programme.
- Methodology to establish norms and cut-offs
- Progress to date

PROBLEM OF THROUGHPUT

- Currently a 58% pass rate in WCape (level 2, 2007)
- Additional students drop out (+-20%) and / or are unable to write the exams
- This leads to a situation where we have about a 30 to 40% throughput in level 2.
- How do we improve throughput?
 - Early assessment via College Assessment week
 - Testing (using appropriate norms established systematically over time)
 - Career guidance as part of the process

NORMS

Feedback on:

- Norms per home language
- Norms for students currently at College in the WC
- Norms for students per faculty programme
- Cut-offs per programme based on students passing

OFF-LINE COMPUTER PROGRAMME

Practical training on the offline version

PROGRESS MAPS (SKILLS GAPS)

• Discussion of the progress maps: developing, expanding, functional, proficient

EMPLOYABILITY

- Employability concept
- Exiting students 2009

WAY FORWARD

- Current assessment and placement procedures
- Best practice



7. Delivery of resources

The resources delivered to colleges included the following:

- 500 Literacy booklets
- 500 Numeracy booklets
- 5 Offline Computer programmes (on CD)
- 10 Adminstrator Guides
- 10 Progress Maps
- 60 Scoring sheets
- 10 Laminated norm tables

8. General discussion on the role of Students Support at various stages in the college life cycle

The general discussion looked at the role of student support services at various stages in the student's college years. This provided the context for looking at selection and placement as just one stage in the cycle with the end goal being on job preparation and placement of the student as they leave the college:

Pre-entry is the stage before learners enter the college. Learners are likely to be still at school. Learners may still be making up their making up their minds and at this stage they have the luxury of choosing where they want to go without as much pressure. Pre-entry is the ideal time for colleges to market their institutions to schools. Similarly, Student Support has enough time to conduct appropriate career guidance and assessment of learners. The early selection and placement strategy should be promoted in 2009 in order to cement its place in the college annual calendar. It is the important that colleges become more proactive in their marketing to schools.

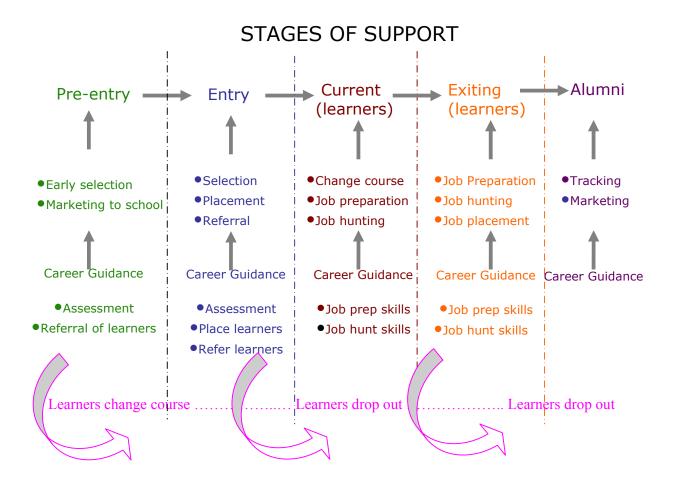
Entry into colleges is a stage where selection, placement and registration take place. The selection of the appropriate faculty and the orientation of learners is essential. Assessment of learners using Literacy and Numeracy is provided to learners and HoD's are tasked with interviewing potential candidates. It is important that HoD's receive timely and accurate information on the learners interests and skills based on the assessment.

Current students are at the stage where they are registered and undergoing the academic programme. Students in the early stages of their course are vulnerable to the difficulties associated with a new environment. A number of learners may want to change course and at this stage many learners drop out or fail due to the high academic demand of the NC(V). It is estimate that over 70% of students will drop out or fail their course by the end of the NC(V). It is therefore essential to have a job preparation strategy in place to assist students in marketing themselves.

Exiting students need to properly prepare to sell themselves in the marketplace. Students in level 3 will be exiting at the end of 2009. It is essential to have an exit strategy which focuses



on employability of students. A critical element will be not just preparing students for the job market but creating industry linkages by providing practical work experience. The colleges in the Western Cape require an umbrella strategy to market the NC(V) to industry in order to increase its currency in the marketplace.





