

# ACER

## Core Skills Profile for Adults (CSPA) Information Pack



## A VET Literacy, Language and Numeracy Assessment Tool

## About ACER

The Australian Council *for* Education Research (ACER) is a world leader in educational research and assessment. An independent, not-for-profit organisation, ACER has a proven track record and international reputation for excellence. ACER offers a range of services in vocational, adult and workplace education (VAWE) contexts. ACER works with TAFEs, Registered Training Organisations (RTOs), industry and educational organisations, employers and governments. ACER develops evidence-based tools and services to support effective program delivery, including:

- language, literacy and numeracy (LLN) assessment and support for youth and adults
- professional development consultancies for teaching, learning and related areas
- curriculum and standards development
- career and vocational recruitment assessments
- capability assessment tools, quality indicator surveying and benchmarking services
- policy and program evaluation
- psychometric and statistical analysis.

## The Core Skills Profile for Adults (CSPA)

The Core Skills Profile for Adults (CSPA) is a set of secure literacy and numeracy assessments, designed particularly for use as a pre-training assessment tool. CSPA Literacy and Numeracy assessments are mapped to the Australian adult language, literacy and numeracy (LLN) standards, the Australian Core Skills Framework (ACSF). CSPA provides an efficient, psychometrically valid and reliable method for assessing the literacy and numeracy skills of adults and young people. ACER's online assessments produce data and reports which identify a learner's strengths and weaknesses, including any gaps in LLN skills. Following data analysis, this evidence helps inform an individual's learning plan and potential for different pathways for further study or work.

Assessing across the five performance levels of the ACSF in reading, numeracy and writing, the CSPA offers the following components:

- Reading
- Numeracy
- Writing
- Digital Literacy
- Snapshot Reading & Numeracy Indicator (SRNI)
- CSPA Practice Test

In order to more accurately assess individual capabilities, the CSPA Reading and Numeracy assessments utilise an integrated adaptive screening component of ten items at the commencement of each assessment. Based on their responses in the first ten questions, candidates are automatically directed to the most appropriate level; either low, intermediate or advanced, to complete the remaining 15 questions of the assessment. The learner's final results are calculated from responses to the full 25 questions.

The CSPA was developed by ACER staff with high level expertise in the design of online post-school assessments in language, literacy and numeracy. All items were trialled with adult learners and proven to be psychometrically valid and reliable.

Note: The full version of CSPA was the first LLN assessment tool approved for VET Fee Help and then for VET Student Loans LLN entry requirements.

## The Components

The Core Skills Profile for Adults is made up of four different assessment components with the support of a practice assessment.

### CSPA Reading

CSPA Reading tasks are based on a broad range of texts designed or chosen for their authenticity and relevance to the lives of adults, and are based around different workplace and employment, education and training and also personal and community contexts and applications.

Reading questions are presented to students in a split screen format, which displays the text on one side, and the questions in a separate area opposite. Candidates are able to scroll through longer texts (where necessary), and still retain sight of the question they need to answer because the question area remains fixed.

The CSPA Reading assessment provides diagnostic feedback on the learner's performance against different aspects of the ACSF, including at the individual indicator level.

### CSPA Numeracy

CSPA Numeracy questions are set in a range of authentic situations relevant to adult learners, with a focus on workplace and employment, education and training and also personal and community contexts and applications.

The CSPA Numeracy assessment provides diagnostic feedback on the learner's performance in relation to:

- the individual indicator level
- the content focus areas of Number and Algebra; Measurement and Geometry and Statistics and Probability.

### CSPA Writing

The current automatically scored CSPA Writing assessment contains two short writing tasks. Results from the two tasks combined provide a more reliable picture of a candidates' writing ability.

Candidates type their essay directly into the CSPA assessment platform and scripts are then marked using the latest *Intellimetric*<sup>®</sup> essay scoring technology.

The assessment uses:

- Advanced analysis techniques that provide instant diagnostic feedback on candidates' writing skills
- Reports that pinpoint writing strengths and areas of weakness
- A reporting scale for both writing tasks that is mapped to the levels of the ACSF.

Assessment criteria and the diagnostic feedback for the writing assessment align directly to the ACSF's two writing indicators and their focus areas, including in relation to:

- Vocabulary, grammatical structure, and the conventions of writing
- Purpose and audience
- Quality of ideas
- Text cohesion
- Language choices
- Sentence structure
- Spelling.

