Managing challenges in an authentic learning environment: The case of the Teach-Learn Model

Gurdish k. Gill
Graduate School of Education
University of Western Australia
gilg01@student.uwa.edu.au

Abstract

Empowering student learning has been a central concern facing educators and policy-makers. Research, literature and best practices from classrooms around the globe advocate many benefits of such learner-centred learning environments – often foregrounding the various innovative tools and models one can apply. Yet, successfully managing the demands of authentic learning environments has been an ongoing struggle and perhaps a factor in the inconsistent application of more innovative learning paradigms across educators’ classrooms. This suggests that educators face challenges in managing the difficulties, conflicts and uncertainties that result in such authentic environments. This paper situates this discussion by studying a peer-tutoring (PT) programme and learning model designed by the researcher applied in a Junior College for senior students across 3 academic ability bands in the teaching and learning of General Paper – a subject best learnt in a discursive environment. This programme which is based on the researcher’s two-tier model, The Teach Learn Model, embodies principles of constructivism and social-constructivism and is motivated by the Teach Less, Learn More initiative by the Ministry of Education (Singapore) and aims towards less teacher-directed learning. The Teach-Learn Model which forms the basis of PT draws strength from weaving together various pedagogical principals – such as collaboration, co-generative dialogue, reflection, blended learning, and maximising learner diversity – within a tight, structured framework of learning. While, the programme noted numerous benefits in enhancing student learning processes and outcomes, it also began to highlight some issues of concern which related to issues of student engagement, differentiated reception across academic-ability bands, managing the extent of student autonomy, learner aptitude in managing such a rigorous programme and the place of assessment in such an environment when high-stakes pressures beckon. This paper therefore grapples with some of these challenges and considers the situation from the perspective of the tutor and students and suggests some ways to manage these dilemmas.

Keywords: New Pedagogies

© 2006 Gurdish Gill
Introduction

Recent years have been characterized with numerous reforms in education – often at a systemic level, targeting broad areas of education such as curriculum, education policy, assessment, teacher and learner roles to name a few. These reforms have been a result of recognizing learners as equal partners in changing and reforming the classroom learning experience – especially with classrooms becoming more learner-centric and greater control being devolved to learners. Consequently, this change in ideologies has seen the rise of ‘authentic pedagogies’ (Newman & Associates, 1996) which mainly comprise innovative curriculum and assessment. These authentic pedagogies focus on the learner and are premised on giving voice to the student’s process of learning and knowledge development – aiming to engage learners. This is opposed to traditional classrooms where knowledge development is an abstract process, often clouded in the authorial stance of the teacher. This kind of a traditional, restrictive environment thus, alienates and reduces ownership of learning. More authentic environments based on principles of empowerment are deemed to be more beneficial and raise interest in learning because they engage in both individual learning and “negotiated understanding [where they learn] within a context” (Abu, 2005). These authentic environments are often based on teaching and learning using innovative and creative methodologies which promote deep learning (Biggs, 1993; Entwistle, 1998) as opposed to learning based in rote-memorization, with the overall aim of enhancing the critical thinking competencies of learners. Additionally, such forms of learning also re-energize the roles of educators and recognize their capacities in designing authentic and democratic learning opportunities.

This paper explores and discusses some of the challenges faced by both teachers and learners when engaging and interacting with the Teach-Learn model\(^1\) in reforming classroom learning experience. While, use of the model has previously noted many benefits and encouraging outcomes, it has also raised some issues of concern – this paper thus defines and evaluates those concerns and challenges and discusses the ways in which teachers and learners can overcome them. It is the argumentative thrust of this paper that when we integrate the constructive and reflective voices of learners in the change and reform process, managing challenges is greatly facilitated. This paper will review some of the challenges noted in research and practice in implementing and managing authentic learning environments, discuss the researcher-designed Teach-Learn Model, analyze the key issues of concern generated in the findings and suggest ways of moving forward.

Authentic Pedagogies

Authentic pedagogies have become the education buzzword in the recent years and are closely aligned with education restructuring and reform and in totality even considered a product of the ongoing research and education narratives. One of the forerunners in this area includes Newman and Associates (1996) whose work has been quintessential in refocusing teacher work towards the “vital elements of student learning” (Cheng, 2003). Previous attempts to rethink classrooms often centered on teacher work in terms of recreating learning environments, reinventing curriculum or refocusing on pertinent skills – however, what is crucial today is the quality of learning and the processes of intellectual development. While, the previous elements of skills and environments is still important, ensuring shifts in learning from being mere absorption and reproduction to active construction and application are more significant. This results in “achievements which are significant, worthwhile and meaningful” (Cheng, 2003). Central to authentic pedagogies are three strands that Newmann states that would define authenticity of learning:

1. Construction of Knowledge
2. Disciplined Inquiry
3. Value of Achievements beyond school

These three ideas place the learner as the central agent in the learning process both in a constructivist and social-constructivist environment. In a constructivist environment, learning is individuated and is “an active process in which learners construct new ideas or concepts based on their current or past knowledge” while in a social-constructivist perspective, “learning is a social process and knowledge is socially and culturally constructed” (Abu, 2005: 2). Taylor et al (2002) have suggested in the latter
environment, “knowledge as constructing” and “knowing as participating” best capture the ongoing learning dialogues that characterize the community of learners.

Another model, closely aligned with Newmann’s model is the NSW model of authentic pedagogy in Table 1. It develops and explicitly outlines the key dimensions and elements that are necessary in considering the authenticity of learning and outcomes.

