IMPROVING OUTCOMES FOR PRE-APPRENTICESHIP HAIRDRESSING STUDENTS: A COLLABORATIVE ACCOUNT OF AN ACTION RESEARCH INQUIRY

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SUMMARY

In this article, we report on how we collaborated, as a research team whose members were drawn from Foundation Studies and the hairdressing vocation, to describe how we had used a multi-method approach to plan, implement and make sense of a module improvement project for pre-apprenticeship students in a tertiary institute in New Zealand. The project was initiated by three of the authors who are hairdressing tutors in the tertiary sector. They invited the literacy-embedding team (i.e. the two remaining authors) at the institute to participate in the project as critical friends and co-researchers. We report on the three stages the Action Research inquiry, which included a constructs-elicitation phase to raise the vocational educators' awareness of their personally held pedagogical constructs informing their pedagogical actions.

INTRODUCTION

In this report, we provide a collaborative, and therefore co-constructed, relational account of three stages of an improvement process in vocational training in a tertiary setting in New Zealand. We attempted to follow what Newton and Burgess (2008) refer to as the catalytic and the dialogic validity of action research (AR). We consciously pursued catalytic validity, namely, the transformative effect of a collaborative approach among the stakeholders. The three hairdressing educators – the three middle authors in the by line – invited two members of a literacy-embedding team (LET), one of whom had worked as a hairdresser and trainer, to join the research team as "critical friends" in re-designing a module notorious for its technical terms, lengthy explanations, limited visuals, teacher-centred delivery and negative student perceptions.

As a collective, we agreed that action research, with its focus on collaboration, critical reflection, change and improvement in classrooms (as one of many contexts of use of the methodology) (Kemmis and McTaggart, 2003), offered an appropriate framework for addressing this challenge. Our collaborative approach, we reasoned, promoted democratic validity.

Arguing from the point of view of a multi-method approach in a post-intervention follow-up, one of the literacy-embedding team members conducted laddering interviews with the hairdressing trainers to raise their awareness of what they each deemed to be their five most valued pedagogical constructs in the context of the targeted module, but also in a more global sense (Fransella, Bell & Bannister, 2004).

To extend the reflective component of the project, the LET used two additional perspectives to make sense of the evidence base collected to support our conclusions. Following Hardy, Palmer and Phillips (2000), we viewed the hairdressing team's initial voicing of a learner-centred approach as typical of the circuit of activity. Their attempts to secure a receptive coalition of partners (including their students) seemed to fit Hardy et al.'s circuit of performativity. Finally, the changes in their own and their learners' role definitions and practices were confirmed by third-party participant observers. Above all, over the three-year period the completion rate had improved from 50% to 76.9%. These sources of evidence confirmed that the envisaged change had been successfully accomplished in the

circuit of connectivity.   The three-circuit model, used elsewhere in describing change in literacy-embedding practices at the institute, places vision-based, relational meaning-making at the heart of transformational change processes (Greyling, 2011).

This change project also fitted in well with Torbert's (2004) action inquiry perspective which distinguishes subjective, intersubjective and objective data in organisational inquiry and change. Voicing their intention to create a more enabling learner-centred approach captured the hairdressing team's vision of the future, while their attempts to build a coalition of partners in the design and actively to negotiate buy-in from students represented the intersubjective dimension of change. Finally, the improvements in completions represented the objective evidence of change. Moreover, the critical friends' field notes and observations captured a third-party account of participants' changed roles and practices (Torbert, 2004). To cross-validate the evidence of positive outcomes and completions on the course, we asked participating students for their views in an anonymous survey.

ACTION RESEARCH CYCLE
Our first step was to adopt Stringer's (2007) Look-Think-Act cycle as a framework for conducting the action research cycle, and planning the project at the start. However, on analysing our field notes and data, we soon discovered that the look-think-act cycle was too general for our purpose. Although the look-think-act cycle seemed to be relevant in several stages of the improvement process, we adopted a constructivist and grounded theory perspective to describe our evidence. Our evidence prompted us to describe three stages, each consisting of several steps. We concluded that this was probably why such a diverse range of action research cycles were in use in various fields of research (Newton & Burgess, 2008; Kemmis & McTaggart, 2003).

AR practitioners design interventions and develop models that are novel and new. Instead of forcing our evidence into one of these models, we reflected on our experiences, and following the principles of constructivist grounded theory (Charmaz, 2003) and the notion that AR projects allow educators to capture their unique challenges in their contexts (McNiff & Whitehead, 2006; McNiff, Lomax & Whitehead, 1996), we diversified the action-reflection cycle to capture what we referred to as a three-stage design, implementation and reflection cycle.

Following the imperatives of catalytic and democratic validity (Newton & Burgess, 2008), we used our combined experiences and our field notes to develop an AR model that would allow us to make sense of the improvement process we were pursuing.

THREE STAGES: DESIGN & IMPLEMENTATION CYCLE, FOLLOWED BY CONSTRUCTS ANALYSIS
Stage 1: Design
Step 1: Analysing the current situation, reflecting on the targeted module & brainstorming options
Step 2: Deciding on a plan of action & developing, analysing and reflecting on the new module design
Step 3: Trialling and tweaking the module content and activities
Step 4: Finalising the module for implementation

Stage 2: Implementation
Step 1: Structuring an enabling environment
Step 2: Assigning tasks for group presentations & feedback
Step 3: Proceeding to individual presentations & feedback
Step 4: Assessing progress - Student ratings & completions

Stage 3: Laddering tutor constructs
Step 1: Eliciting five tutor constructs
Step 2: Laddering up the five constructs
Step 3: Laddering down (pyramid) the five constructs

STAGE 1: THE DESIGN PHASE
Step 1: Analysing the current situation and brainstorming the options
As part of looking at and thinking about the 2011 format of the course, we agreed as a collective that the hairdressing trainers had identified a module whose delivery could indeed be seen as sub-optimal. This was clear from completion rates significantly below those for other units, as well as from relatively negative student evaluations from earlier years.