### More about the writing assessment scale and scoring method

The CSPA online writing assessment scale describes the development of writing, in response to the two writing tasks in this assessment, by adult writers in a vocational setting. The scale provides a common metric for both tasks, and allows performance and growth to be described and monitored.

Scale scores are estimates of candidate ability in writing, as measured by this assessment. Scores are located on the measurement scale, and can be validly compared across candidates. The common marking criteria (marking guide) and common candidates completing both writing tasks are the two features of the development of the CSPA writing scale that allow this comparison. In all, approximately 300 scripts were used to develop the scale and to 'train' the online marking system.

During the development phase of the assessment, each category of the marking guide was illustrated and described by work samples and commentaries, exemplifying the qualities of writing expected for each category. Because the categories are expressed as a scale score and mapped to the measurement scale, writing quality at points along the scale can be described. It is these descriptions that are mapped to the ACSF and in this way, level boundaries can be drawn on the measurement scale and candidate performance expressed in terms of the ACSF levels.

### The reliability of automated essay scoring

Extensive research into the use of computer-based marking of student writing has been undertaken. Computer-based marking has been proven to be as, if not more consistent than traditional hand scoring. View the article ['An Overview of Automated Scoring of Essays'](#) (external link) recently published in the Journal of Technology, Learning and Assessment.

### CSPA Digital Literacy

The Digital Literacy assessment is a new tool that assess the candidate's skills across a broad range of digital contexts.

## The Snapshot Reading & Numeracy Indicator (SRNI)

The Snapshot Reading and Numeracy Indicator (SRNI), is an efficient **indicator** assessment tool that sets out to identify those VET learners most at risk in relation to their literacy and numeracy skills.

The SRNI assesses **both** reading and numeracy against a crucial stage of development – Exit Level 2 of the ACSF. This is considered a minimum level for coping with any level of study within VET. The SRNI can therefore act as a brief assessment to help screen learners prior to enrolment. Any learners identified by the SRNI as below Exit Level 2 of the ACSF should undertake a more comprehensive assessment of their LLN skills using the full suite of CSPA assessments and potentially be targeted for specific LLN support programs.

Similarly, many of those learners who the SRNI indicate are **above** Exit Level 2 of the ACSF in reading and numeracy should undertake a full assessment by CSPA against all five levels of the ACSF. This could be targeted at those learners enrolling in VET courses where the minimum core skills requirements are at higher levels such as at Exit level 3 or 4 of the ACSF. For example, the requirement to have ACSF Exit Level 4 Numeracy skills to enrol in courses such as Nursing or Electrotechnology.

Trials of the SRNI have shown that learners take approximately 15 to 20 minutes to undertake the indicator assessment, with 15 questions in each of reading and numeracy. A letter style individual report is available that indicates whether the learner should undertake further LLN assessment. The report and results of the SRNI do not report against an ACSF level – the full CSPA assessment is required for this purpose.

Because of the above reasons the Snapshot Reading and Numeracy Indicator (SRNI) is only available as part of the integrated suite of CSPA assessments and should be undertaken in conjunction with the use and application of the full CSPA assessment, to assess identified groups of learner's performance against the full range of the ACSF.

Note: The SRNI assessment tool is NOT approved for [VET Student Loans](#) LLN entry requirements.

## CSPA Practice Assessment

The availability of a Practice Assessment is an opportunity to support learners who may either not have had a lot of experience with working on computers and/or feel anxious or have had little experience in answering literacy or numeracy assessment questions. Therefore it is recommended that coordinators and educators identify any such candidate and support them to the Practice assessment prior to sitting the full Reading or Numeracy assessments. This can be done one-on-one or in groups, with a facilitator working through the assessment in order that learners can familiarise themselves with the platform, how to navigate through the assessment, and the style of questions and of the different question types.

## Why use CSPA and ACER Assessments?

There are challenges in effectively addressing LLN within VET in the 21st century as literacy and numeracy are no longer just the three Rs, but are sets of complex skills. The Australian Core Skills Framework (ACSF) represents this complexity across five core skills and five wide levels of performance.

Valid, reliable and effective methods of assessing and reporting on the LLN skills of learners, especially as part of any pre-training assessment, is crucial to improved learning outcomes and completion rates alongside meeting compliance requirements in VET. From a compliance and quality assessment perspective it is important to guarantee that any LLN assessment tool has been written and validated against the breadth and depth of the ACSF. ACER has a rigorous assessment development process that guarantees the quality of its test items. Multiple review mechanisms are put in place to ensure our assessments are relevant, reliable and fit for purpose.