9. Report on baseline readiness testing

In 2007, PACE started a longitudinal analysis of learners baseline readiness to cope with the academic demands of the NC(V) programme based on their literacy and numeracy. The method compares the aggregate literacy and numeracy scores of all students entering NC(V) programmes (most of whom are level 1) with the literacy and numeracy of those passing their NC(V) programmes. These results, based on current September examinations in the Western Cape, were astonishing even to us who have been working with this instrument over a few years.

The average of those applying to enter the colleges was 45.5% whereas the average required to pass the programme is above 60%. In terms of the progress maps most learners fall within the *Developing* range of Literacy and Numeracy whereas the range required to pass at college is in the *Expanding* and *Functional* ranges.

APPLICANTS - JANUARY 2008

	TOTAL # (Learners who applied)	AVERAGE	LITERACY AVERAGE	NUMERACY AVERAGE
W.Cape	3561	45.5%	49%	42%

LITERACY AND NUMERACY OF STUDENTS WHO PASSED THEIR FUNDAMENTALS (BASED ON SEPT 2008 RESULTS)

	TOTAL # (Learners who passed)	AVERAGE	LITERACY AVERAGE	NUMERACY AVERAGE
W.Cape	544	60.5%	64.2%	56.8%

APPLICANTS - JANUARY 2008 - BREAKDOWN PER LANGUAGE GROUP

	TOTAL #	# ENGLISH	ISIXHOSA	AFRIKAANS	OTHER
	(Learners)	(Home Lang)	(Home Lang)	(Home Lang)	(+Unknown)
W.Cape	3561	1139	1287	1046	75



AGGREGATE SCORES OF APPLICANTS PER HOME LANGUAGE (%)

HOME LANG	AVERAGE	LITERACY	NUMERACY
English	52.5	57	48
Afrikaans	44	47	41
isiXhosa	42	45	39
Overall Average	46	49	42

9.1 Scores for different language groups

- ❖ The overall results show that students applying to study at FET College in the Western Cape score an average of 49% for language and 42% for numerical reasoning.
- ❖ The results show that the first language students applying to college score at least 8% higher than the second language speakers overall for the language test.
- ❖ The results show similar differences between the language groups for numerical reasoning. The reason may partly be due to the disadvantage of having English as a second language. It may also be a reflection of the disadvantaged background and schooling of black learners.

9.2 Scores for different faculties

Norms cannot be applied in a blanket fashion to all programmes. Each programme has its own unique content and level of difficulty. For instance the level of numeracy required for hospitality studies is lower than the level of numeracy required for engineering studies. Norms and cutoffs should therefore be established for each NC(V) programme preferably with consideration of language differentials discussed earlier.

In addition we have created other norms called cut-offs for each of the programmes. We did this based on the lowest Literacy and Numeracy score that a learner passing the programme was able to achieve. Cut-offs provide a realistic chance of a learner succeeding on a particular programme and serve as an objective guide to advising learners entering programmes.

It would irresponsible allowing a learner to continue with a programme without advising them with an objective measure based on sound norms. They also create a red light in cases where learners are at risk of failing. It also provides clear data on which to identify candidates for remediation.



A **cut-off** is the minimum score that learners should be getting on the test as a reflection of their ability to cope with a particular learnership or academic programme. A learner scoring below the cut-off may not have the basic language or numerical skills required to cope with a particular programme may fail or drop out as a result. A learner without the necessary skills requires remediation and support.

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9.3 Summary of Results

- ❖ The results show that learners who score well in the literacy tests are more likely to pass the programme than those that do not.
- ❖ The average literacy score for those that pass a particular NC(V) programme is 12.2% higher (64.2%) than the average of those currently on an NC(V) programme (52%).
- ❖ The average numeracy score for those who pass a particular NC(V) programme is 12.7% higher than the average of those who a currently on the programme (44.1%).
- ❖ The results below reveal that the literacy average of current students 52% is only 3% higher than the literacy average of the overall average of those who applied to study in January 2008.
- ❖ The numeracy average of current students is 44.1% which is only 2% above the average of those that applied to study in January 2008.
- ❖ The levels of Numeracy and Literacy required to pass easier programmes such as Tourism and Hospitality is lower as opposed more difficult programmes such as IT, Financial and Engineering.



10. Feedback from colleges

10.1 Northlink

PACE facilitated discussion between the academic staff and students support staff in reaching some consensus on strategy for recruitment, selection and placement for 2009.

