Learning and Language: Supporting Group Work So Group Work Supports Learning

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Abstract

This paper reports on developments in teaching and learning for first year employment relations students at the University of Wollongong based on creating conditions of learning informed by Vygotsky's 'zone of proximal development' theory. Essentially, this meant emphasising collaborative learning (group work) in the lecture theatre and in assessment tasks to provide opportunities for students to 'learn the language' of employment relations. The paper also considers collaboration between an employment relations discipline lecturer and an learning development discipline lecturer that helped identify the objectives for teaching and learning (the desired attributes of a Wollongong Graduate, ethical concerns about how students' may affect one another in group work, and developing knowledge and skills to equip students to be effective in employment relations practice) within a particular task environment (characterised by an organisational imperative to 'do more with less', and students' beliefs that lectures have the purpose of didactic information delivery) simultaneously with teaching. This paper offers readers a case study of the application of a teaching and learning theory that may stimulate reflection on their practice.

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Abstract

This paper reports on developments in teaching and learning for first year employment relations students at the University of Wollongong based on creating conditions of learning informed by Vygotsky's 'zone of proximal development' theory. Essentially, this meant emphasising collaborative learning (group work) in the lecture theatre and in assessment tasks to provide opportunities for students to 'learn the language' of employment relations. The paper also considers collaboration between an employment relations discipline lecturer and an learning development discipline lecturer that helped identify the objectives for teaching and learning (the desired attributes of a Wollongong Graduate, ethical concerns about how students' may affect one another in group work, and developing knowledge and skills to equip students to be effective in employment relations practice) within a particular task environment (characterised by an organisational imperative to 'do more with less', and students' beliefs that lectures have the purpose of didactic information delivery) simultaneously with teaching. This paper offers readers a case study of the application of a teaching and learning theory that may stimulate reflection on their practice.

Introduction

In 2003, an Employment Relations (ER) discipline lecturer and a Learning Development (LD) discipline lecturer worked together on improving teaching and learning in two first-year employment relations subjects in 'real time': Subject A and Subject B. [i] Our objectives and understanding of education evolved over the year through collaboration and reflection on practice. Our efforts began with discussions about how students learn, but the practical opportunities and constraints were uppermost in our minds. Development efforts ran concurrently with teaching. Both subjects required twelve hours per week from students including a two-hour lecture (in theatres with fixed tiered seating) and a one-hour tutorial (tutorial groups numbered 20 – 25). Subject A had 55 students, many of whom were taking the subject as an elective. Opportunities for collaborative learning were built into the subject around a five-stage group assignment that would account for 30 per cent of marks. Subject B had 250 students and was compulsory for most students. It also included a group assignment, a relatively simple task accounting for 20 per cent of marks. However, collaboration was also encouraged through a 20 per cent participation mark where small group activities during lectures and tutorials were emphasised.

At the beginning of 2003, the ER discipline lecturer had the specific goal of providing support for the Subject A group assignment (summed up as the objective of 'no tears in my office this semester'). In 2002, this group assignment had been favourably received by most students but marred by what the ER discipline lecturer described as some 'problem groups'. The usual approach to group work in the Faculty of Commerce was for groups of students to meet *outside* of scheduled class time. This created pressures to find meeting times which resulted in conflicts and unequal demands that first year students found too difficult to manage on their own. Whilst the ER lecturer had an untheorised understanding that group assignments were important for learning about ER theory as well as for developing skills and knowledge useful for ER professional practice, the ethics of devolving learning experiences from an accountable lecturer within a classroom to unaccountable fellow students outside the classroom were questionable, and was a practice that sometimes 'led to tears'.

Group assignments were encouraged by University Policy (refer to Box 1), but it seemed unethical to insist on group assessments without supporting groups in some way. Evaluation discussions with the 2002 students found scepticism that people could learn to work in groups, with students firmly believing a successful group project was good luck rather than good management. However, students welcomed our minor interventions to provide support and they appreciated opportunities to articulate their experiences of group assignments. Feedback from this 2002 class helped refine our support activities because we became clearer about the students' point of view. Students wanted choice. They liked that they had an opportunity to choose their topic but they also wanted meaningful choice about whom they would work with. Providing meaningful choice about group membership required much more time than the ER discipline lecturer had provided or had ever thought necessary.

