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Raising A Literacy-Embedding Team's Awareness Of Their Meaning-Making: A Constructivist Approach

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Abstract

In this paper, we outline a constructivist approach to raising a literacy/numeracy [LN]-embedding team's awareness of their meaning-making in their context of work. Using grid methodology from personal construct psychology, we first formulated elements for construct elicitation. These elements, couched in the form of eight LN-embedding scenarios, comprised four which captured embedding practices consistent with LN teaching principles, and four which did not. We proceeded to dyadic elicitation using a random selection of eight pairs of these scenarios. For each pair, we elicited the most significant constructs from three team members (recording approximately 50 constructs per person). Each team member selected the ten constructs they judged to be most significant in their meaning-making in the LN-embedding context. These were put into individual ratings grids, and each member of the team then used their ten constructs to rate each of the eight scenarios (producing 80 ratings per person). The poles of the 7-point rating scale coincided with the poles of the constructs. Using the SPSS package, we performed correlational analyses on these ratings. Each team member's correlation matrix became an agenda for discussing the direct and inverse relationships among constructs in their grids. Using each member's grid, we discussed these relationships to illustrate critical-reflective meaning-making in context. We conclude that this approach may be used in a professional development context to raise enabling educators' awareness of their meaning-making in embedding LN in vocational education. We recommend the approach because it takes the meaning-making of a specific person as a stepping stone into raising his/her awareness of LN processes and practices.

[1] All communications about this paper should be directed at the primary author whose details are quoted above.

Introduction

Contextual background

The aim of this paper is to outline a scenario-based approach to eliciting a team's meaning-making at the start of a New Zealand government-funded literacy- and numeracy-embedding project.[2] Eliciting our meaning-making, we argued, implied that we were moving along the continuum of implicit-explicit knowledge, consistent not only with perspectives in organisational learning (see Seufert & Seufert, 2000: 1-10; Mintzberg, Ahlstrand & Lampel, 1998: 209-223; Nonaka & Takeuchi, 1995), but also with the premises of Kelly's personal construct psychology (Kelly, 1966/2003: 3-20; Pope & Denicolo, 2001: ch. 4; Kelly, 1955).

Making the team's implicit meaning-making explicit seemed to us to place our approach within an awareness-raising framework at the very least. At best, we could claim that our approach could be located within the critical-reflective tradition in training contexts (Nesbit, Leach and Foley, 2004: 74; Lengnink & Prediger, 2003: 39-46; Kemmis, 2001: 94-105). Here we find the link with enabling education: if educators are to make informed choices, they have to be aware of the constructs that steer their meaning-making. This paper offers a step-by-step outline for developing educators' awareness of their construing which, we believe, should be part of their professional development. Moreover, their meaning-making is meant to interface dynamically with learners' meaning-making. Educators have to be flexible as they create learning spaces where their learners may create, explore, revise and discard meanings. Although we focus on the unique meanings of a team, we provide a detailed outline of the methodology so that practitioners may replicate the approach in their specific contexts.

We directed our small-scale project specifically at making explicit our meaning-making in relation to the literacy/numeracy-embedding project, limiting the range of convenience of the constructs to be elicited to this context (Kelly, 1966/2003: 11; 1955: 68-72).

At the start of the project we wanted to be explicit about our philosophy of practice, as well as the assumptions and values informing our thinking both as individual team members and as a group. Our first session, not reported on in any detail here, focused on our philosophy of practice which we premised on an incremental, non-threatening and supportive approach to promoting change in vocational tutors' roles and practices in literacy and numeracy within the institute, and how these constructs interfaced with the values of the Waikato Institute of

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[2] In our case, we were appointed at the Waikato Institute of Technology (Wintec) for a specific purpose: to embed literacy and numeracy [LN] teaching strategies in a range of modules targeted by the Tertiary Education Commission (TEC) as part of a funded project, and to ensure that various system-related aspects be aligned to support these LN outcomes in vocational education at the institute (MoE NZ, TES 2007-2012: 34-35).

Technology (Wintec) [3]. Team members were allocated to specific schools within Wintec. In this paper, we report on their meaning-making from the point of view of their embedding task in various programmes targeted in the Tertiary Education Commission's funding for embedding literacy and numeracy in the schools at the institute.

