The Project Work Enterprise in Singapore: Progression or Regression?

Gurdish K. Gill
Graduate School of Education
The University of Western Australia
gillg01@student.uwa.edu.au

Abstract

In a bid to engage learners and offer them more meaningful learning experiences, many are adopting the authentic pedagogies philosophy, moving towards greater learner centredness and autonomy. Project Work (PW) is one curriculum move taken by the Singaporean education system in this direction. As a new initiative, it offers students more independent, uniquely crafted learning experiences; however these are not without problems. First, it is often questioned whether PW lives up to the ideals espoused on paper and is cognizant of the realities in practice. Furthermore, operating in a policy environment where change is a constant, there is a need to examine if it is indeed meaningful. Thus, while PW has been evolving and re-shaping over the last five years since its implementation, there has been considerable debate over whether these changes have signified progress that aim towards enhancing learning and outcomes or if it is in fact regressing. This paper thus examines where PW is headed through a policy and curriculum review and considers some of the evolutionary patterns evident and their implications for different stakeholders and aims to provide some policy considerations to make PW a policy initiative that is well attuned to the needs of an evolving world.

Keywords: New Pedagogies
INTRODUCTION

The education landscapes around the world have always been known to exist in conditions of change. Crawford (2003: 17) has illustrated how “Education for a future of change” is the new prerogative that defines the outlook of both schools and the economy generally. Key areas of schools and policy initiatives have come under significant review and adaptation in line with the need to function in a new world economy where innovation and creativity are the strongholds and where “the acquisition of mere content knowledge will no longer be sufficient” (Crawford, 2003: 17). No longer can education afford to exist in a vacuum. Increasingly, education is dictated by the demands exacted by the economic developments of the world and individual national needs. This intertwining has led to education policies being designed to meet specific needs. While many of the policies designed are often implemented with the best of intentions, they fail to be cognizant of some of the problems or ground realities that might exist and how these fit in with the overall picture of the situation.

This paper aims to review how Project Work (PW) as a subject has continued to evolve to meet some of the needs of learners and the demands of the changing economy and higher education. This paper will map out some of the key changes PW has undergone and the implications and responses to some of these changes on the ground and in practice. It will make the argument that while change is good and welcomed, there is a need to consider if all change is beneficial. Given that a subject like PW will continue to be a mainstay, it is necessary to evaluate if the PW policy needs to be reconceptualised to ensure that it maintains its value for learners.

A SHIFTING EDUCATION LANDSCAPE

As the global economy shifts, so do the demands placed on schools. Schools are thus restructuring to maintain relevance. Schools cannot afford to adopt models that aim to fit one size or singular learning styles (Beare, 1995). Instead, greater emphasis is placed on ensuring diversity, choice and flexibility couched within an environment geared to prepare learners to face the real world.

As a result, new directions were evident in education and in the policies designed. More focus was placed on areas like authentic learning (Newmann & Associates, 1996) that aimed to empower (Robinson, 1994) student learning. In the Singapore context, seminal policies like the Thinking Schools Learning Nation and Teach Less Learn More were designed to bring about system changing reforms to review the way things have been done. Some of the key changes noted in wider literature and actual practice both in global and Singaporean education contexts were:

- Greater choice and diversity in the curriculum
- Collaborative Learning
- Independent & reflective learning
- Empowering learners
- Authentic assessment

These areas it was felt would bring the much needed changes that education needs especially for learners. These areas of changes formed some of the critical bases on which PW was formulated – with an aim to be all-encompassing, meaningful and relevant.
PROJECT WORK IN SINGAPORE

The Subject: Aims & Overview

Project Work or its more common abbreviation PW is one such curriculum policy change designed to meet the needs of a changing world. It is a subject that is designed to meet some of the key skills that are deemed important for the 21st century. PW is a learning experience which,

Aims to provide students with the opportunity to synthesize knowledge from various areas of learning, and critically and creatively apply it to real life situations. This process, which enhances students' knowledge and enables them to acquire skills like collaboration, communication and independent learning, prepares them for lifelong learning and the challenges ahead.

(MOE, 2004a)

PW is carried out at the secondary and junior college (JC) levels in Singapore, but this paper will only discuss the place of PW at the JCs given the implications and complexities involved.