### *Approved for VET Student Loans (VSL) scheme*

The CSPA is designed as a pre-training assessment tool that can be used at an RTO's discretion to assess a range of relevant core skills. Because the CSPA is computer adaptive it can be used to assess all your learners across different skill levels, including against the different levels of the ACSF in Reading and Numeracy. This means that in addition to meeting the specific VSL requirement of determining whether a learner is at the minimum Reading and Numeracy level of ACSF Exit Level 3, the CSPA can also be used for all your learners as a general pre training assessment. Therefore there is no need to have two different assessment processes or tools available for VSL and non-VSL learners.

The ACER method of mapping and reporting against the ACSF uniquely uses a combination of both statistical, empirical data and professional judgement to set the levels of the individual items/questions and to establish the boundaries (cut-off points) between each of the five levels of the ACSF, helping to guarantee that the assessment of reading and numeracy are valid, reliable and fair.

### *Why can't we use a quick and short LLN assessment tool?*

Some existing LLN assessments are very short and may appear to be attractive. However, in writing for example, the ACSF has two indicators with five focus areas in each, described across the five levels – a total of 50 potentially different aspects of writing need to be assessed. Similarly, with its three indicators and various focus areas, numeracy also has about 50 potentially different aspects which can be assessed, and the same applies to other core skills. It is therefore simply not possible to validly assess any single LLN core skill against the ACSF with, for example, five short, simple questions, including automatically scored online questions. From a good practice and compliance perspective it is important to guarantee that any LLN assessment tool has been written and validated against the breadth and depth of the ACSF and provides reliable results – and it is fairer to candidates. From an assessment perspective such tests are psychometrically less sound. Why? Psychometricians argue that to distinguish a border between adjacent ACSF levels accurately and reliably, 15 or more questions across each of the two adjacent levels are required.

### *Generic or context-based LLN assessment?*

For a pre-training assessment, generic LLN assessments are more appropriate for use than context-specific ones. As the learner has not yet been introduced to, nor taught, the discourse and specific contexts and content of the course, a context-based assessment may not provide accurate information on the learner's LLN skills and abilities, or their potential to succeed in the course. A context-based LLN assessment would be more appropriate for ongoing assessment or post-assessment.

### *Computer versus paper-based assessments*

Online assessments have a number of advantages over traditional paper-based assessments. One is that if they are computer adaptive, such as in ACER's assessments, they have the ability to better target the levels of the questions appropriately and assess validly and reliably. Second, the time required to hand-score paper-based assessments (and check for reliability and consistency of marking), compile the results against the ACSF, and record and input the results into student management systems, can take up a great deal of staff time.

Online assessments however, are automatically scored and their results are made immediately available, making them a time and cost effective alternative to paper-based assessment.

Computer based assessments are also more engaging, more interactive and also more appropriate in the technological 21<sup>st</sup> century. From a management perspective, online assessments are efficient and cost-effective when compared to using paper-based assessments. For many low-level LLN adults, responding to paper-based tests takes them back to their school days where they may have previously struggled and may make them feel less confident and anxious than responding on a computer where their responses are more anonymous - they can change their answers as many times as they like. It is important to note that the practice assessment is available to support learners who may have little experience with working on computers or tablets, or who may feel anxious about sitting a literacy or numeracy assessment.

