Layered teaching with large classes

Dr Georgina Murray, School of Arts, Media and Culture and Ms Cristina Poyatos-Matas, School of Languages and Linguistics, Griffith University

Abstract

How to actively involve staff and students in a large teaching programme that is open to new virtual realities whilst coping with many diverse levels of teaching and student abilities is always a challenge. This paper discusses two different teaching models that made different use of the web to support student learning in a large first year classroom in 2003 and in 2004. It reflects on the impact that these two different models had on student classroom attendance and active engagement with learning, as well as on large classroom team teaching.

Introduction

A major challenge when dealing with large scale teaching is how to create positive learning experiences with staff and students whilst exposing them to what may be threatening new (virtual) realities (Dabbagh & Kitsantas, 2004; Herring & Smaldino, 1998; Riel & Harasim, 1994; Hannafin, Hill & Land, 1997). Another challenge is how to simultaneously cope with diverse levels of abilities among students who are most often rooted in past traditional learning experiences and technical limitations. This paper argues that it is possible to enhance and empower learners in large classrooms through using a pedagogy that places the student at the centre of the learning process. This requires a multilayered approach that triangulates a number of methods in a focus that acknowledges the role that the social environment and the learning community can play in sustaining individual growth (Hewett, 2003; Zimmerman, Lima & Christy, 2003; Reilly, 2000; Hannafin, Hill & Land, 1997; Vygotsky, 1978). To test our commitment to student-centred learning in large classrooms, we introduced a number of new ideas with a first year group in Social Sciences. Now we reflect on praxis or outcomes of the crossroad between theory and action in practice in large-scale teaching.

Towards student-centred learning environments

A movement towards student-centred learning rejects the rigidity of the traditional teacher dominated classroom. Traditional teaching promotes passive and repetitive learning that is likely to be uninteresting to students and teachers (Good & Brophy, 1997) and neglectful of technologies that will empower and excite learners (Dabbagh & Kitsantas, 2004, p.40). In the last 30 years, we have witnessed a progressive shift in teaching strategies and approaches from teacher-centred to student-centred learning as learning theories changed to take better account of social and cultural contexts (Illich, 1993; Freire, 1971, 1972; Shepard, 2000). There has been a conceptual shift in education which has gone from “I will tell you therefore you will learn” to “I want to help you in ways which are effective for you and match your needs” (Moore, 1999, p.1).

Edwards (2003) discusses the concept of student-centred learning as a type of learning that is shaped and driven by the students’ learning needs and by the teacher response to students as individuals. Traditional models of teaching have been described as those in which the teacher takes on the role of expert, whose duty is to transmit knowledge to the students, as it is assumed that learners are ignorant and need to know the “truth” from the teacher. In contrast, in student-centred learning models, the teacher believes that learning is an active process of making meaning in which prior learning influences future learning (Science Fair Project Encyclopedia, The University of Sydney, 2003).

In their work on student-centred learning, Sparrow, Sparrow and Swan (2000) say that it allows the integration of aspects of student choice of time and place for study, the

content to be studied, the assessment of what has been learnt, and the acknowledgement of previous knowledge and skills. They also state that the definition of student-centred learning is often confused with other teaching strategies, such as self-directed learning, autonomous learning, collaborative learning, and others, which are only different strategies that contribute to student-centred learning (Sparrow, Sparrow & Swan, 2000). In other words, student-centred learning is the end and these various strategies are the means to achieve this end to engage students in learning.

Assessment and teaching have often been conceived of separately (Graue, 1993). However, they are intimately related. We cannot talk about student-centred teaching without talking about student-centred assessment. The reformed vision of the curriculum influenced by new theories of curriculum, learning and assessment, places the student at the centre of it. This new conceptualisation of assessment in higher education plays an important role in the student-centred learning movement (Palomba & Banta, 1999). The need to align teaching and assessment has resulted in the development of process and performance assessment approaches to encourage the student to have meaningful involvement in assessment (Mabry, 1999; Herman, Aschbacher & Winters, 1992; Segers, Dochy & Cascallar, 2003; Shepard, 2000). Unlike traditional normative tests, these approaches involve students in active learning as part of their assessment. Formative student-centred assessment tools like the use of Internet quizzes where the answers can be seen straight away in class, and alternative, more student-and-ethnically friendly forms of presentation (such as a Rap poem), are a key elements for this discussion.

Nowadays, assessment has been reconsidered to support student-centred teaching. Davies and LeMahieu (2003) believe that the primary purpose of student assessment is to support learning. They believe that:

> Learning is not possible without thoughtful use of quality assessment information by learners…Education … tends to hold both students and teachers responsible for learning. Yet, if students are to learn and develop into life long, independent, self-directed learners they need to be included in the assessment process so "the learning loop" is complete. Reflection and assessment are essential for learning (Davies & Le Mahieu, 2003, p.142).

According to Shepard (2000), traditional measurement approaches to assessment, influenced by behaviourist learning theories and "scientific measurement", present a real barrier to supporting the assessment of teaching. Assessment approaches represented by the use of standardised tests work against implementing more constructive approaches to teaching (Graue, 1993, p.291). Shepard (2000) continues that to transform education to support new student-centred curriculum trends, assessment needs to be more informative, well connected to learning steps, and at the same time teachers must contribute to change the social meaning of the student evaluation. Shepard (2000) points out:

> In order, for assessment to play a more useful role in helping students learn it should be moved into the middle of the teaching and learning process instead of being postponed as only the end-point of instruction. Dynamic assessment - finding out what a student is able to do independently as well as what can be done with adult guidance - is integral to Vygotsky's idea of a zone of proximal development. This type of interactive assessment, which allows teachers to provide assistance as part of the assessment, does more than help teachers gain valuable insights about how understanding might be extended. It also creates perfectly targeted occasions to teach and provides the means to scaffold next steps (Shepard, 2000, p.10).

Therefore, assessment should be more dynamic and interactive to be more helpful for learners as well as for teachers. Liberating teachers from some of the traditional criteria of "good teaching" encourages learners to become active generators of their own knowledge. Educators using cooperative learning in their classrooms redefine the role of the teacher and re-examine the structure of the classroom. They are committed to educational equity and believe that a transmission model of program delivery confines

students to a passive role that induces a form of “learned helplessness” (Cummins, 1989 in MacDonnell in Kessler, 1992). The ability for teachers to communicate their enthusiasm into the delivery of their material will be evaluated in the paper below.