The module had been identified as a bottleneck in 2010, which prompted a re-design of the materials to include a detailed workbook and a DVD. These measures had an impact in 2011, improving the completion rate from 50% to 65.6% of each cohort, as can be seen from Figure 1 below.
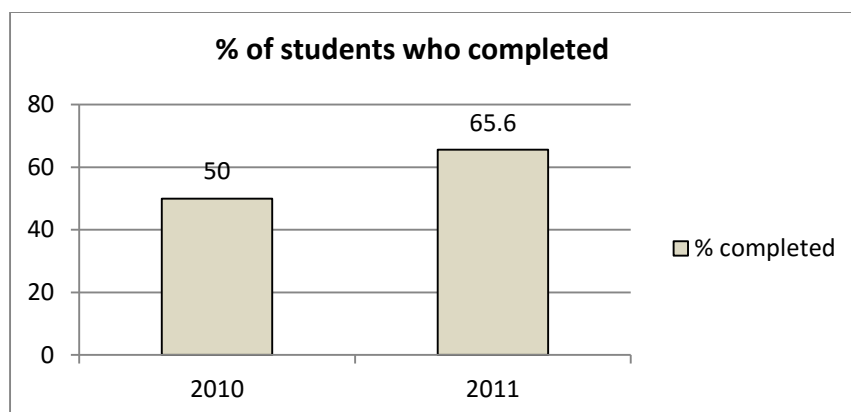

Figure 1: Completion rate for 2010 and 2011 expressed as a percentage

The hairdressing team agreed that the instructional process in 2011 remained dominated by the tutor, limiting student involvement and initiative. A shift away from teacher-centred to learner-centred engagement was needed.

The hairdressing tutors' analysis also highlighted that the technical terms in the module were poly-syllabic and Latin-based, posing difficulties in pronunciation and comprehension. In terms of the Tertiary Education Commission's guidelines, they judged the resource materials and the workbook to be in the step 4 range of the Progressions for vocabulary, language structure, comprehension, and reading critically. Having administered the TEC's reading assessment, they knew that students' skills covered a range from step 2 to step 5 (TEC, 2008). They realised that they had to scaffold students' learning, using a range of activities to meet various literacy course demands, as well as learners' literacy needs and diverse ways of making sense of learning materials. They brainstormed the options available to them, arguing from a socio-cultural perspective (Conole et al., 2004; Van Lier, 1996; Diaz, Neal & Amaya-Williams, 1990) that educational technology embodied significant tools which learners had to master to be able to engage in a knowledge economy (Guney & Al, 2012). For this reason, the hairdressing trainers were intent on selecting a wider range of educational technologies such as e- and m-learning to pursue better outcomes for students (Oliver, Harper, Wills & Hedberg, 2007). Driving these choices was the hairdressing trainers' shared vision of adopting a learner-centred approach, and redefining learner roles not only as active participants in learning skills and knowledge in the module, but also as co-designers of the course and creators of content. Learners, the hairdressing trainers reasoned, would be introduced to tutor-provided materials and activities; however, to develop learner autonomy, self-efficacy and self-confidence, they would be required to take responsibility for seeking, generating and presenting their own content within a blended learning approach.

To promote student engagement and participation, the hairdressing trainers agreed that they would require students to engage in independent web-based research, followed by their presenting their findings as part of a group, and then progressing to individual presentations on new, yet related topics.

The materials and resources, made available in Moodle 1.9, the hairdressing tutors agreed, would include more visuals and internet resources such as YouTube video clips. Learners would also have to use web tools such as www.GoAnimate.com for animations, and create their own power point slideshows.

Step 2: Deciding on a plan-of-action & developing, analysing and reflecting on the new design
Once the hairdressing trainers had their plan of action ready, we met as a collective. They presented their intended approach to the literacy-embedding team members, their team manager and the Quality and Academic Unit representative.   The hairdressing trainers presented an outline of the principles, practices and vision of learner-centred and technology-enhanced delivery they would pursue. They also showed us a number of activity types they had in mind. These included scaffolded activity-based decoding exercises involving multi-media inputs; cartoon-based dialogues; student presentations in groups and pairs; powerpoint presentations (both as sources and as student-generated data), and YouTube clips.

The hairdressing tutors embarked upon the re-design process, keeping in mind the imperative to cover all the performance criteria and elements in the unit standard in the activities designed for the module. Thus, the notion of constructive alignment was a key principle driving their redesign (Biggs & Tang, 2007), prompting them to remain aware of the consistency that should exist between learning outcomes (defined by performance criteria and elements), the resources and activities specified for the course, and the mode of assessment. If the approach was going to be outcomes-driven and the activities aimed at pursuing a student-centred approach, they would have to select an assessment method that would replicate the learning they had initiated in the formative phase of the instruction.