In 2003, improved group work facilitation was undertaken by learning development lecturers in these forms:

- presentations on how identities and emotions affect conflict and conflict resolution;
- an audio CD presentation of 'students' voices' talking about group work experiences and attitudes, utilising stereotypes around age, ethnicity and gender compiled from what counsellors had heard from students over a number of years;

- practice using conflict resolution skills and language applied to scenarios; for example, when members discontinue the subject, or when one member dominates, or fails to meet a commitment; and

- groups tackling a worksheet of questions around 'who, what, why, when, what if, who benefits, what cost, whose costs, etc.

Another support provided to groups was to allow for group meetings within the classroom. Four tutorials were devoted to structured and unstructured group activities such as discussing the assignment requirements and content, practice sessions for components of the assessment, reviewing other groups' draft reports, and planning. The facilitation activities and classroom time was judged to be effective in the sense that there was only one group who were unable to produce a report that met the minimum criteria. Nevertheless, a handful of groups had been directed to participate in mediation (in class or out of class) prior to the due date. Whilst group formation had been delayed by a week compared to 2002, the 2003 student feedback recommended further delay so that group formation would occur after the primary facilitation activities so they could utilise their learning about groups during group formation.

- A commitment to continued and independent learning, intellectual development, critical analysis and creativity.
- Coherent and extensive knowledge in a discipline, appropriate ethical standards and, where appropriate, defined professional skills.
- Self confidence combined with oral and written skills of a high level.
- A capacity for, and understanding of, teamwork.
- An ability to logically analyse issues, evaluate different options and viewpoints, and implement decisions.
- An appreciation and valuing of cultural and intellectual diversity and the ability to function in a multicultural or global environment….

Box 1: Attributes of a Wollongong Graduate

Source: University of Wollongong (2001), Available at: http://www.uow.edu.au/about/teaching/attributes.html [accessed 29 January, 2004]

Apart from making substantial progress towards the goal of 'no tears in my office', collaboration with the LD discipline lecturer helped the ER lecturer develop greater understanding of how group work facilitates learning and why the assessment task was well regarded by students. The task was originally designed by the ER lecturer based on an appreciation of the importance of connecting learning to the real world. The assignment demanded that students model professional practice by researching and writing a report about a chosen current event or issue, linking that event to industrial relations theory. They were also required to interview a person involved in the event (for example, employees, officials from trade unions, employer associations, etc). As the LD lecturer pointed out, the assignment required deciphering and understanding a real world event in context and writing about it using two sets of language: the language of the industrial relations discipline and the language of industrial relations practice. Here, we use 'language' as shorthand for language, tools, symbols, computer software, and formats (such as a business report format appropriate for ER practice in Australia).

Our reflective analysis to better understand the assignment's effectiveness included whether the assignment should continue to be a group assignment in future years. We concluded that it had to be a group assignment to allow first year students to acquire the language. Discipline language acquisition happens inter-subjectively in practice (we explain this below). We saw confirmation about our views on language and modelling real world professional practice most particularly during the tutorial where groups read and provided feedback on other groups' reports just prior to final submission. From observation, there were many 'a ha' moments. Later, evaluation via class discussion and via anonymous feedback forms confirmed that reading others' assignments was extremely valuable for learning but also for showing them what a successful assignment might look like. This was important because it provided a benchmark against which they could reflect on their own work but also a sense of safety that their own assignments were in line with the ER lecturer's expectations.

Whilst we learned some lessons about refining our activities for Subject A in future years, the challenge of designing Subject B was imminent. Collaborative work with the LD lecturer allowed the ER lecturer to understand how effective 'conditions for learning' had been created in Subject A. Could we extend these principles underpinning one assignment in Subject A to the whole of Subject B? Subject B had many more students, a much broader (and mostly new) curriculum and textbook and, again, development would have to occur concurrently with teaching. Rising class sizes and regularly changing curriculum was associated with a Faculty restructure and rationalisation of subject offerings to cut costs (see also McCarthy 2004: 36).