According to Poyatos-Matas (2005), student-centered learning attempts to create an egalitarian environment in which students are empowered to take control over their own learning. In order to create this type of learning environment, the teacher takes on new roles such as inquirer, creator, observer and facilitator. In the role of inquirer, the teacher continually examines and questions his/her beliefs, values and assumptions. When the teacher takes the role of creator, s/he creates the right social climate, setting goals, planning and structuring the task, establishing the physical arrangement of the class, assigning students to groups and roles, and selecting materials and time. As an observer, the teacher continually observes the learner’s progress, reflecting and intervening in a supportive way by making changes to the specific program. In her/his role as a facilitator, the teacher is prepared to step aside to give the learner a more meaningful role. S/he is prepared to intervene and assist in the problem-solving process and to support and encourage the learner’s desire to learn (Poyatos-Matas, 2005)

Bruner (1986; 1990) notes that learning is an active process in which the learner constructs new ideas or concepts based upon their current/past knowledge. In order to be actively involved in learning, the student selects and transforms information, constructs hypotheses, and makes decisions based on cognitive structure (i.e., schema, mental models). This process allows the individual to go beyond the given information, as s/he is driven by the need to make sense of this information. The teacher should encourage students to discover principles by themselves and should engage with learners in an active dialogue, and the curriculum should be built in a spiral manner, where students continually build upon what they have already learned. In this way, teachers are exploring new ways of engaging students with learning. Some teachers have used new technologies to support learning (Egbert & Hanson-Smith, 1999), while others have introduced new assessment techniques to promote learning. This is the case of Musil (1999) who found that dancing offers a process of creation within the educational environment that permits the teacher/choreographer to stimulate the creative process whilst maintaining a student-centred learning environment. However, teachers need to explore new approaches to student-centred assessment to engage students in learning, in particular in first year large classrooms where size constraints and diversity may have an impact on student assessment delivery (Poyatos-Matas, 2005). Overall, there is a need to find out more about how to create student-centred learning environments that use teaching and assessment effectively to support learning.

The study

This study reports an action research study (Zuber-Skerrit, 1992) on the implementation of two different learning environments used in a large first year Social Science class completed as a result of reflective teaching practice (Cole & Knowles, 1995). In this study, evaluative data was collected from the students through questionnaires in 2003 and 2004, as well as critical assessment of the teaching practice.

The two learning environments

The authors reflect on the elements that contributed to these two learning environments and their impact on student learning. The class was called The Social Sciences in Australia. The first learning environment implemented was a teacher-centred model used with 325 students in 2003. In contrast, the second one was a student-centred model used with 392 students in 2004, resulting from the critical teaching evaluation of the first model implemented in 2003. This paper outlines the elements that contributed to the creation of the student-centred learning environment used in 2004 to provide a

supportive learning environment that engaged the first year students of a very large and diverse class with meaningful Social Sciences learning.

The teacher-centred learning environment used in 2003

The first year class of 292 students was taught externally and internally and on multiple campuses. In 2003, we began the year with an inherited 1996 recommended text, a dossier and a passive approach to learning that included lectures that were given in a large auditorium, architecturally designed to reinforce the power structure of the powerful teacher at the centre (giving the knowledge) to anonymous rows of powerless-students (receiving the wisdom). Two teachers in a teaching team of five used PowerPoint; the others used acetate overhead projections and hand held notes. Other than in the lectures, learning took place in *small* group tutorials of up to 30 students. A group of eight tutors (including staff members but mainly RHD students) took tutorials. This teaching took place in the first semester of 2003 and the organisation of the teaching was as documented in Figure 1.