Table 1. New South Wales Model (NSW) of Pedagogy

<table>
<thead>
<tr>
<th>Dimensions &amp; Elements of the NSW Model of Pedagogy</th>
<th>Quality Learning environments</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep knowledge</td>
<td>Explicit quality criteria</td>
<td>Background knowledge</td>
</tr>
<tr>
<td>Deep understanding</td>
<td>Engagement</td>
<td>Cultural knowledge</td>
</tr>
<tr>
<td>Problematic knowledge</td>
<td>High expectations</td>
<td>Knowledge integration</td>
</tr>
<tr>
<td>Higher order thinking</td>
<td>Social support</td>
<td>Inclusivity</td>
</tr>
<tr>
<td>Metalinguage</td>
<td>Student self-regulation</td>
<td>Connectedness</td>
</tr>
<tr>
<td>Substantive communication</td>
<td>Student direction</td>
<td>Narrative</td>
</tr>
</tbody>
</table>

(extracted from: Ladwig & King, 2003)

Intellectual quality refers to fostering critical capacities, complex and challenging learning in students and this is to be situated within quality learning environments premised on student navigation, initiative and achieving high outcomes. It is interesting to note that establishing criteria and high expectations are reflected in this dimension. Research (Gill, 2005a) has often shown that setting out rigid criteria or alienating students with demanding expectations has been known to negate and disempower learning. Perhaps, it is necessary to reconsider these or review how learners can be engaged in establishing and defining these areas. Together, these two dimensions make learning that is significant because it is situated and meaningful, where the construction of new knowledge resonates for learners and can be related to previously known information or the learner’s cognitive structure (Ausubel, 1978). While, it may be impossible for any particular learning instance to encapsulate all aspects of the either models, it is imperative to incorporate and consider as many of these aspects as possible to ensure holistic learning.

What is noted to be central in authentic pedagogies is the responsibility and agency accorded to learners in managing learning. Armstrong has noted in as early as 1983 that when learners only see the teacher as the centre and authority of knowledge, they fail to become change agents in defining or leading their learning.

**Learning empowerment**

Research in authentic pedagogies has also seen another consistent theme – empowerment. This concept cascades into learning processes, environments, teacher roles to name a few. While, research on authentic pedagogies broadly examines concepts, literature on empowerment focuses on issues of power, equity, access and relationships. These areas are very important since they look into classroom ideologies and situate the learner and teacher. It is therefore essential to recognize that reforming and authenticating classrooms and learning should integrate both – pedagogy and ideology.

There have been several proponents for empowerment – past literature (Auerbach, 1995; Janks & Ivonic, 1992; Rockhill, 1993) approached the issue from a sociological stance, looking deeply into issues of politics of education especially in ESL contexts – while these remain relevant, this research is concerned with classroom power-play and stakeholder roles. Friere (1980) was one of the first to consider the relationships and learning processes in classrooms and was seminal in getting systems to move away from the ‘banking concept’ of education that assumes learners to be passive agents without control over their learning. This idea is linked to Sullivan’s (2002) idea of ‘power-over’. While, this may still persist to some extent in different instructional environments, educators are definitely more cognizant of the negative implications it has for learning and have been more proactive in reframing their classrooms along the ‘power-with’ and ‘power-to’ frameworks (Sullivan, 2002). Robinson (1994:7), for instance highlights the notion of empowerment as being,
A personal and social process, a liberating sense of one’s own strengths, competence, creativity and freedom of action; to be empowered is to feel power surging into one from other people and from inside, specifically the power to act and grow.

This all-encompassing definition situates empowerment as an individual and collective process and focuses on how empowerment should be a reciprocal and active process, which includes both teacher and learner in a power-sharing environment (Page & Czuba, 1999). Such a notion, should thus inform any authentic pedagogies we may adopt.

Other more recent conceptions of empowering discourses have also highlighted the right to make decisions (Ashenden & Milligan, 1993) and express one’s “voice” through processes of negotiation and student engagement (Kordalewski, 1999; Stone, 1995) in a “constructive and critical” (Bottery, 2000: 2) way and the ability to express “ownership” (Duhon-Haynes, 1996; Robinson, 1994) over work done. However, the right to make independent decisions is often not possible within institutional hierarchies (Hughes, 1998) because top-down approaches often act as hindrances by advocating compulsory structures or requirements. The notion of ‘choice’ (Mendoza, 2000; Stone, 1995) is also important in allowing students to become independent thinkers. However, this issue remains highly debated as the common fear cited in literature, is that allowing for a lassiez-faire approach may consequently result in loss of control and signal poor structure. However, denying choice can alienate learners from the processes and place them on the periphery. This is thus a continual struggle that needs to be negotiated.

Glickman (1989; as cited in Robinson, 1994: 12) has also postulated that empowerment develops and instills the initiative to “solve problems independently”. This definition is extremely crucial for this research because this is a core learning outcome that students need to be able to achieve. Besides that, Weissglass (1990; as cited in Robinson, 1994: 12) has critically put forth how empowerment encompasses the “process of supporting people to construct new meanings where learning is ideally about “communities of learners helping each other transform latent capabilities to active powers for the enhancement of all” (Duhon-Haynes, 1996: 6). These perspectives on empowerment are vital as they would inherently lead to learners’ process of self-actualisation. Dimmock (2000: 85) has further argued that through the provision of “intrinsically rewarding experiences...[learners will] enhance their personal growth, integrity and autonomy” and this would be reflective of a truly empowering education – one that has allowed learners to achieve a sense of self-efficacy and greater awareness.

What is important to note overall is that moving from theory to practice requires significant thought, selection and appropriate design and implementation. The most effective learning frameworks are organized and structured; and incorporate both, aspects of authentic pedagogies and empowering power structures, recognizing the value of learners as designers of learning (Jonasson, 1994) and getting them to feel the “urgency of being in control of their own learning” (Ratneswary, 2005:3).

**Implementation Roadblocks & woes**

However, it has been noted that despite the notable benefits espoused in integrating and incorporating a learner-driven environment in daily classroom practice, the level of implementation has been disappointing and inconsistent at best. Several issues account for such sparse application – time, accountability pressures, teacher roles and perceptions of learners and managing learning dichotomies.