Project Work was trialled in 2000 and approved in 2003 as a compulsory component of the Cambridge based A’Level examinations, taken at the end of the JC curriculum and forms 10% of the entry requirement into local universities and is often seen to discern among candidates with equally good results in all the other subjects taken (The Straits Times, 2007), thus being very important. It is thus, considered an important learning platform because it incorporates many skills, integral for developing good learners, sufficiently prepared for the demands of the new economy. Ideally, PW aims to “provide students with opportunities to explore the relationships and interconnectedness of subject-specific knowledge” (MOE, 2001: ¶3). Additionally, it aims to foster creative and critical application of such integrated knowledge to real-life situations. Project Work develops four strategic areas as outlined in Table 1:

| Table 1: Aims of Project Work

<table>
<thead>
<tr>
<th>Domain</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge application</td>
<td>Students will acquire the ability to make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.</td>
</tr>
<tr>
<td>2. Communication</td>
<td>Students will acquire the skills to communicate effectively and to present ideas clearly and coherently to specific audience in both the written and oral forms.</td>
</tr>
<tr>
<td>3. Collaboration</td>
<td>Students will acquire collaborative skills through working in a team to achieve common goals.</td>
</tr>
<tr>
<td>4. Independent learning</td>
<td>Students will be able to learn on their own, reflect on their learning and take appropriate actions to improve it.</td>
</tr>
</tbody>
</table>


Students’ ability to harness the value of these four learning goals is intended to engender empowerment and meaningful learning experiences, which are relevant and value-add to future endeavours. Overall, the aim is to nurture “self-managing learners…who can exercise a wide range of skills” (Ashenden & Milligan, 1993:177).
PW is conducted in JC1, the first year of junior college so that students do not feel pressured in JC2 when they have to intensively prepare for the A’Level examinations. PW takes up about 25 hours of curriculum time per week, although at certain milestone periods, much more time is invested. Students are pre-allocated into groups of no more than 5 students and are expected to research on a topic of their preference given the choice of 2 broad topic scopes in the PW exam paper. Table 2 outlines the topics noted over the last few years:

<table>
<thead>
<tr>
<th>Year</th>
<th>PW Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>More than meets the eye</td>
</tr>
<tr>
<td>2004</td>
<td>Far Horizons</td>
</tr>
<tr>
<td>2005</td>
<td>Natural forces</td>
</tr>
<tr>
<td>2006</td>
<td>Momentum</td>
</tr>
<tr>
<td>2007</td>
<td>Groundbreakers</td>
</tr>
</tbody>
</table>

The topics provided are generally open-ended as noted and offer students the space to develop on the topics in a way they deem fit, keeping within certain key requirements outlined; where a key aim is for them to apply knowledge and think about the world in which they live and make important content and knowledge connections (Caldwell, 1996; Leakey, 1999). Emphasis is placed on developing creativity and lateral thinking (Boo: 2002). For example in the 2004 PW exam, the two scopes were “Far Horizons” which required students to study trends and make valuable predictions and “Measure Up” which required students to critically examine current measurement tools. Topics for the former included, the rise of Traditional Chinese Medicine, A Ten year Projection for Nanotechnology while the latter resulted in topics like Reviewing Singapore’s Current Movie-Ratings System. Students are thus required to work independently, collect real-world data, document all primary and secondary research, formulate arguments and present these coherently in a Written Report and an Oral Presentation component at the end of the process – two of the key components within the entire process which fulfil the aims of communication through different mediums.

Students are guided by their Supervising Teacher (ST) throughout the process. However, the ST mainly facilitates the process (Khone et al, 2004). The PW process is extremely rigorous with a focus on “just-in-time” (Mendoza, 2000) skills. The entire process is often time-dependent with specific junctures signaling important key milestones and requires students to be on-task and focused. Students also need to be able to work well with members whom they would not have known over long periods. This fulfils the key aim of collaboration – an important real world skill for students.

The Process

The entire PW cycle is based on the key process of facilitation – a central role played by the ST. In this process, the student groups consult with the ST on a needs basis to work out the dimensions of their proposal, get advice on work that is submitted and use their ST as a sounding board for ideas the group has generated. STs only facilitate as it is important for students to learn to express ownership (Duhan-Haynes, 1996; Robinson, 1994) and autonomy over their work and make decisions independently (Ashenden & Milligan, 1993). Throughout the process, the ST is also observing the groups for their ability to collaborate and ensure healthy group dynamics to ensure the completion of the project in a timely manner and with quality outcomes. Collaboration is an important part of the process given the scale of the task and allows for the generation of multiple
and diverse ideas – encouraging the development of a rich learning environment (Tschannen-Moran et al, 2000).