Adopting a personal construct psychology perspective

We adopted personal construct psychology (PCP) as the framework for our awareness-raising activities. PCP founder George Kelly (1955: 8-9) argues that the individual actively anticipates events and experiences on the basis of his or her personal constructs which are "templates ….[s]he creates and then attempts to fit over the realities of which the world is composed". If we look at vocational tutors and learners, they come to educational processes with their personal meanings and meaning-making. From an instructional or an LN-embedding perspective, we could argue that enabling education – in its broadest sense - takes the participants' worlds of meaning-making as the starting point for growth. These worlds of meaning contain the positives and strengths that we have to acknowledge as worthwhile and unique launch-pads for empowering and liberating the participants (see one of many Appreciative Inquiry websites at the following URL: http://www.gervasebushe.ca/apping.htm).

PCP homes in on the individual's personal constructs, which Kelly states, are bipolar, allowing the individual to see similarities and differences in his or her world of experience (Kelly, 1955: 8-12; 1966/2003: 10; Ravenette 1999: 157-158). PCP provides a framework for making sense of how these personal constructs are formed (Kelly, 1966/2003: 9-10); how they are manifested in individuals' unique worlds of meaning (Kelly, 1966/2003: 9); how they are related in hierarchies of meaning (Kelly, 1966/2003: 9-10); how they change (Kelly, 1966/2003: 11-13); why they may become inconsistent or resistant to change (Kelly, 1966/2003: 13, 18-19); how they function in social interactions (Kelly, 1966/2003: 14-16); and so forth.

Kelly also states that PCP is founded on constructive alternativism – there are many ways of interpreting and re-interpreting our experiences and meaning-making:

> [it] does broadly suggest that even the most obvious occurrences of everyday life might appear utterly transformed if we were inventive enough to construe them differently (Kelly, 1966/2003: 3).

[3] We were able to place our philosophy of practice in relation to Wintec values which may be viewed at the following URL: http://wintec.ac.nz/about/who/values.aspx.

PCP has a diverse set of meaning-making tools for us to make sense of the meanings we assign to our worlds of experience as educators. These tools and their benefits are summarized in some detail in Fransella (2003: 105-122), Denicolo (2003: 123-132), Denicolo and Pope (2001: 93-122) and Pope and Denicolo (2001: 91-120). From our point of view, the tools we selected, would allow us, we assumed,

- ☒ to make sense of our current positions on LN embedding when we externalized them in verbal talk;
- ☒ to verbalise our constructs about the LN-embedding task as part of a dialogue for change;
- ☒ to use individuals' positives and strengths, captured in their constructs, as levers for change; and
- ☒ to gain an awareness of individual differences and how such diversity may be managed (see Frances, M. s.a., URL: http://www.pcpassociation.net/appeal/htm).

PCP has a rich tradition of this kind of work in educational contexts and settings other than psychotherapy – these include constructions of anger (Cummins, P. 2006), youth aggression (McClaughlin, Maras, Reiger & Puternite, 2006: 173-188), nursing (Costigan, Ellis & Watkinson, 2003: 427-430), the London Metropolitan Police (Porter, 2003: 435-438), and a large number of teaching- and learning-related applications (Mancuso, 2003: 275-282; Ravenette; 1999; Pope, 2003: 303-310; Salmon, 2003: 311-318; Fromm, 2003: 319-326, to name a few).

Why use the repertory grid method?

Grid methodology, the research tool proposed by Kelly (1955; 1966/2003: chapter 9), has been used by many researchers and practitioners to describe individuals' meaning-making in terms of either their own or provided constructs. Generally, elements - usually in the form of role titles such as "the teacher you most admired" and "the teacher you least admired" - are used to elicit an individual's constructs. These are then used to rate all the elements. These ratings can then be subjected to analysis to discover how the poles of the constructs are related. Advanced statistical analyses may be performed such as factor, principal component and cluster analyses (Fransella, Bell & Bannister, 2004: chapter 4; Pope & Denicolo, 2001: 80-90). We worked with simple correlation matrices to describe how the poles in each team member's constructs were related. We selected four high correlations (>0.8) per team member as our prompts for further reflective talk.

Kelly (1955) saw grid methodology as a tool that could yield a mathematical account of meaning-making. If we argue that each individual develops a network of meanings to make

sense of experience, then the repertory grid technique provides a mathematical vantage point for exploring these meanings (Fransella, Bell & Bannister, 2004: 1-9). Once a statistical analysis has been performed, one is in a position to ask well-directed questions about the rater's thinking. A correlation matrix provides a wealth of information on how one has rated a specific set of elements; thus, the matrix provides relatively reliable information about how, at that point, the individual makes meanings[4].

