Reidenbach R. E. and Sandifer-Smallwood B. 1990, 'Exploring Perceptions of Hospital Operations by a Modified SERVQUAL Approach', *Journal of Health Care Marketing*, Vol. 10(4), pp. 47-55.

Robson C. 199), *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*, Blackwell, Oxford.

Rosenman L. 1996, *The Broadening of University Education: An analysis of entry restructuring and curriculum change options*, University of Queensland, DEETYA.

NO MORE LECTURES: YOU ARE ALL ADULT LEARNERS NOW

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INTRODUCTION

This case study describes the learning experience of a team of academics in a business faculty as they embarked on an odyssey of teaching innovation. This innovation essentially dispensed with the standard 'one lecture, one tutorial per week, every week, for twelve weeks' format which had always been used to teach a foundation business subject Organisational Behaviour and Management. From this point of view we were doing it differently. It was based on an underlying philosophy of independent adult learning, in which students took responsibility for their own learning. This included their own reading program, rather than having the text book 'spoon fed' to them in weekly lectures, as well as a desire to add value to our face-to-face teaching, that is, 'to do it better'. This project is now in its third year of implementation and, somewhat paradoxically in some aspects, the teaching format has reverted to an even more 'lock-step' structured approach than was originally the case in the traditional offering of the subject. Surprisingly, this was more due to resistance to change from students rather than staff.

This case study first reviews some of the literature relating to two competing views of the learning process. The two views of knowledge development are empiricism, or objectivism, and the more current constructivism. This review is done to highlight the theoretical basis for differences between traditional (talk and chalk) style university teaching, and the newer principles of independent learning that informed the teaching innovations discussed here.

EMPIRICISM OR OBJECTIVISM – IS ONE BETTER?

The empiricist or objectivist view that what we know is a direct reflection of what we perceive in the physical world has largely disappeared (Resnick, 1991). This view has been replaced by the assumption that knowledge is an interpretation of experiences based on relatively idiosyncratic schemas which 'both enable and constrain an individual's processes of sense making' (Resnick, 1991, 1). The latter view is labelled constructivism here. Objectivism is the epistemological view that

knowledge is derived from the real world, and that all learning entails novices acquiring all of the knowledge that experts have developed or experienced in this world (Driscoll, 1994). This view also sees skills such as reading and comprehension as hierarchically ordered sub-skills which require mastery, and that learners are passive recipients of information contained in textual material (Dole, Duffy, Roehler, and Pearson, 1991).

Strict adherence to an information processing model indicates that, similar to information being entered into the computer, human information processing and learning occurs by way of knowledge being transferred from the expert to the novice, in whatever form or media (Jones, Li and Merrill, 1990; Merrill, 1991; Taylor and Evans, 1985). Tennyson and Cocchiarella (1986) argue that learners need only be given conceptual knowledge and procedural knowledge, which they then encode and are required to recall. This, they reason, is sufficient to improve learning and it is not necessary to understand the personal schematic constructions of learners, or whether they are different or not. Additionally, other educators (for example, Merrill, 1991; Jones et al.., 1990) assume that it is important for learners to 'adopt the meaning intended by the developer (of instruction), and not reach a separate and personal interpretation of that meaning' (Jones et al.., 1990, 12). Teachers working under assumptions based on the objectivist view would tend to adopt traditional methods in which large volumes of content were delivered in lectures, and reiterated in tutorials. In the subject under discussion in this case study, organisational behaviour and management, there is a substantial volume of theory to be learned by students which had previously been taught using traditional methods.

The above view is in direct juxtaposition to another view (see Figure 1) currently held by other educators and psychologists. See, for example, Menssen (1993) and Resnick (1991) who argue that development of higher-order learning and cognition, where the learner constructs personal meaning for the representation of knowledge, is important to learning. Here, the expert merely assists learners by establishing environments in which learners actively participate to create personal knowledge, which then may be shared with others.