The process is also defined by stages of drafting for various documents that need to be submitted – with each draft submitted ideally working towards refining the ideas and effective presentation of the ideas. This developmental process ensures students receive continual feedback and are guided to think about the work they are engaging in, where the thrust of the focus is on developing students’ skills and knowledge and empowering them with ways to acquire and internalise new knowledge and address gaps (Orrell, 2005). Feedback provided can be written or verbal with appropriate annotations on the drafts.

**The Assessment**

PW is also made up of a rigorous assessment structure, given its importance as a university entrance criterion. Overall, PW was seen to be “an alternative form of assessment to measure students’ abilities in applying, synthesizing and presenting the information they gathered” (Chua, 2004: 9) and allow students to develop their skills in an open ended way as opposed to traditional examinations (Yeong, 2004). This is important since learners are not homogenous and such authentic assessment (Newmann & Associates, 1996) practices essentially provide room for learners to grow holistically. The assessment process focuses on 2 key dimensions, noted in Figure 1.

![Figure 1: Dimensions of PW assessment](image)

Given that PW is a subject based on collaboration, the assessment rubrics need to take into account both the individual as well as the group aspects. This is to ensure that there is sufficient accountability and no “free-riding” is encouraged. A similar emphasis is placed on ensuring a balance between the process of completing the project and the final product that is submitted (Yeong, 2004). This is emphasis is stressed in the wider literature as well. The weightage of these will be discussed in the section that maps out the evolution as these areas underwent notable changes.

Beyond these, the IDEAS process is also assessed along various aspects, noted in Table 3.

<table>
<thead>
<tr>
<th>Abb</th>
<th>Area</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI</td>
<td>Generation of Ideas</td>
<td>Ability to develop good, creative and novel ideas</td>
</tr>
<tr>
<td>SI</td>
<td>Substantiation of Ideas</td>
<td>Ability to develop arguments from the ideas generated and support these with secondary or primary data gathered</td>
</tr>
<tr>
<td>AEI</td>
<td>Analysis and Evaluation of Ideas</td>
<td>Ability to critique ideas for their strengths and weaknesses and offer personal insights</td>
</tr>
<tr>
<td>OI</td>
<td>Organisation of Ideas</td>
<td>Ability to present ideas in coherent, systematic and visually pleasing manner</td>
</tr>
</tbody>
</table>
These aspects of assessment clearly demand that students are able to manage their project well on a variety of dimensions – all of which are important in preparing them for academic writing at the university later on. These aspects are applied to the different documents that need to be submitted.

Whilst, the notion of PW is fairly new in the context of Singapore, it has been a dominant feature of many western educational contexts. However, the western context may lack the academic and assessment structure and rigour that are characteristic of the Singaporean context.

**Evolving: The changes since implementation**

Since implementation, PW has undergone numerous changes to reflect some of the core concerns raised and to ideally make the subject more meaningful, valuable and realistic. While, some of the outlined changes are sound in principle and theory and indeed can make an impact on learning and acquisition of skills, they still do not take into consideration the demands facing students and STs. The changes thus seem to exist in a vacuum. Other changes made seem to suggest a regression, in that potentially important learning principles are removed altogether. It is thus essential to question some of these changes and determine how it impacts PW and learning in general. The main aspects of PW that have undergone notable changes include assessment and the skills being developed as well as processes. Assessment underwent the most extensive changes with important implications for students and STs.

**Assessment**

The most integral changes were noted in assessment. Two main areas noted in the evolution of PW are changes in the aspects that are tested and greater emphasis on the individual's work within the project group.

**What is assessed**

Earlier versions of PW were often criticized for its over-testing (Gill, 2005) and monitoring, which was felt to negate both learning and motivation (Dietel et al, 1991). This disempowered and negated student learning far more than enriched it. Key issues highlighted by students were an excessive focus on testing every component of PW and assessment being restrictive, demanding and superficial. According to students, assessment processes are accorded extensive time thus reducing time for content development. Time is perceived as wasted on quantifying contributions made by students rather than seeking “the quality” of learning. Overall, students feel they engage in PW to be assessed rather than learn effectively and meaningfully. The goal of PW from the perspective of students was largely negated. They were not able to appreciate the innovation and novel learning experiences promised, rather they were engaging with it to fulfill assessment requirements. A large part of these problems could be attributed to the fact that PW was tied to a high-stakes examination. Therefore, the need to measure student outcomes was central.

