

## Investigating learning through work: Learning environment scale & user guide to the provider

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This document was produced by the authors based on their research for the report *<Investigating learning through work: The development of the Provider Learning Environment Scale>*, and is an added resource for further information. The report is available on NCVER's website:  
<<http://www.ncver.edu.au>>

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# The Provider Learning Environment Scale (version 2.0)



## Provider Learning Environment Scale

Training providers are, of course, workplaces as well. This scale looks at your workplace as a environment that does or does not support your continuing learning.

For each of the following statements, please circle the answer that best describes how your RTO operates and how your job in the RTO is organised or structured. Every workplace is different, and some of these statements are likely to be good descriptions of your RTO. Others may be quite inappropriate. Think about each of these statements separately and give the answer that seems to best describe your situation. We don't need your name and no individual answers will be made available to your RTO's managers. However, a summary of all responses will be provided to them as a guide to ways in which they might be able to improve the organisation's capacity to provide a better learning environment for staff.

In which section/Faculty of the RTO do you mainly work?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. My work involves extensive contact with professionals in other organisations.	SA	A	?	D	SD
2. My manager in the RTO actively involves him/herself in providing me with learning opportunities.	SA	A	?	D	SD
3. The RTO clearly communicates its mission/purpose to staff.	SA	A	?	D	SD
4. My job requires me to work with a range of different networks of people in the RTO.	SA	A	?	D	SD
5. The RTO regularly creates project teams of people from different sections when something new crops up.	SA	A	?	D	SD

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.	My work requires me to undertake a high degree of negotiation with clients outside the RTO.	SA	A	?	D	SD
7.	I regularly meet with colleagues in other organisations.	SA	A	?	D	SD
8.	The objectives set for me relate directly to the objectives of the RTO.	SA	A	?	D	SD
9.	In this RTO, co-workers routinely provide helpful feedback on performance.	SA	A	?	D	SD
10.	I have ready access to the knowledge or information I need for my job.	SA	A	?	D	SD
11.	For most of my job, I deal with only a fixed part of the product/service my section of the RTO offers. Others do the rest.	SA	A	?	D	SD
12.	I am kept informed of changes that impact on the education and training provided by my RTO.	SA	A	?	D	SD
13.	My job requires a high degree of concentration most of the time.	SA	A	?	D	SD
14.	A lot of our work requires different sections to collaborate on a problem or issue.	SA	A	?	D	SD
15.	I am given sufficient feedback regarding my work.	SA	A	?	D	SD
16.	The rules and regulations that govern the work of the RTO are constantly changing.	SA	A	?	D	SD
17.	My work requires me to engage in professional conversations with colleagues outside my RTO.	SA	A	?	D	SD
18.	I have opportunities to work with different groups in my RTO.	SA	A	?	D	SD
19.	My work involves me in a wide range of the RTO's activities.	SA	A	?	D	SD
20.	The RTO regularly changes the ways in which my work is organised.	SA	A	?	D	SD
21.	RTO Managers actively support and encourage learning.	SA	A	?	D	SD
22.	I regularly work with other sections of the RTO.	SA	A	?	D	SD
23.	My work requires me to undertake a wide range of different activities.	SA	A	?	D	SD
24.	My manager in the RTO sets me clear objectives for my job	SA	A	?	D	SD
25.	The RTO has clear rules about who can access such things as information about individual clients.	SA	A	?	D	SD
26.	My work requires me to undertake a high degree of negotiation with clients outside the RTO.	SA	A	?	D	SD