The remainder of this article will discuss conditions for learning as informed by Vygotsky's 'zone of proximal development' theory, our attempts at drawing from this theory in practice, what we did well and could have done better, and a discussion about our collaborative process. The process contained tensions and enjoyments around privileging 'the discipline' through didactic lecturing by the ER discipline expert (and learning theory novice) versus creating conditions for learning guided by the expertise of the LD discipline expert (and ER discipline novice) in a context where time was short, and students expected something different.

Vygotsky's Zone of Proximal Development (ZPD)

Vygotsky was a Russian psychologist whose most cited works were originally published in the 1930s (with English translations published in the 1970s). Our theoretical discussion is limited to describing our interpretation of Vygotsky's theory (as presented by Gluck and Draisma 1997; Cambourne and Turbill 1987; Cheyne and Tarulli 1999; and Shayer 2003) as the basis for our application to practice. We offer no critique or comparison to competing theoretical approaches to leave more space for describing practice, and we recognise that other theories of teaching and learning may be consistent with aspects of our practice. We have used Vygotskian ideas to help illuminate and articulate the lessons from personal experience and a guide for continuing development. That is, the theory provided a vehicle for reflection.

A starting point for appreciating Vygotsky's ideas is his notion that learning and intellectual development is social rather than something generated from within: "intramental functioning has its origins in social interaction, in the realm of interpsychological functioning…" (Cheyne and Tarulli 1999: 9). The internalisation of knowledge happens as action and speaking is transformed into thought (Cheyne and Tarulli 1999: 7). This is in contrast to the Western ideal of rationality that thinking and learning precedes action and speaking. That is, our confidence that students can learn by doing is supported by the Vygotskian notion that action and speaking can transform our thoughts.

Social interaction with the purpose of learning a discipline necessarily demands shared language and culture. Vygotsky referred to a need for some commonality of participants' apperceptive mass (1987 in Cheyne and Tarulli 1999: 9) (which means the mass of concepts already held that can be used for assimilating new concepts). Therefore, education about particular 'scientific concepts' belonging to academic disciplines is preceded by acculturation and learning the language. A 'scientific concept' is, in Vygotskian terms, one that is learned through concerted and deliberate thought rather than a concept that arises spontaneously from experience.

> [I]n 'spontaneous' thinking the movement in the child's mind is from particular instances toward some more general concept which links them, whereas in school learning – particularly that of science – the child first receives the concept at the abstract level, and then has to struggle to find out how it may be applied to different specific contexts (Shayer 2003: 480).

Lessons can integrate spontaneous thinking and scientific concepts so that they develop together (Shayer 2003: 480 citing Howe 1996).

Learning the language and acquiring an ability to engage in academic discourse is not the end point of education but a precursor for both education and professional practice; language is necessary for doing things in the world. That is, similarly to Sayer's (1992) conception, language is a means for inter-subjectively making and sharing meaning associated with doing things in the material world.

Vygotsky's research concerned the intellectual development of children. Other research that has informed our practice, Cambourne and Turbill's 'conditions for learning' (discussed below), was developed from studying how school children learned to read and write. Nevertheless, our experience led us to believe that the ideas were relevant to University education. Gluck and Draisma (1997: Table 2.1) described two types of learning and testing that distinguish University learning from other kinds of learning. Both require the integration of spontaneous thinking and scientific concepts:

(1) "Learning is deducing and abstracting meaning. Learners seek to establish relationships between parts of the subject matter and real situations. Testing determines whether learners have the ability to make abstractions and apply these to a range of real world scenarios".

(2) "Learning is hypothesising and theorising, and testing these against reality. Testing involves whether learners can question and reframe knowledge which involves a process of synthesis and development of new knowledge".

The Vygotskian approach is that the social interaction that stimulates learning occurs between a student and a more expert other. The expert models knowledge and thinking processes in the practice of their discipline and, through dialogue, helps students make meaning of scientific and professional concepts, thus engendering an ability to analyse and engage in practice using scientific and professional language (for example, the use of language for ER theorising and ER practice).