Time has been a known scapegoat for the poor implementation of novel strategies within the domain of learning. While, it is true time is limited and is spread across several other areas of equal importance, careful planning and prioritizing would ensure the realization of such ideals. There have been numerous best practice noted from around the globe as evidence of successful implementation despite time pressures and limitations. In fact, even when time was not deemed a problem, educators reckoned with another ‘popular demon’ – accountability. As a result of ensuring and upholding accountability in teaching and learning, time is directed towards activities that lead to the achievement of this end. Such pressures have often dictated and mandated to a large extent the kinds of learning that take place. Educators, knowing traditional exams do not test for creativity or self-learning, thus do not make any effort to teach authentically. Instead, they revert to chalk and board methods. Where, authenticity is implemented, it is often only to pay lip-service to the administrative requirements or demands. The presence of such roadblocks thus, prevent a more consistent implementation.

Educators have also raised difficulties in managing the shift towards adopting more authentic practices as they would need to rethink their roles, teaching strategies and “move out of their comfort
zones of pedagogy” (Santhini & Thomas, 2004:6). This is because teaching and learning in authentic environments is less teacher-centered and geared towards the processes. Apart from setting the instructional climate, the teacher only facilitates the rest of the process. This shift from being at the traditional center of learning action may thus be difficult to manage since greater control is devolved to learners. This change is also negated because educators often perceive learners to be less competent in managing the demands of such authentic environments. Research has often cited level of maturity, initiative and foresight as lacking among students. However, it must be noted that these fears stem from perfectionist attitudes of expecting students to be fully successful in learning through these means – with no room for error. It is however necessary to recognize that in such environments, mistakes and errors are part of the learning cycle and are in fact a part of student development. With sufficient scaffolds, even these issues can be handled to some extent. Initial programme piloting can be carried out to understand student responses and abilities to manage such learning before deciding to do away with the initiatives completely. It is therefore necessary to question one’s perception and be more forward-thinking and open in embracing the challenges that come with such authentic environments.

Another oft cited area of concern in the implementation of authentic learning opportunities is the difficulty in managing learning dichotomies. Le Cornu & Peters (2004) have noted two especially significant ones:

1. Knowledge construction vs meeting learning objectives
2. Amount of explicit teaching

Practitioners often argue the difficulty faced in managing active processes of knowledge construction trough authentic learning and the extent to which these can achieve the desirable, instructionally relevant learning objectives. These two aspects are usually noted to exist at opposite ends. Classroom practices and anecdotal evidence from my own research has highlighted perceptual differences between the two. Knowledge construction is often seen to be more ‘interesting’ and ‘fun’, while learning objectives are associated with pen-paper tasks. These perceptions gathered from students thus cast educators in a bind when they find it difficult to create tasks meeting both these aspects especially when certain tasks require more traditional delivery approaches, which lead to the second dilemma. Teachers, who do try to incorporate constructivist and authentic pedagogies in their classrooms, constantly negotiate the amount of explicit teaching required. Many are unsure if classroom practice should employ 100% authentic strategies and how that affects outcomes. While valuing “student-centered inquiry as a basic tenet of constructivism” (Le Cornu & Peters, 2004:4), educators should realize, they will never totally displace explicit modes of teaching as these do have their place and value in managing learning.

Teach-Learn Model®

The Teach-Learn Model was developed and constructed with rich insights gathered from an understanding of the pedagogical principles which are central to student learning. This model is primarily influenced by the ‘Teach Less Learn More’ (TLLM) initiative drawn up by the Singapore Ministry of Education with empowerment as a basic premise. The TLLM initiative is an important one since it advocates the need to empower students with the power to negotiate and manage their own learning through various innovative pedagogies and self-learning. With fewer teacher directives, it is hoped students will take proactive steps to enhance their learning, take pride in their learning and consequently become high achievers since there is greater ownership. With research informing practice, the Teach-Learn model aimed to maximize on providing students with authentic experiences with rich, deep learning as core outcomes and learning experiences. Central to this model is the metaphor of students as drivers – such a powerful image signifies a shift towards recognizing the constructive capacities students can be empowered with in developing their own learning. It also signals a change in the authorial role often played by teachers. Instead, this model aims towards reducing the authorial gap between teachers and students and create a reciprocal learning environment, with students leading change. In the model, students are simultaneously managing two roles, that of a peer-tutor and a learner. It is through this Teach-Learn experience that students’ interest can be motivated and their learning can be empowered.

The model has a two-tier framework – collaborative to individual learning – as noted in Table 2.
Overall, the strength of this model lies in its ability to merge authentic, challenging and instructionally relevant learning principles that span across collaboration, student-generated text and discourse, reflection, blending and weaving. Learning commences at tier 1 with the cooperative strategy since working in groups often provides a non-threatening environment of learning (Chee, 2005) and some leverage to negotiate the new roles in which students have been cast which works positively to enthuse learning. Additionally, since this was students’ first encounter with the PT experience, group solidarity functioned as a positive environment to manage doubts, lesson demands and issues of confidence when it came to teaching the rest of their peers. Central to the focus on collaborative learning as a starting point in this framework, is the fact that collaboration provides an authentic experience and is a key learning outcome for students. This learning avenue further provides a social context for interaction allowing diverse, competing and complementing perspectives to meet and forms a basis for constructing new knowledge. It is through co-generative dialogue that, students’ perspectives and knowledge development is enriched – ensuring students “learn faster and more efficiently, have greater retention, and feel more positive about the learning experience” (Bressan & Yap, 2005: 2) resulting in crucial cognitive and individual development (Brown et al, 1992). However, what distinguishes this model from other ad-hoc cooperative learning initiatives is collaboration; which in this instance is enhanced through mixed ability grouping. The rationale for such grouping is the potential to capitalize on cooperation amongst peers and ensure a good interaction between students of varying abilities. It is often felt that regular learning encounters do not provide sufficient opportunities for students of varying academic abilities to work together as research has suggested a tendency for students to work with their usual group of peers. Thus, proactively “engineering” such learning opportunities can have numerous positive benefits. This then functions as a microcosmic peer-learning opportunity within the larger PT framework generating numerous ongoing learning circles.

