Teacher Professional Learning through the Provision of Feedback on Student Work:

A Practitioner's Inquiry

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DECLARATION

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree of diploma in any university or other institution and affirms that to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Signed :

Date : 20th July 2014

The research for this study received the approval of the Monash University Standing Committee for Ethical Research on Humans (Reference number : CF12/2377 – 2012001290)

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DEDICATION

I dedicate this thesis to all my family members and friends who have supported me throughout my PhD journey.

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Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

This study explores the way effective feedback can be provided to students to enhance their learning. It aims to identify and explore how feedback can be given in relation to Higher Order Thinking Skills (HOTS) and Differentiated Instruction (DI) which are part of the Singapore Ministry of Education's Desired Outcomes of Education. The study uses Hattie and Timperley's (2007) framework in providing and understanding the feedback the practitioner provides to students. The study took place at a junior college (JC) which is a pre-university institution and adopted a qualitative approach. Data included semi-structured interviews, artefact analysis and reflective journals kept by the practitioner. Twelve students taking Higher 1 and Higher 2 Geography, who were students of the practitioner, were interviewed. The written assignments which consisted of data-response questions and essays, written by students who were interviewed and those who were not part of the interviews, were analysed to show the way feedback was being given by the researcher over a period of 9 months.

The study shows how certain types of feedback given do not always contribute to learning as believed by the practitioner at the beginning of the study. It also displays how the feedback provided by the practitioner changed over time in the course of this study, especially when the practitioner becomes conscious of the way she provides feedback. The research also demonstrated how the feedback given by the practitioner may be perceived differently by the students and therefore there is a need for students to take the initiative in clarifying feedback that is being provided. The practitioner also reveals how verbal feedback also contributes to learning. In the discussion it can be seen also how factors like regularity of feedback, assessment and student-teacher relationships value adds to feedback that is provided to students by the practitioner.

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Background to the study

This thesis reports on the findings of a research project undertaken in Singapore over a two year period. The project was a practitioner inquiry investigating my practice of providing examination feedback to my college students for Geography. This study explores the ways in which effective feedback can be provided to students to enhance their learning. In particular, it aims to identify and explore how feedback can be given in relation to Higher Order Thinking Skills (HOTS) and Differentiated Instruction (DI), which are part of the Singapore Ministry of Education's (MOE) Desired Outcomes of Learning (DOE).

This research project emerged through my observations of how teachers in the Geography unit at Innova Junior College, Singapore, provided feedback to students during major examinations, in written form. Colleges in Singapore are comprised of students who are between 17 to 18 years of age. The students undertake a pre-university course during their two years in college. At the end of the second year, they sit for their 'Advanced' (A) Level Examinations. The 'A' levels are national examinations set by the Cambridge International Examination Syndicate.

The study was undertaken at Innova Junior College (IJC), Singapore. The college is situated in the woodlands area, in the northern part of Singapore. IJC offers a pre-university course and at the end of the two year course, students sit

for their 'A' levels for entry into University. The study was conducted in relation to how feedback is provided to students who take up Geography at the Higher 1 (H1) and Higher 2 (H2) levels.

Students who are admitted into IJC have to achieve an aggregate score of 20 points and lower for six subjects (including the English language) in their 'Ordinary' (O) Level examinations. Though the purpose of this study was not to see if value added results are achieved for Geography at the 'A' level examinations, still, the results formed evidence of how appropriate the feedback I had provided to students had been in helping them to enhance their learning and achieve better results. For this, it was necessary to address the "Performance Indicators for School Management" (PRISM) (MOE, 1995). PRISM measures the effectiveness of a school by comparing its pupils' performance at the 'A' levels with their expected performance as gauged from their 'O' level aggregate scores. The expected performance, worked out by the MOE (1995), is calculated using a national average to estimate a school's expected average.

For the past seven years, I have been teaching in the Humanities Department, which is comprised of teachers who teach Economics, Geography and History. The Humanities Department meetings are held once a month. However, once a week teachers from the Economics, History and Geography teams or units also hold separate meetings known as professional sharing sessions. During these sessions, teaching strategies, exchange of ideas of student performance, planning for field-trips and other related teaching and learning activities are discussed. During one of these sessions, a discussion on how feedback should be provided

and establishing a list of abbreviations used when marking, was debated. It became a tedious process and in the end, the teachers in the Geography Unit did not come up with the list as each of us had a different way of providing feedback. We all decided to handle the issue at our individual class level.

For most of my teaching career, the process of providing feedback to my students appeared to be to 'correct' their mistakes and to 'justify' the marks given for the work submitted. However, during weekly unit meetings, I observed that all four Geography teachers varied considerably in the way feedback was provided to students. I noticed this when I reviewed my students' examination scripts after major examinations that were held in the school in the year 2012. The examination scripts are normally marked by the four teachers in the unit. They are analysed so that teachers can understand the problems students face for each topic tested in the examinations. As one of the teaching team, I also reviewed the scripts to understand whether or not my students were having problems with their content, concepts or writing skills. However, in the process of reviewing the scripts I realized that the way in which one of the teachers provided feedback differed from the ways in which other teachers provided feedback. For example, one teacher was very focused on grammar and conceptual errors, while another was concerned about providing students with the 'correct' answers and about forms of writing. Moreover, one teacher provided many abbreviations like 'SP' (spelling mistake), 'NAQ' (not answering question), 'IR' (irrelevant) when 'correcting' answers. Another teacher had many phrases, statements and even whole paragraphs underlined. The nature of giving feedback with respect to the language used was also substantially

different. One teacher was formal in providing feedback while another was informal. An example of a formal comment occurred when the teacher stated what was erroneous in a script, and an informal feedback example is one in which the teacher's anger or frustration is seen being articulated in the script. The teacher openly expressed anger or annoyance by giving feedback like, '*Uhh this is so wrong*' or, '*I am shocked with this*'.

After major tests and examinations, a standardization of marking is practiced. According to Wolf (1995) standardization deems that the marking is consistent and reliable. Wolf (1995) and Baird, Greatorex and Bell (2004) have also argued for standardization of marking to be practiced involving a discussion between markers taking place. They also advocate that standardization is especially important for new teachers who are involved in marking scripts. Considering the fact that the turnover of teachers in the Geography unit is high, standardization of marking is considered important so that marking is rigorous and dependable. However, during standardizations it was observed that each teacher believed that his or her feedback was more appropriate for student learning than was other teachers' feedback. During standardization sessions, scripts are randomly chosen and these are then printed out for the four teachers in the Geography unit, who are to mark the answers using a fixed answer sheet. Teachers mark the printed scripts and provide feedback and marks as appropriate. All four teachers then meet on another day to discuss the marks that should be awarded to the scripts based on their assessment. Most of the time the differences in marks between the four teachers would be between zero and three marks for various questions. This was a problem because the marks that students achieve are directly related to the

feedback that is provided to them. For instance, if a student gets a lower mark there would be lesser positive feedback and vice-versa. The problem was seen to be worse with written essays more than for data-response type of questions as essays require holistic marking using levels of responses compared to data-response type of questions which uses a point system of marking.

Being part of the panel for marking the Geography scripts, I noticed that different teachers focused on different aspects of an answer script when providing feedback. The teacher, who is then given the responsibility for marking the particular question, after the standardization of marking, had to take into consideration all the feedback that was provided by the other three teachers. Debates often occurred when it came to which feedback should be provided on the main script. This motivated me to want to better understand how feedback, in written form, should be provided to help students improve their learning in my subject area, Geography.

1.2 Educational context of the study

The National Institute of Education (NIE), Singapore has been an integral part of Singapore's education since its establishment in 1950. According to the Office of Teacher Education the NIE "pre-service teacher education courses, ongoing professional development workshops to existing teachers and school leaders, and conducts extensive educational research that loop back into the continual program review and enhancement process" (NIE, 2013, para. 1). In the NIE, future teachers undertake a Post-Graduate Diploma in Education (PGDE) to

graduate as trained teachers. In the NIE PGDE handbook it has been stated that, Geography teachers, specifically are:

> "…Guided to understand what it means to be an effective geography teacher. The course will allow student teachers to see, understand, and appreciate the web of relationships between people, places and environments through the exploration of key geographical concepts. They will learn pedagogical approaches which are interwoven into the subject matter. Student teachers will be given opportunities to design, teach and critique the geography curriculum" (NIE, 2013, p.46).