The ZPD is the gap between what a student can achieve with assistance from an expert to what he or she can do on his or her own (Cheyne and Tarulli 1999: 15). The goal is to lead the student, through dialogue, demonstration and joint problem-solving, to an ability to accomplish tasks and make arguments without assistance. Facilitating learning requires 'scaffolding'; constant adjustment of the level of help provided as the student becomes more capable. Asking students to do things that they do not know how to do (with support) creates an intellectual challenge that pushes the student ahead of their 'spontaneous' thinking, but it also provides students with an opportunity to develop "new tools for thinking" that takes their spontaneous thinking to new levels (Shayer 2003: 473).

> *Scaffolded instruction within the ZPD is informed by the tutor's constant appraisal of, and sensitivity to, the learner's level of functioning. More specifically, the successful scaffolding of instruction requires that the teacher perform a number of functions, among which are the selection, organization and presentation of suitable tasks. These tasks much also allow for: the teaching of emerging skills; ongoing evaluation of the task's suitability to its purpose; the generation and maintenance of the learner's interest in the task; the use of modelling, questioning and explanation to clarify the goals of the task; the presentation of approximations and appropriate approaches to the task… (Cheyne and Tarulli 1999: 16).*

As noted above, Vygotsky argued that the dialogue requires participants to have a shared language and culture. Intellectual development is where the student acquires the "culturally common apperceptive mass" (Cheyne and Tarulli 1999: 10), and this shared body of concepts is the "ground or goal for dialogue" (1999: 11). Cheyne and Tarulli (drawing from Bakhtinian psychology) explore this notion, arguing that whilst perfect understanding between two people is aided by cultural similarity, learning necessarily requires differences between the two participants. Meaningful dialogue requires difference in presuppositions between the participants. Cheyne and Tarulli explore the tension between cultural difference and similarity between experts and students in the ZPD. Their examination of the tension between cultural commonality and difference between the expert and student led them to examine the kinds of dialogue that occur in the zone of proximal development. They found a third voice in the ZPD: the discipline. The discipline is the reference point and standard, standing above the dialogue. The gap in appreciation of the discipline between the expert and the student is the source of the expert's authority over the student. The goal is that the student will move into congruence with the expert – to become enculturated into the discipline community. Whilst this holds possibilities for oppression and even for the student rejecting the discipline and the disciplinarians altogether (Cheyne and Tarulli 1999: 24), Gluck and Draisma (1997) argue that learning the discipline is required for emancipation: students need to understand the discipline and speak its language in order to influence it or challenge it.

Gluck et al. (2003: 38 citing Gallimore and Tharp 1990) point out that "individuals' learning experiences throughout life are made up of ZPD sequences, from other assistance to self-assistance, in a recursive loop that facilitates the development of new capacities. For every individual, at any point in time, there will be a mix of other-regulation, self-regulation and automatised processes…".

Conditions for Learning

That the theory of the ZPD could have any relevance to Australian university education seems utopian. Effective 'scaffolding' requires intimate knowledge of each student's progress and ability over time and this is impossible in large classes that provide for three hours contact time per week for 13 weeks. However, Cambourne and Turbill's research and Shayer's (2003) understanding of the ZPD includes peer learning and instruction. Learning occurs through collaboration with peers in small groups as they work on problems or engage in play. "In play the child is always behaving beyond his age, above his usual every day behaviour; in play he is, as it were, a head above himself" (Vygotsky 1933 quoted by Shayer 2003: 481). We can replace 'play' in this sentence with 'collaborative creative experimentation' (sometimes assessed, sometimes not) to suit the sensibilities of serious University students. The collaboration, including argumentation, stimulates reflection by the individual (Wertsch 1979 in Shayer 2003: 481). Group work, therefore, can serve as a vehicle for traversing the ZPD allowing for scientific concepts to be internalised in situations where one-on-one instruction is not feasible.

Following Vygotskian theory points to the conclusion that lecture and tutorial activities should provide room for students to collaboratively acquire, control and utilise ER language with opportunities for application to ER practice. Discipline language cannot be learned in isolation. Group processes that enable students to learn the language allows their participation in academia and discipline-specific practice. This can enable students to develop their academic and professional voice. In our practice, we used Cambourne and Turbill's (1997) 'conditions for learning' as a tool set for our weekly design work. These conditions draw on Vygotskian learning principles guiding the expert in how to assist students across the ZPD (Moll and Greenberg 1990). The conditions that facilitate learning are:

Immersion in academic culture and ER discipline culture.