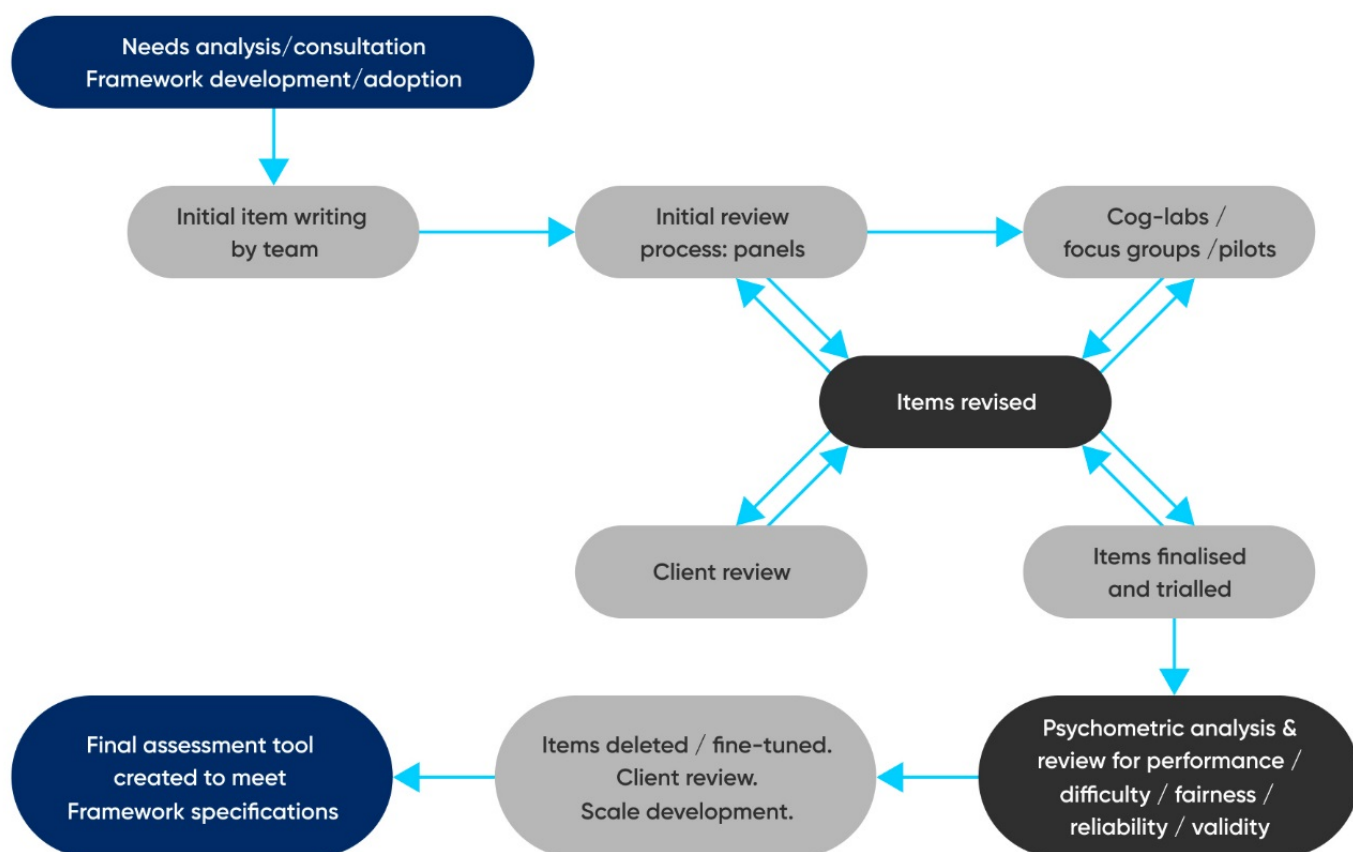


## ACER Test Development processes

ACER has an extensive process that guarantees the quality of the stimulus materials and assessment items that make up any assessment tool that is developed.

Extensive consultations take place to ensure that the assessment meets the requirements and needs of the client and the targeted cohort of test-users. The test content is developed by ACER against the agreed framework and key assessment constructs identified and developed in conjunction with clients. This helps to guarantee that the content is valid and item difficulties are relevant for the target groups. ACER uses a team approach to test development, whereby a team of experienced test developers write the items and meet together as a panel to critique and review each other's items, and as such the items are revised and improved.

ACER assessment development processes are illustrated below:



Following that stage, the revised items go through a secondary stage of reviews and revisions.

This stage involves what are called cognitive laboratories with potential test-takers to get their feedback and opinions on the draft items and the delivery mechanisms. As well, focus groups and discussions with the client and key stakeholders are held to review the draft content and testing approaches.

Once that stage is complete, the assessment items go through a final revision, design and final desktop publishing and are prepared in test forms or booklets for trialling.