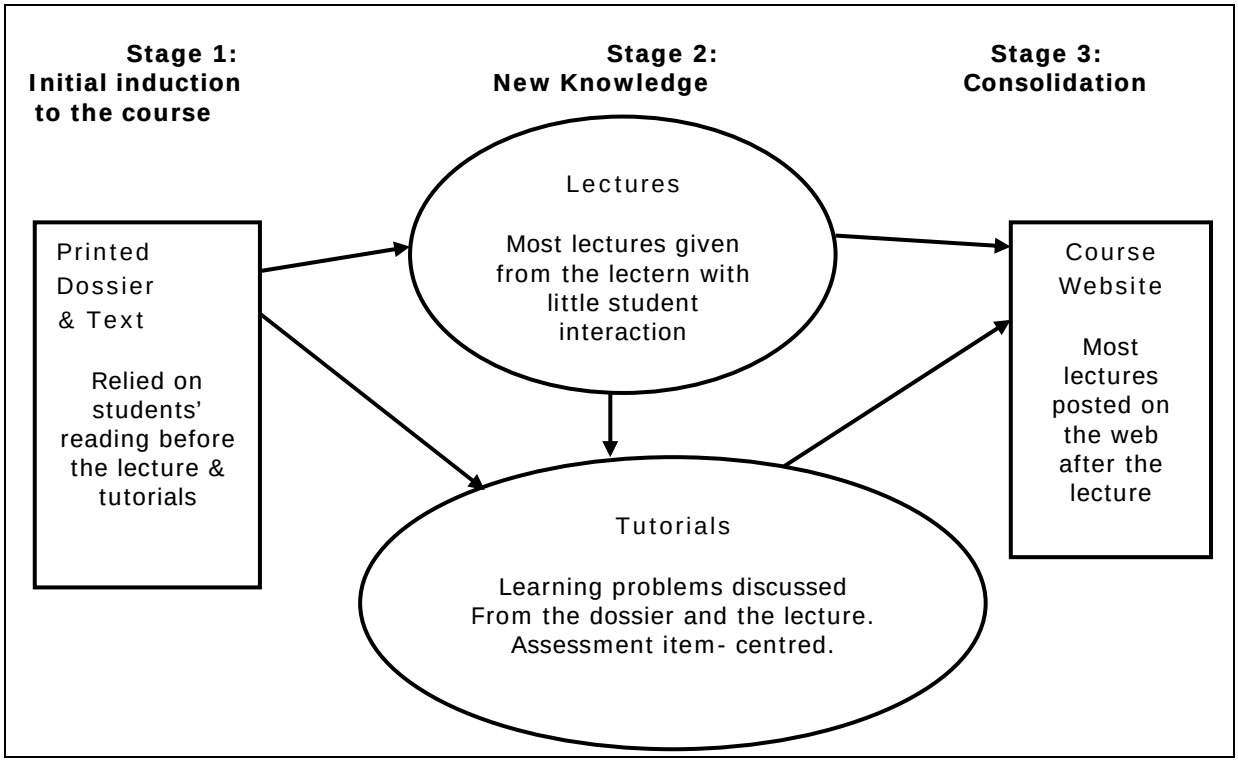

Figure 1. The teacher-centred learning environment used in 2003

This learning environment was made up of three stages. In the first stage, the initial induction to the course, the learners were given their dossiers and textbook and were told that they had to read the relevant readings before each lecture and tutorial. In the second stage, where new knowledge was presented in teacher-centred lectures with little student interaction, and discussed in tutorials that were mainly assessment item-centred. The third stage was the consolidation stage. In this stage most of the lectures were posted to the web after they had been delivered in class.

Critical reflection on the 2003 model

The major problem with this model is that the learning experience was passive. Students were coming to tutorials irregularly and with an ill prepared (if at all) required reading because the teaching and learning approach was not actively engaging them. Lecture quality was variable in presentation. Lectures were teacher-centred with answers coming

from the lectern with a high level of teacher lecturing. As a result, attendance at lectures dropped off dramatically by the end of the semester. Absenteeism was not punished but neither was attendance rewarded in any way.

The student surveys made clear that the learning environment created for them in 2003 was not contributing to their effective learning. The teaching feedback received from student showed that only 54 per cent of the students noted that the lecturers worked consistently to make their lectures interesting, 52per cent thought that the methods of the lecturers were effective, notwithstanding that 90 per cent thought that the lecturers knew their subject well. This indicated to us that the discipline content was not delivered in a way that engaged students actively with learning. As a consequence, some major changes were implemented in the learning environment to make it student-centred in 2004. These changes are described next.

The student-centred learning environment used in 2004

We learnt from the 2003 course evaluations that students thought the staff were knowledgeable about their subject, but were not effectively communicating this knowledge to its best advantage. This stimulated our thoughts as to ways that we could break down these communication barriers; barriers that we thought were reinforced by the traditional teaching delivery model based on a large age gap and a certain amount of technophobia amongst the staff.

Amongst the new elements introduced into the student-learning environment in 2004 were different forms of creative assessment to promote different ways of learning (see Figure 2). One form was the quizzes (used in other Schools, e.g., the School of Industrial Relations) that students could download from the course website before each lecture. Each one consisted of five multiple-choice questions related to the content of the lecture to be delivered and the required readings. Importantly, they were marked in the tutorial. The other innovation introduced – initiated half-way through the course – was to try to incorporate forms of delivery of assessment that were more centred around their age-related interests, for example the Rap poem. This started as an exercise developed first on the web discussion board of the course and involved them in writing and posting a social problem in rap form and then performing it. We hired a professional satirical group to perform the social themes of the course in satire for the final lecture and the members of the group were asked to judge the raps produced by the students and a prize was given. The last innovation that we used was having an Indigenous teacher from the Gumurrii Centre (the Indigenous Centre on campus) take one tutorial to increase the teaching diversity in the team and reach more learners in this way.

This teaching took place in the first semester of 2004 and the organisation of the teaching was as documented in Figure 2.