Students in their groups go through six critical learning steps in Tier 1 of the PT framework. Once groups have been allocated their topics for PT, they are required to do some individual brainstorming and map their own understanding of the topic, before they come together as a group to consolidate. This additional step, individual reflection, is critical to prevent “cognitive loafing” (Tschanen-Moran, 2000) as often within a group environment, some students feel a lesser impetus to work and contribute their ideas. This also allows for blended learning as different students would seek different types of information or resources in their planning and reflection process and when they arrive at the second step, they would be able to enrich the entire process of knowledge construction. With the process of group-think, students learn to grapple with different perspectives that arise through ongoing dialogue and debate. This process is central to tier 1 as it is at this point that the mixed-ability grouping would benefit and students are exposed to whole spectrum of views and ideas on a single topic. Once consensus is reached, students document their ideas into a presentation vehicle choosing any form that can deliver their message. Once ready, students according to their assigned PT dates, would teach the class. In this study, most groups had 4 students and given the total number of students and available time, the PT process in tier 1 went
through two cycles. In the teaching process, students were required to do several things as noted in Table 3.

### Table 3. Teaching Tasks During TL Session

<table>
<thead>
<tr>
<th>Teaching Tasks</th>
<th>Details</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>Explain their interpretation of the question</td>
<td>Successfully managing task requirements</td>
</tr>
<tr>
<td></td>
<td>Highlight possible misinterpretations</td>
<td>Raising awareness of other (mis)readings</td>
</tr>
<tr>
<td>Structure</td>
<td>Teach the essential components of an essay by breaking down the structure</td>
<td>Internalizing essay discourse (for assignments and exams)</td>
</tr>
<tr>
<td>Content</td>
<td>Develop the topic with examples</td>
<td>Exposure to a variety of information</td>
</tr>
<tr>
<td></td>
<td>Highlight source of ideas</td>
<td>Challenged by more critical understandings</td>
</tr>
<tr>
<td></td>
<td>Experiment with new/radical arguments</td>
<td>Challenges one to critically think about the work</td>
</tr>
<tr>
<td>Tackle</td>
<td>Continually manage questions and doubts raised by others</td>
<td>Raises ownership of work (through defending work)</td>
</tr>
<tr>
<td>Renew</td>
<td>Accepting and integrating other perspectives raised by tutor or peers</td>
<td>Ability to take positive criticism and feedback</td>
</tr>
</tbody>
</table>

As evident in each of the tasks and the objectives, the teaching process is a challenging and demanding process, however successful management of the requirements produces critical, reflective thinkers and at the same time fulfils curriculum objectives, within an authentic environment. At tier 2 of the model, the process focuses on individual learning. This shift is purposefully crafted into the model as it is necessary to ensure that the core skills are also being internalized at the individual level, since such form of learning is situationally significant as a result of the high-stakes environment of exams and testing. Furthermore, this will ensure that students are genuinely taking ownership of their learning and that of others. It also functions as a useful platform to provide the tutor with feedback on how the student has progressed instead of depending on regular written assignments. Perhaps, what is more important is the tutor can also manage the growth of the student not just intellectually or cognitively but also interpersonally, intrapersonally and affectively since this learning avenue is challenging and closely aligned to actual real-world experiences where individuals will need to develop their own voice. This tier is therefore highly important for these reasons and is a valuable domain in the teaching and learning processes. There are no significant differences except in tier 2, the individual does not go through Group-Think and will be managing the brainstorming individually.

The model was implemented across a period of a year in the students’ senior year in college. This was considered a crucial learning period as they were preparing for a high-stakes examination at the end of the year. The implementation starts with the teacher and follows right through to the actual PT session. Each stage involves various kinds of activities and tasks and associated learning outcomes situated within relevant pedagogical principles and learning environments as noted in Table 4.
<table>
<thead>
<tr>
<th>Agent</th>
<th>Stage</th>
<th>Activity</th>
<th>Learning Environment</th>
<th>Pedagogical Principle(s)</th>
<th>Learning Outcomes</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Planning</td>
<td>Setting up mixed ability grouping</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td></td>
<td>Objective setting</td>
<td>Explain rules</td>
<td>Teacher-directed</td>
<td>Instructional</td>
<td></td>
<td>2-3 weeks before PT implementation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Define programme structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outline options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clarifying doubts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Topic allocation</td>
<td>Give out topics to 1st group</td>
<td>-</td>
<td>-</td>
<td></td>
<td>2 weeks before actual PT session</td>
</tr>
<tr>
<td>PT Group</td>
<td>Planning</td>
<td>Brainstorming at an individual level</td>
<td>ZDE(^1)</td>
<td>Independent-thinking</td>
<td>• Internalise knowledge</td>
<td>Within a period of 2 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developing resources to share</td>
<td></td>
<td>Reflection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group-Think</td>
<td>Individuals come together to share understanding</td>
<td>ZDE(^2) Collaborative</td>
<td>Reflective</td>
<td>• Deep learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negotiate meaning making &amp; knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consensus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Documentation</td>
<td>Information developed to be presented in a coherent whole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multimodality in documentation processes is encouraged</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Teacher| Proof Submission     | PT group submits a proof of teaching materials for the tutor to have a look | Teacher learning     | ZDE\(^1\) Independent-thinking | • Content Development  
• Understanding student cognition  
• Managing learning weaknesses | 2 days before PT session |
|        |                      | Comments reserved until PT session                         |                      |                          |                                                                                  |                               |
| Class  | PT Session           | Teach & Learn (Teachers + Students)                        | ZDE\(^3\) Collaborative | Learner-driven           | • Content Development  
• Confidence  
• Motivation  
• Deep learning | Session is 45 minutes |
|        |                      | Dynamic exchange through dialogue & critique                |                      |                          |                                                                                  |                               |
|        |                      | Content integration                                        | Social-constructivism |                          |                                                                                  |                               |
|        |                      | Continual feedback                                         |                      |                          |                                                                                  |                               |
| PT Group| Review & Refine     | Reflect on feedback given                                  | ZDE\(^5\) Collaborative | Reflective              | • Content strengthening                                                       | 1 week                        |
|        |                      | Integrate new knowledge or alternatives into PT lesson      |                      |                          |                                                                                  |                               |
|        |                      | Submit final lesson to be compiled into volume              |                      |                          |                                                                                  |                               |
What is unique about this model is that each learning process is not self-contained or compartmentalized; instead at every stage learning is blended and draws from various aspects. For example, collaboration does not end with the group-think and planning for the PT session; instead, it carries on during the PT session with a larger collaborative circle and even at the review process as noted in the PT cycle in Figure 1 – with its purpose at each stage of learning being specific and instrumental to learning.