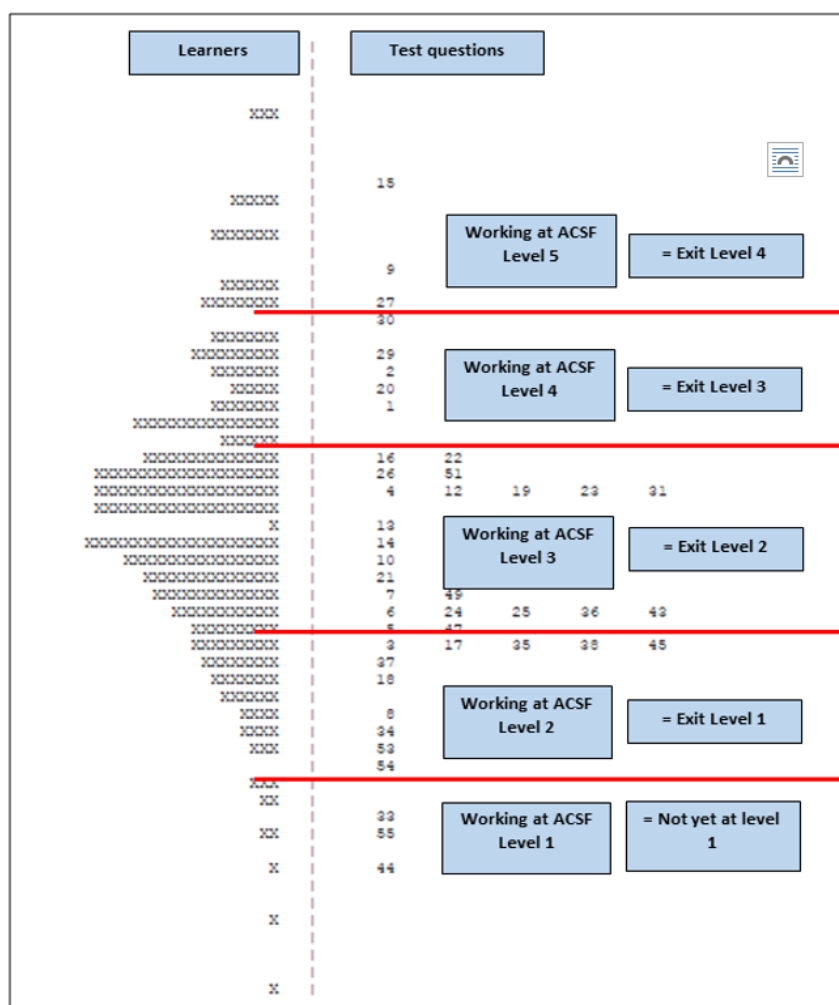
The next crucial stage is trialling. The assessment items go through a final review and revision, design and final desktop publishing and are prepared for trialling in paper-based test booklets or for computer-based delivery.

Trialling is done with a sample of the target population. The trial data is collected and analysed psychometrically and from these detailed analyses, 'misbehaving' items are rejected on a number of levels including for reliability, fairness and validity.

The final stage for the remaining successful items, is that any fine-tuning is undertaken, and a representative set of items is chosen and placed into final forms for each domain being assessed. This final selection needs to meet the criteria established in the framework and the key test construct. This stage also includes using the empirical data available to validate the mapping of the individual questions to the ACSF, and in establishing the cut-off points between the different ACSF levels. This is explained in more detail below. Following such comprehensive and psychometrically based assessment processes means that ACER assessments are much more valid, reliable and fair than locally developed assessments.

### Mapping to the ACSF – the ACER way

ACER uses a combination of empirical data **and** professional judgement to map each question against the ACSF. Apart from writing the questions explicitly to address the ACSF, the questions are written by a team of writers who use professional judgement and validation processes to map the items. Then as per the above process the questions are trialled to enable the items to be checked for performance empirically. After the trial the questions are scaled psychometrically in question difficulty order. This empirical data is then used for moderating both the ACSF mapping for individual items and for the cut-off points on the CSPA scale between the ACSF levels (as illustrated in the diagram below).



### Trialling and revisions to mapping against the ACSF

The questions used in CSPA were trialled initially with approximately 1435 VET candidates across four states of Australia. The feedback from learners during the trials indicated that they were able to access and answer the questions and engage with the assessment. Average question success rates were from 20-40%, even on some of the more difficult items (ACSF Levels 4 and 5). At the lower end of the scale (ACSF Levels 1-2), the success rates varied from between 90-99% of learners being able to successfully answer the questions. The questions were then reviewed and a second psychometric analysis was conducted based on in excess of 6,000 VET learners. This was used to update and review the mapping against the ACSF.

## All CSPA Reports

Each time a learner completes an assessment a range of reports are available to be accessed. These reports can then be accessed by administrators via the CSPA Online Assessment and Reporting (OARS) platform.

In conjunction with the new CSPA Group Report these reports can be used by education officers to develop individual learning plans and use the information to identify if targeted LLN support is required and decide on suitable pathways and potential VET qualifications for candidates.