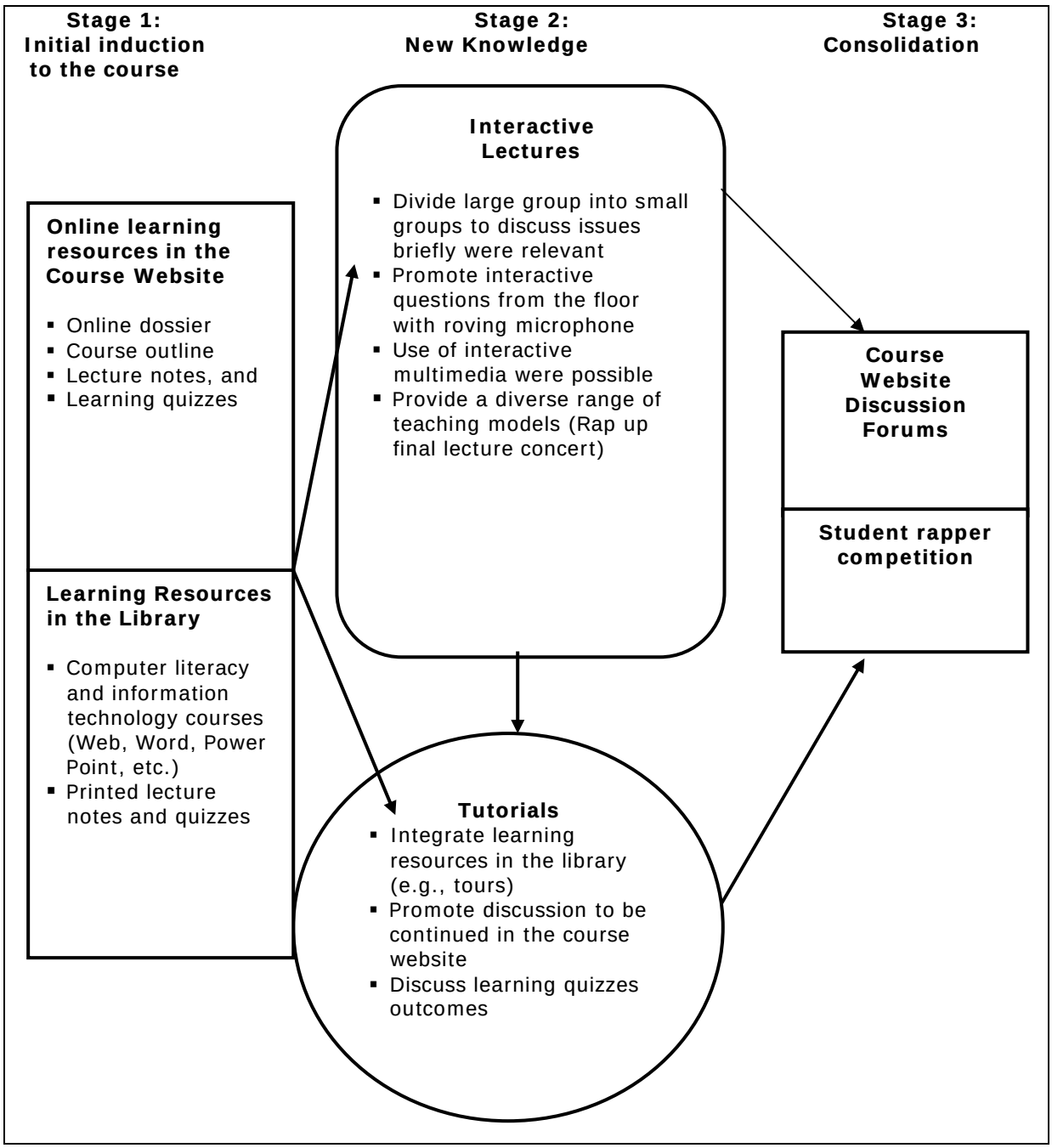

Figure 2: The student-centred learning environment used in 2004

As it can be seen in Figure 2, in the 2004 student-centred model, we aimed to engage students actively in serious social problem issues by using a larger repertoire of teaching strategies to support student learning. As a result, in the initial induction to the course, stage one, all the learning resources for the course were made available to students online through the website of the course in Blackboard. In addition, the lecture notes and learning quizzes were made available in the library to support those students who may be technically disadvantaged. All students were encouraged to take computer literacy courses, as well as the teaching staff who were particularly encouraged to take courses on PowerPoint to support their teaching.

Critical reflection on the 2004 model

The teaching team observed that with this model they were able to engage students more effectively with learning than with the prior teacher-centred model. The extra effort, time and attention spent by staff on delivery of the course content had major pedagogical paybacks, even those not always anticipated.

Outcomes

The Rap Exercise began as a written duel on the discussion board on the web (See Figure 3). Many students there spoke on the board of their lack of confidence and temerity in writing in this genre but then went ahead anyway.

Current Forum: Nathan Idol [Read 83 times]
Date: Mon May 17 2004 9:07 pm
Author: <@student.griffith.edu.au>
Subject: be kind, i'm fresh meat.

I have no idea of the structure of a "rap" but assumed it'd basically just be rhyme upon rhyme. Forgive the personalised names of the authorities; I thought it may give some cultural flavour. Also if anything offends anybody I didn't intend it to... it's just awfully difficult to write impartially on a lot of these issues.

Figure 3. Example of message posted to the Web Discussion Board

There were other very successful submissions including an Aboriginal entry (see Figure 4 for an example). This was done under the strong drive centred around the Aboriginal tutor. The student evaluations were very supportive of this initiative.

Wiggy Wiggy, we don't want your pity
Simply wake up and realise this dity.
Its aim is to show our common cause
that we as humans must stop and pause.
Realsise our disorder that binds us so
Then attain this notion of the quid pro quo.

We've all got different perceptions with this
thing called profoundly gender. Which exists
either determined by society or individually
constructed
From here inequality itself is inducted.

Bartky our Foucauldian argues that
our "docile bodies: are conditioned to excel at
things which should not be perceived as naturally
fain.
The discipline asks women to persuasively refrain
from choosing forms of femineity outside the square
which narrows, delineates and confines them in
despair.

Little Bro French conjects with a through
structured around self construction which brought
a notion of individually negated gender to the forum.
Despite some constructions obligating decorum
Inequality through "rough and tumble" pervades
and hegemonic masculinity remains.

Big Wigga C, otherwise known as Connell
represents a view held by one oth'll
His stance being that gender's a "practical
transformation"
where natural patterns aren't ignored by the
vocation.
Thus Big wigga C and Little Bro French agree
My gender is individually constructed, not by you
but me.

We've all got different perceptions with this
thing called profoundly gender. Which exists
either determined by society or individually
constructed
From here inequality itself is inducted.

Now dear listeners understand this,
Gender inequality exists and persists
to undermine our society's ethics and principles;
where we must treat lies in the gender residual.
We may be different, but really we're not
respect him, respect her and not besot.
It's trivial because we really should care.
However tomorrow

Figure 4. Extract from a student rap poem posted to the Web

After the public performance of the rap poem that won in the end-of-lectures concert, the author received the prize of a theatre ticket for two to a film of his/her choice. The student wrote the email included in Figure 5 to us straight after the performance reflecting on her experience.

< @student.griffith.edu.au>
26/05/2004 10:36 PMTo:d.peetz@griffith.edu.au, g.murray@griffith.edu.au
Subject: Email from a student

Hey,
Thank you both so much for today and allowing me to display my thoughts on the particular topic.
I especially enjoyed the parodies presented by Absolutely Scandalous. My boyfriend was quite regretful that he chose business and not something that contained a subject with such "interesting things" (i quote) after seeing the AWA skit.
I hope to see you around Nathan next semester and if I do don't feel shy (unless you're in a hurry) and say hi back.

Figure 5. Message from the winner of the Social Sciences Student Rapper Competition

The things that worked about this new form of student engagement were indicated to us in the oral feedback received from students after the Rap-up performance. This was positive from both the performers and the student audience. The audience, however, was not large as the Rap-up took place during a session that had not been originally scheduled and was a week later than the final lecture of the course. Thus, a large number of respondents to the student evaluation survey gave a neutral response to the rap, as they were not present. The majority of those with an opinion, though, had a positive response to it as shown in Figure 3.

What we learnt was that this creative learning experience needed to be incorporated into the formal structure of the course and probably the assessment, thus ensuring greater involvement and enjoyment for the students. As some students may be unwilling to write rap, a wide number of creative options could be explored following our experiences with the Rap, and building on “poster” sessions used by Dr Rickson in Honours and now being piloted in 1011IRL: Employment Relations. The absence of this item as an assessable item put the students inadvertently into conflict, because we were asking them to leave the real, formal reward structure - and their pursuit of high grades - to engage in “fun learning”.