In brief, their plan involved a number of components. First, the hairdressing tutors would develop resources, especially visuals, to introduce learners to the field of contagious and non-contagious conditions of the hair and scalp. These resources would be scaffolded, ensuring that learners found the materials fun, easy to understand and accessible. However, learners were also required to go beyond the scaffolded material, generating their own content by means of research on the internet and elsewhere. Thus, to develop learner autonomy, the hairdressing tutors developed their approach so that the course materials were scaffolded, yet learners would eventually be required to deal with unscaffolded, real-life texts. Second, the visuals would be drawn from a range of sources including visually appealing powerpoint summaries of the content, humorous cartoons of aliens discussing contagious and non-contagious diseases of the scalp in earthlings, video clips from YouTube, and a reworked version of the previous year's DVD. Next, learning would progress through two stages. Once the hairdressing tutors had given a brief tutor-led introduction, the students would form groups. In stage 1 they would develop a presentation on the content, with each group member contributing to a shared presentation. The group presentations would be aimed at building co-operative attitudes, a sense of belonging to the group and whanaungatanga [relationship-building] (LiteracyNZ, 2012) while pursuing the learning outcomes for the course. The argument was that the group context did not pose a large risk of threat to face. With the group presentation as a prelude, learners would then prepare and deliver individual presentations in stage 2. The tutors would use peer evaluation for both sets of presentations. Members of the literacy-embedding team and Quality and Academic Unit would be invited to attend these presentations to serve as "critical friends" guarding over the standards required for training of this kind.

Step 3: Trialling and tweaking
Once the module was designed, one of the hairdressing tutors recruited a student in the mid-range of ability to participate in trialling and tweaking the materials and activities. The 90-minute review of the materials was systematic, with the tutor asking incisive and pertinent questions about specific learner experiences of the resources and course content. The tutor checked on the learner's understanding of task words in their instructions, the appeal of the activities and how language use was perceived in both the resources and the activities. The designers also considered the literacy-embedding team's suggestions as to how they could promote readability and literate reasoning. The tutor's questions were directed at eliciting meta-talk from the student: from her account of her experience of the

materials, the tutor wanted to establish whether the student's experience coincided with what the designers' intentions.

Step 4: Finalising the module for implementation
The information gathered from step 3 and some further reflection prompted the hairdressing team to make changes to the module. These included some of the task words used, language use in the resources and the pedagogical activities, as well as strategies for structured overviews and navigating material (TEC, 2008).

The process of constructive alignment encompassed the following elements: performance criteria, elements, learning outcomes, educational technology tools such as webtools, e-learning, audio files for pronunciation, animation sites (cartooning), powerpoints, graphic sources (photographs and drawings), YouTube clips, scaffolded tutor-generated activities, unscaffolded student-generated content, as well as peer and tutor evaluation (Biggs & Tang, 2007).

Next, the hairdressing tutors proceeded to the implementation phase which depended on participant buy in. By all accounts, the hairdressing tutors were able to forge an alliance of interested stakeholders, which included staff, students and managers, in pursuing their vision for the course (Kotter, 2008).

THE IMPLEMENTATION PHASE

Step 1: Structuring an enabling environment

The tutors outlined their journey to the group of students, as well as their intentions in the re-design, the multi-media blended learning approach they had adopted, the materials to be used, an overview of the course, including outcomes, formative group and individual tasks, as well as summative assessments.   This narrative account was intended to raise student awareness of how their roles and learning practices were defined in the new course. The purpose was to give students the opportunity to question the anticipated process and to establish a set of shared and intersubjective meanings (Torbert, 2004).

Below, we include a set of field notes produced by one of the LET team members.

Field notes

Tutor presentation to students

 Unit 2882 - Demonstrate knowledge of conditions of the hair and scalp. Level 3, Credits 4, Version 6

Introduction: Tutors described the journey they took to produce a new updated version of the unit standard. Previous students had given feedback that they disliked this unit standard because of the amount of technical language used and the difficulty they had experienced in trying to remember all the information. Prior to this version, students were required to sit a written test. In 2010 only 50% and in 2011 65% of students completed this unit standard.

Summative assessment for the unit standard was split into two parts, due to the amount of knowledge required to be mastered in terms of its performance criteria and elements. Twenty three different conditions, their causes and treatment are covered in this unit standard.

A Moodle presentation was offered to students showing the unit standard criteria and how these related to their using power point, the go animate cartoon, You Tube, visual displays, glossaries and

interactive activities, including ones that developed correct pronunciation of technical language. Three different intakes attended the presentations.

Step 2: Group presentations & feedback

At the end of the presentation, students were placed in groups of five. Each student was given a triple folded brochure informing them of the condition they would be researching, as well as its cause and the treatment options. Research was to be completed on the internet and become part of the group presentation. The group could nominate a speaker to deliver the presentation to other groups within their class and their tutor.

A day was selected for presentations; all students completed the allocated research, which was captured on a poster. Technical names were modelled with careful attention to pronunciation. The tutor assisted when necessary.

Step 3: Individual presentations & feedback

Students were assigned four weeks to prepare their second visual presentation. Individuals were required to research and present the remaining conditions to others in their group and their tutor using an e-learning technique. A booking system was used with the three intakes assigned different rooms for presentation. Representatives from the literacy-embedding team and QAU acted as observers, while students completed peer and self-assessment forms after each presentation. Students were nervous at first, but after some modelling, they grasped the notion of constructive criticism. The external observers agreed that the learner responses met the elements and the performance criteria for the unit standard. Graphics, music, colour and pictures were used effectively, exhibiting sophisticated prior knowledge and enjoyment in the use of information technology. The blended learning activities appealed to students.