The PGDE program also guides 'Advanced' (A) level or college teachers teaching Geography in:

> "…Critically exploring the themes in both the Physical and Human Geography. The course equips student teachers with the relevant pedagogical approaches to teach and assess Geography learning at 'A' levels confidently, meaningfully and even creatively. Student teachers will have a good understanding of the instruction approaches in which lessons can be structured to enhance student engagement. They will also develop a good understanding of the various ways of assessment for learning," (NIE, 2013, p.47).

Upon analysis of the diploma program offered in the NIE, it was seen that teachers are exposed to courses which allow them to "understand learners,

learner development and the psychology of learning" (NIE, 2013, p.25). The course "explores why and how some students learn or fail to learn, and how students' intellectual, social, emotional, personal and moral development occurs" (NIE, 2013, p.26). Teachers are also provided an insight into the Singaporean education system, the Desired Outcomes of Education (DOE) and the "diverse and multiple roles they have to play in the education system" (NIE, 2013, p.23). In order to facilitate new developments in education, and to encourage continual learning field workshops and courses are also organised by the Academy of Singapore Teachers (AST), NIE, the National University of Singapore (NUS), the Curriculum Planning Division of the Ministry of Education (CPDD, MOE) and conferences are organised by the Singapore Principals' Academy (PAI).

Upon study and analysis of the various teacher education programs conducted by the different organisations, it can be seen that they have been essential in equipping teachers to handle the teaching content of a subject and to develop their teaching skills. However, many of the workshops seem not to focus on the value and importance of providing feedback. Although the term 'feedback' is commonly used, there is less information about the way to provide, handle and learn from feedback. In many workshops at conferences that I have attended, trainers state how important it is to provide feedback to students, however, the 'why', 'how to' and 'what to' provide in respect to feedback is not discussed. Even though the information of the PGDE program offered by NIE shows that feedback will be provided to student teachers during and after their teaching practice in schools, there is an absence of workshops that helps beginner and experienced teachers to provide feedback to students. There also seems to be

very few studies in the Singapore context that have investigated the meaning of feedback and its power to improve teaching and learning.

During the last decade or so, the "Singapore Ministry of Education (MOE) has launched many initiatives to reform the nation's educational system such as 'Thinking schools, learning nation' (TSLN), and 'Innovation and enterprise' to develop a productive and resilient nation to face the challenges in the knowledge-based economy" (Koh, Lee, Gong and Wong, 2006, p.2). All these visions have led to the implementation of teaching for Higher Order Thinking Skills (HOTS) rather than for rote learning as "teachers move away from the conventional didactic teaching methods towards constructivist learning approaches" (Koh et al., 2006, p.2). Yet another factor that is being addressed in the Singapore curriculum is Differentiated Instruction (DI). Amongst the views expressed about DI, in the opening address at the International Conference of Teaching and Learning with Technology (iCTLT), the Minister for Education Mr Heng Swee Keat (2014) stated that DI provides students with different possibilities to obtaining content and to making sense of ideas (Heng, 2014). The MOE in its 'Teach Less Learn More' (TLLM) policy has also stated that "appropriate educational pathways with differentiated learner outcomes have to be developed for different kinds of learners, and that differentiated instruction is a teaching approach that reaches out to a range of diverse learners" (MOE, 2008, para. 10). Moreover, the Singapore MOE also believes that educators must cater better to students' differing interests and styles of learning and apply different pedagogies and do less of a one-size-fits-all teaching. The MOE implemented policies that called for the DOE and Desired Student Outcome (DSO) to be

addressed in schools to equip students to contribute and benefit in the 21st

Century. The MOE advocates that learning in the 21st Century is challenging.

For instance Professor Linda Darling-Hammond shared her insights on the skills

that students need for the 21st Century, at the Global Cities Education Network

Symposium in Singapore (2013). She shared with educators that "students will

be working with knowledge that hasn't been invented and solve problems that

we hardly envision and use technologies that don't yet exist in the future" and

she also explained that with such demands, "students need to develop the ability

to access and use information and resources to solve problems rather than

merely master a bunch of facts" (MOE, 2013, para. 6). In her speech she also

advocated that teachers need to "identify the right pedagogies that would benefit

students, and students, on the other hand, will have to exercise their creativity,

engage in collaboration and apply knowledge in realistic situations" (para.8).

Her speech shows that there is a need for teachers and students to be adapted to a

changing and demanding 21st Century environment.

As seen above, these policies were implemented by the MOE to encourage

schools to equip students to survive in the 21st Century. In these policy

documents the need for students to become critical thinkers and self-directed

learners is emphasised and the demand is for a movement away from rote

learning to a more inquiry-based approach. The policies ask for the

development of the HOTS and encourage schools to develop and cater to the

needs of the individual student. The call for greater DI in the classroom and the

enhancement of thinking skills or HOTS is very relevant to this study as it

explores how the two initiatives can be developed through the provision of

feedback to students. The very fact that there is a need to promote differentiation in the classroom suggests that the feedback provided must be tailored to meet the individual needs of students. Moreover, college students are preparing for a University education and thus the development of the HOTS are essential. In the following section the DOE, DSO, HOTS and DI are explained in relation to the Singapore Education system.

1.3   The Singapore Ministry of Education's Desired Outcomes of Education (DOE) and Desired Student Outcomes (DSO)

The Singapore Ministry of Education (MOE) formulated the Desired Outcomes of Education (DOE) in the year 1997 and a revision was published in 2009. The DOE are attributes that educators aim for every Singaporean to have by the completion of his or her formal education. According to the Singapore Ministry of Education, a student who is schooled in Singapore will be expected to embody the DOE. According to the DOE policy documents a student will have:

> "…A good sense of self-awareness, a sound moral compass and the necessary skills and knowledge to take on challenges of the future. He will be responsible to his family, community and nation. He will appreciate the beauty of the world around him, possess a healthy mind and body and have a zest for life" (MOE, 2009, p.1).

In sum they will become:

- A **confident person** who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively;

- A **self-directed learner** who takes responsibility for his own learning, who questions, reflects and perseveres in the pursuit of learning;

- An **active contributor** who is able to work effectively in teams, exercises initiative, takes calculated risks, is innovative and strives for excellence; and,

- A **concerned citizen** who is rooted to Singapore, has a strong civic consciousness, is informed, and takes an active role in bettering the lives of others around him (MOE, DOE, 2009, p.1)

The DOE are translated into a set of developmental outcomes for each key stage of the Singapore education system. The outcomes stipulated in the policy provide educators with common objectives and drive the education policies in schools. The key stage outcomes also spell out what the Education Service aspires to develop in students through their Primary, Secondary, and Post-Secondary education. Each educational level builds upon the previous stages and lays the foundation for subsequent ones. The key stage outcomes are depicted in Appendix 1 (page, 346).

To better position students to take advantage of opportunities in a globalised world, and to augment the development of the 21st Century competencies, the Singapore MOE subsequently developed the Desired Student Outcomes (DSO)

in 2012. This framework was implemented to prepare students to succeed in a "fast-changing and highly-connected world" (MOE, 2010, para. 1). In the DSO policy document the Singapore MOE stated that "students must possess life-ready competencies like creativity, innovation, cross-cultural understanding and resilience to compete in the globalized world of today" (para. 2).

The DSO framework, shown in Appendix 2 (page 347), shows that the four qualities stated outside the largest circle are exactly the same as the qualities depicted by the DOE, which are, for the student to become a confident person, a self-directed learner, an active contributor and a concerned citizen (DSO, 2012). The outer ring of the DSO framework represents the 21st Century competencies which the framework deems as necessary to survive in the globalised world in which we live. The DOE, in general, depicts the outcomes schools must promote for formal education, while the DSO illustrates the characteristics needed for individual students to survive in the globalised world of today, known commonly as the 21st Century competencies. The 21st Century competencies which are being promoted by the Singapore MOE are represented by the first ring.