Key points of discussion:

- Northlink are currently transferring the role of assessment and placement from Academic Support to Student Support Services.
- There is a problem of staff availability to manage the intake in January 2009
- Northlink are in the process of appointing 7 academic support officers who will be charged with conducting assessments and supporting students in future.
- However these new staff may not be ready to undertake student selection and placement for January 2009.
- Pierre de Waal stated that he would like these support officers trained on the PACE assessment processes in the new year.
- Assessments for the January 2009 intake started in September and appear to have been successful in the early recruitment and placement of learners.
- The selection and placement will continue in the new year and will start the week of the 12 to 16 January. An additional day will be allocated 20 January (times 08H30 14H00)
- Due to time constraints Northlink will only be conducting Literacy and Numeracy assessments and not the full career assessment.
- Testing will only be conducted at three campuses due to staff constraints: Wingfield, Belville and Protea.
- Cut-offs for selection of students to the college for most programmes will remain 50% for Literacy and 40% for Numeracy. This is well within the range of all language groups.
- The more difficult programmes require slightly higher pass rates on the Literacy and Numeracy.
- Northlink are looking to target more grade 12 learners in 2009.
- The group requested minor adaptations to the PACE programme to enhance the reporting from student support to academic support. This includes creating a summary sheet which provides results of Literacy, Numeracy and Interest questionnaire on one sheet.
- Consideration should be given to the recruitment of grade 12 learners. Pierre made the suggestion that grade 12 NSC learners need not do the assessment but would qualify automatically.

Note: Pierre de Waal to contact programme managers in order to establish the current status student numbers per programme. Then to feed this back to the relevant parties including those conducting assessments in January.



10.2 West Coast

A discussion of the assessment and placement process was held with Colleen Knecht of student support. There was also input from Ouchilla January on the process.

Key points of discussion:

- West Coast along with South Cape College are unique in that the student support cover vast areas of the rural Western Cape.
- As a rural College distances for schools to travel is difficult so the college also conduct assessments at schools themselves.
- West Coast will be conducting Orientation on the week of the 12th January.
- West Coast will be using the PACE tools for assessment and placement.
- They are finding college assessment month is now extended to assessing every Saturday where two staff are available at every campus with an information stall.
- They have found that an open recruitment strategy in towns such as Malmsbury, for instance, have produced excellent results.
- They are finding that their early recruitment strategy is paying dividends and filled up a half of their faculties already.
- They currently conduct the assessments on paper only.
- Despite being a rural college with home language Afrikaans in the majority, West Coast choose to conduct all the assessments in English.
- In Colleens opinion those students coming into the NC(V) from grade 12 are passing the programme.
- Will be targeting the recruitment of grade 12's in future since it appears that grade 12 have more chance of passing the programme.
- Colleen will be trialing the student support tutorial policy in 2009.
- Colleen requested that we use the PACE statistical report writer to compare the college fundamentals with the literacy and Numeracy scores of learners.



10.3 False Bay

Unfortunately the False Bay college is finding it difficult to host a workshop including their academic staff. For this reason PACE visited False Bay and held a one-on-one discussion with Jacqui Layman.

Key points of discussion:

- Only recruit for programmes such as IT from grade 11 and 12 since these students stand a better chance of passing.
- Also aware of their feeder schools in terms of the students they are producing. False Bay have divided their schools into ABC depending on at risk level.
- College assessment month has been a huge success for False Bay. In the first month they assessed over 1100 learners.
- At Westlake campus the demand is so high for assessments that they are recruiting on Friday and Saturdays every week.
- False Bay have set their dates for selection and placement in place. They will be conducting Orientation Week on the 12 January. They will also be conducting assessments at the same time.
- Jacqui requested an adaptation to the PACE summary report i.e. similar to the request by Northlink that the report be consolidated into one report of literacy Numeracy, interests as well as students first and second choice of NC(V) programme.
- With regards to employability, False Bay support the idea of having a seminar on the employability question. Jacqui would like the emphasis of the programme to be on selling the NC(V) programme to industry. She suggests that industry as yet do not understand what the NC(V) is about.
- Karen Hendricks the deputy principal has a lot of experience in creating policy for exit strategy at the college.
- False Bay is recruiting two job placement officers in preparation for the exiting students in 2009.