Furthermore, student perspectives and observation also highlighted that the promise of authenticity was lost as the assessment process had serious negative implications on student learning. Although, the assessment was unique in focusing on more student-centred activities like collaboration and self-reflection, it was undermined by the pressure of testing. Assessment of collaboration for example was considered to be highly problematic as the transparency of expectations led many to exploit the process to their advantage during assessment observation. Thus, many “performed” to achieve the rubrics set out for them to avoid “losing out” to others. The
Assessment was further problematized by the lack of time and a superficial understanding of group dynamics, since teachers were only assessing based on observable behaviour (which often lacked credibility).

Assessment of student reflection through the Independent Learning Checklists (ILCs) was also similarly contentious because the reflections were not authentic or reflective of the situation students faced and became too stylised. Instead, observation and student responses highlighted that reflections were those that would get them the required marks and tended to be more “academic in nature.” Thus, rarely did responses feature issues of group dynamics or difficulty in handling or managing resources – which were often real situations encountered. This suggests assessment dictates learning to a large extent as the expectation to do well cause them to selectively focus on more important aspects or tailor their responses to fit the requirement. This is certainly not what learning and assessment should entail.

These thus serve to negate any authenticity that PW may have envisioned. As a result of these problems, collaboration was removed as an assessment criterion from 2005 onwards. However, the abrupt removal of collaboration from being assessed was not considered ideal. This created another extreme where students failed to work together and instead as has been observed only 1 to 2 students held the fort all the way in the completion of for example the Written Report – which carried almost 50% of the weightage. Individual reflection in the new syllabus was also more structured and focused on reflections of the project and processes with space to select ideas that students themselves deemed significant rather than through fixed aspects.

**Greater emphasis on the individual**

In the earlier syllabus, emphasis on individual contribution while present was somewhat insignificant and arbitrary as noted in Figure 2.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Knowledge Application</th>
<th>Communication</th>
<th>Collaboration</th>
<th>Independent Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process / Product</td>
<td>Process</td>
<td>Product</td>
<td>Process</td>
<td>Process</td>
</tr>
<tr>
<td></td>
<td>(Written Report)</td>
<td>(Oral Presentation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group / Individual</td>
<td>Group</td>
<td>Individual</td>
<td>Group</td>
<td>Individual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group</td>
<td>Individual</td>
<td>Group</td>
</tr>
<tr>
<td>Marks</td>
<td>15</td>
<td>5</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Percentage</td>
<td>25%</td>
<td>18.75%</td>
<td>37.5%</td>
<td>18.75%</td>
</tr>
</tbody>
</table>


**Figure 2: Project Work Assessment Framework (2003-2004)**

Evidence of individual contribution towards the project in its entirety was relegated to the articles selected, kinds of contributions made in meetings, comments made in a collaborative setting and performance during the Oral Presentation component of the subject. These however were not
fully reflective of the individual’s contribution. Some of these aspects it was felt also did not need important skills or thinking process, thus lessening their value as skills or learning.

Consequently, the assessment framework was revised as noted in Table 4.

<table>
<thead>
<tr>
<th>Abb</th>
<th>Aspects</th>
<th>Individual</th>
<th>Group</th>
</tr>
</thead>
</table>
| GPF | Group Project File (3 Documents):  
|     | Preliminary Ideas  
|     | Evaluation of Materials  
|     | Insights & Reflections |
| WR  | Written Report              | --         | 40    |
| OP  | Oral Presentation           | 30         | 10    |
|     | **Total**                   | **50%**    | **50%** |

In the revisions, there was greater clarity noted in what constituted individual work and what were areas that related to group work. In the revision, 3 new processes were added to engender greater meaning into the entire process. These have been provided in Table 5.

<table>
<thead>
<tr>
<th>Abb</th>
<th>Process</th>
<th>Explanation</th>
</tr>
</thead>
</table>
| PI  | Preliminary Ideas | Brainstorm and develop a mini-project proposal on the chosen topic (prior to being allocated a group)  
|     |                   | Forms the basis for selecting the idea that is selected for development into a project |
| EOM | Evaluation of Materials | A selection of 1 relevant material (e.g. an article) based on the project to be evaluated for its relevance to the project |
| I&R | Insights & Reflections | A reflection of the project and what was done (well or not so well) and to consider if other approaches can be taken and propose changes |

These 3 processes were considered to be good because most importantly they are based on important skills such as creativity, critical and analytical thinking as well as reflection. These processes it was theorised would add value overall to the project and ensure significant and meaningful individual contribution. It is however, interesting to note that individual contribution still existed in a vacuum, rather than in an integrated manner towards adding value to the project. This is somewhat problematic as the perennial issue of accountability among individual members towards the project was still in question.