The alternative to objectivism, therefore, is one which proposes that knowledge is personally and actively controlled and constructed by the learner and that the learner's own experiences and prior learning impinge upon this development of knowledge. For learning to become effective, individuals should be aware of their intentions for gaining knowledge, be self-monitoring, and elaborate on information until it is clearly represented in personally constructed schemas (Resnick, 1989). Learners are thus actively seeking meaning, and construct their schemas as they

attempt to make sense of their experiences. Mental structures 'are formed, elaborated and tested, until a satisfactory structure emerges' (Perkins, 1991, 20).

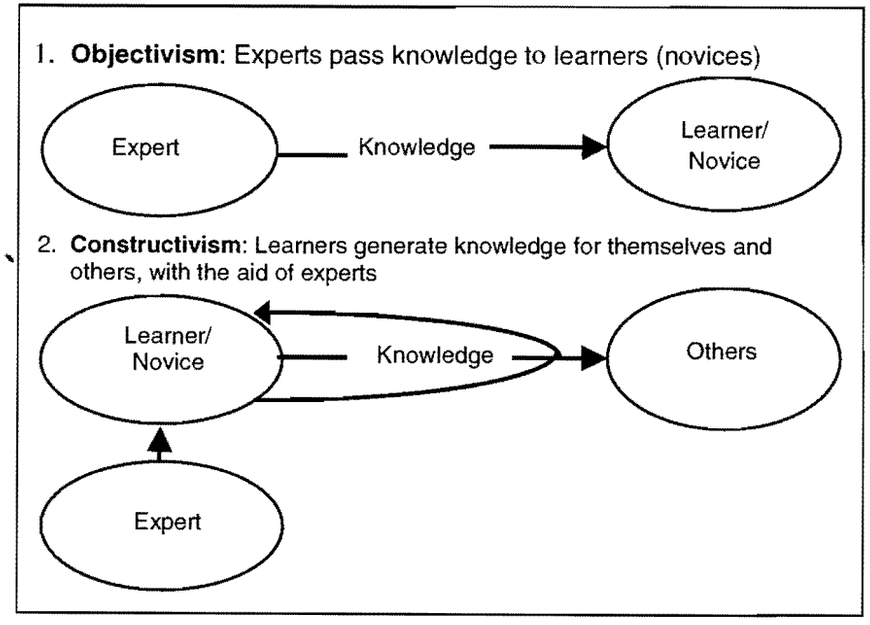

Figure 1: Two Views of Learning and Teaching

Duffy and Bednar (1991, 13) suggest that instructional designers should turn away from rigidly structured teaching to flexible and complex environments that incorporate

> rich contexts; authentic tasks; collaboration for the development and evaluation of multiple perspectives; an abundance of tools to enhance communication, and access to real-world examples and problems; emphasis on reflective thinking; modelling of problem solving by experts in the content domain; and apprenticeship/mentoring relationships to guide learning.

It was this sort of thinking that underpinned the introduction of many innovations into the teaching of organisational behaviour and management (OBM).

INNOVATIONS INTRODUCED TO THE SUBJECT – DOING IT DIFFERENT

The project commenced with very broad objectives to drive the innovation and change process. These objectives were to increase the levels of commitment, responsibility, independence, and professionalism of students through increased levels of attendance at - and participation in - lectures and tutorials. This was to be achieved by value adding to the day mode delivery (by using the external mode delivery as the benchmark).

The structures of the lectures and tutorials were altered with the intention of breaking the nexus between how students perceived the OBM lectures and tutorials and how they perceived lectures and tutorials in other subjects. Lectures were divided into a series of twelve two-hour events and information sessions and tutorials were broken into a series of six, fortnightly three-hour workshops.