[End of field notes]

Step 4: Assessing progress - Student ratings & completions

Completions on the course improved significantly. The moderation process, like the rest of the change project, was closely monitored by Quality Academic Unit. The objective evidence was captured in the improved completions rate, starting in 2010 at 50% and ending in 2012 at 76.9%, as shown in Figure 2 below:
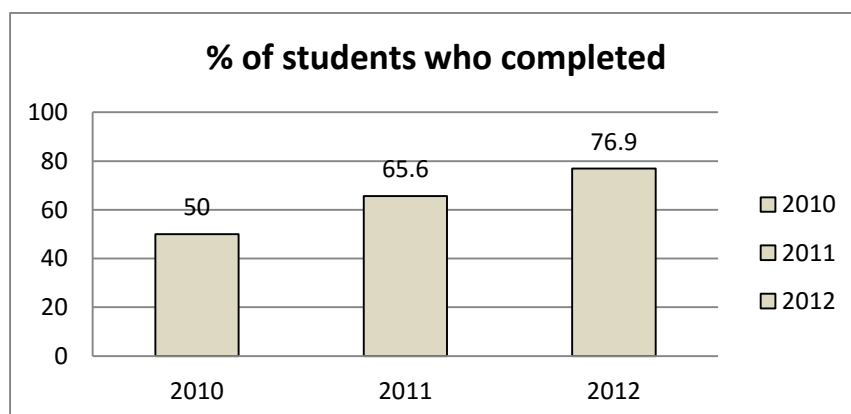

Figure 2 : Completion rate for 2010, 2011 and 2012 expressed as a percentage

Student evaluations to cross-validate our findings

We also asked students to evaluate the new design, and the following eight questions indicate a relatively positive response to the new approach:

% of cohort (N=25)

Very easy: 12
Easy: 56
Neither easy nor difficult: 28
Difficult: 4
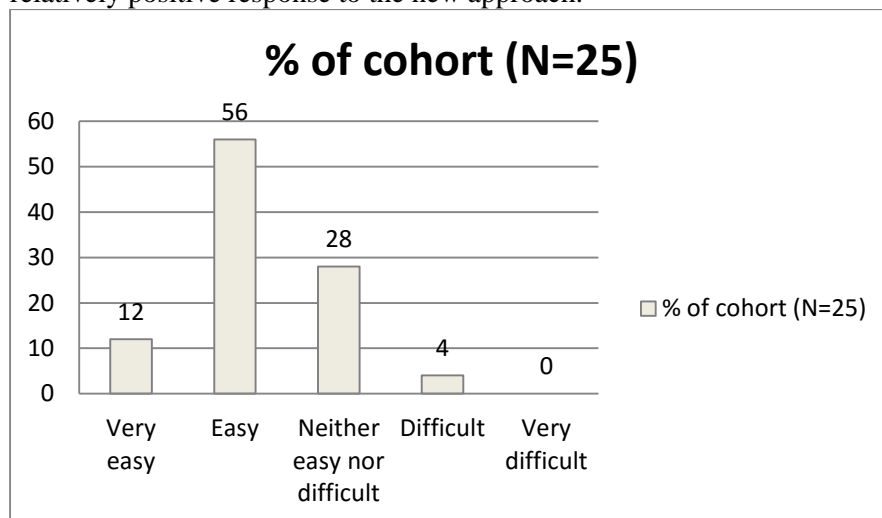Very difficult: 0

☐ % of cohort (N=25)

Figure 3: Student ratings of how easy it was to research the topics on the internet

Student responses to the first question, "How easy was it for you to research the topic on the internet?", confirmed that they were digital natives, familiar with the possibilities offered by the internet as an educational tool and resource. The majority of students (68%) found the student-centred approach of their having to engage in researching-to-learn either easy or very easy. Of the rest, 28% experienced the research tasks as neither easy nor difficult. It is clear from these responses that educational technology, as socio-cultural theorists have argued (Dabbagh, 2005), is indeed viewed by these students as significant and pervasive social tools for learning. Thus, the hairdressing team's intention to use educational technology was justified as they intended to draw on students' worlds of experience.

% of cohort (N=25)

Very positive and engaging: 12
Positive and acceptable: 64
Neither positive nor engaging: 24
Negative: 0
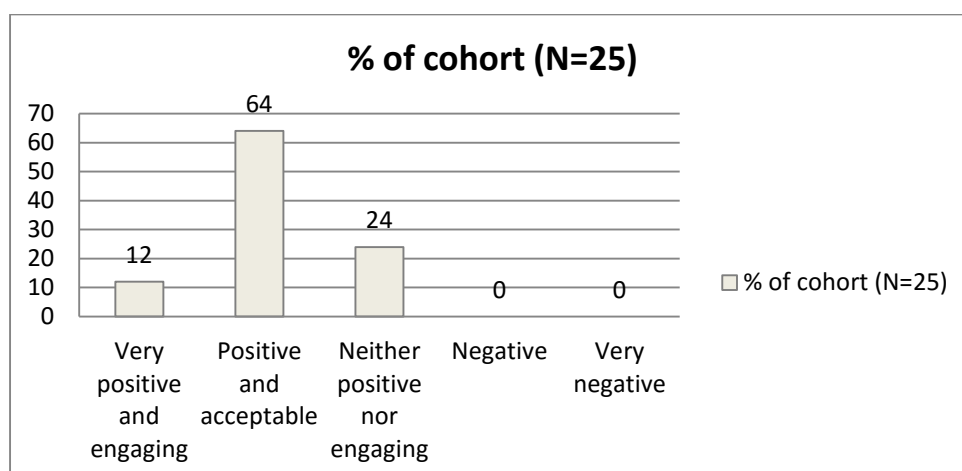Very negative: 0

☐ % of cohort (N=25)