Demonstration of (i) discipline-specific requirements (doing ER practice) by lecturers/tutors, texts, videos and case studies and (ii) how to engage in academic discourse to facilitate inquiry and learning.

Expectations shaped by lecturers and other students that participation, collaboration, and 'doing ER' is necessary for acquiring, controlling and utilising the discipline language and culture.

Responsibility for learning taken by students, including taking responsibility for working with others effectively, asking for help if needed, and reducing opportunities for invisibility and anonymity. It also relates to the degree to which the student has choice about the focus for learning.

Approximation, where students are given safe environments in which to 'have a go' at being an ER practitioner/expert in the discipline, risking making errors.

Practise using and applying knowledge and skills as they are developing during lectures and tutorials. 'Scaffolding' can be used, where the level of assistance/modelling is adjusted as students progress in their capacity to practice and analyse ER.

Engagement with the demonstrations of ER practice and discipline made available (such as lecture discussions and case studies) which will vary according to the needs of the students and their perceptions of the learning's relevance (influenced by perceptions that content is related to the 'real world').

Response, where there is non-threatening mutual exchange between experts, peers and novices as students undertake ER practice within lectures and tutorials (adapted from Cambourne and Turbill, 1987: 7).

In Subject B, we attempted to create these conditions for each set of ER concepts/practice that we presented. We were not able to do this all the time as subject development time was scarce but we were able to create many opportunities for modelling, approximation and practice during lectures and tutorials that contributed effectively to student learning. It was difficult to reinforce the expectation that learning would occur through discussion, approximations and practice rather than through didactic means where students could be passive. It was a challenge to ensure that the presentation of short lectures that had the purpose of demonstration would not be perceived by students as the only time that there was 'real learning' happening because notes could be copied from overheads.

One small initiative at the start of semester, insisting that students sit within their tutorial groups within the lecture theatre, turned out to be very important to our goal of encouraging collaboration. This created more comfortable conditions for collaboration and for 'having a go' at ER practice. It did not entirely overcome the tyranny of fixed tier seating and schisms within tutorial groups based on personal attributes such as gender, race and language-background differences and similarities.

Despite some resistance to the idea because it restricted choice, students reported that the subject was the most social that they had ever attended and they had become acquainted with many more students than in their other subjects. This in itself was important for encouraging talk and to providing some safety to directions to approximate ('play' or 'have a go') at an activity or concept that was new. It also reduced anonymity because students tended to sit in the same seats and learned the names of their colleagues, an important antidote to passivity. While educationalists such as McCarthy (2004: 38) emphasise the importance of lecturers learning students' names to encourage action, in lecture groups of 250, the next best solution is that at least students know each other's names within their tutorial group.

Apart from creating a friendlier and safer atmosphere, the main purpose of clustering students into tutorial groups during the lecture was to create links between lectures and tutorials. Often, the ER lecturer would present material, then group discussions or activities would follow during the lecture, and then carry forward into the tutorial, often with groups having to submit a worksheet or report to their tutor to earn 'participation marks'. Whilst this kind of linking between lectures and tutorial could have been deeper and tied in more strongly to assessment tasks, it was evident to the tutors that students were much more prepared to contribute readily in tutorials than would be expected for a first year compulsory subject. One tutor reported after the first tutorial: 'they hit the ground running'. This led from their first 'participation' task in the lecture where they were required to research the names and group work preferences of fellow tutorial members. This was supplemented by a short drill or ritual in each tutorial to help students retain each other's names.

The students' responses were investigated via an 'employee participation' exercise (a form of immersion in ER practice) where in the first lecture and frequently after that students were able to anonymously write questions and comments on small slips of paper that received immediate response from the lecturer. We also collected informal written evaluations in the final week. From the students' perspective, the lectures were very confronting to their expectations in two ways.