Research methodology

To pursue our research purpose, we followed the steps below (based on grid methodology procedures outlined in Fransella, Bell & Bannister, 2004; and Bell, 2003: ch. 3):

Step 1: To identify elements for eliciting constructs from the team members, we wrote 8 scenarios that had bearing on literacy-embedding practices. Four of these were consistent with accepted practices in the field, while a further four were not. The latter scenarios contained very obvious inconsistencies with current literacy-embedding practices. The focus of convenience of the constructs to be elicited was "literacy-embedding processes in vocationally relevant contexts of learning" (Kelly, 1966/2003: 11; 1955: 68-72). These scenarios are listed in Appendix A.

Step 2: We used dyadic elicitation (Fransella, Bell & Bannister, 2004: 28-29) based on a random selection of scenarios which featured the following four pair types: Type 1: Scenarios 1 & 4; and 3 & 6 (where both scenarios were consistent with LN practices); Type 2: Scenarios 1 & 2; 4 & 5; 1 & 5; and 6 & 7 (where one was consistent and the other inconsistent with LN practices); and Type 3: Scenarios 2 & 7; and 7 & 8 (where both scenarios were inconsistent with LN practices). These eight pairs were used as elements in the elicitation which involved the standard dyadic technique. Each team member was asked the following questions:

> **Option A:** Compare the two scenarios and define an aspect where they are similar, or: compare the two scenarios and define an aspect where they are different.
>
> **Option B:** When an aspect of similarity was pointed out: If you think about this aspect of similarity, how are the two scenarios different? Or: When an aspect of difference was pointed out: If you think about this aspect of difference, in what respect are these two aspects of difference similar? (cf. Fransella, Bell & Bannister, 2004: 28-30; 39-44).

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[4] Hill (1995: 103) refers to Bell (1988) who proposed the following formula to assess the amount of information contained in a grid: [n + (m x 2 poles)] + (n x m) where n = elements and m = constructs entered into the grid. In the context of our small-scale project, each team member selected 10 constructs in relation to 8 elements (i.e. scenarios). If we apply Bell's formula, this implies that each grid yielded 108 individual items of meaning that could potentially be discussed.

Step 3: We laddered several of the constructs, following the procedures outlined by Fransella, Bell and Bannister (2004: 43). We also used pyramiding (known too as laddering down) on a selection of constructs we elicited in each interview. To back up the process, we kept notes and made digital recordings of all interactions.

Step 4: The primary author summarized the lists of constructs elicited from team members, and disseminated these summaries to them with the request to select their top ten constructs. Some discourse segments were transcribed to illustrate the elicitation procedure.

Step 5: Once they made their selections, the primary author prepared a ratings booklet for each team member. Each scenario was quoted at the top of each page, followed by ten constructs whose poles were placed below the scenario on a 1 to 7 scale, where 1 implied a high level of the pole of the construct at that end. Likewise, a 7 implied a high level of the pole at that end of the continuum. A rating of 4 was neutral. Thus, a team member had to produce ten ratings for each of the eight elements [i.e. scenarios]. For an example of a ratings page for an element (i.e. scenario), taken from one of the team member's ratings booklets, see Appendix B.

Step 6: Once they had produced their ratings, the primary author transferred the data to Excel files [i.e. one electronic file per team member], importing the files into SPSS to compute correlation matrices for the participating members (SPSS 17.0).

Step 7: The correlation matrices were then used to explore four highly correlated constructs (>0.8) in each team member's meaning making. The team members' discussions of these correlations were recorded as evidence of awareness-raising activity within the team.

Step 8: In addition, the primary author presented them with a scenario that could have bearing on the team's work at the institute. After a focus group session with a group of managers, we realized that as a team we had to return to our philosophy of practice, reflecting on whether it was robust enough to be used in case schools resisted our LN-embedding efforts. So, we anticipated the future, exploring the team members' meaning-making, and homing in on their flexibility and responsiveness in the context of possible resistance to change.

Findings

In this section we report on our findings. Awareness-raising occurred throughout the various steps. Eliciting constructs by means of dyadic elicitation, laddering, pyramiding, and dyadic discussions of highly correlated constructs turned out to be opportunities for producing and recording team members' verbal accounts of their meaning-making.