- **CSPA Individual Candidate Report for Professionals:** This is a three-page PDF report that shows which questions the candidate responded to correctly and those that were incorrect. The report also includes the scale score achieved by the candidate, which correlates with the ACSF Working At/Exit Level they have obtained. In conjunction with the enhanced CSPA Group Report, these reports can be used by education officers to develop individual learning plans and use the information to identify if targeted LLN support is required and decide on suitable pathways and potential VET qualifications for candidates.
- **CSPA Individual Candidate Certificates:** The Learner Certificates have been created with specific, contextualised feedback on performance against each skill area. These are suitable to provide Learners post assessment and may provide currency value for the candidate's development portfolio. Each Certificate will feature the ACSF Level estimate: Working At and Exit levels. These will also contain the completion date and Unique ID if data is required to be de-identified and therefore candidate name is visible.
- **CSPA Group Reports:** The CSPA Group Report shows one row in the spreadsheet for each individual candidate that has sat at least one assessment component. From left to right the columns begin with details of the candidate's demographic field responses, followed by a section for each assessment undertaken. Within each section there will be details on the number of questions attempted, scale score, ACSF Working At and ACSF Exit Level. Details of exact start and completed times for each assessment component of the CSPA for candidates is also logged as is the date of when the Candidate Certificates were released.
- **Skill area specific Group Reports:** The new Skill Area Specific Group Reports show one row in the spreadsheet for each individual candidate who has sat one assessment component. From left to right the columns begin with details of the candidate's demographic field responses, followed by a section for each assessment undertaken. Within each section there will be details on the number of questions attempted, scale score achieved, ACSF Working At and ACSF Exit Level. This also reports which adaptive (Part Two) form the learner was directed into after the 10 screener questions.
- **CSPA Group Question Performance Reports:** ACER has developed diagnostic reporting to allow test administrators to analyse results across a large number of candidate sittings based on ACSF Level or scale score band achieved and then drill down as far as individual candidates to view their results. There are also live Question Performance Reports available to identify common areas of difficulty for a group of candidates.

## CSPA Candidate Report for Professionals

This is a three-page PDF report that shows the detail of a candidate's performance in relation to the ACSF levels. Page 1 details which questions the candidate responded to correctly and those that were incorrect. Page 1 of the report also provides feedback for the practitioner on what the learner "can do" in relation to the focus areas of the skill area.



Username: jdoe	Date: 17-01-2018
Name: Jane Doe	Unique ID: id4
Skill: CSPA Reading	Key Tag:
ACSF level estimate: working at level 4 / exit level 3	Scale score estimate: 136

Assessment Question Summary:				
No.	Description. The candidate can:	Area	Result	ACSF
1	interpret information in an advertisement.	Descriptive	✓	2.03 2.04
2	interpret information in an advertisement.	Descriptive	✓	3.03 3.04
3	interpret a map using a key.	Descriptive	✓	1.03 1.04
4	interpret a map using a key.	Descriptive	✓	2.03 2.04
5	interpret a map using a key.	Descriptive	✓	3.03 3.04
6	identify the purpose of a workplace communication.	Procedural	✓	3.03 3.04
7	identify the meaning of a commonly used word.	Procedural	✓	2.03 2.04
8	retrieve information from workplace communication.	Procedural	✓	2.03 2.04
9	identify a course of action from workplace communication.	Procedural	✓	3.03 3.04
10	identify the implication of quotation marks.	Procedural	✓	4.03 4.04
11	retrieve information from a job advertisement.	Persuasive	✓	2.03 2.04
12	identify the reason for advice in a job advertisement.	Persuasive	✓	2.03 2.04
13	identify persuasive features in a job advertisement.	Persuasive	✓	3.03 3.04
14	identify employment benefits from a job advertisement.	Persuasive	✓	2.03 2.04
15	interpret a conventional complex expression in a job advertisement.	Persuasive	✓	4.03 4.04
16	locate a contrasting phrase from a range in a complex text.	Persuasive	✓	3.03 3.04
17	infer the referent for a metaphor in a complex text.	Persuasive	✓	4.03 4.04
18	identify a related issue absent from a group of complex texts.	Persuasive	✓	2.03 2.04
19	identify the main concern of a complex text.	Persuasive	✗	5.03 5.04
20	identify the position of a complex text on a given point of view.	Persuasive	✗	3.03 3.04
21	draw an inference from a complex text.	Informative	✗	4.03 4.04
22	identify a prediction in a complex text.	Informative	✗	5.03 5.04
23	identify the significance of differences in a graph.	Informative	✗	3.03 3.04
24	interpret a graph in a complex text.	Informative	✗	3.03 3.04
25	interpret a graph in a complex text.	Informative	✗	5.03 5.04