Also central to this model is the way learning interaction develops and is sustained. It is argued that collaboration is not the only type of learning interaction one can have. Instead, learning occurs when one interacts with other forms of discourse such as texts, one’s own assumptions, amongst others. The strength of this model is in forming various zones of dynamic exchange (ZDE) which encompass dynamic interaction at various levels. Research sometimes de-emphasizes the importance of interaction at the level of the self, however, this model reinforces that it is necessary for some reflective engagements and interaction of the individual mind with learning resources before interaction at the level of groups would even be effective. Thus, the model has 3 levels of ZDE as seen in Figure 2, starting with the individual and moving outwards like a ripple effect.
In the innermost circle, the interaction is between individual cognition and various texts and discourses one encounters in the research and brainstorming processes. At this level, the individual builds ideas and concepts based on the interaction with texts and goes through processes of reviewing and refining one’s conceptual models. This interaction then spreads outwards when collaboration takes place within the peer-tutoring group. Here, each individual’s conceptual models and ideas are continually challenged, validated, reviewed and refined until, group consensus is reached on all aspects of the subject matter they will be teaching the rest of their peers. This interaction finally spreads further to include the rest of the class including the tutor. At this zone, the exchange is rigorous and ideas and concepts are further constructed and reconstructed. Feedback, sharing, critique amongst others are processes that dominate this stage. The outcome is an environment premised on student discourse and generation of student text.

Study

Once the model was designed, it was piloted and implemented for college students in their final year of study for the subject General Paper. This group was chosen for several reasons:

1. High level of maturity
2. Academic rigour faced by the group
3. Pressures of high-stakes examinations
Additionally, they were in the process of consolidating knowledge and preparing intensively for the examinations. Given the intensity of their study and the urgency to do well, it was felt that this model would be best for this group of students as it could generate positive implications for their learning outcomes and experiences. The model was used for the subject General Paper because it is a subject centered on generating authentic texts based on students’ own sets of arguments and is often situated within a highly discursive environment, thus validating its effectiveness. The PT framework was piloted across three different classes of varying academic abilities which fit along the continuum of a low, mid and high ability range. The range of students were purposefully selected to see if such a learning model favoured particular academic ability ranges more than others or if it was in fact non-discriminating and had equal implications for all involved. The PT framework was in progress for a whole year in 2005. Before, the model took effect for the students, time was spent in forming peer-groups and selecting a range of questions students will need to handle. This process was not very time intensive given the fact that the tutor had a good sense of who the students were from their junior year. In alternative scenarios, some kind of profiling or academic grade distribution may be needed if the tutors are not familiar with the group they supervise. Tier 1 of the model was carried out in the first academic semester and Tier 2 was carried out in the second academic semester. The key research questions this paper was concerned with were:

1. Does the Teach-Learn model empower students (and to what extent)?
2. What challenges do teachers and learners encounter in their interaction with the Teach-Learn model?
3. How can these challenges be managed?

Once, the model was in progress, there was extensive observation and active reflection on the part of the tutor as a means to understand how students were aligning their learning with the espoused aims and design of the model. To ensure a good understanding of the implications of the model on students as well as the tutor, data sources were triangulated – to ensure consistency and relevance amongst the findings. Thus, throughout the year, student grades, level of interest and quality of work amongst other things were monitored to understand the impact the model had on students’ learning outcomes and experiences. This active teacher observation provided continual feedback and was instrumental in fine-tuning and enhancing the model for future implementation. At the end of the year, students from all classes were also surveyed as a means to gather feedback on the PT model. The survey mainly focused on students’ perceptions on how the model and PT experience shaped and impacted their learning outcomes (i.e. both intrinsic and extrinsic) and processes (i.e. what they found enhanced or stifled learning). The survey was made up of different sections requiring students to rate the usefulness of the programme. 25 questions each on learning outcomes and process, designed using a 4-point likert scale ranging from 0-3 and finally ending with open-ended questions that allowed students to develop their insights and feedback further and genuinely empowering and providing them opportunities as co-tutors to provide suggestions on how the PT framework can be enhanced. This process of giving them voice was essential as the tutor considered these peer-tutors as critical change agents and thus instrumental in reforming the learning environment and overall experiences.