- Civic literacy, global awareness and cross-cultural skills

- Critical and inventive thinking

- Information and communication skills (DSO, 2012)

The middle ring signifies social and emotional competencies necessary for students to manage emotions, to develop care and concern for others, and to handle challenging situations effectively, and the knowledge and skills must be underpinned by values shown in the innermost ring. (MOE, 2013, para. 6). Many

schools have embraced the competencies so that they can not only improve students' learning but also help them acquire the required competencies to prosper in the future. At the same time the MOE also wants to build teacher capacity to deliver the 21st Century Competencies through relevant pedagogy, training and professional sharing.

1.4 Differentiated Instruction

Following the principles behind DI, the Singapore MOE has also advocated the need for DI to be addressed in classrooms. For instance, the Teacher Education Model formulated by NIE has clearly stated that "in view of the rapid changes in the education milieu, teachers must be responsive to student needs and, therefore, it is imperative that the education offered is based on the needs of individual students in improving their learning outcomes" (NIE, 2009, p.4). Differentiated instruction (DI) is a "philosophy of teaching that is based on the premise that students learn best when their teachers accommodate the differences in their readiness levels, interests and learning profiles" (Tomlinson, 2005, p.263). According to Tomlinson, DI maximizes each student's growth and individual success as the work they do matches their learning needs. Tomlinson also stressed that students experienced greater school success when teaching is responsive to their needs. In this sense DI accommodates students who learn at different rates. Tomlinson (2000), in his earlier articles, advocated that DI allows teachers to address the 'readiness' and 'interest' of students. He pointed out that readiness varies over time and according to the ability of a student. This means that some students may be performing at their optimal level, while others may be below the level or even higher up the optimal level. So DI allows students to do

activities that are suitable according to their readiness levels. Therefore, teachers must be able to understand the readiness level of students and provide suitable tasks for them to attempt at different levels of readiness. This means that the traditional instruction which has been associated with teachers who teach to the average student is no longer appropriate to meet the different needs of students as students in a classroom are at different ability levels.

Research has revealed that individuals do not learn in the same way and that the contemporary classroom has become increasingly academically diverse (Mulroy & Eddinger, 2003, Stronge, 2004). This is evident in Singapore, where the MOE offers scholarships to promising pre-tertiary and tertiary students from the nearby region, namely, South East Asia (SEA). Secondary schools, colleges and tertiary institutions like polytechnics and universities get many students who come from diverse backgrounds from the SEA region. The MOE (2012) has stated that there is, therefore, a need for teachers to nurture, respect and understand the differences of these students who come from other countries as well as local students, and be prepared to teach in ways that help all students learn effectively.

However, there is also a need to understand how DI can be applied in the classroom. Anderson (2007) claims that "teachers must provide students with choices, flexibility, on-going assessment and creativity in differentiating the concepts taught, and at the same time understand how students process and develop understanding of concepts and skills" (p.50). This is also endorsed by the Singapore NIE. The report on the 21st Century Teacher Education Report

also termed as TE[21] embraced this view and stated that "teachers need a sophisticated understanding of the fundamentals of lesson planning, questioning and feedback, capacity for differentiated instruction, strategies for effective peer work and inquiry approaches before differentiated instruction can be carried out" (NIE, 2009, p.30). Another question that arises in relation to DI is that of how teachers can get to know their students well enough to implement such learning. For this to be done, Langa and Yost (2007) have argued that teachers should use assessment data gathered from each student regularly from the beginning of the school year, and continue to do so to understand their learning style and interest. Tomlinson and Imbeau (2010) have, however, stated that the teacher's role in the differentiated classroom is to continually ask themselves, "What does this student need at this moment in order to be able to progress with this key content, and what do I need to do to make that happen?" (p.14)

Many authors, who have advocated the need for DI, have also reported on how DI has improved student learning. Fine (2003), for instance, has reported that student outcomes improved when their learning style was understood by teachers and incorporated into instruction. He also reported that when the students' learning styles were understood, their performances improved and even the attitudes of the students improved. In addition, Mulroy and Eddinger have also argued that differentiated instruction had been crucial in creating an "optimal learning experience" for students (2003, p.2). They stated that classrooms are becoming diverse and so there is a need to attend to the "personal strengths" of students (p.5). Moreover, they argued that attending to differences helps students experience success and this would motivate them to want to do

better. As can be seen, the need for DI to help students is advocated by many researchers who have also spelt out that its application in the classroom creates a learning environment conducive for students with different abilities to respond to learning. Research has also established the fact that DI addresses the strengths of students and helps them learn effectively.

1.5   Higher Order Thinking Skills

In Singapore, the concern for teaching skills in thinking became a major agenda in the late 1990s when the vision of Thinking Schools Learning Nation (TSLN) was launched. This vision describes a "nation of thinking and committed citizens capable of meeting the challenges of the future, and an education system geared to the needs of the 21st Century" (Goh, 1997, para. 18). In his speech to educators, the former Prime Minister of Singapore, Goh Chok Tong (1997), stated that "thinking schools will be crucibles for questioning and searching within and outside the classroom, to forge this passion for learning among the young" (para. 22). He also stated that teaching will become a learning profession like any other knowledge-based profession of the future where the need for teachers to keep up-to-date will become necessary. Even the DOE policy for post-secondary students were redefined to include characteristics such as the ability "to think, reason and deal confidently with the future" and "to seek, process and apply knowledge"; "innovativeness", "a spirit of continual improvement", "a life-long habit of learning" and an "enterprising spirit in undertakings" (MOE, 2009).

In order to promote the thinking skills a taxonomy that is commonly used by the Singapore MOE is Bloom's Taxonomy. The taxonomy shows a multi-tiered model for thinking. The lowest-tier shows the lower order thinking skills and as one progresses above to the top of the tier the thinking levels become more complex. According to Bloom (1984) there are two levels of thought, higher and lower. The lower level consists of knowledge, comprehension and application and the higher level consists of analysis, synthesis and evaluation, as seen from Table 1.1. Bloom's taxonomy is hierarchical and if a student is able to, for example, function at the analysis level then it means they have mastered the skills involved in knowledge, comprehension and application. Bloom identified three domains of educational learning, which are the cognitive, affective and psychomotor aspects. The cognitive domain, which is the focus in this research, involves knowledge and the development of intellectual skills. Bloom's taxonomy was revised by Anderson and Krathwohl (2001) who changed the names in the six categories from nouns to verb forms and slightly rearranged the order. Table 1.1, shown below, provides the terms used in Bloom's Original Taxonomy which were developed in 1956, and the changes made by Anderson and Krathwohl in 2001, which are currently used extensively in Singapore.

Table 1.1

Blooms Original Taxonomy (1956) and the changes made by Anderson and Krathwohl (2001)

Bloom's Original Taxonomy (Developed in 1956)	Anderson and Krathwohl (Changed in 2001)
Evaluation	Create
Synthesis	Evaluate
Analysis	Analyse
Application	Apply
Comprehension	Understand
Knowledge	Remember

According to Levy and Murnane (2004), declining portions of the labour force are engaged in routine cognitive and manual labour as such these, repetitive tasks are primarily now performed by computers. They also revealed that growing proportions of the world's labour force are engaging in jobs that emphasise complex thinking and communication which computers cannot be programmed to do. In this sense the development of the HOTS are therefore crucial to a technologically developing world. These economists went on to explain that "expert thinking [involves] effective pattern matching based on detailed knowledge, and metacognition, the set of skills used by the stumped expert to decide when to give up on one strategy and what to try next" (Levy & Murnane, 2004, p.75). In the 21st Century, therefore, Dede (2009) argued that the teacher has to become an "expert who communicates and is able to improvise answers and facilitate dialogue in the unpredictable chaotic flow of

classroom discussions" (p.262). He stated that a teacher has to embed in instruction the 21st Century skills of critical thinking and problem-solving. This means that in order to develop the HOTS in students, teachers must first become comfortable in teaching it. It could, therefore, be argued that teachers should develop their own HOTS in order to teach the skills to students. As seen so far HOTS are inevitable in developing the 21st Century competencies which focus on the thinking skills. Schools, therefore, should embrace the skills and help the individual students to develop them.