Figure 4: Student ratings of cartooning as vehicle for learning

To the question, "How did you experience the use of cartoons from GoAnimate?", the students' ratings were even more positive than for the previous question. It is clear from Figure 4 that a significant proportion of students (76%) enjoyed the use of GoAnimate; interestingly, 24% of them were neither positive nor negative. Significantly, no one opted for the "negative" or "very negative" options. This finding cross-validates the view that web-based resources have redefined the landscape

of learning, opening up options for learning and a wide range of technology-based inputs (Dabbagh, 2005), as well as a range of possibilities for learners to develop their thinking (Conole, Dyke, Oliver & Seale, 2004). However, 24% of them (6 students) took a neutral position, prompting us to reconsider the usefulness of cartooning and to reflect on the idea that all technology options may not necessarily be a panacea for motivating students to engage in learning.
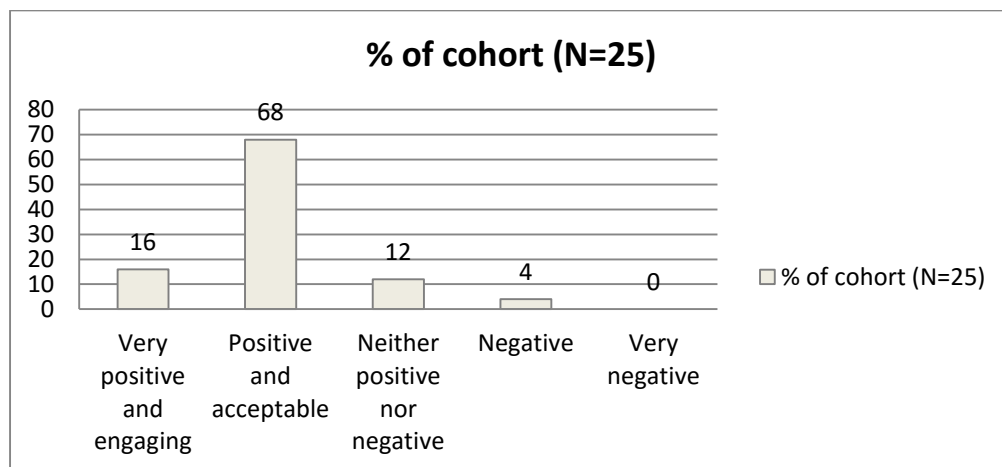

Figure 5: Student ratings of YouTube clips as vehicle for learning

The next question was: How did you experience the use of YouTube clips? Again, embedding video clips from YouTube proved to be consistent with the notion that learners use these technologies for learning. In Figure 5, the response pattern is telling: 84% of students viewed YouTube clips as either positive and acceptable (68%) or very positive and engaging (16%). It would be interesting and useful to explore why 16% of the group saw these clips as either somewhat effective (12%, 3 students) or not effective (4%, 1 student). Perhaps it is a reminder that tutors should remain aware of the fact that learners have different learning styles and that technology-based materials may not necessarily meet the needs of all students.

In Figure 6, we consider the students' ratings of their experiences of the course in relation to others (including assessment):
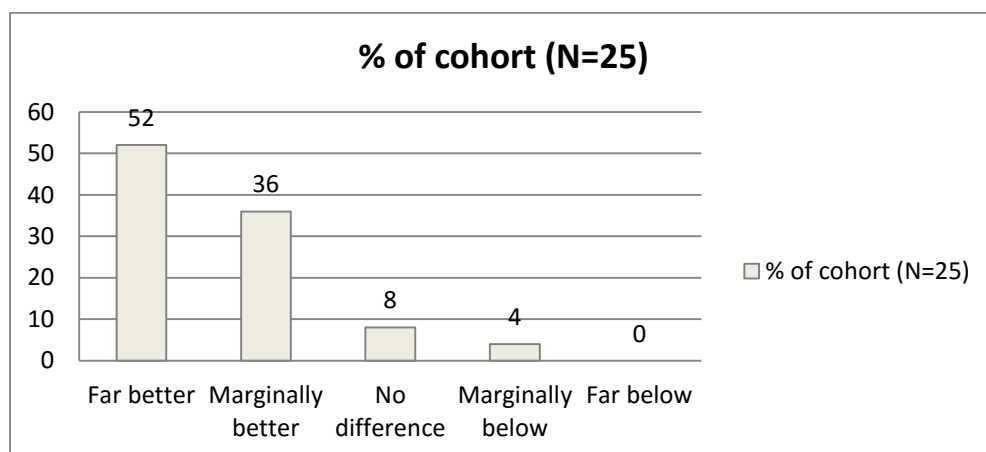

Figure 6: Student ratings of their experiences of the course in relation to other courses on offer

In this response, the majority of students (88%) rated the course to have been either effective (36%) or far better (52%) than other modules in the programme. These ratings are overwhelmingly in favour of the tutors' new design and approach.
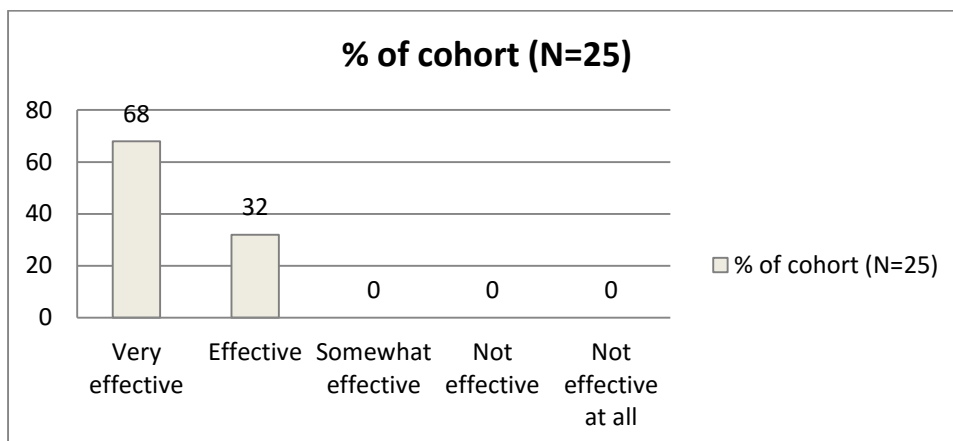
% of cohort (N=25)

Figure 7: Student ratings of the effectiveness of the tutor's delivery

The next question, captured in Figure 7 above, was the following: In your view, how effective was the tutor's approach? The cohort's response indicates that the students rated the effectiveness of the tutors' approach as either effective (32%) or very effective (68%). This validates the tutors' design and delivery.