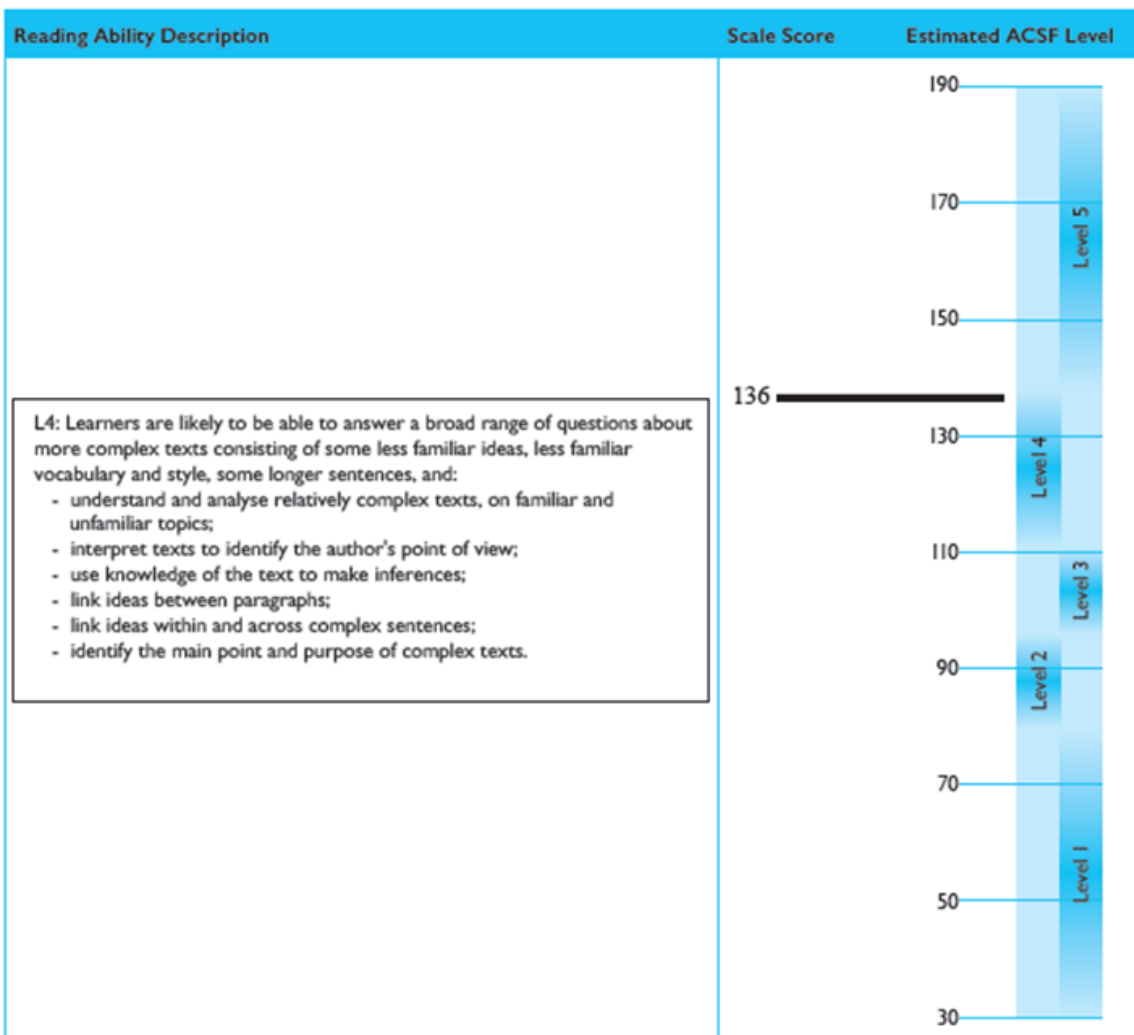
\* N/A: Not attempted

Page 2 provides a graphical display of the candidate’s scale score on the assessment continuum and mapped to ACSF levels and Page 3 provides recommendations for relevant Foundational Skills units.

This report is recommended to be used by the practitioner when providing feedback to the learner and not be sent as a way of conveying performance.