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
27. Inter-personal relationships in my job involve managing a wide range of issues/personalities.	SA	A	?	D	SD
28. My work in the RTO often requires me to manage unusual situations.	SA	A	?	D	SD
29. In the course of a typical week, I will do a wide variety of very different tasks.	SA	A	?	D	SD
30. My manager in the RTO delegates some decision-making to me.	SA	A	?	D	SD
31. I've learnt a lot about my job from discussions with more experienced colleagues.	SA	A	?	D	SD
32. The work I do in the RTO is complex and involves a wide range of factors and variables.	SA	A	?	D	SD
33. My RTO provides opportunities for me to undertake interesting tasks and rewards success.	SA	A	?	D	SD
34. My manager in the RTO encourages me to learn while I am working.	SA	A	?	D	SD
35. I feel that I am part of a team that works collaboratively to reach work goals.	SA	A	?	D	SD
36. Relationships with colleagues in the RTO are collegiate rather than competitive.	SA	A	?	D	SD
37. Demands from the RTO's clients and my colleagues are a constant feature of my work.	SA	A	?	D	SD
38. My manager in the RTO works with me to develop, monitor and review my work plan.	SA	A	?	D	SD
39. When faced with a new challenge in my work, I am aware of whom in the RTO I should talk to.	SA	A	?	D	SD
40. The way my job in the RTO is constructed limits what I can do.	SA	A	?	D	SD
41. My RTO actively encourages me to learn in order to improve my work performance.	SA	A	?	D	SD
42. My supervisors and line managers in the RTO routinely provide helpful feedback on my performance.	SA	A	?	D	SD
43. The objectives set for me relate directly to the work outcomes of my job.	SA	A	?	D	SD
44. The RTO clearly expects all staff to support the learning of other employees.	SA	A	?	D	SD
45. The RTO clearly communicates its mission/purpose to staff.	SA	A	?	D	SD
46. My colleagues in the RTO share their knowledge with each other.	SA	A	?	D	SD

# User guide

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This document is one of a number of reports associated with one of the research activities conducted by the Consortium and needs to be read in the context of that work.

The Provider Learning Environment Scale has been developed to provide RTOs with guidance on areas where, rather than through more formal approaches to training:

- changes to the ways in which they organise and define jobs, and/or
- changes to the structures or processes of the organisation that could, perhaps, be made to benefit staff in learning directly from their work itself.

The logic and rationale for the scale is contained in this support document. Another support document, *Investigating learning through work: What the literature says*, includes the associated review of the literature in this area. In addition, a facts sheet has been produced which provides a series of questions which could be used to help smaller providers and small organisational units within larger ones to assess the effectiveness of their learning through their work.

The PLE is probably best suited for use in a larger organization where the greater number of respondents enables an interpretation at organisational level. In smaller organisations, particular individuals are likely to unduly affect the overall outcome.

This guide provides the user with information about the instrument itself and advice on how to collect, analyse and interpret the results.

## The Provider Learning Environment Scale

This instrument is made up of 46 items that measure a range of aspects of the learning environment in a training organisation. Designed specifically for use in RTOs, each item asks the respondent to indicate whether or not they agree with a stem that describes some aspect of their work, or the way in which the organisation organises its activities. The response scale is a five point Likert scale ranging from Strongly Agree to Strongly Disagree.

The instrument is designed to reflect the organisation's behaviour on two main sub-scales or domains — *Job Complexity* and *Organisational Environment*. Separate scores for each of these are produced.

Organisational environment is defined by items that focus on the following areas:

- Manager/management support
- Intentional creation of learning opportunities by the RTO
- Involvement in teams
- Provision of useful feedback on performance
- A clear sense of the organisation's mission/purpose
- Ready access to necessary information
- Ready access to other people in the organisation

Job complexity is characterised by items that reflect:

- Work with considerable variety

- Regular contact with a variety of people and ideas external to the organisation
- Regular contact with a variety of people and ideas within the organisation
- Ongoing change
- Work with high intensity/demands

## Uses for the scale

The instrument is not an answer in itself to issues that an RTO might be experiencing. Rather it is a tool that can be used by the RTO to diagnose its current situation, or to indicate what effect changes in its structure or processes have achieved.

In that context, RTOs might consider using the instrument to assist them to:

### 1. **Create a snap-shot of their current arrangements**

In this case, the instrument is used to:

- (a) “measure” the current standing of the organisation
- (b) provide it with diagnostic information about where its current arrangements are operating well or poorly, and
- (c) to suggest areas that it might like to explore in more detail through discussions with staff or other approaches.