The Quizzes was the next major teaching strategy we put into practice in 2004. These were incorporated into the formal assessment programme and the response was more positive overall. The quizzes, as indicated, involved students doing a weekly multiple-choice quiz based on the material from the upcoming lecture. What quickly happened was that, as Shepard (2000) notes, the quizzes became a positive and central form of assessment around which the tutorial programme was organised. Many students mentioned that the quizzes made them work harder and became the trigger for interesting debate in the tutorials.

- *The quizzes make me work, keep them (they) open discussion (and) interesting debate.*
- *The course was great!! The quizzes are excellent idea and the handbook is extremely useful.*

Other students mentioned that the *Quizzes* helped them to understand the material been studied and to reflect on what they learnt.

- *[keep the] quizzes as they give you something to research and think about for the next week's lecture and tutorial.*
- *The quizzes are awesome! It makes it easier to understand the material that occurred in lectures.*
-

The quantitative data on the student reactions to the quizzes were very positive as shown in Figure 6.

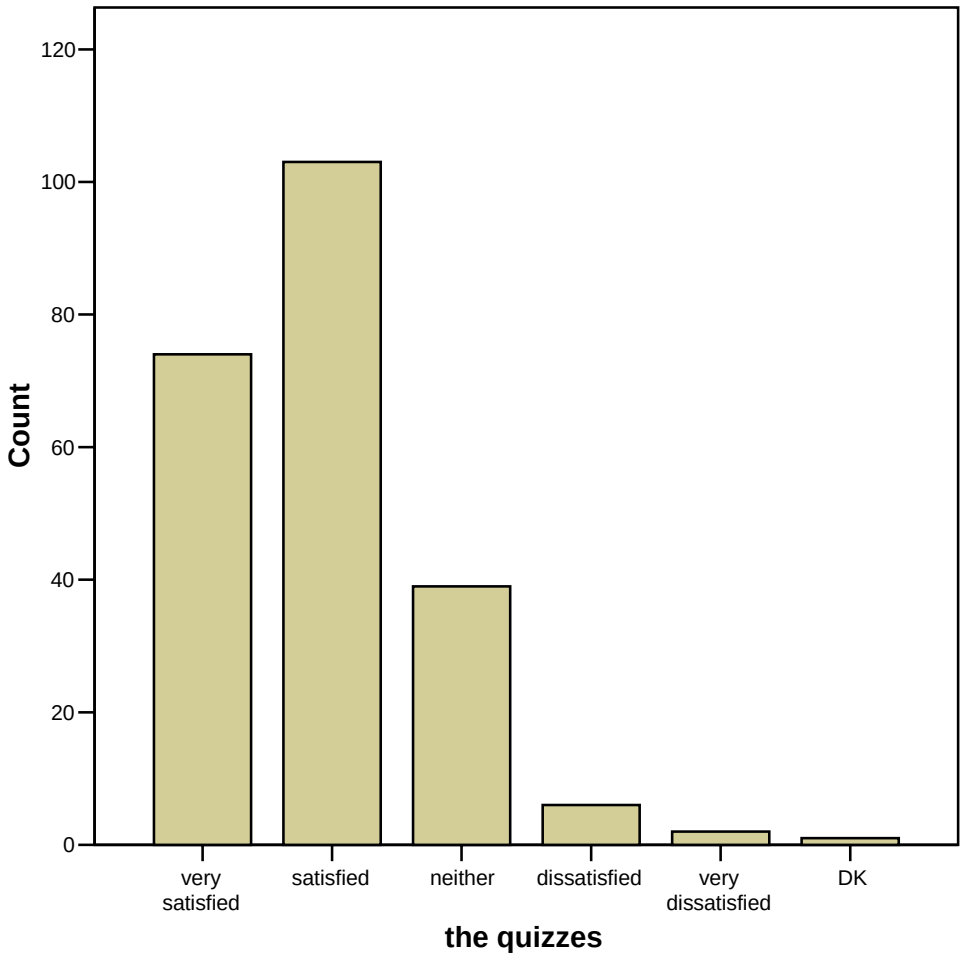

Figure 6: Student satisfaction with the quizzes

Overall, the majority of students enjoyed learning in a different way.

- *[Keep the] Quizzes, tutorials something different like the Rap song.*

Importantly, the quizzes were using a student-centred model that carries the feedback process into feedback loop, that focuses the student learning activity, and allows constant evaluation of the material and learning strategies (Hewett, 2003, p.31). The elements that worked well in the quizzes were the cooperative learning that took place when students informally organised together to answer questions, the continual updating of student reading around appropriate lectures, and the forced tutorial attendance of the students to mark and discuss the quizzes. What always needs to be considered is

whether immediate question answering (possible on the web) is preferable. At this stage we judged it not to be.

The other initiative – the professional satirical group performing the social themes of the course in satire for the final lecture - was a great success, but also needed to be incorporated from the beginning of the course so the students were anticipating it. They gave an excellent performance. The last experiment of having an Aboriginal teacher from the Gumurri Centre to take one tutorial, thus alerting the Aboriginal students and the non-English as a first language students, was also received enthusiastically by the students and indicated a recognition of special needs that was not previously addressed in this large first year course.

Overall outcomes

An immediately noticeable overall outcome was the high tutorial attendance (no attendance, no quiz mark) and a high overall retention throughout the course rate. We lost only 12 students (from 367 in February 2004, to 355 in June 2004). The other pleasing result was the overall student satisfaction with the course and the students' recognition that the staff were always aware of their needs, catered to their interests and made the programme as engaging to them as possible. As shown in Figure 7, a clear majority of 2004 students agreed that the lecturers worked consistently to make the subject matter interesting to students. In 2003, 54% of the students thought that the lecturers worked consistently to make the subject more interesting for students.