As seen over the 18 years of my practice as a teacher, Singapore's education system has shifted from that of a traditional textbook-based rote learning system to one that embraces inquiry-based learning and teaching. Students are moving away from remembering content and regurgitating it during examinations. They are being encouraged to analyse problems and to create new ideas. The education system in Singapore is asking for a more broad based system where students are able to explore a variety of subjects and develop their thinking skills. Therefore the need to embrace DI and HOTS has become very important in contemporary Singapore schools. HOTS are being looked upon as a way to achieve the 21st Century competencies and DI is seen as a strategy which can allow all students to embrace the competencies when teachers modify and adapt their pedagogies to handle students of different abilities. My study of feedback as a pedagogical approach allows me to understand how feedback can be given to achieve DI and HOTS and to work more effectively in the Singapore system to achieve 21st Century literacies.

1.6   The importance of teacher reflective practice

The movement away from the traditional teach and talk approach to more student oriented teaching suggests that the Singapore MOE is aiming to help students to cope in today's more globalized world. Teo (1999) has emphasized that while the Singapore MOE can develop policy initiatives, it is the individual teacher who must ultimately determine what the policy means to the students in his or her own classroom. This is endorsed by Lee (2014) who has argued that teachers must be well-equipped to teach the 21st Century learners. Professor Lee Sing Kong, in his speech at the National Institute of Education teacher's investiture, stated that reflective teachers are required to nurture the 21st Century Competencies. He also stated that reflective teachers will be able to manage and differentiate teaching activities to meet the needs of different types of learners and they themselves become adaptable and robust in terms of change. Pak, Lana and Jason (2004) argued that to do this, teachers must reflect deeply about their practices. They argued that under this paradigm instead of a one-size-fits all education package, "teachers now are expected to identify the diverse talents and abilities of individual students so as to maximally develop and harness their unique potentials" (p.201). Pak (et.al, 2004) also reinforced that to do this, teachers must reflect deeply about their practices.

Stenhouse (1988) suggested that a "teacher is like a gardener who treats different plants differently and not like a large scale farmer who administers standardized treatments to as-near-as possible standardized plants" (p.44). Under such conditions a teacher must analyze the situation before prescribing to meet the needs of the plant. This is the same for teaching, argues Stenhouse. He stated

that both teachers and students must be involved in meaningful action and such action cannot be determined by standardization or control. This suggests that a teacher has to reflect on their teaching and change or modify their practice as needed. In some cases they might have to abandon some strategies they had been using in the past and try new and untried perspectives. In this way a teacher is able to help the individual student and tailor teaching according to the individual students' needs.

The Singapore Senior Minister of State, S. Iswaran (2009), in his speech to educators at the English Language Teaching Seminar, emphasized that teachers, on their own or in collaboration with other established education researchers, should explore new boundaries for teaching and education and improve the quality of student learning. This he said "will inform teaching practices, improve school systems and ultimately enhance the education our students receive" (para. 2009). The Singapore MOE in relation to the DOE and DSO, furthermore, is also asking teachers to provide for "greater ownership of education in tailoring programs suitable for all students and to become strong pedagogically to facilitate learning and to nurture students holistically" (Heng, 2012, para. 13). The Education Minister Heng Swee Keat (2012), in his speech at the 6th Teacher's Conference in Singapore, has also suggested that "teachers need to become more reflective learners and be good role models of self-directed learning which will optimize their learning and help them make thoughtful choices" (para. 9). This suggests that in Singapore there is a strong call for teachers to take responsibility to explore their teaching. In this respect, this study on how feedback can enhance the teaching and learning of students is highly

relevant. In relation to the initiatives of the Singapore MOE and the 21st Century competencies, teachers in Singapore are faced with the need to learn to teach appropriately to help students thrive in the world. In order to achieve this, reflective teaching becomes important. According to Loughran (2002) it is a lens into the world of practice which offers ways of questioning "taken-for-granted assumptions and encourages one to see their practice" (p.33).

1.7   The Singapore Education Journey

After their pre-school education students in Singapore are enrolled into primary school (primary one) and at the end of their sixth year or primary six the students are assessed on their academic abilities through the Primary School Leaving Examination (PSLE), after which they are placed in a secondary school course that suits their academic learning pace. After this they sit for their Singapore-Cambridge General Certificate of Education ('Ordinary' level) to move on to a Polytechnic or Junior College. Appendix 2 (page 347) shows a detailed version of the Education Pathway in Singapore.

In this section an explanation of the aggregate score and grades achieved at the 'Ordinary' ('O') level examinations will be explained. It is crucial to understand the grading system at the 'O' level examinations because the grades are taken and, using a formula a calculation is made to see the most probable grade that the student will achieve for subjects for the Singapore-Cambridge Advanced Certificate of Education ('A' levels). This is known as 'tracking' in schools. Tracking is considered for two purposes. The first one is for the individual student and teacher to gauge the performance of the student by matching current

performance against this expected performance using the formulae. Another purpose is normally for the school to check if their programs have benefitted students and helped them achieve more than the expected grade calculated using the formulae. At the secondary level, students at the end of Secondary Year 4 typically are offered six to eight subjects at the Singapore-Cambridge General Certificate of Education (Ordinary Level) examination or GCE 'O' level examination. The grades they achieve are represented by a number accompanying a letter as shown in Table 1.2.

Table 1.2

Subject Grading at the 'O' levels

Grades at the Ordinary GCE	Marks Obtained for the Grade
A1	75 marks and above
A2	70-74 marks
B3	65 to 69 marks
B4	60-64 marks
C5	55 to 59 marks
C6	50-54 marks
D7	45-49 marks
E8	40-44 marks
F9	0-39 marks

The grades of six subjects (depending on the scoring system used), are taken and added to give an aggregate score known as L1R5. L1 refers to English language, which is the first language in Singapore, and R5 refers to five other relevant

subjects. The six subjects are chosen and the grades computed to see if a student is eligible to gain entry into a junior college. For example, a candidate who scores a grade of 'A1' in six subjects, including the English language, will have an 'L1R5' score of six. To further establish the calculation of L1R5, if a student achieves a 'B3' grade for English, 'A2' for their Mother Tongue language, 'C6' for Mathematics, 'C6' for Science, 'A1' for Geography and 'B3' for History their total 'L1R5' is '21' points. With such a score the student will not gain entry into a junior college because their score is above the 20 point limit.

A pre-university course leading to the Singapore-Cambridge General Certificate of Education ('Advanced' Level) Examination prepares our students for further education by equipping them with the skills for tertiary education (MOE, 2014). Students may choose from a wide range of subjects from different academic areas such as the Humanities and the Arts, Languages and Mathematics and the Sciences during a pre-university education or college. To ensure breadth of skills and knowledge, students are required to take on at least one contrasting subject. This means that every student should take at least one subject from Mathematics and the Sciences, and at least one subject from the Humanities and the Arts. Students undertake subjects at three levels of study at the Higher 1 (H1), Higher 2 (H2) and Higher 3 (H3) levels. H1 subjects offer students breadth and sufficient depth for them to acquire foundational knowledge and skills in a subject area. A H2 subject is equivalent to an 'A' level subject. H3 subjects offer students a variety of learning opportunities to study a subject area in depth. Most students will complete a combination of three H2 subjects and a single H1 subject and compulsory subjects of the Mother Tongue Language, General Paper

and Project Work. The information for the H1 to H3 subjects has been provided in Table 1.3. Knowing the differences between the H1 and H2 subjects are crucial to this study. The study has shown that H1 and H2 subjects have implications on the initiative and urgency of students.

Table 1.3

Information on H1, H2 and H3 subjects offered at the 'A' levels (MOE, 2013)

H1 : Half of H2 in terms of curriculum time

H2 : Equivalent to 'A' level subjects prior to 2006.1

H3 : Subjects with diverse learning opportunities for in-depth study (e.g. advanced content research project/paper, university conducted programmes).

1. Revised Junior College (JC) curriculum introduced the H1, H2, H3 subjects where students will have to offer a contrasting subject. Prior to the revised JC curriculum, students offer subjects at the 'AO' and 'A' levels.

After the 'A' levels, if grades fulfill the criteria to get into University, students may apply to get into the four publicly-funded local universities offering full-time degree programs in Singapore.