### 2. **Benchmark their status against similar organisations**

In this case a number of organisations administer the instrument to their staff and then examine their comparative standing on the two main domains and, possibly, on individual items.

### 3. **Monitor change programs**

An organisation that has engaged in some process of restructuring, re-engineering or similar change process can use the instrument to give it before and after pictures of the organisation. By administering the instrument some time before the change and, again, some time after the change has bedded down, the organisation can compare its performance and make judgements about the effectiveness (or otherwise) of the changes it has made.

## Administering the scale to staff

A sample of at least 50 staff spread across the organization would generally be appropriate to gain a reasonable feeling for the organisational climate. If the RTO wished to consider distinct sub-groups within the organization then, typically, samples of not less than thirty would be required for each.

The instrument needs to be reproduced in sufficient quantities to allow one for each staff member in the RTO (or section of the RTO). The staff are told the purpose of the instrument is to gain information that the RTO can use in improving itself to assist its staff to provide effective services.

Staff are asked to respond on the instrument by circling the response that best indicates how they believe their work is organised or how the RTO operates, as appropriate to each item. Once completed (typically this takes 15-25 minutes) the forms are returned to the person carrying out

the assessment. Note that the questionnaire is anonymous, as it is the organisation being assessed rather than the individuals who are providing the information.

Individuals are asked to indicate the section of the RTO in which they mostly work, as it can be informative to compare responses from different sections of an organisation.

## Recording and coding the responses

The responses to each item in the instrument are converted to numbers as follows:

- SA is recorded as 1
- A is recorded as 2
- ? is recorded as 3
- D is recorded as 4
- SD is recorded as 5.

This process allows for the easy calculation, later, of statistics that make interpretation of the results fairly straightforward.

While it is possible for the responses to be tallied manually, it is simple to use a spreadsheet program such as Excel to record the information. Doing so makes the calculation of scores on the sub-scales and other analyses much simpler.

If you are interested in the different responses of sections of your RTO, you will need to add a column in Excel to each staff member's responses that indicates which section they work in. It is usually best if this is recorded as a letter or number code rather than typing the full name of the section.

## Creating the two domain scores

The two domains measured by the PLE are separately scored in the following way:

### ***Job Complexity***

Using the formula capacity of Excel, add the scores for each of the following items:

1, 4, 6, 7, 13, 16, 17, 18, 19, 20, 22, 23, 26, 27, 28, 29, 32, and 37.

Then, because item 11 while also measuring this domain is worded in a negative fashion, add 6 and subtract the item 11 score to form the final total for the Job Complexity scale.

### ***Organisational Environment***

In a similar fashion, the score on this domain is the sum of the following items:

2, 3, 5, 8, 9, 10, 12, 14, 15, 21, 24, 25, 30, 31, 33, 34, 35, 36, 38, 39, 41, 42, 43, 44, 45, and 46

And then add 6 and subtract the item 40 score, as it is also worded in a negative manner.

# Interpreting the results

After entering the data as described above, the next step is to look at the data and consider what it means for your RTO. This is done in two steps. Firstly, the global scores on the two domains of Job Complexity and Organisational Environment are considered, especially in relation to the scores of similar RTOs. After that it is useful to look at scores on items individually.