Eliciting constructs: From discourse to graphic outlines

In the dyads, the primary author and the three team members were able to record more than 160 constructs (i.e. more than 50 constructs per team member) that had bearing on the scenario combinations. A typical exchange would develop as outlined in Table 1:

Table 1: Elements: Scenarios 1 and 2

Turns	Turn-by-turn transcription	Comments
1	IR: When you read these [scenarios] and you compare them, how are they similar, or how are they different? You can answer either question, and we'll take it from there. So you read them and you think about how they are either similar or different.	Explaining the elicitation procedure.
2	TM 1: [69-second pause] You want either the similarities or the differences?	Checking sequence, initiated by TM 1.
3	IR: Yeah, you can start with one/	Confirming her view.
4	TM 1: Okay, okay, scenario 2 is not structured.	Pole of a construct elicited: an unstructured learning process.
5	IR: Uhm/hu	Continuity signal.
6	TM 1: I feel/	Initiates, followed by overlap/
7	IR: It's not structured.	Confirming, secondary follow-up.
8	TM 1: there's no flow to it – it's like two separate people teaching two completely/	Explaining the claim/label.
9	IR: yeah/	Continuity signal
10	TM1: disparate things.	Explaining the claim/label.
11	IR: So, you say it's unstructured.	Reflecting the label back at TM 1.
12	TM 1: Yeah/	Confirming.
13	IR: OK, and then you said "disparate things"?	Probing.
14	TM 1: The students won't see how one thing relates to the other.	Rephrasing – a consequence of unstructured lessons.
15	IR: So, it's not integrated?	Probing. Asking about another construct.
16	TM 1: Yeah/	Confirming.
17	IR: Would you be happy with that? [pause] What else? [pause] Let's look at the opposites. Let's look at unstructured. What would the opposite be?	Checking. Probing for opposites.
18	TM 1: Structured learning.	Preferred pole is elicited.
19	IR: OK [he writes down the pole] And non-integrated learning/	
20	TM 1: would be integrated/	Preferred pole for TM 1.
21	IR: [Points at notes] at which ends of these two constructs do you see yourself as functioning?	Checking on preferred poles.
22	TM 1: [she points at structured and integrated learning] This side.	Checking on preferred poles.

This section of discourse is typical of how constructs were elicited from team members. We summarise the two constructs in table 2:

Table 2: Two constructs

Preferred pole	Aspect of similarity	Opposite pole
Structured [scenario 1]	Approach	Unstructured [scenario 2]
Integrated [scenario 1]	Learning	Non-integrated [scenario 2]

We deduce from the construct table and the preceding discourse that the team member views the two scenarios as approaches to the acts of teaching and learning (aspects of similarity). However, the two scenarios are different: scenario 1 is seen as a context where learning is structured and all elements of learning have been integrated, while scenario 2 represents the opposite, with non-integrated, disparate elements in the learning couched in an unstructured approach to teaching. In making sense of the two scenarios, the team member has used two polarities as a point of reference for evaluating the teaching and learning events depicted in them.

Another team member's constructs for the same two scenarios are outlined in Table 3 below, emphasising the individuality corollary in Kelly's theory (Kelly, 1955: 55), namely that individuals assign unique meanings to the same events:

Table 3: Elements - Scenarios 1 and 2

Preferred pole [Scenario 1]	Aspect of similarity	Opposite pole [Scenario 2]
Vocationally relevant	Text selection	Vocationally irrelevant
Learners have to see	Relevance	Learners won't see
Learners are	Motivated to engage	Learners may question why they should be
It's important for all to see	Where texts fit in	They are confused because they don't know

However, team members shared some constructs as we can see in Table 4 below which summarises the third team member's response to scenarios 1 and 2:

Table 4: Elements - Scenarios 1 and 2

Preferred pole [Scenario 1]	Aspect of similarity	Opposite pole [Scenario 2]
Vocationally related	Text choices	Vocationally unrelated
Integrated	Learning	Non-integrated
Using learner motivation as	Lever for change	Ignoring learner motivation as
Relevance of all aspects	Of learning	Lack of relevance of all aspects
Tie into	Learner realities	Not connecting with

Laddering up and pyramiding

Fransella, Bell and Bannister (2004: 39-40) explain laddering up as a process in which the interviewer asks the interviewee why a specific preferred pole is meaningful to him or her.