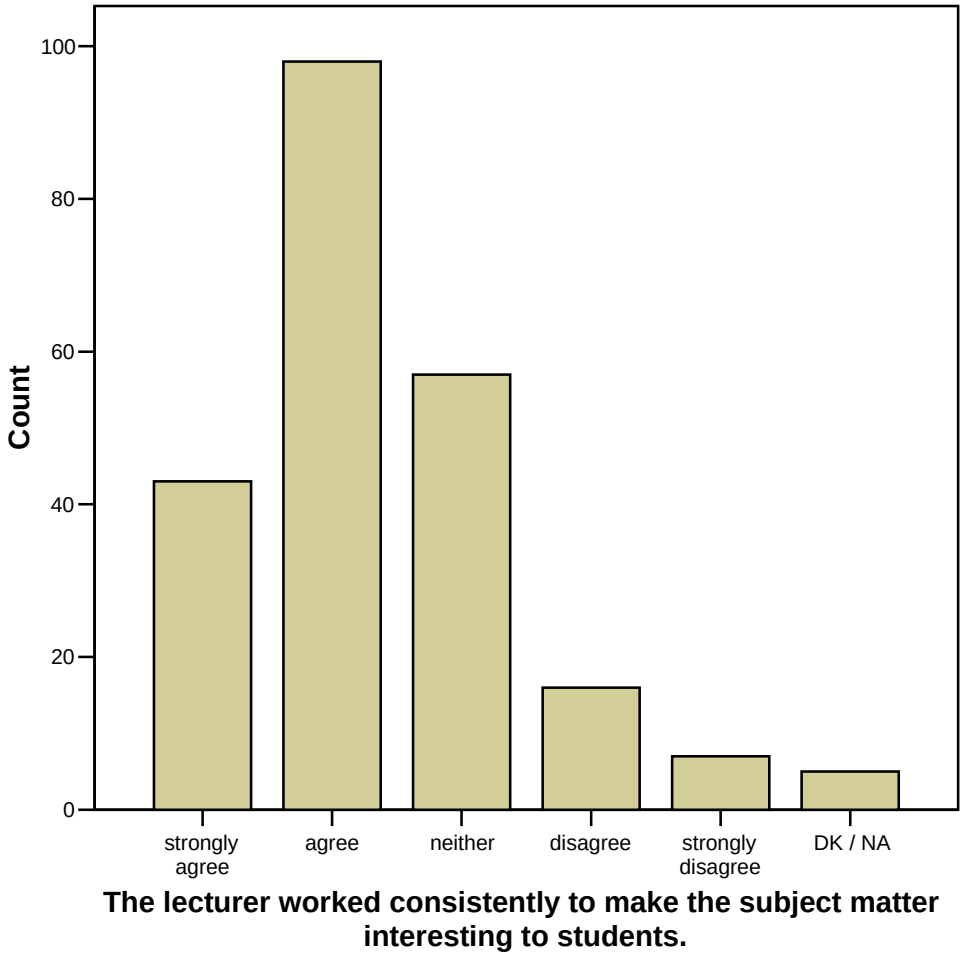

Figure 7: Student agreement with lecturer's commitment

Amongst the staff on the team, there was a growing awareness of “internet-based telecommunications tools and other technical tools increasingly necessary to support the increased demands for student engagement” (see the work of Dabbagh & Kitsantas, 2004, p.40; Steinberg, Walter & Sherman-Morris, 2002). These were paralleled by attempts to make the context of the course necessarily more student friendly (see the encouraging work of Herring & Smaldino, 1998; Riel & Harasim, 1994; Hannafin, Hill & Land, 1997).

The overall satisfaction with the course result reflected these attempts (Figure 8) with 64% of students satisfied and less than 10 per cent dissatisfied. This too is a notable improvement on the evaluations from 2003 where 58% enjoyed coming to class, and 21% either did not enjoy the classes or strongly disliked them.