The lectures were co-ordinated by the unit leader and were intended to be a balance between information (theory and assessment instructions) and 'fun' events where superior guest speakers were used to relate their experiences to the subject matter (theory). The lectures were divided into three blocks of four weeks each and were sequenced as:

Week 1 Theory lecture
Week 2 Event (guest speaker)
Week 3 Event (guest speaker)
Week 4 Assessment information lecture

There were approximately 250 students involved and the original intention was to have fifteen students per workshop. To enable this, each workshop was taught on a two-week cycle of three hours per workshop. Students, therefore, attended one three-hour workshop each fortnight and were required to attend six workshop sessions for the semester. The workshops were developed through a team teaching process involving seven academic staff. Each taught at least one workshop session each week, as well as involvement in intensive planning sessions and weekly team meetings. A central 'unofficial' theme for the workshops was to maximise learning while having fun. They comprised a consistent set of experiential learning exercises delivered by each tutor.

METHODS FOR EVALUATING THE CHANGES

The unit leader was responsible for arranging a significant collection of both anecdotal and empirical evidence for use in evaluation of the project. This involved both student and staff sources.

Student information and feedback was collected via:

- Thought Book Diaries—a fortnightly collection of unstructured, reflective writings completed by each student at the end of their workshop session,
- Peer in-depth student interviews—conducted by third year students who randomly selected two students from each workshop session and conducted interviews,
- Mid-semester student evaluations (in the standard format used by the university for student evaluation of teaching), and
- End-of-semester student evaluations (also in the standard format).

Staff information and feedback was collected via:

- Weekly team meetings—which provided dedicated time for round-the-table individual reflections;
- Reflection on mid-semester student evaluations; and
- A formal debriefing by an independent facilitator at the end of the teaching for the semester.

In addition, assessment of student learning outcomes (grades) is being conducted, and will be the subject of a subsequent paper.

OUTCOMES – DOING IT BETTER

This section will briefly review the main points emerging from a content analysis of the students' Thought Book Diaries, and the in-depth interviews.

Thought book diary analysis

Students were required to make reflective notes in Thought Book Diaries after each workshop, following Brookfield (1995). They were encouraged to comment on what they had learned, what they thought of the activities they had carried out, anything that needed to be changed, and any other aspect of the subject. Comments from almost 200 students' Thought Book Diaries were compiled and sorted into positive and negative (that is, favourable and unfavourable) comments, with a total of 1223 comments being analysed. Comments that simply described what was done (for example, 'today we watched a video about teams in Scotland') were not included. Positive and negative comments were then allocated to one of four categories: (1) workshop as a process, (2) content of exercises, (3) learning process or (4) group work. The latter category is not analysed in this case study.

The allocation was done both by the first author and by independent research assistants. A subset of 282 of these comments were then broken

Table 1: The majority of comments about the workshop process were positive

Workshop as a process	%
General positive comments *eg good, excellent, going well, better than others, don't need improving*	17
Interest level *eg interesting, not boring*	15
Friendly *eg meet other students, make friends*	15
Interactive *eg get involved, discuss own thoughts, leader valued students ideas*	13
Exciting *eg fresh, lively, fun, got motivated*	10
Enjoyable	10
Relaxed	7
Practical *eg hands on applied*	5
Other	8
Total	**100**

**Note*: n = 396 comments, or 30 percent of all comments

Table 2: One key video attracted the most comments compared to other exercises*

Comments on specific exercises	%*
Scotland Video *about equal comments regarding understanding the concepts and being interesting*	25
Pipes and Joints exercise *two thirds of comments on grasping the point about groups vs individual performance; one third about having fun*	18
Personality Profiles *most comments about it being interesting, understanding individual differences, and getting to know class mates*	13
Paper Aeroplanes *interesting and fun*	9
Values Auction *interesting, realised that different people have different values*	8
Organisation Structure Charts *relevant and helpful*	8
What Managers Do, *comments emphasised content*	6
Wimpy Wendy and Big Mouth video's *content understanding (motivation)*	5
Other	8
Total	**100**

* *Note*: n = 357 comments, or 30 percent of all comments.

down further into sub categories, and frequencies calculated within these sub categories. The results of this analysis are shown in Tables 1 to 3.