<b>Username:</b> jdoe	<b>Date:</b> 17-01-2018
<b>Name:</b> Jane Doe	<b>Unique ID:</b> id4
<b>Skill:</b> CSPA Reading	<b>Key Tag:</b>
<b>ACSF level estimate:</b> working at level 4 / exit level 3	<b>Scale score estimate:</b> 136



## CSPA Individual Learner Certificates

The Learner Certificates have been created with specific contextualised feedback on performance against each skill area, these are suitable to provide to candidates post assessment and may provide currency value for Learner's development portfolio.

Each Certificate will feature the ACSF Level estimate: Working At and Exit levels. These will also contain the Completion Date and Unique ID if data is required to be de-identified and therefore no Learner Name is visible.



This is to certify that

**Jane Doe**

Has completed

ACER's Core Skills Profile for Adults


assessment of:

**Numeracy**

Thank you for completing this assessment of your numeracy and maths skills. This information is valuable for identifying if you might need any extra learning support during your training or studies.

Congratulations, your result indicates that you have very good numeracy and maths skills, and are most likely able to cope with many tertiary level training courses, unless they include quite sophisticated mathematical knowledge.


Your result suggests you can use a broad range of mathematical knowledge and skills to solve and analyse a range of maths problems in different situations, including on unfamiliar topics where you may need to use formal mathematical knowledge, language and symbols. This means you are likely to have minimal difficulties, if any, with using and applying numeracy and maths skills and knowledge in your training or at work (although this will depend on the mathematical demands of your area of study or work). However, you could still benefit from further developing your numeracy and maths skills, to better assist you in reaching your full potential in any future training, study or work.



**ACSF Level Estimate:**  
Working at ACSF Level 5 / Exit Level 4

**Unique ID:** id6  
**Completion Date:** 17/01/2018  
**Scale Score:** 152

Australian Council for Educational Research









## Question Metadata Report

The CSPA Group Question Performance report and the associated Question Metadata report enables LLN teachers and trainers to access data for a particular group of learners. It summarises the overall group performance on each individual question in the assessments they undertook. These can be used to identify if there are common questions or groups of questions that candidates had particular challenges with, hence being able to target instruction in a more structured way. The Group Question Performance report also provides the ability to get immediate access to see the questions themselves (via a pop up) so the teacher/trainer can see the actual question and identify any common misunderstandings.

A Question Report is also available which generates associated diagnostic information on question performance by candidates detailed against the metadata the questions are designed against from the ACSF framework. This is designed to enable LLN teachers and trainers to access data for a particular group of learners. It summarises the overall group performance on each individual question in the assessments they undertook. These can be used to identify if there are common questions or groups of questions that candidates had particular challenges with, hence being able to target instruction in a more structured way.

✕ Close report

Group Report View charts Download 9 results

▼ Descriptive – 13 items

Question Descriptor ▲	ACSF Indicators	Administered to	Percentage correct
recognise the motivation of interviewees in a complex text.	4.03 4.04	1	100%
identify an opinion in a complex article.	4.03 4.04	1	100%
recognise a synonymous match.	4.03 4.04	1	100%
determine the meaning of a sentence in a complex article.	3.03 3.04	1	100%
identify a narrative device in a complex article.	4.03 4.04	1	100%
identify the theme of a complex article.	3.03 3.04	1	100%
interpret a map using a key.	2.03 2.04	9	78%
interpret a map using a key.	3.03 3.04	9	67%
interpret a map using a key.	1.03 1.04	9	78%
interpret information in an advertisement.	2.03 2.04	9	78%
interpret information in an advertisement.	3.03 3.04	9	78%
locate information in a table.	2.03 2.04	2	0%
locate information in a table.	1.03 1.04	2	0%

▼ Procedural – 9 items

Question Descriptor ▲	ACSF Indicators	Administered to	Percentage correct
identify a course of action from workplace communication.	3.03 3.04	9	78%
retrieve information from workplace communication.	2.03 2.04	9	78%
identify the meaning of a commonly used word.	2.03 2.04	9	78%
identify the implication of quotation marks.	4.03 4.04	9	78%
identify the purpose of a workplace communication.	3.03 3.04	9	78%
retrieve information from a transactional text.	3.03 3.04	2	0%
interpret technical language in a transactional text.	3.03 3.04	2	0%

## Further information

For more information on the CSPA please use the following details to contact the CSPA Team directly:

**Email:** [cspa@acer.org](mailto:cspa@acer.org)

**Web:** [www.acer.org/cspa](http://www.acer.org/cspa)