10.4 College of Cape Town

PACE met with Signoria and the entire student support team at College of Cape Town including the academic support person, Rhazia Hamza. PACE gave an overview of the processes of selection and placement and received feedback on their implementation to date. PACE trained the group on the offline computer system.

Key points of discussion:

- Contrary to other campuses the College of Cape Town report that their numbers are down compared to the same time last year. They cannot account for the low demand considering their hard drive throughout the college assessment month.
- It seems that this group may be struggling considering the time and effort they have put into their work without the reinforcement. They may need support and encouragement.
- Academic support are launching an ambitious pilot programme to create industry linkages.
- This includes an incubation programme at level 3 and a compulsory practical placement of 20 hours in level 4.
- They report that they have undertaken strategic partnership with companies such as SASSI, Motosport and others to assist in providing practical placement for students.
- CCT will be conducting assessments on the week of the 12th January.



10.5 South Cape

Key points of discussion:

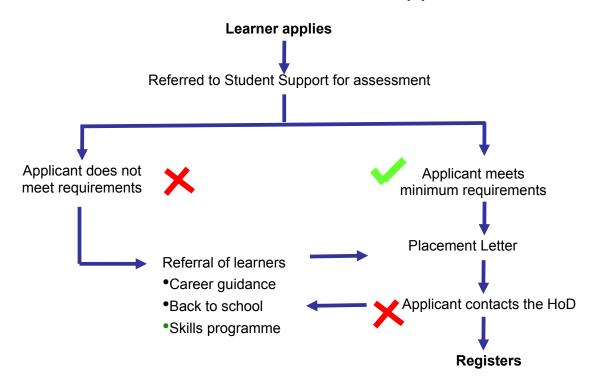
PACE met with Ulricha and the entire student support team at South Cape including the academic support person, Elizabeth. PACE trained the group on the offline computer system.

- Similar to West Coast, the South Cape Colleges attract student living in the most rural of areas.
- Many of these students need a bursary for accommodation and transport. This does not leave a lot left over and many of their students struggle financially.
- Their target group as mentioned previously is changing to grades 11 and 12.
- Ulricha reported that she sometimes has a conflict in referring students from matric. In many cases these students qualify for university and they are likely candidates for NMMU.
- PACE advised the group that a holistic process of career guidance would allow the student to make that decision for themselves.
- South Cape college are extremely busy with assessments taking place daily.
- South Cape will be reopening their campus on the 5 January and will start immediately with assessments
- South Cape does not have norms for their specific programmes. We need to establish norms for them.
- They would also like to have adaptations to the PACE programme so that it reports all the data on one sheet.



11. Diagrammatic representation of the process used by colleges for selection and placement

Career Guidance - Student Support





12. Going forward

- All colleges report that they will be using PACE in 2009 for their selection and placement.
 They reported that the CAP test had the ability to generate reports on skills gaps however
 the programme does not have norms appropriate for selection and placement into college
 programmes.
- Most colleges accept the current cut-offs at 50% for Literacy and 40% for Numeracy. This
 is well within the range of all language groups. It is well below the average for those
 students passing the NC(V). Most colleges agree that the bar should be raised for more
 difficult programmes.
- All colleges expressed an interest in participating in some kind of *employability* workshop in 2009. Delegates agreed that the emphasis is shifting from selection and placement exclusively to preparing students for exit in 2009. They would like such a seminar to take place in the second quarter. This is early enough in the year to give them time to prepare. Jacqui from False bay stated that the emphasis for employability should focus on "selling the NC(V) programme to industry".
- Colleges agreed that cannot continue to make selection and placement of students without proper norms. We do a great injustice to our learners if we allow them to continue a programme which they stand a good chance of failing. We need to raise our throughput at colleges through early recruitment, appropriate selection tools and career guidance.
- Colleges would like PACE to continue with developing and strengthening the norms for colleges and to research the pass rates of grade 12 learners as opposed to grade 9 as a point of entry. South Cape have no norms established as yet and rely on other college norms to make crucial selection and placement decisions
- Colleges request minor adaptations to the PACE reporting summary sheet. They would prefer a system which gives all information on one table which is easy to store and hand over to academic support. PACE has agreed to this request.
- All colleges bar one report a significant success in their early recruitment and selection strategy undertaken in 2008. They have requested PACE to look at getting in a sponsor to finance the print and distribution of posters. PACE has agreed to look into this and provide feedback.
- Colleges emphasised the need for career guidance processes and resources in place, especially during the college assessment week. Two of the colleges requested PACE to provide them with career information resources whilst other colleges requested further support in training their staff on the PACE career practitioner programme.