1.8   Purpose of the study

The purpose of this study was to explore how as a teacher practitioner, I provided feedback to my students over the period of twelve months and to what extent this enabled them to achieve the Singapore DOE, especially pertaining to DI and HOTS. As a practitioner inquiry, the study was crucial in helping me reflect on my practice, and on my evolving understanding of learning and teaching in relation to giving feedback. Moreover, as reiterated earlier there is a lack of training provided on how teachers can enhance the use of feedback for

teaching and learning. Though the fact that feedback is important for learning and it has been repeated emphasised by educationists in Singapore to be provided, the 'why', 'how to' and 'what to' provide as feedback has not been dealt with in Singapore.

1.9   Significance of the Study

The study provided a detailed understanding of how I provided feedback to students in my 7 years as a teacher in Innova Junior College, Singapore. It makes a contribution to the research literature in two ways. First, it contributes to knowledge about how feedback as a pedagogical tool can be provided to enhance learning, in particular the Singapore DOE. Second, it examines my own professional journey as a teacher in Singapore. Within a span of two years my students sit for the 'Advanced' level examinations, the results of which will gain them entry into University. Results are of utmost importance to college students, and as a teacher one duty is to help my students realize their dreams of performing well enough in their subjects to gain entry into University. As a teacher I come across students of different abilities and I am specifically looking at how the provision of feedback can help students who are academically diverse. Moreover, being in a college, the students are tested widely in their HOTS in their examinations and I focus on how the feedback I provide can help students develop their thinking.

The results of the study have been shared with other teachers through professional development sessions in my college and in sharing sessions

organised by the Academy of Singapore Teachers and the PeRL Symposium organised by the Raffles Girls' School.

I have shared with the Humanities Department in my college on how feedback as an important tool can help teachers tackle DI and HOTS in the classroom. I have also shared with the Geography teachers in my college how appropriate feedback can be provided to our students and the importance of understanding teacher intention and student perception with respect to providing feedback. Moreover, I have trained a group of 70 teachers in my college on the importance of feedback and how it can help enhance learning especially in relation to HOTS and DI. Since completing the study I have also trained a group of 25 teachers at the Academy of Singapore Teachers on how they can provide feedback to help students enhance learning. These teachers who were trained come from different secondary schools and colleges and teach a variety of subjects. My learning has moved beyond the shores of Geography, in this sense. The practitioner research methodology undertaken in this research illustrates the importance of teachers researching their own practice, and then sharing the results with peers and colleagues to improve the quality of teaching and learning. The understanding of providing constructive, relevant and positive feedback will give the teaching fraternity in Singapore the opportunity to witness change and become involved in contributing to the overall study of how feedback can be provided and improved to help students.

1.10   Outline of Thesis

In Chapter 1, the background and context of the study has been presented. This includes the aims of the study, an outline of the educational context and a discussion of the Singapore MOE's, DOE, DI and the teaching of the HOTS. The aims and significance of the study were also presented.

In Chapter 2, the literature review is presented. This provides a review of the research literature on feedback and how it contributes to teaching and learning. The chapter reviews how feedback is defined by various researchers and discusses problems that may be experienced with feedback.

In Chapter 3, the theoretical framework for the study is presented and discussed. The structure adopted by Hattie and Timperley (2007) to provide feedback to students is examined. Moreover, a discussion on reflective practice and the practitioner inquiry methodology is also presented.

In Chapter 4, the research methodology is presented. This includes a discussion of ontology, epistemology, research aims and the methods used in this study. The data collection and analysis are explained and issues of trustworthiness and ethical research are considered.

Chapter 5 provides the findings and discussion of the analysis of the artefacts which included student assignments and examinations and my reflective journals. Both the findings from the artefacts and reflective journals have been analysed and presented in relation to the early, mid and year end phases of providing feedback to students.

Chapter 6 presents the findings from the interviews with the students. In this chapter how students viewed feedback is discussed.

The final chapter presents the conclusions of the study; implications for my own practice and for education in Singapore are discussed and recommendations for further research is made.

CHAPTER 2: LITERATURE REVIEW

In this chapter the literature on feedback is discussed. The literature deals with the importance of pedagogy and feedback. It also looks at the delivery of feedback and how different teachers have focused on providing different types of feedback. For instance some teachers provide form and others content based feedback. The issues surrounding direct, indirect, internal and external feedback are also presented in this chapter. A factor that affects feedback is assessment and the relation between these two factors is deliberated. The chapter ends with a discussion on the impact of feedback on students and teachers.

2.1   Feedback as a pedagogical strategy

In order to help students, teachers use an array of pedagogical strategies. As Bhowmik, M. Banerjee and B. Banerjee (2013) argued, there is "no single, universal approach that suits all situations and all students" (p.1). Bhowmik et al. also argued that "sound pedagogy serves effective teaching, and helps teachers to facilitate, coach, model, evaluate, manage and advocate or promote effective teaching strategies" (p.1) and that "pedagogy involves a range of instructional strategies and resources to match the variety of student skills" (p.5). There are many pedagogical tools that teachers encompass in their teaching, one of which is the provision of feedback. If teachers want students to have wider views and deeper understanding of a topic it is imperative that the latter have opportunities to gain useful and constructive feedback. Feedback can be both positive and negative and it can be provided for various aspects of learning, so teachers need to understand and learn to provide feedback that helps students to perform effectively.

2.2   What is feedback?

A review of the literature revealed that many researchers have provided different definitions and explanations of feedback. According to Ovando (1994) feedback is "authoritative information received to reinforce responses to instruction and guide people in attaining the goals of a course" (p.19). Feedback has therefore become part and parcel of the teaching process. The literature reveals that feedback has emerged as an essential means by which to facilitate the learning process in schools. However, an agreed understanding of what constitutes effective feedback is less apparent. For instance Ovando (1994) stated that giving "feedback facilitates teaching and the correction of work and that it is basically a trademark for teaching and learning for many teachers" (p.20). Hattie and Timperley (2007) have also voiced a similar view that "feedback is information provided by an agent regarding aspects of one's performance or understanding" (p.81). This is also supported by Shute (2008) who claimed that the main aim of feedback is to "increase student knowledge, skills and understanding in some content area or general skill, for example, problem solving" (p.154). Shute states that because feedback can be provided for a variety of reasons "multiple types of feedback" can be provided and these include "response specific, goal directed, and immediately delivered feedback" (p.156).

Another body of literature has addressed the issue that feedback, which is a powerful tool, is not always exploited to its greatest potential. Cohen (1985), for example, argued that feedback is a powerful but a least understood feature of education. This is supported by Robbins, Gruppen, Alexander, Fantone and

Davis (1997) who stated that "feedback consists of information provided to learners for the purpose of reinforcing appropriate and correcting inappropriate efforts, and it is an essential but often neglected part of the educational process" (p. 137).

It is interesting to note that the literature also suggests that when feedback is not given, the learner might assume that he or she has no areas for improvement or development. Weaver (2006) stated that his "research showed that a sizable minority of students may be progressing through their course of study without a clear understanding of what is required to improve their expressed cognitive skills" (p.360). This is also supported by McKimms (2009) who suggested that learners may get "false impressions" about their abilities if no feedback is given, so it should be provided, whether it is "positive or negative" (p.158). McKimm, further explained that "feedback should be aligned with the overall learning outcomes and teaching objectives" (p.158). McKimm, also clarified that when feedback is directed to the ability of a student it becomes useful. This is also supported by Hattie and Timperley (2007), who claimed that feedback enhances learning but it has to be coupled with "effective instruction to achieve the desired results" (p.100). Before moving on to the discussion on the impact of feedback on student learning, I will outline the difference between two common ways of providing feedback, that is, written and verbal feedback.

2.3   Delivery of Feedback

Feedback can be provided in written form or verbally and the literature on each of these methods argues for the benefits and deficiencies of each.