Successively, as each answer is given, the "why question" is asked until there are no further responses. For the sake of space, we summarised an example of a laddered construct in Table 5 below. The laddered construct is "establish versus ignore learners' background knowledge":

Table 5: Laddering based on a construct elicited on scenarios 1 and 4 (Preferred poles in bold)

Why is this pole meaningful to you?	**Top of the ladder**
	Construct 8: What they are doing is worth the effort (vs not worth the effort)
	Construct 7: Valuing where learners are headed (vs not valuing where they are headed)
	Construct 6: Enhance learner motivation (vs ignore learner motivation)
	Construct 5: To retain students in the system (vs not to retain them)
	Construct 4: **Use their energy and motivation** (vs ignore their energy and motivation)
	Construct 3: Harness learners' knowledge (vs not harnessing learners' knowledge)
	Construct 2: Respect their knowledge gained elsewhere (vs not respect their knowledge gained somewhere else)
	Construct 1:Establish background knowledge (vs ignore background knowledge)

The team member's account of the ladder (summarised from the discourse) is captured in Table 6 below:

Table 6: Team member's account of a laddered construct

To become familiar with learners' background knowledge [construct 1] is important to me because it shows that I respect the knowledge the learner has gained elsewhere [construct 2]. This is important to me because if I validate them in this way, I go further and harness their knowledge in the classroom [construct 3]. This is important to me because I will be able to rely on their energy and motivation, which I have to use as a lever for their growth and development [construct 4]. Why is this important to me? If I adopt this approach, I stand a better chance of retaining students [construct 5] and enhancing their motivation [construct 6]. Why is this important to me? If students are motivated and I have validated them, I should also value the professions where they are headed [Construct 7]. Why is this important to me? I want them to know that what they are doing is worth the effort [Construct 8].

Laddering down (also known as pyramiding) involves asking "what" and "how" questions to tie the construct to concrete real-life situations (Fransella, Bell & Bannister: 2004: 43-44). In our context, the scenarios were the concrete events; yet, team members were able to tie their constructs to other concrete events from their teaching and learning experiences.

Discussing correlation matrices

As stated earlier, team members selected their ten priority constructs from their lists of constructs. These were entered into Excel worksheets which were imported into SPSS. Three correlation matrices, similar to the one below, were produced. In Table 7 below, we include the correlation matrix computed for team member 3:

Table 7: Correlation matrix for Team Member 3:

Constructs 1 to 10	Con_1	Con_2	Con_3	Con_4	Con_5	Con_6	Con_7	Con_8	Con_9	Con_10
Con_1: **Relevance** vs Irrelevance **of all aspects of learning**	1.000	-.947	-.406	-.711	-.811	.748	-.827	.839	.470	-.587
Con_2 : Do not teach vs **Teach to reality**	-.947	1.000	.296	.700	.910	-.680	.706	-.868	-.604	.485
Con_3: Threatening vs **Non-threatening learning**	-.406	.296	1.000	.755	.457	-.695	.694	-.478	-.647	.594
Con_4 Ignore vs **Respect learner knowledge**	-.711	.700	.755	1.000	.777	-.838	.875	-.698	-.668	.426
Con_5: Do not vs **Use learner energy as motivation**	-.811	.910	.457	.777	1.000	-.731	.688	-.794	-.763	.506
Con_6: **Acknowledge** vs Disregard **worth of learner effort**	.748	-.680	-.695	-.838	-.731	1.000	-.877	.672	.539	-.510
Con_7: Not avoiding vs **Avoiding Blocks to learning**	-.827	.706	.694	.875	.688	-.877	1.000	-.745	-.428	.672
Con_8: **Seeking** vs Ignoring **group bonding**	.839	-.868	-.478	-.698	-.794	.672	-.745	1.000	.729	-.733
Con_9: **Self-directed** vs tutor-directed **learning**	.470	-.604	-.647	-.668	-.763	.539	-.428	.729	1.000	-.478
Con_10: Undermining vs **Building learner self-confidence**	-.587	.485	.594	.426	.506	-.510	.672	-.733	-.478	1.000

Per team member, we selected the four high correlations (>0.8) [with either a + or a – sign] as prompts for a tentative discussion of what the correlations meant. An example of the four correlations and their hypothetical questions is listed in Appendix C. In Table 8 below, we list information about the first correlation we selected, namely, C1 and C8. The value 0.839 indicates a high positive correlation between the two preferred poles, marked in bold below:

Table 8: Correlation C1 X C8 (0.839)

C1: **Relevance of all aspects of learning**		C1: Irrelevance of all aspects of learning
C8: **Seeking group bonding**		C8: Ignoring group bonding

Question & hypothesis: You see the relevance of all aspects of learning to be as important as seeking group bonding in vocational contexts. How do these two poles relate to success in vocational instruction?