College Readiness Tests

Longitudinal Research Report

Summary Presentation

2007 - 2009





Readiness for FET Education

The aim of this assessment is to improve the throughput of learners entering Further Education and Training

A secondary aim is assess the baseline knowledge of learners and identify skills gaps in order to assist in a learners development.



Why Literacy and Numeracy?

An individuals literacy and numeracy levels are closely correlated to their ability to cope with Further Education.



Literacy Numeracy Assessment

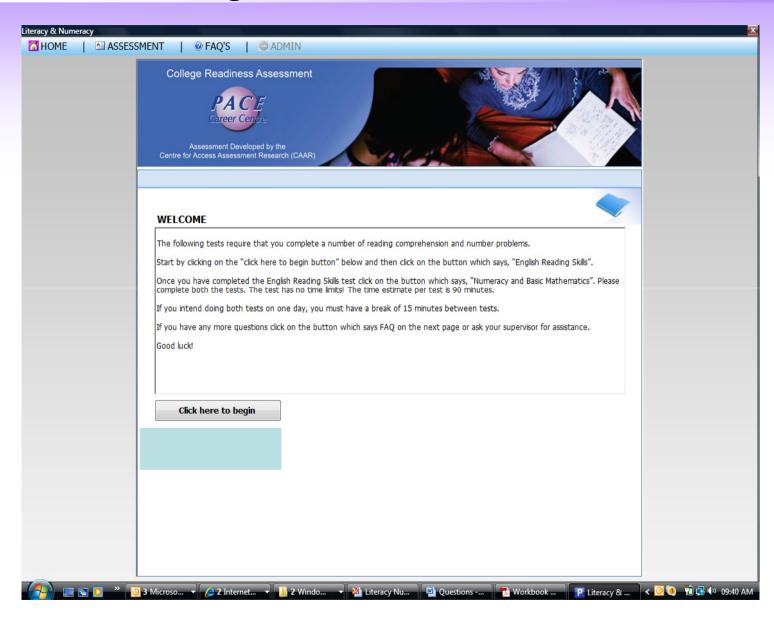
What is the Literacy Numeracy Assessment?

The assessment was developed by the Centre for Access Assessment and Research (CAAR) as a means of assessing the readiness of learners for Further Education and Training. The assessment is made up of two measures, 1: Reading skills, 2: Numeracy skills.

1	Reading Skills	Reading comprehension and problem-solving.	43 multiple- choice questions
2	Numeracy and Basic Mathematical Skills	Basic operations, word sums, graphs, word problems, etc.	35 multiple- choice questions