2.3.1   Written Feedback.

One way in which feedback can be provided is through a written form. Written feedback can aim at giving a correct response or even be directed at why an answer was inappropriate. Many researchers have shown that written feedback has benefitted in many ways. Francis (2011) claimed that written feedback seemed to be most beneficial in improving written work, especially with younger students. In his study, it was found that children who were struggling academically showed improvements due to written feedback which resulted in them being on task. Research undertaken by Ferris (1997) in a class consisting of adults taking English as a Second Language (ESL) showed that written feedback resulted in a substantial improvement on the revised piece of writing. Mack (2009) has also shown that ESL students highly value the feedback provided by their teachers and that written feedback has "helped these students resolve writing problems" (p.36). However, she outlined five conditions which are required to give effective teacher feedback. She said that feedback must be "formative, timely, draw attention to the error, avoid appropriation and it should have a criterion to help students improve their writing proficiency to produce writing with minimal errors and maximum clarity" (p.38). Bitchener's (2008) research on 75 low intermediate ESL adults showed that written feedback encouraged the students to achieve a high level of performance in their work. The research undertaken by Ferris (1997) Mack (2010) and Bitchener (2008) all

suggested that written feedback can benefit children and adults learning English as a second language alike.

Despite these advantages, however, researchers have also shown that written feedback has its limitations. For instance, Fregeau (1999) argued that for written feedback to be effective, conferencing between the teacher and student is necessary. He said that such discussion allows the student to get clarification on the written feedback provided by teachers. Therefore, there is a need to discuss and convey feedback orally too. Macallister (2006) has argued that teachers must focus on structure and content for written feedback and provide a set of criteria when providing it. He also went on to explain that feedback has to be precise and focused on specific aspects of an answer. Macallister explained that teachers have a tendency to write a lot of feedback using red ink which demotivates students, and that this should be avoided. Brookhart (2008) on the other hand, explained that studies have shown that written feedback can be "destructive when it is read in an unintended" way by a student so there is a need to "verbally communicate feedback for it to be understood well" (p.54). This shows that teachers need to be aware of written feedback and pre-empt its effect on students. Teachers will have to check the effect of their written feedback on students in a timely manner.

The literature has also shown that written feedback can be provided in two ways: either summative or formative. Before understanding about formative and summative feedback there is a need to be clear about the two types of assessment. Formative assessment focuses on monitoring student progress with

instruction while summative assessment focuses on testing learning at the end of a level or year. In this sense formative assessment provides feedback that is immediate to the teacher and student in relation to learning while summative assessment helps determine to what extent the instructional and learning goals have been met for the unit, department or school, mostly at the end of a semester or year. For summative feedback a student can only get feedback at the end of a program.

Shute has stated that formative feedback is "information communicated to the learner that is intended to modify his or her thinking or behaviour for the purpose of improving learning" (p.164). This is supported by Randall and Mirador (2003) who have stated, that formative feedback is used to provide a "comment which was developmental in nature, i.e. expected to provide the student with feedback on how progress can be made on the work or any aspect of the work evaluated" (p. 523). In addition, research undertaken by Hyland (2000) has shown that even the students desired formative feedback to identity their strengths and weaknesses so that they could raise their marks on future work. However, the problem that Glover and Brown (2006) uncovered with respect to formative feedback was that such feedback needs to provide the information required to close the gap between what the students know and what they need to know. In other words, students need to know how to use the feedback information effectively to aid their learning. Glover and Brown argued that most of the time the "feedback gives information on the expected answers but rarely explains why" (p.14). They stated that the lack of information in the

feedback means there is often a failure to help students close the gap between what is known and what should be known.

2.3.2   Verbal Feedback.

Feedback can be provided verbally too. The literature emphasised that verbal feedback creates avenues for dialogue to take place between the student and teacher and is, therefore, crucial to learning. According to Nicol and Macfarlane (2006), the communication or interaction between student and teacher is most effective for learning to take place. They emphasised that good feedback encourages dialogue and that feedback as dialogue allows a student to receive information that "provides opportunities to engage the teacher in discussion about that feedback" (p.210). This approach is also supported by Laurillard (2002) who stated that for feedback to be effective, teacher and student dialogue is crucial, especially for higher education students. In addition, Peterson (2010) argued that verbal feedback can be given to individual students, groups or even the whole class when teachers move around the room while students are writing. He stated that messages that need to be conveyed accurately are done better through verbal feedback. He also viewed verbal feedback as being a good tool for "providing individualized instruction and opportunities to gather information about students' thinking and writing processes" (p.2). Moreover, Ross and VanLear (2002) also argued that verbal feedback gives the learner the opportunity to exchange ideas and clarify doubts instantly, and for teachers to ascertain whether or not the goals have been understood clearly by their students. Carless (2013) has also argued that feedback needs to be dialogical, that is, interactive exchanges in which "interpretations are shared, meanings negotiated

and expectations clarified" (p.90). On the other hand, Boud and Molloy (2013) have argued that many educators have assumed feedback was "teacher-centric which makes it a didactic exchange where the educator's opinion on what went wrong is stated" (p.14). This is supported by their research in which it was found that feedback was often monologic and teachers lacked time to engage students in a legitimate conversation. Other educators justified this approach by stating that when students did not have the data and arguments it would be better for the expert to only tell the novice or student any feedback. Therefore for such challenges in the provision of feedback to be overcome, Boud and Molloy argue strongly that it has to become dialogical. They have also suggested that feedback is "part of pedagogy and all good teaching is interactive and so dialogues related to these tasks are important for learning" (p.15). They also argue that in the past the importance of the learner was neglected in feedback theory, but today with learners becoming more active, "opportunities are being provided for them to give and receive feedback to allow students to fully engage in understanding learning outcomes" (p.25). Therefore, for this to occur, feedback has to become dialogic.

This is supported by Carless (2013) who maintained that dialogical exchanges develop when teachers and students enter into a trusting relationship where there are ample opportunities for interaction about learning. Carless argued that the most important aspect of verbal feedback is trust and that "an environment in which mistrust is prevalent may lead to more defensive assessment which protects the teacher from challenge or criticism" (p. 91). He said that trust is important because when students involve themselves fully in learning activities

their "vulnerabilities are exposed" (p.91) and if the feedback provided condemns the student then students will stop trusting their teachers or peers.

While dialogic interaction is seen by many researchers as beneficial to the feedback process, Gibbs (2006) argues that students must be willing to talk and reveal their true understandings instead of giving "fake information about how good or weak they are" (p.26). This suggests that dialogue, therefore, provides students with a comfortable atmosphere to clarify matters related to their academic studies. For example, negative feedback can threaten student self-esteem and this can be solved with a dialogue with the teacher involved. The perception carried by the student may then be clarified with the teacher.

Another aspect of verbal feedback evident in the literature is that it encourages the use of body language and voice tone. Ross and VanLear (2002) emphasised that verbal feedback allows the teacher to understand the body language of students and that this helps in understanding feedback in a clearer way. Prozesky, Stevens and Hubley (2000) also advocated the importance of body language and tone when providing feedback. They stated that such communication is usually "subconscious when we use it without thinking about it, and that it is difficult to lie in body language" (p.15). This is also supported by Ross and VanLear (2002) who exphasised that the voice tones are important in setting the stage for the urgency of words. However, one limitation that has been expressed in the relatively scarce literature on verbal feedback is that it can be forgotten (Francis, 2011). Francis argued that "verbal feedback can be forgotten easily as it relies on the memory of a person to retain it" (p.6). But Francis suggested that to

overcome this problem students should be encouraged to write out the verbal feedback so that it can lead to greater success throughout the revision process.

2.4   Form and content based feedback

In this section the different types of feedback teachers provide to students will be discussed. Teachers can give many different types of feedback to students which may be constructive and helpful in allowing them to identify areas of further study. The types of feedback are form-focused and content-focused feedback. This is yet another body of literature on feedback.

Form-focused feedback or grammar correction is a type of feedback usually given by teachers especially to students who take English as a Second Language. Form focused feedback mainly focuses on student's grammatical knowledge where teachers make corrections of only grammatical features. Fazio (2001), claims that such feedback allows students to acquire grammar rules and not make the mistakes in subsequent work. This is also endorsed by Park (2006), who argued that for written work it sometimes becomes a necessity to correct language use so that the written account becomes "reader friendly" (p.3). Sheppard's (1992) and Chandler's (2003) research demonstrated that through grammar-focused correction, students significantly improved in both accuracy and fluency in writing. Chandler (2003) also explained that the correction or feedback given by teachers was the best way for students to revise and it resulted in a large increase in accuracy for subsequent writing. Sheppard (1992) undertook research with 26 students, which revealed that the "close attention to mechanics will result in more accurate mechanics and students would be able to

constantly evaluate their writing and make its meaning clear" (p.106). Ruegg (2010) also conducted further research on Sheppard's claim that focus on the mechanics of the use of language improved student learning outcomes. He also found that those who took on board the feedback given for writing and language use showed improvement in vocabulary choice and use. All this, he argued, shows that form-focused feedback is an important aspect to focus on when providing feedback to students, especially for languages. However, he claimed that many researchers have also shown that the "effectiveness of form-focused feedback is still controversial" (p.3).