Firstly, many had planned to not attend lectures; they planned to read copies of overheads downloaded from WebCT. Some were angry that this option was not available. A number were also angry when specified activities for earning participation marks were sometime begun during lectures and finished in tutorials, saying that this was inconsistent with lectures not being compulsory (University policy specifies that students must attend more than 75 per cent of tutorials only). It took quite a few weeks for students to learn that they could collaborate with fellow students to get the lecture notes and instructions they needed even if they were physically not present at the lecture. This strategy was quite deliberate on our part. With foreknowledge that lecture attendance in first year subjects often fell below 30 per cent in the middle of semester, we felt that students who did not attend should at least be encouraged to engage in ER discourse outside the lecture by having to work with other students rather than using WebCT. It also models ER practice in the sense that employment relationships are structures that have evolved for delegation and to achieve things that cannot be done by one person alone. We regret that we removed students' perceived 'safety net' of overheads but felt that the few words that had been written onto overheads for particular weeks would be misleading if read in isolation from lecture activities.

Secondly, our approach conflicted with students' expectation that they would be passive during lectures. There was also discomfort for some from having to participate in small group discussions in the theatre. Volunteers to report back on their group's activities to the whole theatre using a radio microphone were scarce, but increased over the course of the semester.

Whilst some students were frustrated that time was spent passing around a microphone and listening to fellow students, it helped to model types of employment relationships from hierarchical to participatory or team based approaches. This was a key curriculum concept concerning prescriptions that were being put forward about 'best practice' organisational forms appropriate for a 'knowledge economy'. We encouraged students to use their experience to think about the identities of managers and employees. Do managers/lecturers lose authority if they share the airtime with employees/students? Does giving employees/students voice change the power relation?

Creating a flow from individual activity/writing, to small group discussion, to reporting back to the theatre as a whole could have been more carefully structured and gradual, but it is very difficult to create a safe environment for all or even many students to speak up in such a large space. Nevertheless, these activities seemed to encourage students to take up opportunities required for approximation during tutorials; that is, whilst activities in lectures sometimes lacked enthusiasm, there were benefits in terms of more intense engagement in tutorials.

Cambourne and Turbill's views on engagement were borne out. Willingness to participate and to speak varied according to topics: gender equity, international trade ('free trade versus fair trade'), and summarising the course for the final exam were three topics where participation was enthusiastic, topics that related most obviously to students' 'real worlds'. This contained a tension for the ER discipline lecturer: how to juggle making things interesting against presenting the discipline as a coherent whole. In part, the extended case studies on call centres (supported by a guest lecture from a trade union official) and a real research report on why nurses were leaving their profession containing many quotes from nurses (Buchanan and Considine 2002), were successful as vehicles for the drier points of the ER discipline, and these cases were returned to throughout the semester and used during the final exam.

To convince students that we were serious that learning required them to participate and collaborate, assessment tasks clearly rewarded such behaviour. There was an assignment where a small group of students were placed in charge of facilitating the learning of their classmates about a specified topic so that students could practice human resource development and control. There was a reflective write-up of this activity concerning the ER concepts of cooperation, resistance and learning. Reflective practice was modelled, approximated and practised during lectures with feedback from the lecturer and tutors, with students given further opportunities for a reflection task within the exam. For example, a sample of student efforts to write a reflection on an activity were read out by the ER lecturer, with commentary on its strengths and weaknesses relative to the stated marking criteria. Further, all exam questions drew from discussion activities and exercises held during lectures and tutorials. Questions required students to apply their thinking to scenarios created in the exam or to the extended case studies on nursing and call centres. That is, the exam demanded application of discipline concepts that had already been discussed and applied in group work during lectures.

Collaboration between an ER Lecturer and LD Lecturer

There was tension as well as enjoyment in this collaboration. For the ER discipline lecturer, there was an urge to 'cover the content' through didactic lecturing to present a coherent and thorough view of the discipline based on how she had acquired the content, the language and culture of the discipline. This urge competed with an urge to provide an educational experience consistent with knowledge she had developed about how students learn.

There was also a struggle with pushing students away from their preference for passivity during lectures as well as the struggle of getting them to attend lectures at all. However, resolution of these competing urges was informed by the theory and practice of the ER discipline itself. It is consistent with ER theory and practice that organisational effectiveness arises from employee participation.