Home Page







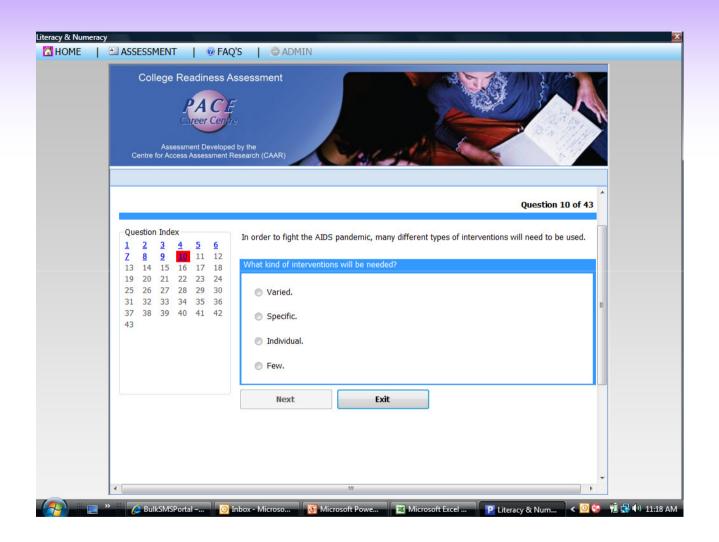
Registration

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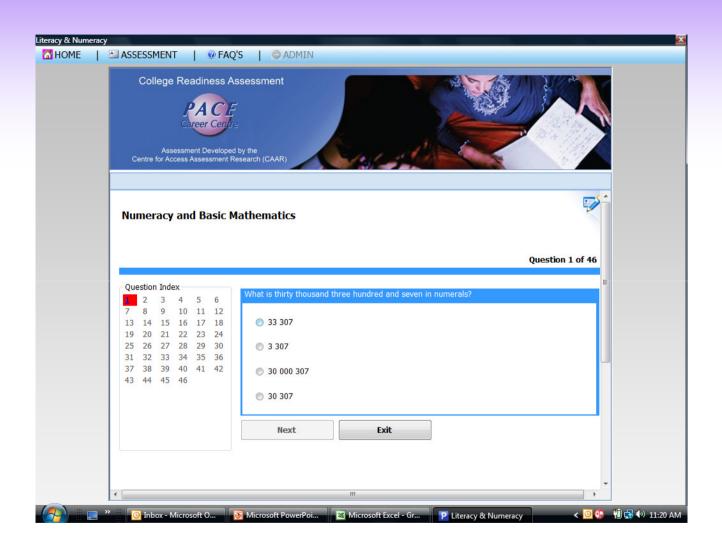


Literacy Questions



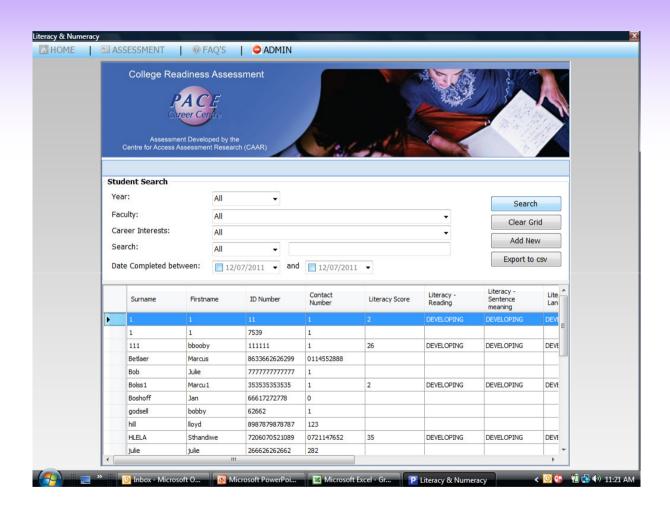


Numeracy Questions



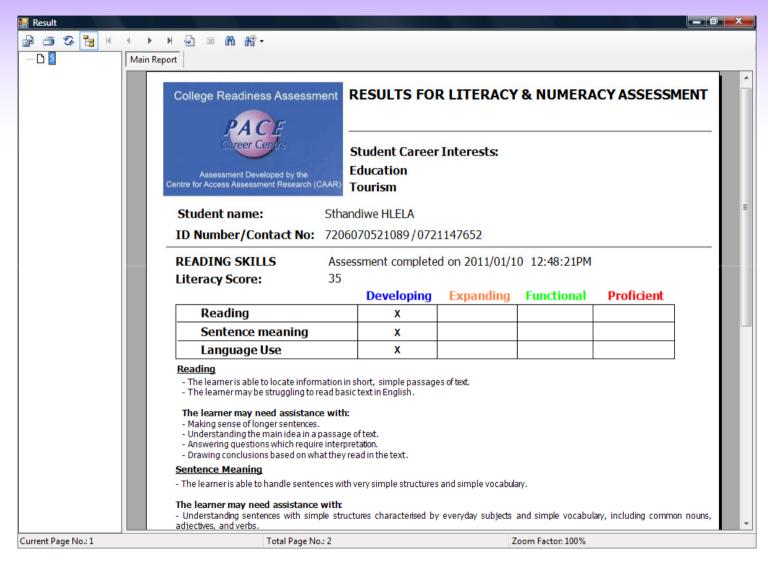


Reporting





Reporting





Screening using Norms

- •A norm is an average for the group
- Norms can be used as a baseline for predicting success
- •A minimum score or cut-off may be used to screen candidates



Norms

	TOTAL # (Learners assessed)	# ENGLISH (Home Lang)	ISIXHOSA (Home Lang)	AFRIKAANS (Home Lang)	OTHER (+Unknown)
W.Cape	3561	1139	1287	1046	75