The survey results were then analyzed using thematic coding to gather an understanding of students’ perceptions and learning engagements with the PT model. The survey responses were analyzed to gather findings on the impact of the model on two critical areas, learning processes and outcomes and tried to measure, in which area students felt greater benefits. Their responses on the survey also functioned as a basis to develop interview questions to probe into recurring areas that seemed to be important to students and required further elucidation. The interview instrument was then administered to two students from each of the academic ability range for a comprehensive and fair gauge. The results gathered from the different data sources consequently provided an evaluation of the extent to which such a learning model enhanced and empowered learning outcomes and processes.
Analysis of study

The analysis of this learning model and the experiences that students went through were quite unique. While, the overall results were highly positive (Gill, 2006), there were some areas of concern raised through this study that highlight some of the challenges that teachers and students face in negotiating and managing the demands posed in such authentic learning environments. The key areas of concern in Table 5 are looked at from various stakeholder perspectives.

<table>
<thead>
<tr>
<th>Peer-Tutors</th>
<th>Peers (audience)</th>
<th>Tutor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher for the day</td>
<td>Teacher for the day</td>
<td>Differentiated reception across academic ability bands</td>
</tr>
<tr>
<td>Student engagement</td>
<td>Student engagement</td>
<td>Managing the extent of student autonomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A return to assessment</td>
</tr>
</tbody>
</table>

Table 5. Challenges faced by different participants

Teacher for the day

Both the peer-tutors and the rest of the class noted problems being the teacher for the day. With the actual peer-tutor, there was some level of uncertainty in terms of how to manage the lesson they were teaching. One of the critical fears cited was fear of getting content wrong. Since, they were responsible for their peers’ learning; they felt a need to ensure they were correct. However, such mentality was unfounded as it shows they have a poor understanding of the teaching-learning process, where learning is ongoing and making mistakes is part of the natural cycle of learning (Downing & Tisdall, 2004). Other problems noted through observation were, periods of awkward silences where the peer-tutors were not sure if they should ask a question or carry on with the material in a lecture style. These peer-tutors also tended to look to the tutor for clarification. These problems were especially prominent in the low-ability class where because of lack of confidence and fears of being wrong, teaching to these peer-tutors was about racing through the content as quickly as possible. Such problems were however, rarely noted in the other two classes because students were generally more extroverted and confident as their results were stronger and more stable.

From the perspective of the rest of the class, having a peer be the teacher for the day brought mixed feelings. It was often the students at either end of the academic ability spectrum who found that having peer-tutors was not as useful as having a lesson conducted by the real tutor. One of the main reasons to account for this was the issue of the peer-tutor’s competencies. These students felt that the peer-tutor was not confident or at times sufficiently motivated to deliver a good lesson. This thus affected the level of reception amongst the students in these academic bands. High-achievers found that sometimes the content delivered was too simplistic and not catering to higher-order information which the tutor sometimes provided on top of regular information for everyone else. These high-achievers thus feel that the peer-tutors lack the awareness of the different student abilities within a classroom and their lessons thus fail to appeal to this group. The at-risk group of students often performing in the lower bands felt that peer-tutors do not always make the effort to check to ensure they have understood the lesson well, as the peer-tutor is more concerned with their own roles as the peer-tutor. These students as such felt marginalised in the PT setting. Interestingly, on the overall, 42% of the respondents felt they would prefer a normal teacher-led lesson. While, this may seem to suggest that such novelty programmes are not working, it is in fact more an indicator to help students better manage the new learning environments. Often, some of the fears and uncertainty stem from the fact that these students operate in a high-stakes environment, where learning goals and experiences are directed and aligned to exams – thus at times invalidating the importance accorded to more experiential and authentic learning.
Student engagement

One of the most critical problems noted in the PT programme was the level of engagement noted. From the perspective of the peer-tutor, it was notably difficult to engage the students as students felt they were not ‘real’ teachers. This resulted in the PT session becoming more a presentation than a dynamic exchange of ideas with continual cycles of feedback, critique and refinement. This was especially pronounced with the low-ability class as both the peer-tutor and the class felt they did not have much to contribute since they were low-performers. With such a mindset, they felt that their lessons would not be taken seriously and not generate the desired learning engagements. As such, when actually faced with teaching, they receive little engagement – the whole process thus becoming a vicious cycle. Part of this problem it is felt, is the Asian mentality of looking to the teacher for answers and placing a higher premium on that (Ratneswary, 2005) as opposed to looking to themselves. This resulted in severe esteem issues, as this group of students do not see themselves as being able to value-add their own or their peers’ learning. In other classes, when peer-tutors found difficulty engaging the class, they often ignored the issue and went on with the teaching, again similarly reinforcing and validating the lack of response from the rest. It is thus necessary for tutors to fully prepare both the peer-tutors and the class for the rigour and ensure a more positive, engaged climate.

From the perspective of the class, engagement was limited as only a few vocal and extroverted students dominate or take an interest in engaging with the lesson. The rest simply chose to listen passively as they would in a normal teacher-led lesson as they felt greater trust over their own teacher than their peers who managed the lesson (Manson & Maitland, 2005). This meant that the knowledge construction process went through lesser critique, questioning, refining unless extensive probing was carried out by the tutor. The lack of spontaneity thus has long term implications as these students do not feel obligated to be a part of the knowledge-making process and choose to remain on the periphery. Students were however, very constructive and forthcoming in providing workable, practical solutions to engender greater engagement. Most suggestions focused on using the “round-robin” technique – ensuring that everyone participated in contributing some ideas and thoughts on the lesson conducted. It was felt that this approach was good, but also problematic. While, it would generate conversation, it would be artificial, since everyone ‘has’ to say something and may be too time-consuming if faced with a populous class. This is however workable in the short run to get the process going such that over time it becomes a natural, spontaneous process.

Student engagement it was argued also failed because the class felt they were removed from actual topic being discussed, since they have no idea prior to the lesson, the actual topic. Thus, being faced with the topic for the first time during the PT session, they felt made it hard to be spontaneous as it was fairly demanding to respond on the spot and give good, valuable feedback to the peer-tutors. This issue they felt could be easily resolved. Table 6 highlights some of the valuable suggestions made.