Next, we surveyed the clarity of the tutor's outline of the task, posing the following question: How did you experience the tutor's outline of the task? The cohort's response is summarised below:
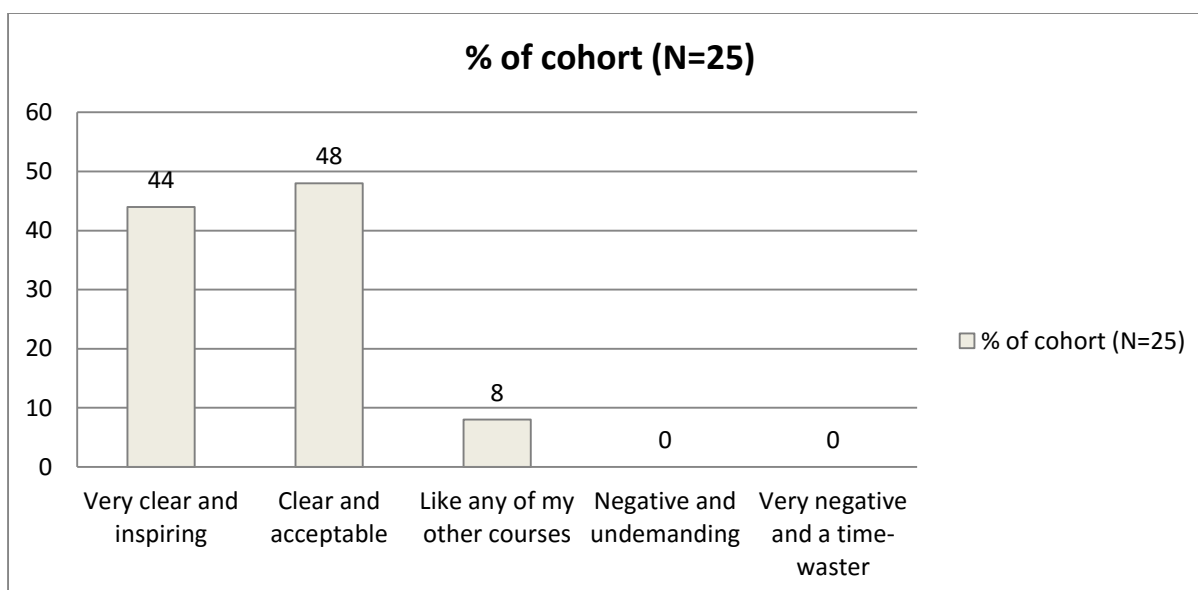
% of cohort (N=25)

Figure 8: Student ratings of the clarity of the tutor's outline of the task

The findings in Figure 8 reinforced the positive views held by students, with 48% viewing the tutors' task outlines as clear and acceptable, and a further 44% as very clear and inspiring.

Next, we asked students to rate how easy or difficult it was to complete the module.   Our findings appear below:
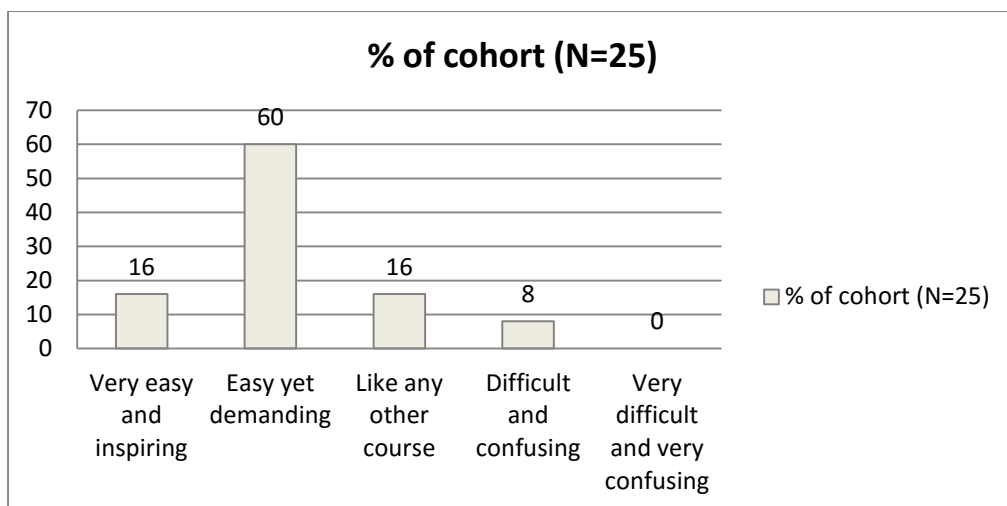
% of cohort (N=25)

Figure 9: Student ratings of their experiences of the course in relation to other courses on offer

This response indicates that the majority of students found the course easy, yet demanding (60%) or very easy and inspiring (16%). We have to note, however, that some work is still required to make the approach more accessible and the tasks clear to students. At least 2 students found the tasks difficult and confusing.