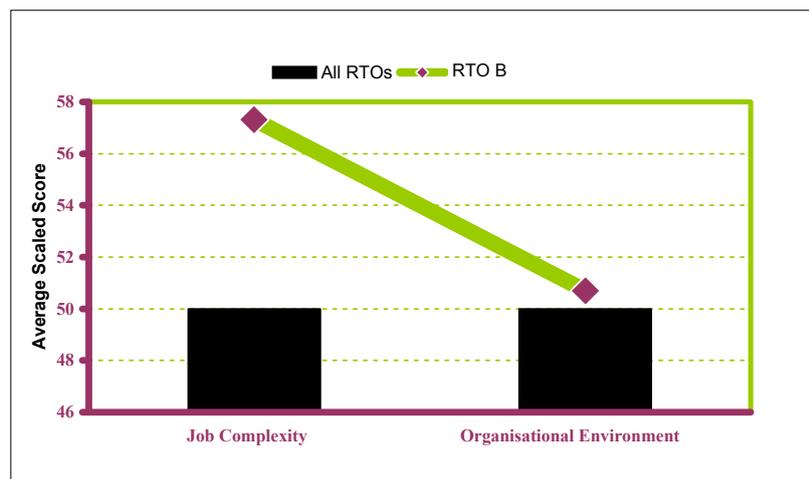
## The Domain Scores

Because the raw scores produced by the summations outlined earlier don't convey any comparative information with respect to other RTOs or other people in the same RTO, interpreting them can be somewhat misleading. Consequently it is suggested that these scores be transformed to another score called a "T-score". These scores adjust the raw scores to reflect the typical scores given by RTOs in general. The T-score can then be directly understood to reflect whether or not the score is fairly typical of staff in other RTOs, rather more positive than usual, or more negative.

These T-scores are created from the raw scores by looking them up in tables provided later in this guide (Table 4 or Table 5).

This can be achieved quite readily using Excel's look-up capacity. In this case, the process is to convert the raw scores on each of the domains to their equivalent T-score form for each staff member who has responded. Averages of these T-scores can then be calculated for the organisation as a whole or for each section.

These averages can then be graphed to provide a simple means for interpretation of the results. For example, the following graph was produced for one of the RTOs that participated in the development of the instrument.



**Figure 1 Example of graphing T-scores**

This diagram highlights one of the useful characteristics of the T-score. The average T-score for all RTOs is set at 50 and around two-thirds of all RTO staff score between 40 and 60. Thus you can easily see that this RTO has performed about average on the Organisational Environment scale but is quite a fair way above average on Job Complexity.

## The Item Scores

The scores on the two domains provide important and useful information. However, they are the averaged result of a lot of individual results. Consequently it can be useful to also look at the individual scores on each of the separate items. These provide a much more detailed examination of the organisation's status.

Using Excel, it is relatively straightforward to calculate the averages for each item. Remember that, unlike the T-scores that have been adjusted so that high scores represent positive outcomes and low scores less positive ones, the raw scores have not. Thus an average for an item less than 3.00 represents agreement and an average score above 3.00 represents disagreement.

As with the domain scores, however, it is useful to compare the averages of your RTO with the averages of RTOs in general and these have been tabled for you below in Table 2.

### Example

Suppose your RTO was interested in considering the different outcomes of your various sections, you might produce a table for Question 6 (*My work requires me to undertake a high degree of negotiation with clients outside the RTO*) that looked like this:

**Table 1 Item interpretation example**

Question	Administration	Hospitality	Metals & Engineering	Business Services	All RTOs
6	4.1	2.5	3.4	2.7	3.3

This shows that, compared to staff in RTOs in general, your Administration staff are less likely to agree that they negotiate with external clients. By contrast, teaching staff in Hospitality and Business Services are more likely to agree with the statement, and do so more than is typical of staff across a wide range of RTOs.

**Remember to be careful with interpreting the two negatively-worded items (11 and 40) as their averages involve agreement/disagreement with a negatively-framed proposition.**

# Statistical data to assist in interpretation

## Item Statistics

The data in the table below provides assistance in interpreting the average item scores produced in the analysis.

The average score obtained for your RTO can be compared with the means and upper and lower bounds in the table. These bounds represent the range within which about two-thirds of RTO staff typically respond.

For example, if your average score on item 1 was 2.6, then your RTO has responded to this item in a manner similar to the average employee in all the other RTOs investigated. However, if your average was 2.1, then this falls below the lower bound for that item. Remembering that low scores generally indicate agreement, this tells you that your staff believe that this applies somewhat **more** commonly in your RTO than is typical of RTOs in general. Conversely an average of 3.8 would mean that the statement applies substantially **less** your RTO than is true in general.