<table>
<thead>
<tr>
<th>Suggested Activity</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a trigger lesson prior to the actual PT session to get students to actively debate the topic (trigger lesson can take different forms and styles according to the topic and can be student or tutor-led)</td>
<td>Generate interest in the topic</td>
</tr>
<tr>
<td>Get students to do their own brainstorming on the topic</td>
<td>Opportunity to develop their own ideas</td>
</tr>
<tr>
<td>Get students to read the PT lesson before the session</td>
<td>Contribute more significantly to knowledge construction</td>
</tr>
<tr>
<td></td>
<td>Feedback provided will be more in-depth, valuable</td>
</tr>
<tr>
<td></td>
<td>Better questions can be asked</td>
</tr>
</tbody>
</table>
These ideas are all implementation-ready and with some fine-tuning and planning, can actually be fit into the PT Matrix. These ideas are in fact being included in the next phase of the study to monitor their impact and value in pushing learning and engagement further especially since they come from the perspective of students who genuinely one to improve and enhance their learning experience.

**Differentiated reception across academic bands**

The study also found that the PT programme was received slightly differently across the three academic-ability bands. These differences as seen in Table 7 were in terms of the peer-tutor competencies, level of engagement, quality of lessons and peer-tutor’s teaching styles.

**Table 7. Perceptions of model across different academic ability bands**

<table>
<thead>
<tr>
<th>Areas of PT Programme</th>
<th>Low-ability</th>
<th>Mid-ability</th>
<th>High-ability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peer-tutor Competencies</strong></td>
<td>Low confidence</td>
<td>Mid-high confidence</td>
<td>High confidence</td>
</tr>
<tr>
<td></td>
<td>High self-doubt</td>
<td>Believe in their lesson</td>
<td>Strong belief in their lessons</td>
</tr>
<tr>
<td></td>
<td>Introverted</td>
<td>Show willingness to defend ideas</td>
<td>Can defend ideas</td>
</tr>
<tr>
<td><strong>Level of engagement</strong></td>
<td>A lot of probing necessary to engage students</td>
<td>Extroverted, engaging personality</td>
<td>Extroverted, engaging personality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spontaneity maintained by the same individuals</td>
<td>Very spontaneous</td>
</tr>
<tr>
<td><strong>Quality of lessons</strong></td>
<td>Low to mid-range</td>
<td>High quality lessons</td>
<td>Very high quality lessons</td>
</tr>
<tr>
<td><strong>Teaching style</strong></td>
<td>Treated like an oral-presentation</td>
<td>Occasional problems</td>
<td>Able to teach the class</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generally, geared towards teaching</td>
<td>Able to probe students for feedback</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occasionally treated like oral-presentation</td>
<td>Occasionally</td>
</tr>
</tbody>
</table>

Based on the findings, it is clear that much help is needed to boost the learning and teaching experiences of the low-ability group since they seem to be lagging in terms of fully appreciating the advantages and positive learning opportunities of the PT programme. A lot of the help will need to start at the level of enhancing their sense of self and boosting their confidence. While, they generally benefited from the programme in terms of the learning outcomes (Gill, 2006) with improved grades, more can be done to further reinforce their learning experiences and maximise their goals. It is necessary that educators do not give up with this particular group of students as such learning opportunities it is believed can have long term implications in developing, motivated, and highly able students – since it begins with the recognition that these learners are as capable as their counterparts. It is a belief in this research that novelty programmes and new learning methodologies should begin with this group first, otherwise, forcing them to go through the regular learning routines will only reinforce their problems. It is however necessary to recognize that if this group of students are to achieve content mastery, they must be engaged emotionally – ensuring their motivation to learn is enhanced. Thus, “instructional input should be within the capabilities of learners, yet challenging for their level of academic development [ideally] start[ing] with what learners already know” (Chee, 2005: 3).
Managing the extent of student autonomy

The survey and interview findings also revealed that while the PT programme was flexible at a basic level, the extent of autonomy and flexibility given to students could certainly improve. Students wanted greater autonomy in two main areas, namely,

1. Question range and selection
2. Process of collaboration

First, students felt that being given a pre-teacher-selected question can dampen learning significantly since it is forcing students to do a question which they may have no preference in or realistically, “will not attempt” in the examinations. The consequence as some noted, will make the lesson more a “task to complete” than an actual learning experience. This response was evident across all academic-ability bands. While, it can be understood that students, desire a greater voice in this area, it must be understood that this learning programme is framed within instructionally necessary objectives and giving students full choice in question selection may skew the learning and affect the content and skill coverage. From the perspective of the tutor, allocating one question per group challenges students to think on topics they may not try. In fact, experience has shown that on some occasions, students’ own perceived strength in a particular topic does not always result in positive or expected grades, while attempting other topics sometimes teaches students to be focused. With these experiences and the tutor’s intention to enforce deep, meaningful and challenging learning, questions were engineered accordingly for the groups – ensuring a good range of topics. In the next phase of this research, perhaps, other strategies can be implemented to raise student autonomy through means such as,

I. Giving students a broad concept and getting them to define a question scope
II. Allowing students to choose from a range of 3 to 4 questions

The second area of contention related to the collaborative environments in which they were thrust. Many felt that for the first tier of the model, working in groups of 4 can be fairly challenging as sometimes they would face disagreements or had to grapple with too many “different viewpoints [making] reaching a consensus difficult” with a lot of time being wasted. Instead, they suggested working in pairs. While this is a legitimate issue of concern facing all cooperative learning environments, it should not become an issue for taking away collaboration, instead it is an issue that can be managed with providing greater scaffolding and broad directions. A strategy students felt could enhance the process of collaboration would be in switching partners regularly. They rationalised that this would enable an even wider, more dynamic exchange of ideas and reduce any dependency one might place on any single member of the PT group. While this is a viable option, it cannot be implemented without restructuring aspects of the current approach. One way is to plan more cycles within tier 1 of the model to facilitate students changing partners, however, this may require extending the entire time frame of the model and extensive planning on the part of tutors.