The team member confirmed that the two poles were related in his thinking. He then selected the "seeking group bonding" pole as a key to how he views success. In elaborating on this pole of the construct, he activated a range of new constructs, which is evidence of the level of cognitive complexity of this web of constructs (Kelly, 1966/2003: 9-10; Adams-Webber, 2003: 53-54). In Column 1 of Table 9 below, we provide the key aspects of the discussion, and in column 2, the constructs activated outside the two under discussion:

Table 9: New constructs activated in follow-up discussion

Aspects covered in the discussion	**New constructs activated**
☒ His background relates to the paramilitary where he discovered that group bonding was important. ☒ He believes learners draw strength from each other, from in-class peer support, and from forming study groups. ☒ He believes in a degree of competitiveness with other groups to promote bonding. ☒ He believes his group displays typical responses that everyone associates with the group: among others, they use typical, members-only language and they are recognised for their competencies.	☒ Cohesive versus divided groups ☒ Group-based versus individual learning ☒ Focusing on versus ignoring the group as a resource ☒ Competitive versus co-operative approaches to learning ☒ Membership versus non-membership group skills, styles and behaviours

In his meaning-making, "seeking group bonding" seems to be a condition for successful learning. The critical-reflective phase would probably include our using the ABC model to analyse the advantages and disadvantages of "seeking group bonding" (Cummins, 2003: 89; Fransella, 2003: 118-119). The challenge for the team member is probably to interrogate the preferred pole of his construct in what McWilliams (2003: 76) has referred to as the interplay between a passionate and a questioning commitment. We then discussed three more of these correlations (see Appendix C).

As we stated earlier, after a focus group session with a group of managers, we realized that as a team we had to return to our philosophy of practice, having to reflect on whether it was

robust enough to be used in case schools resisted our LN-embedding efforts. So, we defined a fictional scenario posing the following problem:

Fictional scenario: You are required to work in a school at the institute. You have received some explicit hints that staff see the literacy-embedding project as top down, coercive and controlling. How would you deal with the challenge?

In Table 10, we summarise a team member's discussion. Interestingly, the team member had already engaged the school he had been assigned, and in his view, he had encountered signs of resistance. He worked from his experience to couch his response in the concrete events of the preceding month; thus, he gave an account of how he had pursued the LLN-embedding task, illustrating the cognitive complexity of his meaning-making (captured in a range of new constructs):

Table 10: Summary of new constructs

Summary [ET = Embedding Team Member; PM = Programme Manager; VT = Vocational Tutor]	**New constructs activated [Preferred poles are underlined and in bold]**
☒ The ET believes he has to engage PMs and VTs to define his role in the initial stages ☒ The ET links embedding, the vocational training context and his world of experience. ☒ The ET talks to PMs and VTs about the challenges they face given learners' levels of LN ☒ The ET acknowledges PMs and VTs efforts over many years ☒ The ET defines his approach to the embedding task to the group ☒ The ET states that he will adopt a non-judgemental role as an observer in classrooms ☒ The ET defines the VTs' role: VTs are in charge, using the embedding tutor as a resource ☒ The ET has to use the opportunities created by PMs and VTs to promote the embedding cause ☒ The ET defines his role in relation to learners ☒ The ET avoids the terms literacy and numeracy as potentially negative labels ☒ Once trust has been established, the ET selects opportune moments to contribute ☒ The ET believes that PMs and VTs have to be acknowledged as key problem-solvers and innovators ☒ The ET continues to support initial approach: Identify current LN practices; then get the VTs to experiment	☒ **Defining** versus not defining the ET's role [for VTs and learners] ☒ **Linking** or not linking the trades to his personal experience ☒ **Identifying** with vs ignoring challenges of poorly prepared learners ☒ **Acknowledging** versus neglecting to acknowledge their efforts ☒ **Defining** versus being too sketchy about his practices ☒ **Judgemental** versus non-judgemental approach to embedding practices ☒ **Assigning** versus not assigning the responsibility for embedding team assistance to the vocational tutor ☒ **Sensitive** versus insensitive to potentially negative labels ☒ **Appropriate** versus inappropriate tactical intervention in classrooms ☒ **Acknowledging** versus ignoring VTs' solutions to teaching/learning problems ☒ **Bottom-up** versus top-down solutions* ☒ **Incremental** versus radical change* ☒ **Using** versus ignoring vocational tutors' current practices in launching embedding process*