**Note:** Take care in interpreting the scores on the two negatively scored items (11 and 40) as the reverse interpretation applies.

**Table 2 Item Statistics**

No.	Scoring Direction	Item	Scale	Mean	Lower Bound	Upper Bound
1	+	My work involves extensive contact with professionals in other organisations.	JC	2.7	2.4	3.0
2	+	My manager in the RTO actively involves him/herself in providing me with learning opportunities.	OE	2.6	2.4	2.8
3	+	The RTO clearly communicates its mission/purpose to staff.	OE	2.5	2.3	2.6
4	+	My job requires me to work with a range of different networks of people in the RTO.	JC	2.3	2.2	2.5
5	+	The RTO regularly creates project teams of people from different sections when something new crops up.	OE	2.6	2.5	2.8
6	+	My work requires me to undertake a high degree of negotiation with clients outside the RTO.	JC	3.3	3.1	3.4
7	+	I regularly meet with colleagues in other organisations.	JC	3.2	3.1	3.4
8	+	The objectives set for me relate directly to the objectives of the RTO.	OE	2.3	2.2	2.4
9	+	In this RTO, co-workers routinely provide helpful feedback on performance.	OE	2.9	2.7	3.0
10	+	I have ready access to the knowledge or information I need for my job.	OE	2.2	2.0	2.3
11	—	For most of my job, I deal with only a fixed part of the product/service my section of the RTO offers. Others do the rest.	JC	3.3	3.2	3.5
12	+	I am kept informed of changes that impact on the education and training provided by my RTO.	OE	2.3	2.2	2.5
13	+	My job requires a high degree of concentration most of the time.	JC	1.8	1.7	2.0
14	+	A lot of our work requires different sections to collaborate on a problem or issue.	OE	2.8	2.6	2.9
15	+	I am given sufficient feedback regarding my work.	OE	2.8	2.6	3.0
16	+	The rules and regulations that govern the work of the RTO are constantly changing.	JC	2.3	2.2	2.5
17	+	My work requires me to engage in professional conversations with colleagues outside my RTO.	JC	2.6	2.4	2.8
18	+	I have opportunities to work with different groups in my RTO.	JC	2.5	2.4	2.7
19	+	My work involves me in a wide range of the RTO's activities.	JC	2.7	2.5	2.9

No.	Scoring Direction	Item	Scale	Mean	Lower Bound	Upper Bound
20	+	The RTO regularly changes the ways in which my work is organised.	JC	3.0	2.8	3.1
21	+	RTO Managers actively support and encourage learning.	OE	2.5	2.3	2.7
22	+	I regularly work with other sections of the RTO.	JC	2.9	2.8	3.1
23	+	My work requires me to undertake a wide range of different activities.	JC	1.9	1.7	2.0
24	+	My manager in the RTO sets me clear objectives for my job	OE	2.6	2.5	2.8
25	+	The RTO has clear rules about who can access such things as information about individual clients.	OE	2.0	1.9	2.2
26	+	My work requires me to undertake a high degree of negotiation with clients outside the RTO.	JC	3.1	2.9	3.3
27	+	Inter-personal relationships in my job involve managing a wide range of issues/personalities.	JC	1.7	1.6	1.8
28	+	My work in the RTO often requires me to manage unusual situations.	JC	2.2	2.0	2.3
29	+	In the course of a typical week, I will do a wide variety of very different tasks.	JC	2.1	2.0	2.3
30	+	My manager in the RTO delegates some decision-making to me.	OE	2.2	2.1	2.4
31	+	I've learnt a lot about my job from discussions with more experienced colleagues.	OE	2.3	2.2	2.5
32	+	The work I do in the RTO is complex and involves a wide range of factors and variables.	JC	2.1	1.9	2.2
33	+	My RTO provides opportunities for me to undertake interesting tasks and rewards success.	OE	2.7	2.6	2.9
34	+	My manager in the RTO encourages me to learn while I am working.	OE	2.2	2.0	2.3
35	+	I feel that I am part of a team that works collaboratively to reach work goals.	OE	2.1	1.9	2.2
36	+	Relationships with colleagues in the RTO are collegiate rather than competitive.	OE	2.3	2.1	2.5
37	+	Demands from the RTO's clients and my colleagues are a constant feature of my work.	JC	2.1	1.9	2.2
38	+	My manager in the RTO works with me to develop, monitor and review my work plan.	OE	2.8	2.6	3.0
39	+	When faced with a new challenge in my work, I am aware of whom in the RTO I should talk to.	OE	2.1	2.0	2.2
40	—	The way my job in the RTO is constructed limits what I can do.	OE	3.2	3.0	3.3
41	+	My RTO actively encourages me to learn in order to improve my work performance.	OE	2.3	2.1	2.4
42	+	My supervisors and line managers in the RTO routinely provide helpful feedback on my performance.	OE	3.0	2.8	3.1
43	+	The objectives set for me relate directly to the work outcomes of my job.	OE	2.4	2.2	2.5
44	+	The RTO clearly expects all staff to support the learning of other employees.	OE	2.6	2.5	2.8
45	+	The RTO clearly communicates its mission/purpose to staff.	OE	2.5	2.3	2.6
46	+	My colleagues in the RTO share their knowledge with each other.	OE	2.3	2.1	2.4