A return to assessment

One very interesting finding generated from this study is that despite learning in an authentic environment, a proportion of students felt getting assessed or being given grades on the content produced was important, despite receiving real-time qualitative feedback from the class and tutor. They felt qualitative feedback is fine, but since they get assessed through actual marks and grades, it was important for them to have such figures. This was clearly an unexpected finding as it seems to suggest that students learn and perform best when they have a numeric indicator informing them of the progress. In support of this, Brown and Knight (1994) amongst others (IZARD, 2004) have argued that assessment is at the heart of student learning and defines what students consider to be important. Students would thus, relegate their time in accordance to what they feel would be necessary for the exams. Contrary to previous research (Gill, 2005b), students
expressed that being assessed would raise the quality of teaching content and more students would take interest. However, this mindset goes against the idea of learning for intrinsic benefits and would thus render this learning avenue and model not different from regular teacher-driven or pen-paper type lessons since accountability pressures are driving learning as opposed to a genuine interest in learning and it becoming a shared experience of knowledge development. It was also noted through the survey that it was the low ability class and some select high ability students across all classes that felt this assessment component was desirable and necessary. Perhaps, it must be considered that since this is students’ first engagement with such a radical learning method that it will take some time before their mental models shift to appreciate the actual learning principles that are embedded in this experience. Future modifications may consider incorporating peer and self-assessment as a qualitative monitor and indicator of growth and targets set since it has been suggested that taking “active responsibility for their own progress and seizing opportunities to examine their own work...[allows them] to take ownership of their own education” (Lim et al, 2005:7).

Another area of interest which is related to assessment is in defining learning criterion. Students surveyed felt that it would be useful for each group to come up with an important skill or interesting content in their own lessons apart from the ones set out by the tutor. This they felt would boost initiative and make peer-tutors more responsible for the learning of their peers. This idea was found to be a very good one because the tutor could monitor aspects of content or skill development in the type of information students picked out for their lesson. Some early suggestions from students have included:

I. Using new words (5-10)
II. Finding unique examples

It is clear therefore; students need to know if they have value-added the learning process in their own teaching through marks as well as ensuring they maintain quality standards when they teach their peers. While this finding is contrary to expectation that students would prefer to move away from the assessment and criterion defined system, it seems that accountability pressures and the realities of examinations need to be addressed and this trend can only be truly validated in future phases of the study.

How do we move forward?

In fully capitalizing on the model’s advantages, the challenges discussed need to be addressed and incorporated into the model in furthering the possibilities. Some of these suggestions have been evaluated in the course of the analysis. Some of the other crucial directives such as preparatory scaffolding, enhancing and harnessing equal partnerships, managing mental models of key stakeholders and managing esteem of low achievers are also key to reinventing learning and teaching.

Perhaps, central to the success of this model is the level of preparatory scaffolding put in place to lead learners gradually into the system of the model. While, the first phase minimized this to observe the level of student initiative in negotiating and navigating such learning environment as well as to reduce any significant intervention by the teacher, it is clear that students appreciate greater direction through teaching tools, roles and responsibilities of peer-tutors, sample lessons to name a few. While, such planning may potentially increase teacher workload significantly, the long term viability and implications perhaps far outweigh the time spent in the short term building these scaffolds. Since, one key aim is to develop self-regulated learners – driven by self-initiative and responsible learning, this needs to be integrated into the next phase of the model. Overall, there will be greater time-savings and fewer disruptions as students try to manage their learning in class and ensure the process is fully led by students for students.

To ensure that all areas of the learning process are fine-tuned to the needs of the students, it is necessary to establish equal partnership in the domain of the classroom. While, many educators feel such a radical move may result in loss of control, the opposite is perhaps
more true. Instead, students who feel their views matter and are actually implemented or integrated in learning would respond more positively in the classroom. In this research, when students were engaged as co-tutors at the end of the first phase to evaluate the programme and more importantly become change agents in providing their critique and suggestions, they felt greater ownership and took greater interest overall. Some of the suggestions which have been hitherto discussed in this paper are valuable, with some being implementation ready. Thus, a willingness to involve learners not just in such novel experiences, but perhaps at the level of design and evaluation may have numerous positive outcomes as this research has evidenced.

This however can only be realized when educators make a paradigm shift in their mental models and recognize the duality or even multiplicity of roles various stakeholders play in enhancing and reinventing the education landscapes of tomorrow. Only when there is a greater willingness will change actually happen and take flight. Educators thus need to recognize that they are not just teachers but also learners at the same time. Students (not just high-achievers, but all), who bring with them a myriad of experiences and perspectives can equally contribute to the change process. It is also important to engage the students from the low-ability band as it has and can continue to have numerous benefits for them and one way to ensure this is helping raise their esteem and getting them to recognize their own critical powers in making learning significant. It is thus, the continuing dialogue established that makes the Teach-Learn model a success and a tool to redefine learning, relationships and outcomes.

Concluding perspectives

It is necessary to recognize that adopting the reform minded approach in our classrooms can be very challenging and for some it can be emotional work. At the level of the teacher, a lot of work needs to be done to ensure successful adoption and integration of such learning models in students’ experiences. Teachers taking this path must be willing to devolve control and provide students extensive space for learning and experimentation and it should be the voice of the students that dominate the learning space, with them being the catalysts and the teacher being only the occasional stimulus. These principles and ideologies if fully optimized can make the model not just a tool for reforming classrooms, but one energizing relationships, developing minds and raising professional standards significantly.

At the same time, it must be recognized that striving for a more student-driven environment, a “wild-card [has been introduced into our education system and] we must now be prepared for the uncertainties and ambiguities that may come” (Yeong, 2005).

References


© 2006 Gurdish Gill 17