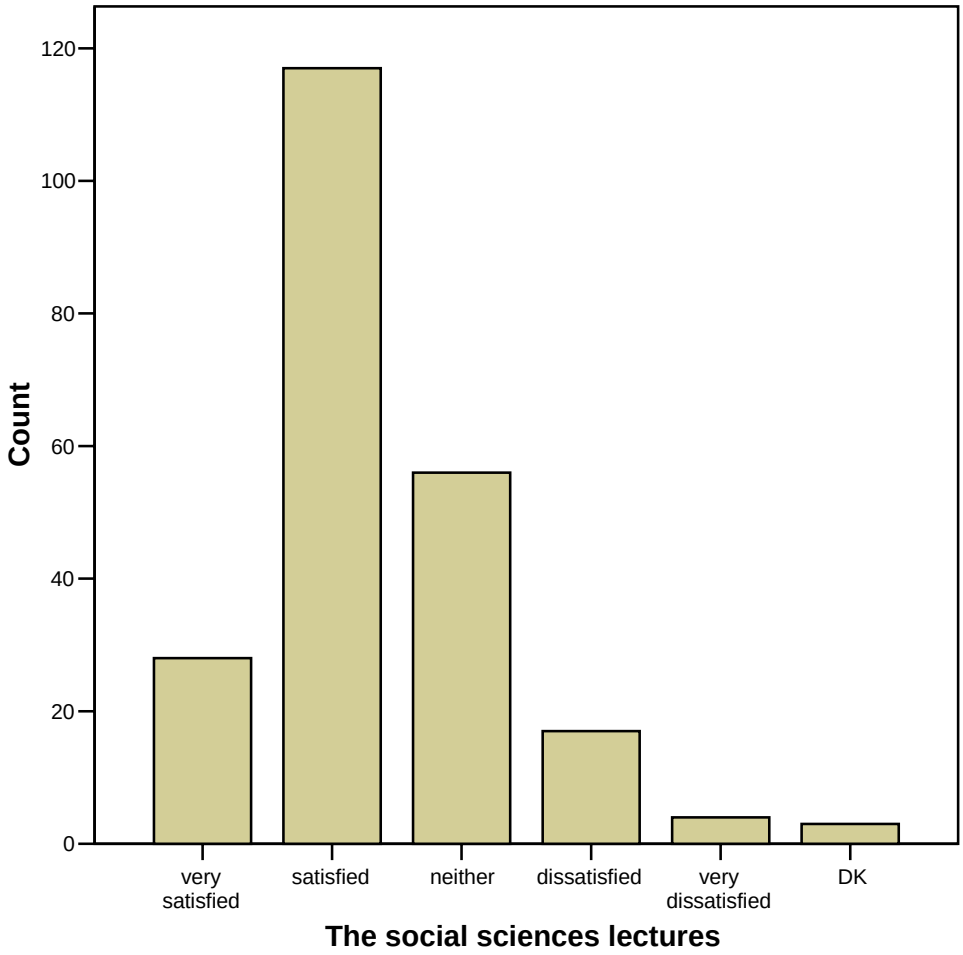

Figure 8: How satisfied were you with the course lectures

The students were ready and eager to participate in the lectures and the tutorials. Tutors reported that there was a much greater student participation in tutorials and that this group of students were not just assessment-oriented but engaged in lively discussion and interaction with wider issues. A much greater exploration and creative orientated environment have been established. The student evaluations also showed that the majority of the learners thought that the course helped them to be critical thinkers (See Figure 9).

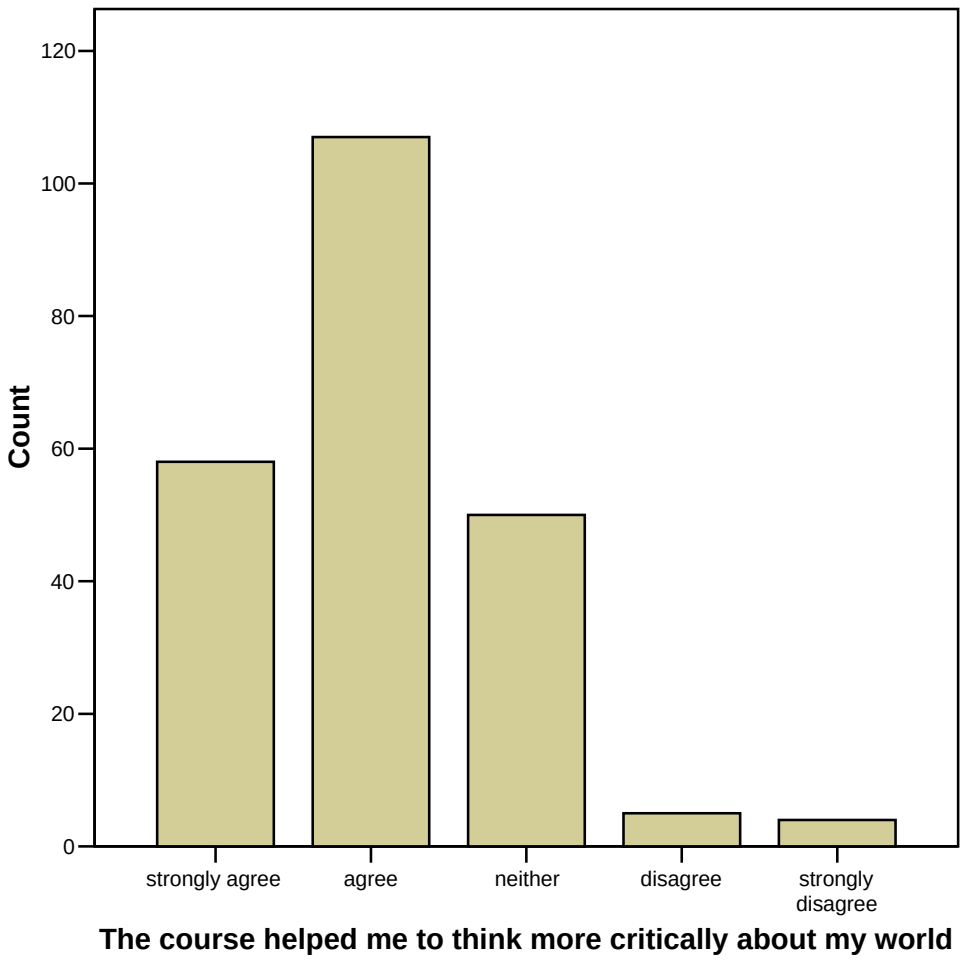

Figure 9: The course made me think more critically

An enhanced student-centred learning environment for 2005

We learnt from the 2004 teaching-learning experiments that all the lectures and quizzes should be put on the web well before the lecture and the tutorial. This gives the students ample time to digest their content so they are confident with the material and able to interact with the staff member delivering the lecture and in the tutorial. In addition, we found out that if the library is used to keep dossiers, lectures (for the non-computer literate) and the staff are encouraged to take the necessary courses to allow them to use PowerPoint, these two factors can contribute to enhance the learning environment of the students. Now the lecturers continue to use the roving mike rather than remaining just behind the lectern in the pyramidal form of learning with the teacher at the apex. As a result of what we learnt in 2004, we plan to enhance the student-centred learning environment by continuing the quizzes and the rap, but including the rap also into the assessment process and monitoring its impact on teaching and learning. We will try to include creative expressions that are not necessarily the orthodox one as submissible items for assessment. Furthermore, we would continue seeking ways to engage the computer illiterate students effectively in the learning process by putting all materials on hold in the library for these students and encouraging them to take courses in Information Technology.

Conclusion

In this action research study we began in 2003 with a relatively passive model for teaching large classes. This was centred upon transmitting received knowledge from

teachers to students, who reluctantly came to lectures and tutorials, but with participation dramatically reduced by the end of the year. We experimented with a number of innovations. Some succeeded better than others but with further modifications, we felt the others could also be successful and deserved another try.

Hewett (2004) argues that the "learner-centered philosophy" supports the idea of using active learning environments in which mastery-taught students:

1. nearly always had better interest in and attitude toward the subject matter learned;
2. had better self-concept (academic and general);
3. had higher academic self-confidence;
4. were more confident of their abilities in the subject taught;
5. felt that the subject was more important;
6. accepted greater personal responsibility for their learning; and
7. had more positive attitudes toward their instruction.

The outcomes of our evaluations showed that students felt that the subject was more important to them than they assumed it would be at the beginning. They developed a very positive attitude towards Social Sciences in this course, but the ultimate accolade was that they were prepared to continue to be critical thinkers and that we had built on this skill.