Overall, we concluded that running experiential learning exercises in the tutorials generated mixed responses from students. They were quite positive, but perhaps not as much as expected. The main favourable comments focussed on the friendliness, interaction and enjoyment of the workshops as shown in Table 1, whereas it was hoped that the value of the exercises as learning vehicles would also emerge.

The frequency with which students made comments on each of the main experiential exercises in the workshops was also calculated, as shown in Table 2. The fact that the Scotland video was the most frequently mentioned activity accords with known adult learning theory which indicates that dynamic media is the second most effective learning method after real life experience.

Table 3: Negative comments about the workshops*

Response	%*
Student presentations - (homework tasks and assignment.) *Were unstructured, not well presented, too long.*	18
Workshop length - *too long – boring*	16
Lack of guidance - *What to read, what is important to pass the course, what to learn to pass the exam, what is the content, what is in the text book*	14
'Organisation level' content - *hard to understand, exercises hard to follow.*	11
Workload - *Too much work, too much reading.*	7
Feedback - *on presentations/assignments*	5
Personality profile exercise - *not clearly explained, relevance not established and/or not properly debriefed.*	4
Scotland video - *extreme, couldn't get anything from it.*	3
Other	22
Total	**100**

**Note*: n = 362 comments, or 30 percent of the total

Most negative comments related to (some) group presentations being too long and boring, the actual workshop being long and boring and the workshop exercises not being related to the exam, theory, or the text.

IN-DEPTH INTERVIEW RESULTS

Peer interviews were conducted with forty-eight students. When asked how OBM teaching and learning methods compared to other subjects, students highlighted the value of the guest lectures, and the difficulty created by the lack of structured lectures covering the theory. A summary of the most frequent interview responses is shown in Table 4.

The guest lectures were interesting, added variety and gave a different perspective. Although they showed how theory could be applied, some students failed to make the connection between the guest lecturer's topic and the theory. A number of comments indicated that the lectures needed to be more structured, with use of overhead transparencies, a clear statement of objectives, and clear and comprehesive coverage of the material in the text.

Another significant issue raised by students was the need to have theory covered more in workshops and lectures, since that is what was required for the exam. A small number of students demonstrated a clear desire to be lectured to, told what to learn and to have the textbook digested for them. The rest wanted clearer guidance on *what* to learn and explanation of the theory—recognising, quite realistically, that this was what they were going to be examined on. It is unrealistic to assess students with a three-hour 60 percent exam (ie written, theoretical) and *not* find them concerned with learning the text so that they can pass the exam.

Table 4: Student perceptions of teaching and learning methods reported in interviews

Issue	%*
Guest lecturers were valuable	36
Lecturers need objectives and structures	24
Did not like workshop length and scheduling (ie two weeks apart)	19
Guidance needed on reading, theory text book and connection to exam	13
Course is practical, applied, related to real life	4
Positive value of small student numbers in workshops	4
Total	**100**

* *Note*: total number of comments =72

Continuing with the interview results, the three hour workshops were considered too long and spaced too far apart (that is, fortnightly). Many students commented that three hours without a break was too long. It seems that some tutors conducted workshops straight through with no breaks. With hindsight this was unfortunate. Apart from being bad teaching practice, it confounds the issue: was it length (three hours) *per se*, or was it no break that students were reacting to? For example, at least one tutor who had a fifteen-minute break received virtually no negative comments on the length of the workshop. However, given the large proportion of both interview and Thought Book Diary comments on this issue it was concluded that students did feel they were too long.

Achievement of unintended learning outcomes

There were discrepancies between what appeared to be happening in the workshop and what was happening, according to the students' reports. For example, students placed high value on doing mini-presentations as a practice/rehearsal for their main assignment presentation. Students also said they learned a lot from their peers' assignment presentations, even though they did not appear to be 'engaged' (that is, taking notes, asking questions') at the time.