## Scale Statistics

To make interpretation of the scores on the two domains easier, the raw scores can be transformed to a type of score known as T-score. This has the convenient form that the average is 50 and one standard deviation is 10.

To make the interpretation easier, the scale scores are also reversed so that high scores represent positive outcomes, and low scores areas where further work might be warranted.

The average raw scores and their standard deviations for the two scales are given in Table 3.

**Table 3 Scale raw score details**

	Average	Standard Deviation
Job Complexity	47.8	6.39
Organisational Environment	66.9	7.21

The T-scores for each scale are given in the following tables, in which for each raw score, the appropriate T-score is tabulated. Note that the raw score scales have been truncated as very low and very high raw scores are extremely unlikely.

To use these tables, it is simply a matter of finding the relevant raw score and then the corresponding T-score. For example, using Table 4 a raw score on the Job Complexity scale of 30 would be assigned a T-score of 77. This is well above average and indicates a strong result on this scale. Similarly, a raw score of 43 gives a T-score of 57 — above average but not greatly so.

**Table 4 T-scores for Job Complexity**

Raw Score	T-Score	Raw Score	T-Score
16 or less	99	43	57
17	98	44	56
18	96	45	54
19	95	46	52
20	93	47	51
21	92	48	49
22	90	49	48
23	88	50	46
24	87	51	45
25	85	52	43
26	84	53	41
27	82	54	40
28	81	55	38
29	79	56	37
30	77	57	35
31	76	58	34
32	74	59	32
33	73	60	31
34	71	61	29
35	70	62	27
36	68	63	26
37	67	64	24
38	65	65	23
39	63	66	21
40	62	67	20
41	60	68 or more	18
42	59		

A similar process applies for the Organisational Environment Scale as set out in Table 5.

**Table 5 T-scores for the Organisational Environment Scale**

Raw Score	T-Score	Raw Score	T-Score
31 or less	99	60	59
32	98	61	58
33	97	62	56
34	95	63	55
35	94	64	54
36	92	65	52
37	91	66	51
38	90	67	49
39	88	68	48
40	87	69	47

Raw Score	T-Score	Raw Score	T-Score
41	85	70	45
42	84	71	44
43	83	72	42
44	81	73	41
45	80	74	40
46	79	75	38
47	77	76	37
48	76	77	36
49	74	78	34
50	73	79	33
51	72	80	31
52	70	81	30
53	69	82	29
54	67	83	27
55	66	84	26
56	65	85	24
57	63	86	23
58	62	87	22
59	60	88	20
		89 or more	19