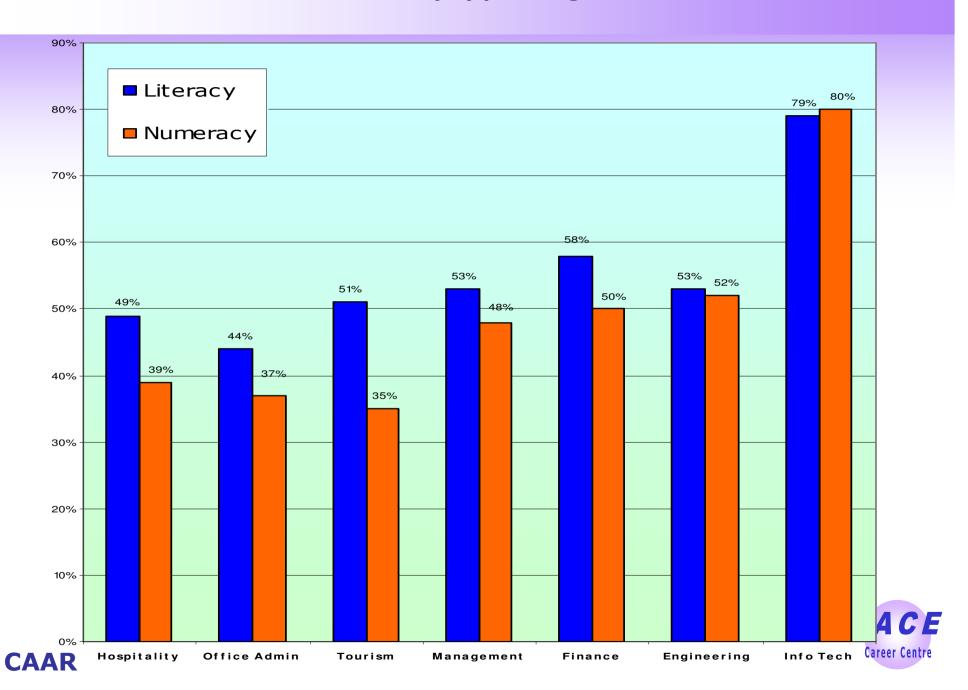


Cut-offs

•Cut-off 45% Developing Learners



Cut-Off (%) per Programme



Progress Maps

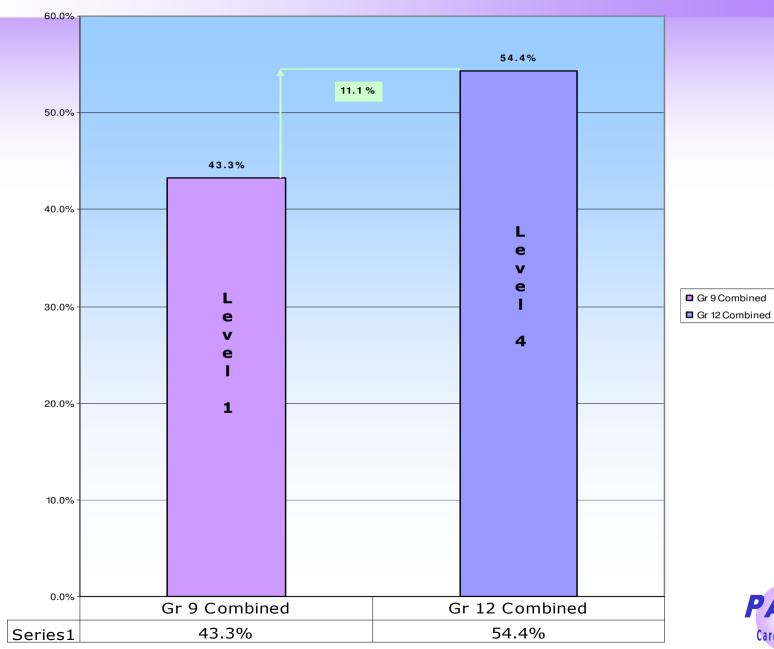
Benchmarks can be correlated to progress maps established by the CAAR.