Finally, we included a literacy-directed question, specifically whether they found the decoding and pronunciation of technical words useful.
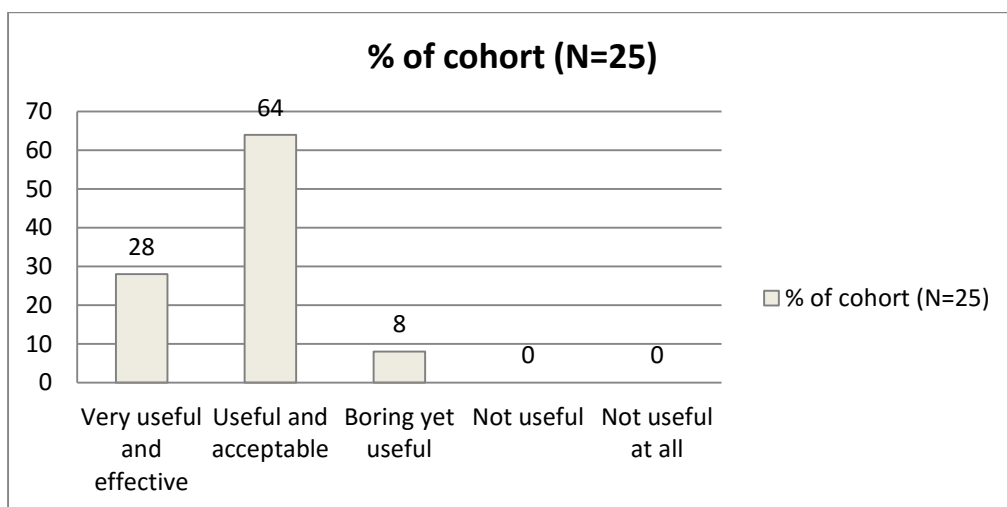
% of cohort (N=25)

Figure 10: Student ratings of their experiences of the course in relation to other courses on offer

This question was included to gauge student responses to the decoding strategy used in assisting learners to master the pronunciation of the key terms related to contagious and non-contagious conditions of the hair and scalp. The group viewed the approach to decoding skills as either useful and acceptable (64%) or very useful and effective (28%). Two students saw the activity as boring, yet useful.

STAGE 3: REFLECTION - RAISING HAIRDRESSING TUTORS' AWARENESS OF THEIR PEDAGOGICAL CONSTRUCTS

Having re-designed, implemented and improved the delivery of the module, we argued that we could profitably explore tutors' pedagogical constructs. In this critical-reflective phase, we asked them to

formulate five pedagogical principles important to them (Step 1: Eliciting constructs). Using laddering up (Step 2) and laddering down or pyramiding (Step 3), we summarised each tutor's constructs in terms of why and how questions.

We include an account of two such constructs from the summaries of their constructs:

Example 1: Construct 1 - Engaged versus disengaged learners

Step 1: Eliciting key constructs

Tutor A identified several key aspects as being at the heart of her meaning-making in relation to the design and implementation of the unit standard on contagious and non-contagious conditions of the hair and scalp. She defined her first construct as learner engagement. She indicated that the opposite was non-responsive or inattentive students. These words imply that the emergent pole of learner engagement is associated with responsive and attentive students. Thus, in her world of meaning, she associates learner engagement with learner responsiveness and attention. Thus, she activates a cluster of three constructs in these exchanges, namely:
(1.1)   **Engaged** versus disengaged **learners**
(1.2)   **Responsive** versus non-responsive **learners**
(1.3)   **Attentive** versus inattentive **students**

Step 2: Laddering up construct 1
We developed the following hierarchy of meanings in a laddering exercise. To successive why-questions, she stated that engagement was important for students successfully to achieve the learning outcomes set for them. Learners' experiencing success, she then said, was important to her because that would prove that they had gained the required understanding of the unit standard which had previously been a challenge to both tutors and students. That was important to her and other tutors because with student success and their understanding gained and displayed, they would know that they had set achievable goals, had retained their students and had created an enabling and positive learning experience. Why was this important to her? She would know that the learning experience had enabled them to progress and build up self-confidence. That, again, was important to her because this positive learning experience would run counter to all the negative ones in the past. Why was this important to her? She cared about these students as people launching themselves in life. She referred to a BDA analysis: often before the learning experience at Wintec, these students had had negative experiences (before); then they would come for training in hairdressing and she would want to have a positive influence during this process (during) because she knew it could be life-changing for them in later years (after).

Thus, the meanings associated with the construct learner engagement are the following (with preferred poles in bold):
(1.4)   **Successful** versus compromised learner outcomes
(1.5)   Students' g**aining an understanding** versus confused non-understanding
(1.6)   **Achievable** versus unachievable **goals**
(1.7)   **Retained** versus non-retained **students**
(1.8)   **Create** or neglecting to create **an enabling learning space and learning experiences**
(1.9)   **Positive** versus destructive **learning experiences**
(1.10)   **Building** versus destroying **self-confidence in the learner**
(1.11)   **Enabling** versus preventing **learners to progress**
(1.12)   **Countering** versus neglecting to counter **experiences that impacted negatively on student self-confidence**
(1.13)   **Caring about learners** versus being aloof
(1.14)   **Caring about** versus being unconcerned about **learners' BDA profile**

Step 3: Pyramiding construct 1
Tutor A's description of her pedagogical strategies for pursuing learner engagement was the following: First, she mentioned blended learning which included a diverse set of activities such as face-to-face exchanges, group-based activities and student-centred learning; modes of teaching such as Moodle; research topics; handouts and sequenced learning processes. Second, they had used mock presentations and practice sessions. Thus, the process was scaffolded and stair cased. Third, she used carefully selected exemplars, visual (PPT and posters) and audio input. Next they integrated guided writing tasks, trialled their presentations and gave students opportunities to follow instructions and decode poly-syllabic words.