The initial angle we took as an embedding team was erected around three points of orientation: we would adopt an incremental, non-threatening and supportive role, reinforcing vocational tutors' strengths. In brief, the constructs column above shows how diversified the embedding tutor's meanings are that pertain to initiating and establishing a workable relationship with programme managers and vocational tutors. In other words, a complex hierarchy of meanings govern the ET's approach, how he has begun his work, and how he anticipates to continue to work within this inclusive bottom-up process.

Conclusion

In this paper, we attempted to show that

- ☒ a constructs approach may be used in professional development contexts to raise enabling educators' awareness of the meanings they assign to their roles and practices.
- ☒ this approach promotes educators' awareness of their meanings as key levers in making decisions in instructional contexts.
- ☒ scenarios may be used as elements in grid methodology to elicit team members' constructs for a specific literacy- and numeracy-embedding context.
- ☒ the elicitation procedure, the ratings grids and their findings could be used to probe team members' meaning-making in reflective talk.
- ☒ reflective talk often led to our accessing a wider web of related meanings, and that at the very least, team members had stepped away from their experience and engaged in a reflective description of their own meaning making.
- ☒ two cycles are relevant: the first focuses on eliciting constructs, followed by ratings and post-rating reflective talk; the second may follow on the first when reflective talk becomes the object of further talk (i.e. talking about talk).

Our approach was not aimed at invalidating team members' meaning-making; rather, we articulated our meanings within an appreciative inquiry framework. Although PCP has tools such as the ABC model to develop a critical-reflective approach to our meaning-making, we should be mindful of Bannister (2003: 70) who suggests that in professional development, we should

> facilitate change not by assaulting each other's central beliefs but by helping each other to construct alternatives, beginning with areas of peripheral contradiction ... [t]hus, we may gradually replace central beliefs without the need for hostility.

The emphasis should be on exploring, sharing and caring about the meanings we, as enabling educators, project onto our work-related roles and practices.

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APPENDIX A: SCENARIO COMBINATIONS (Elements)

Scenario 1: A vocational tutor, trained in adult literacy and numeracy teaching, asks learners to make predictions about the content of a section of work for a session. These predictions are based on the title and the theme of the section. All the predictions are written on the board, and learners are then asked to read the text to prove or disprove their predictions. They then proceed to the vocational training outcomes of the session. The vocational tutor structures pair work, expecting them to solve a problem-based real-life scenario, based on the same material.	**Scenario 2**: A literacy-embedding tutor, assigned to team teach with a vocational teacher, starts off a lesson on his own focusing on text structure in two different texts, neither related directly to the vocational field of training. Once he has mind-mapped the differences and similarities of the two texts, he reviews the lesson, and then leaves the class to call the vocational tutor who then draws attention to the vocational training outcomes of the session. He does not refer to the literacy-embedding tutor's earlier work.
Scenario 3: In a team-teaching session, a literacy-embedding tutor explains how language, literacy and numeracy knowledge and skills are required to solve a specific problem to be dealt with by the vocational tutor later on in the session. Together the literacy tutor and the vocational tutor have analysed the task and the learners' current level of skill. The so-defined needs are based on earlier responses obtained from the group of learners. The two tutors work strictly according to their jointly created lesson plan which contains LN and vocational outcomes, all of which are integrated and assessed.	**Scenario 4:** A vocational tutor, trained in adult LN, begins his session with a brief outline of the Mãori concept, 'manaaki tangata' – to embrace or care for others. She emphasizes that it is crucial to develop a sense of belonging, as well as caring and sharing in communities of learning. She teaches them the pronunciation of the phrase, followed by another: 'Kaua e takahì mana" - don't denigrate others. She reminds learners that they will be working in small groups, and that these concepts should be at the heart of their participation in learning.
Scenario 5: An LN-embedding tutor advises a vocational tutor that one of the prominent features of texts is that authors create "chains of ideas" that often take on the form of near synonyms or related words. The LN tutor suggests that he use a mind-map with gaps to raise learners' awareness of repetitive chains of related words. The vocational tutor, assisted by the LN tutor, prepares a mind-map with gaps. The text used is not from the study material, but from a local newspaper in which an article on desert frogs has appeared. These gaps are of key words from the text as a whole. The vocational tutor then switches to the lesson of the day on the topic of electricity.	**Scenario 6:** An LN-embedding tutor works closely with a vocational tutor to build up a comprehensive list of learner needs on the basis of their written and spoken responses to learning tasks. The two tutors seek an optimal match between learner needs and the teaching strategies. Each learner is given an individual outline of her needs. Learners devise their own individual learning plans.
Scenario 7: An LN tutor and a vocational tutor have decided that their primary task is to integrate new learning strategies into the vocational tutor's approach to instruction. They focus exclusively on strategies that learners may use to identify morphological elements of words: namely, stems, affixes and suffixes. Each student is expected to analyse at least ten randomly selected words per session. The words are taken from the dictionary and in most cases consist of at least five syllables.	**Scenario 8:** An LN-embedding tutor works on learners' LN needs to be able to make sense of their study materials, while the vocational tutor focuses exclusively on vocational outcomes – the two tutors' approaches and schedules have not been synchronized. They have separate briefs and work entirely independent of each other. Unknown to the vocational tutor, the LN-embedding tutor's needs analysis remains in an electronic file logged by the literacy/numeracy-embedding team.