Giving students opportunities to have responsibility, influence, voice and choice were consistent with this ER principle. As students learn the ER language and discipline, they can challenge the expert and the discipline. The expert may learn from the novice and there is a risk of chaos and conflict (Cheyne and Tarulli 1999: 21 - 22). Furthermore, the struggle against students' preference for passivity that was articulated during lectures allowed students to analyse their experiences around power, voice, cooperation, resistance, cultural and gender differences, and rewards / punishments that had resonance with ER practice.

The LD lecturer struggled with converting sound education theory and practice into something that led to learning and engagement with the ER discipline, particularly to convert textbook theories into meaningful simulations of ER practice in the lecture theatre. This was overlain by difficulties of influencing and facilitating without exercising any control over the delivery of the final product. A significant difference between the lecturers concerned the amount of time to allow for students to work on problem-solving to understand a particular concept. The ER lecturer often greatly underestimated how long it would take students to make progress with approximations and practice, and it seemed easier and more efficient to 'tell' students the discipline as the minutes ticked by. In part, this was because relinquishing control and domination of the airtime for extended periods during lectures challenged the lecturer's enculturation in higher education. "Emotionally, it is difficult for a practitioner to …review and speculate about the foundations of his [sic] work" (Mindell 1988 in Gluck and Draisma, 1997: section 2.3). It also includes a tendency for experts to think concepts with which they have longstanding familiarity can be easily learned.

Our collaboration helped us learn about learning and language, and confirmed the importance of Vygotsky's principle that learning occurs through social interaction. The ER lecturer was expert in using ER language but a novice in using education language. The LD lecturer was an expert in using education language but a novice in using ER language. Being expert and novice at the same time helped us appreciate and understand the very process that we were asking students to engage in, and we individually grew to be more capable, confident and effective as we learnt the language of the other. Further, the lessons from collaboration were that working and learning collaboratively across disciplines requires great skill and practice, but can also make curriculum development and lesson design much more effective and enjoyable.

Lessons Learned and Things We Could Have Done Better

We ended our year with many questions and ideas that we will try in future. We also developed some firm ideas about practices that worked. *Supporting groups allows groups to support learning.* That is, groups need direction, coaching and practice before they can be effective for student learning. Groups and collaboration among students is essential for students' acquisition of the language of the discipline, a prerequisite for academic and ER practice. Another principle that the ER lecturer has embraced is that students listening to lectures about ER is only one minor component of the required 'conditions for learning' and opportunities to practise and approximate are essential. Face-to-face classroom time should be designed around collaborative learning, with individual components of learning (reading, note taking and assignment preparation) occurring in the nine hours that students have outside the classroom.

Collaborative learning outside the classroom would be effective but students find it difficult to make time to participate in groups outside scheduled classroom time and scheduling meeting times can turn into power struggles. Assessments have to be carefully tailored to encourage students to undertake activities consistent with learning collaboratively. This does not mean that all assignments have to be group assignments, but it does mean giving some reward for collaboration and participation, and creating incentives for practice and sharing around individual assessments; for example, reading drafts of each others' work, or listening to rehearsals of presentations. The ER lecturer's experience confirms McCarthy's (2004: 38) views that students only do things that have assessment marks attached to them.

There were many things that we could have done better in Subject B. Firstly, we should have created smaller groups for students to belong to from the beginning of the subject (gradually developed over a few weeks) for all lectures and tutorials throughout the semester to truly engender collaboration and a more comfortable learning environment. Creating an effective group takes time, and it is misdirected effort to ask students to form new groups more than once or twice a semester. We believe that if these groups were carefully constructed, there would be opportunities for some international students (who notably participated less during lectures) to work consistently with Australian students to help them acquire the Australian language and culture as well as the ER discipline. We were encouraged by the number of students, Australian and international, who talked about 'managing diversity' in lectures and during the exam using examples from our classes. Some students do not go beyond seeing relatively low verbal participation of international students as something that will change when their English improves. Having to continually work with individual differences provides an opportunity for students to appreciate diversity beyond simplistic assessments of language abilities and 'personality'.