For instance, Zamel (1985) stated that grammar correction obstructs the development of actual writing efficiency so teachers should be concerned with writing skills. Truscott (1996) also drew the major conclusion that grammar correction is ineffective because it ignores the natural learning process. Although extensive research has been done for form-focused feedback, it appears that a definite conclusion on its efficiency has still not been reached.

The other type of feedback that can be given by teachers is content-based feedback. Content-based feedback refers to feedback that focusses on the accuracy of content knowledge, application of content knowledge and the logic of arguments. Kepner (1991) advocated that content-based feedback that enhances the level of thinking is superior to form-focused feedback. However, when giving feedback, teachers usually give both types of feedback, form and content based. To understand the impact of both types of feedback on student learning, several studies have been undertaken. Research conducted by Semke

(1984), Zamel (1985) and Kepner (1991) showed that when teachers gave two types of feedback, grammar and content based, learners corrected only the local grammatical errors and did not pay attention to overall content. This showed that giving both types of feedback, form and content-based, at once may confuse learners and that perhaps there is a need to prioritise the feedback as to which is more important. In order to bring about actual writing competence the three researchers, Semke, Zamel and Kepner, found that content-based feedback was suitable. According to Park (2006), content-based feedback looks at the organizational features in students' compositions and teachers provide overall comments on where it does not make sense in terms of content or application of content and give comments on logical misconceptions in writing.

At the same time, Ashwell (2000) has concluded that integrated feedback which involves a combination of both grammar and content-based feedback helps students more. Ashwell's research also showed that a mixed pattern of feedback led to an effective result for writing abilities. He also stated that his first finding supplies counter-evidence to Zamel's(1985) argument that content feedback should be given on an earlier draft and form-focused on the later draft. Ferris stated that some teachers think that giving written grammar feedback is critical and others think that giving feedback on content and question interpretation is crucial (2004). However, despite continuous attempts to find out the most effective type of feedback, there still remains controversy on what type of feedback best helps students.

2.5 Direct versus Indirect Feedback and Internal versus External Feedback

Other studies done by Bitchener, Young and Cameron (2005) have shown that teachers gave both direct and indirect feedback. They stated that direct or explicit feedback is specified when the teacher identifies an error and provides the correct answer, while indirect strategies refer to situations when the teacher indicates that an error has been made but does not provide a correction which leaves the student to diagnose and correct it. Lee (2005) found that teachers have a tendency to mostly provide direct feedback which gives students the correct answers. Lee also states that this provision of direct feedback prevents students from getting the opportunities to locate their errors and develop strategies for independent editing. Therefore, to make students independent, there is a need to provide indirect feedback.

However, the above researchers have pinpointed the problems students face with indirect feedback. They stated that indirect feedback can be very frustrating for students. This is also supported by Fedor (1991) who said that indirect feedback can lead to uncertainty about how to respond to the feedback. However, according to Ashwell (2000) such feedback allows a learner to maintain ownership of the writing, thus indicating his support for indirect feedback. He also stated that indirect feedback allows students to think and solve problems and this is also supported by Shute (2008) who stated that eventually, "high-level functions are gradually turned over to the students" (p.169). He also stated that indirect feedback is more relevant to higher ability students. Researchers have also suggested that indirect error feedback is also generally preferable

because it forces students to engage in "guided learning and problem-solving" (Lalande, 1982, p.140), and helps them build skills as "independent self-editors" (Bates, Lane & Lange, 1993, p.3). Lalande also reported that those who received indirect feedback reduced errors over time, while those who received it directly did not. However, Ferris and Hedgecock (1998) have expressed that for students with insufficient linguistic knowledge to self-correct errors direct feedback would help greatly. However, Robb, Ross and Shortreed (1986) found that there were no statistically significant differences in long-term gains in accuracy with students receiving direct and indirect feedback. But they have also proposed that indirect feedback will be more helpful as it involves students in reflective learning processes.

Another body of research deals with external and internal feedback. According to Boud and Molloy (2013), "external feedback is provided by an external source and internal feedback is an internally generated judgement by the student" (p.55). Internal feedback points to the fact that the learner also plays an integral role in feedback. Dunning, Heath and Suls (2004) found that "poorly performing learners have over-inflated self-perceptions of performance and that high performers are overly critical and tend to underrate their performance" (p. 86). For this reason they argued that there is a need to narrow the gap between actual performance and the goal of performance. So in order for feedback to be deemed useful there is a need to interpret the externally received feedback. Butler and Winnie (1995) argued that over time this will allow the student to operate within a self-regulated model of learning. Butler and Winnie also stated that students who are more self-regulated are better able to use external feedback

to help themselves. However, Chanock (2000) argued that there is a tendency for external feedback to be misunderstood by students and this makes it unproductive. For instance, certain words and ideas represent different meanings for tutors and students so the intention and perception of feedback differs between the tutor and student. Chanock's study looked at how students viewed comments like 'too much description; not enough analysis' (p.95). She found that "almost half of the students who responded did not interpret the comment in the way tutors intended it" which concludes that "marking comments need to be carefully explained with examples from the discourse of lecturers, tutorials and readings in the disciplines" (p. 95).

Boud and Molloy (2013) argued that over time students develop their internally generated feedback and this reduces the need for external feedback. This means that the self-regulated learner starts trusting their internally generated feedback. Boud and Molloy have argued that "learners will flock to feedback opportunities to improve their performance and hasten their path towards self-regulation" (p.56). However, they have also pointed out that this may not take place if there is disagreement between internal and external feedback. Such an incident may take place when the learner's performance of a task was good while the external feedback is contrary to the belief. Therefore, they argue that educators need to be mindful of this inconsistency so that they understand why learners might not be changing their behavior in response to external feedback provided by teachers. This goes to show that "creating optimal emotional conditions for feedback may not be a simple matter and that the success or lack of success of feedback may

hinge on the learners' interpretation of 'competency' and their view about their own capacity to change" (Boud & Molloy, 2013, p. 58).

2.6   Constructive Feedback

The literature reviewed so far has focused on the nature of feedback provided by teachers. For the purposes of this study, a more detailed review will now be presented on the quality of feedback and how this contributes to student learning. The literature shows that feedback has to be a two-way communication for it to be constructive. Researchers such as Ip (2013) and Lee (2003) suggest that a conducive environment that helps in providing constructive feedback is essential for it to be useful. The needs and demands for constructive feedback will be presented in this section.

Roland and Frances (1996) argued that feedback is a two-way communication between student and teacher and that it helps to clear contradictions between them. Such communication between the giver and receiver of feedback brings about constructive feedback. This notion has also been supported by Ross and Van Lear (2002) and Peterson (2010) who advocated that interaction between a teacher and student is crucial for feedback to be understood. While feedback is regarded as essential for helping students reach their maximum potential the feedback given has to be 'constructive'. This is a term which is used regularly in the literature, but appears to also carry different meanings.

The literature on 'constructive feedback' seems to have a strong focus on the medical sector rather than on the academic sector, especially schools, but the findings are still relevant to this study. Constructive feedback has been defined as a tool for high-quality learning in medical situations where students address patients (Alves 2008). According to Alves, a major impact and learning takes place when a medical student compares the teacher's feedback to their own performance. He said that this is when a dissonance is created between the desired and actual performance and that this allows for deep-learning to take place. However, the problem raised by Alves is that teachers, though finding constructive feedback essential, carry it out in a "short and non-specific way and medical students who need such feedback seldom request or take maximum advantage of it" (p.88).