All of the above, she stated, enhanced engagement.
She activated the following constructs:
(1.15) **Blended** versus single-mode **learning**
(1.16) **Diverse** versus limited variation in **activities and modes of learning selected**
(1.17) **Sequenced** versus non-sequenced **learning activities**
(1.18) **Mediated mock practice** versus real presentation **sessions**
(1.19) **Scaffolded** versus un-scaffolded **practice**
(1.20) **Diverse** versus limited **inputs**
(1.21) **Integrated and guided** versus stand-alone unstructured **writing tasks**
(1.22) **Mediated** versus unstructured **learner participation in learning**

The second example illustrates the value of eliciting constructs as they are not islands: they are often defined in terms of hierarchical networks of meaning:

Step 1: Eliciting constructs
Construct 1: user-friendly versus complicated courses
In tutor B's account of her first construct, she activated the preferred pole of "user-friendly courses".

Step 2: Laddering construct 1:
In her view, this pole was important because learners had to be able to understand training material and retain the information. This, in turn, was important because she wanted her students to experience success, especially as many of them were academically challenged. This was important to her because she wanted to make a difference in her students' lives. This was important because their successes developed their self-confidence. Success and self-confidence became a stepping stone to achieve more, get a job and survive. This was important to her because if they succeeded, they could become independent and benefit from their training in ways that changed their lives.

The following constructs were activated in her account:
(1.1) **Understand, retain and achieve success** versus have no understanding and increased student attrition
(1.2) **Experiencing** versus failure to experience **success**
(1.3) **Being concerned about** versus being oblivious to **the needs of the academically challenged student**
(1.4) **Making** versus neglecting to make **a difference in students' lives**
(1.5) **Success** versus failure for tutors and students alike
(1.6) **Success as self-confidence booster** versus failure as a destroyer of self-confidence **for students**
(1.7) **Success and self-confidence as stepping stones to greater heights** versus failure and lack of self-confidence as destructive processes
(1.8) **Achieving more** versus achieving less (or not achieving)
(1.9) **Getting** versus not qualifying for **a job**
(1.10) **Surviving** versus failing to make a living **in the world**

(1.11) **Independent** versus dependent **students**
(1.12) **Benefiting** versus failing to benefit **from training**
(1.13) **Training as a life-changing experience** versus training as a non-transformative experience **for students**

Step 2: Pyramiding construct 1:
To the how-questions, Tutor B responded as follows: Tutors could develop user-friendly courses if all aspects of the material were covered visually; LN needs were addressed; audio and visual modes were integrated into delivery; if they revisited content from different perspectives, using different media; and resources were accessible in the form of Powerpoint presentations, YouTube links and Google research (URLs). Tutor B activated the following constructs:
(1.14) **Visually supported material** versus text-based accounts of material
(1.15) **Integrated vs** fragmented **visual and audio-based presentations**
(1.16) **Revisiting material from various perspective**
(1.17) **Repetitive** versus once-off accounts of the material
(1.18) **Accessible** versus inaccessible **technology-based resources**

COMMONALITIES AND DIFFERENCES
To illustrate the differences and commonalities among the tutors' constructs, we compiled the matrix below. Under the heading, constructs, we listed the tutors' verbal labels for their constructs. Although only two constructs coincided (self-directed learning, and meeting students' literacy needs), one is able to argue a case for the relatedness of tutor constructs. The emergent poles of the constructs (i.e. the words in bold) seem to be consistent with the overall vision of pursuing learner autonomy within a student-centred approach.
Table 1: Commonalities among hairdressing tutors' worlds of meaning

Constructs	Tutor 1	Tutor 2	Tutor 3
Self-directed versus teacher-dominated **learning**		X	X
Individualised versus group **response**			X
Peer/individual versus teacher **assessment**			X
Learner-generated versus teacher-controlled ideas			X
Students' positive versus negative ideas			X
User-friendly versus complicated **courses**		X	
An interactive versus non-interactive approach		X	
Meeting versus ignoring **students' literacy needs**	X	X	
Students experiencing fun versus boredom		X	
Engaged versus passive **learners**	X		
Involved versus uninvolved **in reflection**	X		
Following versus ignoring **step-by-step processes**	X		
Post-cou rse reflections versus non-reflective closure	X		

CONCLUSION

We concluded that

   (a) the hairdressing tutors' re-design of the module was justified on the basis of historical completion data for 2010 and 2011; thus, objective data (Torbert, 2004) prompted them to reflect on the bottlenecks and negatives impacting on completions.
   (b) the tutors' re-design of the module, based on the principles of student-centred engagement and a range of delivery modes including educational technology (Oliver, et al., 2007), had yielded a positive outcome for the students and the institute.

(c) a flexible approach to action research (AR) allowed us to develop a descriptive framework for implementing improvement and change in the delivery of a module on contagious and non-contagious conditions of the hair and scalp.

(d) laddering techniques are useful in unpacking the what, why and how of a specific construct within a collaborative, co-constructed process of meaning-making between members of an improvement team (Fransella, et al., 2004).

(e) the tutors' constructs varied, but were nonetheless compatible and mutually-reinforcing meanings that related to a student-centred and participative approach.

(f) a team-based approach allowed the participants to engage in reflective practice before and during the materials design process, as well as during and after the delivery of the training.

(g) piloting the new module with a student from the cohort was a useful source of validation of the level.

(h) tutors' construct-based meaning-making provided points of orientation in addressing the challenge posed by a technically difficult module.

(i) the interactions among tutors' constructs may be explored in follow-up grid-based activity (Fransella, et al., 2004).

(j) one of the questions we would have is whether sample size for the survey was adequate.

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