Achievement of intended learning outcomes

We compared what students *said* they learned from each activity with what we *intended* them to learn from the activity. These outcomes varied from activity to activity. This may have been due to some exercises being early in the semester, and some later. Therefore, it may have taken some time for students to adapt to this type of learning. Other possible influences may have been that either the briefing and debriefing for the exercises that did not 'work', were not adequate, or by later in the course they had done more reading and were in a better position to connect exercises with textbook theory.

DISCUSSION

This section will briefly consider the implications for the objectivist versus constructivist views outlined in the beginning, the extent to which the project achieved the original objectives, and implications for future teaching practice.

Objectivist versus constructivist views

In general, the analysis of students' reactions to the innovations introduced in the subject support an argument that a constructivist view of learning needs to consider the maturity of the learners, and their willingness or ability to take responsibility for their own learning. Resnick (1989) argues that effective learning requires students to be aware of their own intentions, be self monitoring, and work to develop

their own meanings and representations. Our opinion, based on experience with this project and the results reported here, would be that these characteristics or behaviour are present to varying degrees in learners. Learners will not all 'naturally' consider their intentions, reflect on their own learning, or do the work themselves to relate organisational behaviour and management theory to their own personal experience and accumulated knowledge. In fact, one of the main conclusions was the need for the teachers to work very hard to assist learners to establish the links. In many instances, students fail to do so.

Students themselves appear to conform to an objectivist view, to the extent that they expect teachers to 'lecture', to focus on the theoretical content of the course, and to clearly link it back to the assessment - at which point the knowledge transferred from the 'expert' to the 'novice' is brought forth, in line with Driscoll's (1994) observation.

In general, there was learning - about self and about others - but not about the theoretical concepts *per se*. Overall, the relevant unit objectives must be spelled out in each workshop, for each and every activity, and each and every time.

Achievement of project objectives

We were able to increase students' attendance at, and participation in, workshops. We found that they did not undertake an independent reading program, and wanted (or possibly needed) a structured series of lectures to supplement or assist with their own reading. Students definitely had fun and enjoyed the workshop series. In terms of differentiating OBM from other subjects, this objective appeared to be achieved. This conclusion is based on many students comments, in all three years of the project. These have not all been analysed here. In terms of creating 'independent' learners, we do not believe we achieved this objective and would, in fact, argue that it is more characteristic of our external students. It appears that students who choose to attend in on-campus, or day mode, expect to be 'taught'.

Recommendations for better teaching practice

The unit team concluded that it was preferable to revert to a two hour, once a week, workshop format. We retained the exercises, using well-structured objectives and clearer briefing and debriefing to connect theory to practical exercises. Structured lectures and assessed reading (through a series of multiple choice questions throughout the semester) would also serve to make the point of the exercises clearer, and were in fact introduced in subsequent years. So now the subject has *both* the 'traditional format', plus guest lecturers, plus workshops.

The following are implications for conducting OBM experiential workshops in the future:

- the relevance of and learning points in the exercises need to be spelled out; that is, a more structured briefing and debriefing, as well as clear objectives were required, and
- exercises should enable students to relate their learning to current or anticipated future work experience.

On balance it was concluded that since this unit has the biggest text book and the most theory compared to all our units then *lectures* (that are well-structured, with clear objectives) are required—the more unstructured approach, and self-directed learning, might be more appropriate with 2nd and 3rd year students, or in units where there are fewer complex theories, and the guest lecturers are appreciated as an interesting *supplement* to the lectures. They would be more value if students were given some guidance on how to extract principles from the guest's speeches and critique them against the theory.

CONCLUSIONS

Innovation in teaching, in OBM at least, is an iterative process, and one where students' reactions can be quite different from what was anticipated. As this case study shows, any program of innovation needs to be carefully evaluated and adjusted. Students did not accept the concept of 'no more lectures, you are all adult learners now'. However, they did seem to appreciate the rich variety of contexts and authentic tasks that were used in the workshops, and which are recommended by Duffy and Bednar (1991). In conclusion, this case study would support the argument that both objectivist and constructivist perspectives are needed to understand learners in this particular subject, and that any program of innovation needs to consider the expectations of the students themselves.