Progress maps place learners on a progression:

"Developing" "Expanding" "Functional" "Proficient"

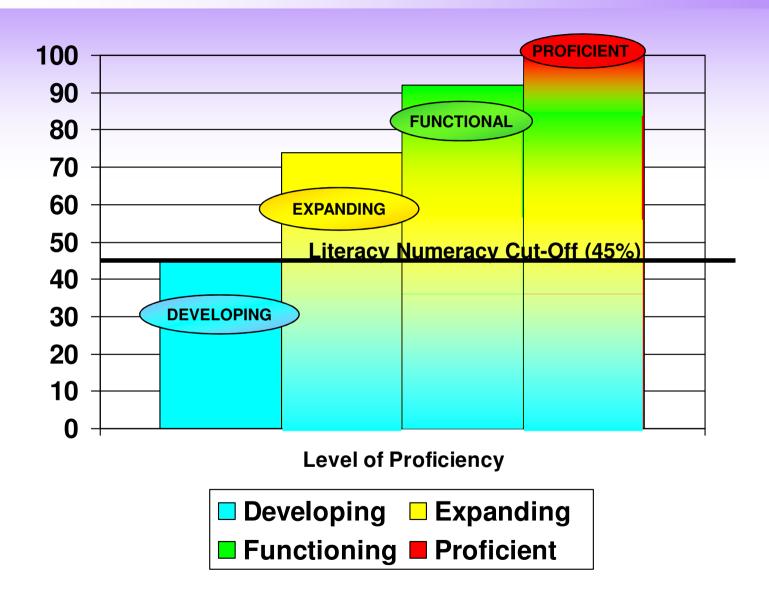


Gr 9 vs Gr 12 - Overall Performance on Assessment



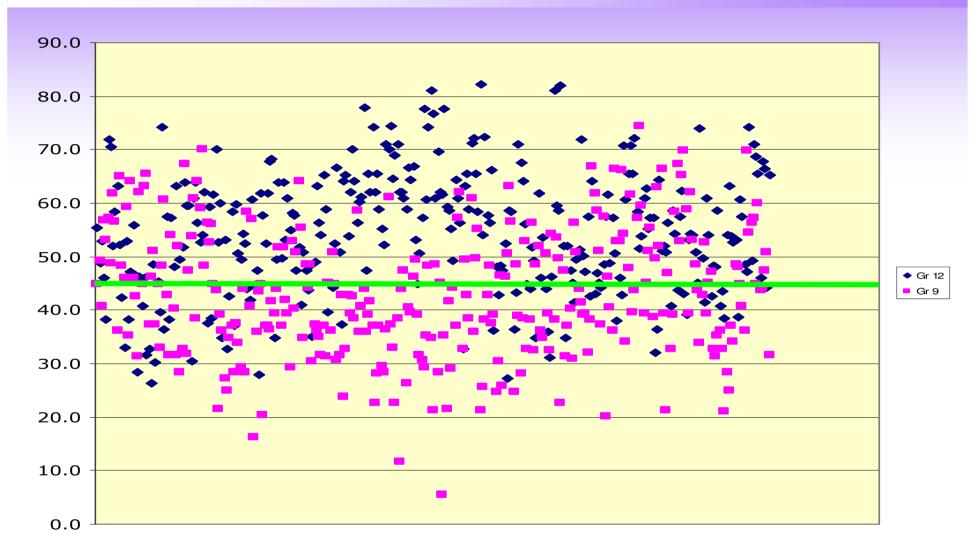


PROGRESS MAPS - LITERACY



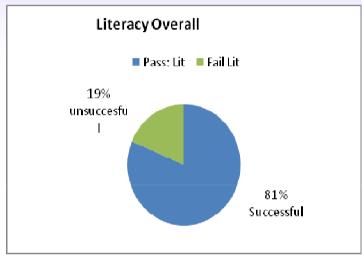


Recruitment Focus





CURRENT STUDIES: COLLEGE OF CAPE TOWN



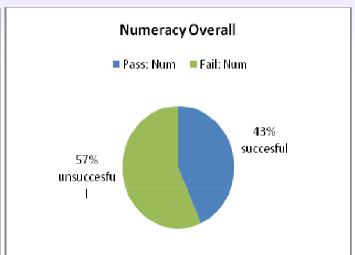


Figure 1: PACE results analysis per campus





RECOMMENDATIONS

- •Developing learners (under 50%) should be monitored
- Developing learners should be given academic support
- •Literacy Numeracy assessment can be used as a tool to improve the quality of learners entering FET programmes
- •Appropriate selection and placement will impact on college rating in terms of dropout, retention and throughput rate.



Norms

For more information contact:

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