Appendix B: Sample of a ratings page

The following is an example of the first element and its constructs for one of the team members:

INSTRUCTION: Turn over the page. Read the scenario in the top block. Then rate the scenario in terms of the bipolar constructs listed below it.

	Scenario 1: A vocational tutor, trained in adult literacy and numeracy teaching, asks learners to make Predictions about the content of a section of work for a session. These predictions are based on the title and the theme of the section. All the predictions are written on the board, and learners are then asked to read the text to prove or disprove their predictions. They then proceed to the vocational training outcomes of the session. The vocational tutor structures pair work, expecting them to solve a problem-based real-life scenario, based on the same material.							
Pole A Rating = 1	**Scenario: Score 1 to 7**							**Pole B = Rating 7**
Relevance of all aspects of learning	1	2	3	4	5	6	7	Irrelevance of all aspects of learning
Do not teach for reality	1	2	3	4	5	6	7	Teach for reality
Threatening learning	1	2	3	4	5	6	7	Non-threatening learning
Ignore learners' knowledge gained elsewhere	1	2	3	4	5	6	7	Respect learners' knowledge gained elsewhere
Do not use learners' energy as a motivator	1	2	3	4	5	6	7	Use learners' energy as a motivator
Acknowledge that the learning is worth the effort	1	2	3	4	5	6	7	Do not acknowledge that the learning is worth the effort
Not avoiding the blocks to learning	1	2	3	4	5	6	7	Avoiding the blocks to learning
Seeking group bonding	1	2	3	4	5	6	7	Ignoring group bonding
Self-directed learning	1	2	3	4	5	6	7	Tutor-directed learning
Undermining learners' self-confidence	1	2	3	4	5	6	7	Building learners' self confidence

Appendix C: Graphic outline of correlations for team member 3

(0.839)

C1: Relevance of all aspects of learning		C1: Irrelevance of all aspects of learning
C8: Seeking group bonding		C8: Ignoring group bonding

Question & hypothesis: You see the relevance of all aspects of learning as important as seeking group bonding in vocational contexts. How do these two poles relate to success in vocational instruction?

(-0.868)

C2: Do not teach for reality		C2: Teach for reality
C8: Seeking group bonding		C8: Ignoring group bonding

Question & hypothesis: In your view, teaching for reality is as important as seeking group bonding in vocational contexts. Is this hypothesis accurate?

(-0.838)

C4: Ignore learners' knowledge gained elsewhere		C4: Respect learners' knowledge gained elsewhere
C6: Acknowledge that the learning is worth the effort		C6: Do not acknowledge that the learning is not worth the effort

Question & hypothesis: In your view, respect for the learners' knowledge gained elsewhere is of the same status as acknowledging that their learning is worth the effort. In your view, how are these two poles related to success in vocational training?

(-0.733)

C8: Seeking group bonding		C8: Ignoring group bonding
C10: Undermining learners' self-confidence		C10: Building learners' self-confidence learning

Question & hypothesis: In your view, the ideal place for a learner to build his self-confidence is where strong group bonding has successfully been established in a group of learners. Do you agree? Explain your view.