REFERENCES

Brookfield, S. D. 1995, *Becoming a Critically Reflective Teacher*, Jossey-Bass, San Francisco.

Dole, J.A., Duffy, G.G., Roehler, L.R. and Pearson, P.D. 1991, 'Moving From the Old to the New: Research on Reading Comprehension Instruction', *Review of Educational Research,* Vol. 61(2), pp.239-264.

Driscoll, M.P. 1994, *Psychology of Learning for Instruction,* Allyn and Bacon, Boston.

Duffy, T.M. and Bednar, A.K. 1991, 'Attempting to Come to Grips with Alternative Perspectives', *Educational Technology,* Vol. 31(9), September, pp.12-15.

Jones, M.K., Li, Z. and Merrill, M.D. 1990, 'Domain Knowledge Representation for Instructional Analysis', *Educational Technology*, Vol. 30(10), pp.7-32.

Menssen, S. 1993, 'Critical Thinking and the Construction of Knowledge', *American Behavioral Scientist,* Vol. 37(1), pp.85-93.

Merrill, M.D. 1991, 'Constructivism and Instructional Design', *Educational Technology,* Vol. 31(5), May, pp.45-53.

Perkins, D.N. 1991, 'Technology Meets Constructivism: Do They Make a Marriage?', *Educational Technology,* Vol.31, pp.18-23.

Resnick, L.B. 1989, Introduction in L.R. Resnick, ed., *Knowing, Learning and Instruction: Essays in Honor of Robert Glaser*, Lawrence Erlbaum, Hillsdale, NJ.

Resnick, L.B. 1991, 'Shared Cognition: Thinking as Social Practice', in L.R. Resnick, J.M. Levine and S.D. Teasley, eds., *Perspectives on Socially Shared Ccognition,* American Psychological Association, Washington, DC.

Taylor, J.C. and Evans, G. 1985, 'The Architecture of Human Information Processing'. *Instructional Science,* Vol. 13, pp.347-359.

Tennyson, R.D. and Cocchiarella, M.J. 1986, 'An Empirically Based Instructional Design Theory for Concept Teaching', *Review of Educational Research,* Vol. 36, pp.40-71.

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TOWARDS AN ABORIGINAL ENVIRONMENTAL HEALTH PEDAGOGY

DIANE J CLARK

INTRODUCTION

Various disciplines comprise the western profession of environmental health, including law, microbiology, public health engineering, health promotion and food handling, to name but a few. In Western societies, including Australia, professional education and training is provided in tertiary institutions using traditional pedagogies. Since 1952 Aboriginal people in the Northern Territory (NT) have been targeted for training in hygiene and sanitation (the historical and somewhat simplistic terminology used for environmental health), but with little consideration for their traditional learning styles or cultural epistemologies of health, hygiene and sanitation. This chapter explores the curriculum content, teaching strategies and context for training Aboriginal hygiene and environmental health workers from 1952 to the present day with the aim of moving towards a culturally appropriate Aboriginal environmental health pedagogy.

My research into a program to train Aboriginal people as environmental health workers (AEHW) for their own remote communities was prompted by the concern of non-Aboriginal environmental health officers (the health staff who provide the AEHWs with their on-the-job professional support and training) that the program was not working. The questions which guided the research were in turn framed by the proposition that the history of environmental health as a discipline had a profound impact on the way environmental health is perceived, taught and received in a cross-cultural context. The research from which this chapter is drawn examined the historical context of the Northern Territory AEHW Program as well as its contemporary context and content. Here, I propose to take you on a journey which commences in 1952 with the Territory's first hygiene worker program to the present program with the aim of moving towards an environmental health pedagogy which meets the needs of Aboriginal students.