We have learnt with this project that many aspects of the problem of how to actively involve students and staff in large teaching programmes are open to new initiatives. The large classrooms present many challenges to find ways of coping effectively with the many diverse levels of teaching and student abilities encountered in these large classes. The problems associated with the diverse abilities of the teaching team and the students, in relation to their virtual literacy and their abilities to face new learning challenges, remain and also must be catered for. We are trying to cope with this by reintroducing some old methods (for example, putting lecture notes on hold in the library) and exploring some new teaching strategies like using more effectively the Web and PowerPoint and introducing engaging learning tasks, like quizzes and student raps. Overall, we think that a potentially difficult teaching situation, the large lecture theatre class, can be taught in ways that facilitate the positive interaction of students with new knowledges by providing a supportive learning environment as the once described here. However, we also realised that we need to continue reflecting critically on our practices to enhance our students learning experiences in large classrooms.

References

Bruner, J. (1986). *Actual Minds, Possible Words*. Cambridge, MA: Harvard University Press.

Bruner, J. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.

Cole, A., & Knowles, G. (1995). Teacher development partnership research: A focus on methods and issues. *American Educational Research Journal*, 30, 473-495.

Cummins, J. (1989). *Empowering Minority Students*. Sacramento: California Association for Bilingual Education.

Dabbagh, N., & Kitsantas, A. (2004). Supporting self-regulation in student-centered web-based learning environments. *International Journal on E-Learning, 3*(8), 40-48.

Davies, A., & LeMahieu, P. (2003). Assessment for learning: Reconsidering portfolios and research evidence. In M. Segers, F. Dochy, & E. Cascallar. (Eds.). *Optimising New*

Models of Assessment: In Search of Qualities and Standards. Dordrecht: Kluwer Academic Publishers.

Egbert, J., & Hanson-Smith, E. (1999). *CALL Environments: Research, Practice and Critical Issues*. Virginia: TESOL.

Edwards, P. (2003). *Student Centred Learning.* TEDI, The University of Queensland. Retrieved 20-12-2003 from http://www.tedi.uq.edu.au/TEN/TEN_previous/TEN6_97/Ten6News1.HTML

Freire, P. (1971). *Unusual Ideas about Education*. Paris: UNESCO.

Freire, P. (1972). *Pedagogy of the Oppressed*. New York: Penguin.

Good, T., & Brophy, J. (1997). *Looking in Classrooms*, (6th edn.). New York: Harper Collins Publishers.

Graue, M.E. (1993). Integrating theory and practice through instructional assessment. *Educational Assessment*, *1*, 293-309.

Hannafin, M., Hill, J., & Land, S. (1997). Student-centered learning and interactive multimedia: Status, issues, and implication. *Contemporary Education*, *68* (2), 94-99.

Herman, J L., P.R. Aschbacher, & Winters, L. (1992). *A Practical Guide to Alternative Assessment*. Alexandria, VA: Association for Supervision and Curriculum.

Herring, M., & Smaldino, S. (1998). *Planning forInteractive Distance Education: A Handbook*. Bloomington, In: Association for Educational Communications and Technology.

Hewett**,** S. (2003). Learner-centered teacher preparation: A mastery of skills. (2003). *Education*, Fall *124*(1), 24-31.

Illich, I. (1993). *De Schooling Society*. New York: Harper and Row.

McDonnell, W. (1992). Language and cognitive development through cooperative group work. In Kessler, C. (Ed.). *Cooperative Language Learning: A Teacher's Resource Book.* New Jersey: Prentice Hall Regents.

Mabry, L. (1999). *Portfolios Plus: A Critical Guide to Alternative Assessment*. California: Corwin Press.

Moore, K. (1999). *Student centred learning*. RMIT University. Retrieved 20-12-2003 from http://www.teaching.rmit.edu.au/progimprov/sclearn.html

Musil. P. (1999). From classroom experience to work of art: Involving dance students in the choreographic process. *JOPERD--The Journal of Physical Education, Recreation & Dance*, *70*(5), 35- 40.

Palomba, C., & Banta T. (1999). *Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education.* San Francisco: Jossey-Bass.

Poyatos Matas, C. (2005) *Exploring Grammar Learning as a Student-Centred Process*. PhD Thesis. Brisbane, University of Queensland.

Riel, M., & Harasim, L. (1994). Research perspectives on network learning. *Journal of Machine-Mediated Learning, 4,* 91-114.

Reilly, D. H. (2000) The learner-centered high school: Prescription for adolescents' success. *Education, 121*,219-228.

Science Fair Project Encyclopedia, The University of Sydney. Retrieved December 2003 from http://www.all-science-fair-projects.com/science_fair_projects_encyclopedia/University_of_Sydney

Segers, M., Dochy, F., & Cascallar, E. (2003). *Optimising New Models of Assessment: In Search of Qualities and Standards.* Dordrecht: Kluwer Academic Publishers.

Shepard, L. (2000). The role of assessment in a learning culture. *Educational Researcher*, *29*(7), 4-14.

Sparrow, L., Sparrow, H., & Swan, P. (2000). *Student Learning Centred: Is it possible?* National Teaching Forum 2000. Canberra. Retrieved 20-12-2003 from http://lsn.curtin.edu.au/tlf/tlf2000/sparrow.html

Steinberg, P., & A. Walter; K. Sherman-Morris (2002) Using the Internet to Integrate Thematic and Regional Approaches in Geographic Education, *The Professional Geographer*, August, *54*(3), 332-349.

Vygostky, L.S. (1978). *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Zimmerman, A., Lima, M., Christy, A.D. (2003). Student-centered learning activities (description of several techniques in engineering education) *Resource: Engineering & Technology for a Sustainable World*, *10*(8), pp. 92–98.

Zuber-Skerritt, O. (1992). *Professional Development in Higher Education: A theoretical Framework for Action Research*. London: Kogan Page.

Acknowledgements

The authors would like to thank all the students and teachers involved in the Social Sciences in Australia course who made possible the implementation of the student-centred assessment approach presented here. We would also like to acknowledge the formative feedback received from the two reviewers on the first draft of this paper that helped us to improve it. We are also grateful for the encouragement that they showed for the risk- taking teaching approach and innovation displayed in this paper.