The PI is believed to be a good process as it gets every individual to think actively about the project tasks and make individual decisions on feasible topics. This is certainly a welcome change as it gives each individual a stake and a choice in developing a topic they have an
interest in. Topics are not mandated as long as they can meet the assessment requirements – thus giving space to students to truly be creative and think out of the box. The plethora of topics that later may exist when the student project groups are formed give the groups a good starting point to select one that can be developed into a full-scale project. One bugbear that surfaced however was that the PI process was redundant since many of the ideas generated through the process would eventually not be considered anywhere in the final project. In some extreme cases, none of the ideas generated would be selected as they may not have scope for development. This, it was felt by both students and STs, was a considerable waste of time – time that could have been spent on other areas that were of greater need.

The EOM process is equally welcomed as it gets students to think critically about information that they handle. Through the selection of piece of material (example an article), students are required to engage and make sense of the author(s)’ arguments and how these may be relevant to their project and whether the material is comprehensive, current, reliable to name a few. This process develops important evaluative skills which students can then apply in the development of their project. The skills learnt here also serve as important foundation for handling any other material they encounter in the future and develops in students critical literacy both in print as well as non-print material online. In the same vein, the I&R process also develops in students the ability to be self-reflexive in their approaches and to constantly think about the decisions they make rather than to be passive. This process also differs from the older syllabus in that a higher order reflection is expected of students that goes beyond a commentary of the processes they have been through. Rather, a conceptual analysis is required of whether the project was well-developed and what else could have been done that was not and the rationale for not having done so.

While the revisions were clearly beneficial, it was realized that on the ground and in the classrooms things were not materializing as espoused. A higher number of students were more focused on their own individual performance than with group-based work. Thus, students took massive pains to redraft the 3 documents designed for individual computation, even though these only added up to a total of 20% overall. This also resulted in students free-riding off their peers when it came to the writing of the report since they were being allocated a group mark. It was thus found that ensuring dual and equal accountability while important to prevent the possibility of “cognitive loaﬁng” Tschannen-Moran et al (2000: 133), the reality is, that it went entirely against the collaborative spirit that PW is premised on, thus undermining the aim of collaboration that it set out to achieve. With the shift towards greater focus on ensuring individual skills acquisition, there was resultant greater discord among members. Areas that are signiﬁcantly dependent on collaboration such as the written report, often is an area that is handled without the beneﬁt of collaboration with only a few in a group managing the task.

Is there Creativity?

The entire PW has also faced the continued criticism of being over-structured in every aspect. The value and quality of learning, assessment and the ﬁnal products submitted tends to be stylised and almost homogenous since everyone was guided with excessive dependence and categorisation of success through the use of “compulsory templates for virtually every step of the way”. This suggests that learning and success are predeﬁned thus ironically deskilling (Couture & Cheng, 2000) students. This is potentially disempowering because it limits student creativity by dictating there is only one acceptable standard and approach to learning and understanding their own projects and it will form the basis of their assessment. Student creativity and innovation are thus displaced as detracting from expected guidelines translates into negative assessment. Such an implied restriction thus results in students keeping to “safe topics” to ensure their grades are not compromised by risk-taking and this contradicts the learning objectives PW set out to achieve. Clearly, the use of such rubrics, templates and even student checklist ironically works
against the development of creativity as it promotes “restrictive and convergent thinking” (Yeong, 2004:8) and this reduces the possible critical capacities of both students and teachers.

Processes

The processes within PW have also undergone some changes. In the older syllabus the focus was on documentation so that assessment can be made. Thus, as earlier outlined, every aspect was documented whether by the individual or the group or the ST. However, given the shift towards more documents that the individual needs to submit, the focus now seems to be on a rather long drawn out process of drafting and redrafting. This change has raised many questions with regard to what is being learnt as well as the implications for both student and teacher workload.