Probably the thing that could improve the most from teaching the subject a second time would be the streaming of activities and assessments to make it easier for students to perceive the links between activities and textbook content as well as links between activities and assessments. That is, the careful lesson design described by Shayer (2003) for effective scaffolding is very difficult and would require working at delivering the curriculum of a particular subject over a number of semesters. We also felt that avoiding the term 'lecture' would be a simple step that would reduce students' expectations that they could be passive.

We also need to devise a process for systematic evaluation. As Gluck and Draisma note, the usual approach to teaching evaluation is inappropriate with Vygotskian theory as "teaching is evaluated in most cases in terms of the quality of didactic instruction (breadth and depth of material covered, logicality and flow of delivery style). …[W]hether learning has taken place as a consequence of instruction given [is not evaluated]" (Gluck and Draisma 1997: section 2.2). The formal evaluations conducted at the University of Wollongong were consistent with Gluck and Draisma's description. Our informal evaluations were limited to observation of improved (but still occasionally disappointing) lecture attendance, observation of group activities (with substantial eavesdropping by the LD lecturer throughout the lecture theatre) and written feedback from students. Whilst the ER lecturer was very happy with the exam results overall, where a large number of students were able to apply ideas from the textbook and readings to new situations, there was a substantial group of students who appeared to have done very little work on their own, or who were unable to learn from the activities run in lectures and tutorials. Nineteen per cent failed the subject because they were unable to obtain at least 40 per cent of final exam marks. This failure rate is not out of line with other first year compulsory subjects but substantial resources would be required to meaningfully investigate the reasons for success and failure in the subject given the many interacting variables that impinge on student experiences. If it had been possible to teach the subject a second time, some of our suggested changes discussed in this section, particularly around managing student expectations, may reduce the failure rate.

Future Directions and Conclusion

The collaboration and learning about learning during 2003 will continue through the collaborators' personal practice. The materials and processes for facilitating group work have attracted substantial interest from other lecturers. The LD lecturer has seen that dealing with 'problem groups' is a topic that animates most lecturers. Therefore, efforts to devise ways of *supporting groups so that groups support learning* is a useful allocation of resources if supporting and improving the everyday work of lecturers is the object.

Some of the practical ideas discussed in this article could be justified via a number of teaching and learning theories, and some of the things that we did had not been fully analysed relative to theory at all. However, we find that Vygotskian principles, extended by Cheyne and Tarulli's analysis of dialogue and Shayer's views on collaborative zones of proximal development, are effective for the particular context for teaching and learning at Australian Universities: increasing class sizes and increasing employment of casuals (who are employed with less HRM investment than most of our students receive when hired to work in a supermarket). If one agrees that being effective in ER practice requires learning the ER language as a first step, then it must be recognised that there are very few opportunities for students to learn the language from the discipline expert who may increasingly be a dot on the podium at the bottom of a lecture theatre or only experienced as one-way text downloaded from WebCT. Collaboration between students so they can learn the language with each other is an alternative approach that can be effective in the context of large classes and few one-on-one interactions with discipline experts. Systematic design to create the conditions for learning to support collaboration is required. This takes us beyond the one-off group assignment to encouraging collaboration to create the 'conditions of learning' in each lecture and tutorial. More research is required, and resources for developing effective evaluations of learning would deepen our knowledge.

Researching the learning experiences and contexts of those students who failed Subject B would also be useful. Of particular concern were students who were reluctant or unable to participate in discussions and activities; through observation these students were more often international students from various Asian countries. International students whose first language is a language other than English often struggle in their first semester at an Australian university. There is no reason to expect that these students are less likely to prefer to learn collaboratively; observation suggests quite the opposite, with students seeming to want to sit with and work with friends who share similar language and cultural backgrounds. The challenge remains of how to make 'having a go' in lectures easier or safer for these students. The differential impact of teaching methods on particular groups is an ethical concern and further development must focus on using existing University resources to support international students within the subject. Whilst this remains a significant challenge, we know that return to more traditional methods that require students' silence in during class time will not maximise international students' acquisition of ER language.

Acknowledgements

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[i] Employment relations refers to the combination of two disciplines: industrial relations and human resource management. For simplicity's sake, we use 'ER discipline' in this paper.