Drafting to perfection

Given, the importance accorded to PW and its link to a very high stakes examination, every aspect of PW is taken seriously. As such, many submissions made often undergo extensive drafting until it reaches a satisfactory level. This process however negates learning as students become too dependent on the comments of the ST and fail to show more initiative in raising the quality of their work independently. Questions are also raised on whether the final product submitted truly reflects the work of students or that of the ST. Consequently the aim of independent learning is largely negated as students hardly take charge of their own learning or even drive it.

Stakeholder workload

With all the revisions PW has undergone, the amount of work done by students and STs has also gone up significantly. Given the expectations and the numerous submissions required of various documents, students are spending massive amounts of time on PW. This does not seem realistic given the rigour of their other curriculum demands. With the new revised syllabus for the A’Levels, students are clearly struggling to manage the demands. Thus, even with the best of intentions, the rigour of the JC curriculum and the immediate demands of exam pressures may not allow students the opportunity to fully internalize or appreciate the PW process as it is envisioned in theory.

In the revised syllabus, the workload of STs has also increased significantly. STs are now faced with a larger number of documents to assess and provide more continual feedback than before. With the pressures placed on securing credible scores, STs face the demand of going the extra mile to guide the students closely every step of the way. Thus, the initial aim of STs being mere facilitators has been lost. With continued hand-holding and spoonfeeding, it is questioned if any learning is taking place and whether the amount of work STs are doing is justified.

PROGRESSION OR REGRESSION?

While the PW enterprise is a novel one and is certainly significant in student learning, more thought can certainly go into how it is conceptualized. The revisions currently made as PW moved through time have had mixed reactions. While some of the changes are good especially where the emphasis is on the quality of thinking and higher order skills and signify progress, the removal of aspects such as collaboration do not reflect a positive change. As PW moves forward into the future, several critical questions need to be asked:

© 2007 Gurdish Gill
1. Is learning happening?
   a. What kind of learning – surface or deep?
   b. Of what value is this learning?

2. Is the focus too ambitious?
   a. Does it take into account the students’ wider learning environment?
   b. Can processes be streamlined?
   c. Is there a need to cover everything?

3. Is assessment carefully considered?
   a. What is the purpose?
   b. Is it really needed?

Given the numerous aspects that students need to juggle throughout the PW process alongside their curriculum demands, one question if learning is taking place and the quality of that learning. Are students rushing to complete the process and going through the motions? Have they internalized the skills acquired? These questions remain to be answered even though PW has gone through several cycles. The promise of important skills to be acquired, are they truly beneficial and do students see these benefits as they work through their daily curriculum or as they move on to the university? Many of these skills can arguably be incorporated within existing subjects instead of existing in isolation in a discrete subject – PW. Such a recommendation may be more realistic and meet more of the (universal) goals that PW aims to achieve.

Given the span of time students have in managing PW, perhaps PW is too ambitious an enterprise. It clearly tries to achieve far too much with expectations that may be too demanding for students who are also grappling with a new curricular experience. Policy makers may thus need to consider how any particular curriculum design should limit itself to two to three major learning principles and not aim to achieve total completeness as it results in undermining the learning objectives and alienating learners.

A mindset change may also be needed in relooking assessment. It seems to be disadvantageous to assess every aspect of PW as it negates learning since students’ motivations are closely linked to the grades. Perhaps emphasis needs to be strengthened on reviewing the “process” rather than the numerous “products” at the end. For example, while there were problems in assessing collaboration through certain fixed parameters that resulted in students performing to the rubrics, it seemed poorly considered to throw the baby entirely out with the bathwater. This is clearly an avenue that can and should be developed further especially given the centrality of a skill such as collaboration beyond the domain of education. Consideration is also needed to remove aspects of assessment from parts of student work so that more reflective space and opportunities to learn by trial and error instead of meeting predefined assessment criteria are provided. The emphasis on individual assessment needs to be coherent with the entire process as at this point, they are discrete and somewhat removed from the collaborative aspects of the written report and oral presentation. If individual accountability is prized then it must fit meaningfully.

CONCLUSION

A curriculum policy like PW is certainly something that should stay given its aims and the plethora of skills that it aims to impart. However, rethinking is certainly needed when it comes to thinking about the key areas that have faced changes since implementation. It is also necessary to consider where PW stands in the face of education policies like Teach Less, Learn More (MOE, 2004b) and whether the changes made support or go against the over-arching principles of the above policy.
REFERENCES