According to Zamel (1985) constructive feedback should have the end in mind. In academic writing, for example, the end product is expected to have a "wide range of vocabulary, correct grammar, meaningful punctuation, accurate spelling, varied sentence structures, unity and coherence in ideas and well-supported and explained major points" (p.83). It is intended that the process of giving feedback will bring about the objectives of academic writing and if the writing shows the achievement of these objectives then the feedback that has been given to the student may be considered as having been 'constructive'.

Hamid and Mahmood (2010) argued that teachers should not merely give routine feedback but rather 'constructive' feedback which can in fact correct a negative and poor performance in written work. They argued that the way feedback is

written should also be 'constructive', that is, using words that are not destructive and that could cause offence to the other person. For example, feedback should only help "support development and provide meaningful direction" (p.225), for students. Hamid and Mahmood maintained that routine feedback becomes 'constructive' when it possesses features such as being "descriptive, timely, honest, useful, respectful, clear, specific, supportive, motivating, action oriented, confidential to the receiving students, solution oriented and informative" (p. 225-226). Hamid and Mahmood argued that written feedback should be motivating and that an appropriate environment should be created for it to be provided, therefore enabling it to become constructive feedback. They explained that the environment should emphasise behavior and implications and that students should also learn about the positive and negative consequences if the problem is corrected or not. Moreover, the environment created must also give the students a listening ear. Ip (2013) agreed with Hamid and Mahmood (2010) stating that a conducive environment is required to provide feedback. Even more important is the fact that "feedback must challenge student's ideas and encourage them to think and be stimulated to learn" (p.1). He also argued that constructive feedback is the type of feedback that motivates students and should be provided frequently so that students are aware of their performance. For this, teachers must gather information about students' learning. Zamel (1985), however, argued that feedback is considered constructive only when students write better. According to Zamel the end product is conclusive and proof of constructive process. In these two studies it can be seen that Hamid and Mahmood (2010) have provided conditions as to what constitutes constructive feedback, but Zamel (1985) suggested that feedback can only be considered

constructive by looking at the final product. This indicates that different researchers have different views of what constitutes constructive feedback.

When examining other aspects of what constitutes constructive feedback, Lee (2005) and McKimm (2009) paid attention to the environment in which feedback is provided to students as an important factor for constructive feedback. However, the environment defined by them is different from that defined by Hamid and Mahmood (2010). Lee argued that whatever the comments may be, the goals and expectations of the requirements of a question must be communicated clearly to students. In addition to this, studies on giving feedback also claim that a positive learning environment should be created when giving feedback. Such a learning environment has the potential to convert simple feedback to constructive feedback. McKimm (2009) has reiterated how that for such an environment to be created even the duration of the session must be defined. Moreover, he stated that, ground rules on what the learner can do to seek help during the consultation and how the learner should be prepared for such a feedback session, should also be made.

The review of the literature on constructive feedback shows that many researchers have differing views of what constitutes constructive or effective feedback including the environment that surrounds the provision of such feedback. Most of the literature on feedback seems to have been developed in the Western and South Asian continents. There is little literature that takes into account feedback provided in South East Asia, or more specifically, Singapore.

2.7   Assessment and Feedback

Nicol and Macfarlane (2006) have pointed out that if students need to be proactive in generating and using feedback, the implication is that teachers must organise assessment to support learning. They have argued that for students to self-regulate learning they must have "goals to be achieved against which performance can be compared and assessed" (p.200). Assessment is the process of "collecting, synthesizing and interpreting information to aid in educational decision making" (Airasian & Russell, 2007, p.397). According to Airasian and Russell assessment can also be used as a tool which helps to measure how much a student knows and to grade a student, and normally after the grading, the students are categorized in relation to their abilities. Whatever the reason is for the assessment to be attempted by a student, the underlying assumption according to Airasian and Russell is that there is a clear set of knowledge objectives that students ought to master by a certain point in time and this is usually known through assessment.

According to Brown (2004) assessment is an embedded classroom activity that is systematically included in classroom procedures. Assessment and feedback play a crucial role in a student's learning, so "if assessment is integral to learning then feedback must be at the heart of the process" (Brown, 2004, p.81). Although often time consuming, teachers must help students to understand any errors made and what they need to do to improve. For that assessments are vital. Brown argues that assessment methods and approaches need to be focused on evidence of achievement rather than on the ability to regurgitate information. He also emphasised that in addition to giving assessment, teachers must also

concentrate equally on giving feedback and on making evaluative decisions about the performance of a student. Brown maintained that for assessment to be developmental, feedback is crucial to help students identify areas they need to improve on and how to improve on them. Feedback, in this sense, forms the information about how the student's present state of learning and performance relates to these goals and is addressed by assessments.

This goes to show that in order for teachers to provide constructive feedback that is tailored to meet the needs of students, teachers need to set appropriate assessment tasks. This will help teachers uncover student difficulties with subject matter and study methods. The literature on assessment argues that teachers need to be creative in assessing students. However, in colleges in Singapore, usually during the national examination year in Junior College 2, students are normally assessed through test papers which replicate the 'Advanced' Level Examinations. This is so that they are conditioned and prepared for the structure and difficulty level of the examinations at the end of two years of college. Assessment in colleges, therefore, is not as creative as assessments provided in the secondary schools.

There appears to be a gap in the literature about how to assess and provide feedback to students who are to sit for their national examinations. There appears to be very little known about how setting assessment papers replicating examinations complements feedback.

2.8   The impact of feedback on student learning

The literature on feedback shows that clear and relevant feedback contributes to successful teaching and learning. For instance, Ovando (1994) suggested that the provision of feedback is important because it not only "identifies areas of need to achieve student success, but it also provides recognition of effective teaching" (Ovando, 1994, p.20). Ovando argued that in order for effective teaching to take place the feedback given must be clear and understood by students. Moreover, she suggested that for successful teaching to take place, feedback that is relevant, confidential, tailored and encouraging must be given to students. Such feedback will likely be successful as teachers and students engage in the teaching–learning process. This argument was also supported by Hamid and Mahmood (2010) who agreed that when feedback is prompt, timely, regular, constructive, meaningful, and non-threatening, it is helpful to students. The terms tailored, supportive and confidential seem to suggest that feedback needs to be differentiated and provide for the individual student. Moreover the terms encouraging and non-threatening suggest a conducive environment that should be created, as suggested by Hamid and Mahmood (2010) and McKimm (2009), and that feedback must motivate students to do better.

However, some researchers have pointed problems that may arise when providing and receiving feedback. Fregeau (1999), for example, argued that one major problem with feedback is that teachers, in his study, often continued to still traditionally correct grammatical errors and that this feedback was inconsistent and unclear. According to Fregeau, such feedback was encouraging students to only rewrite the answer corrected by the teacher instead of taking the

initiative themselves to understand how to develop the answer. Another problem found by Fregeau was that feedback focuses on surface errors rather than the clarity of ideas. He argued that by looking out for grammatical errors a teacher was only focusing on surface errors which will not help students achieve the thinking skills required. This is also supported by Williams (2003) who suggested that often teacher comments are "vague, contradictory, unsystematic, inconsistent and negative" (para. 6). He believed that this was because the feedback was only promoting students' English writing skills rather than understanding of ideas.

Another issue that has been raised by researchers is that students often neglect the feedback. Williams (2003) found that students often neglect it deliberately because they lacked the initiative to learn from the feedback, or because the students felt that the feedback was of little use and they did not know how to use it effectively. Wojtas (1998), in his study, found that students were concerned with their marks rather than with the feedback. Fritz, Morris and Bjork's (2000) findings supported this view, as they claimed that their study showed that feedback did not improve learning and that it only helped students' memory recall. The research by Williams (2003), Wojtas (1998) and Fritz, Morris and Bjork (2000) and have advocated that there is a need for teachers to initially help students use the feedback they have been given in their work until the students are able to self-regulate. This is also supported by Chiang (2004) who suggested that more longitudinal studies are needed to find out how teacher feedback can help students understand and internalize what feedback have been provided. He also stated that students must be taught to read and understand the

feedback and see what it taught them, and how it can help them to produce better quality writing.

Yet another problem that has been identified in the literature review is that of negative feedback. Chiang (2004) found that teachers tended to give "negative feedback that discouraged and frustrated students", and he stated that "teachers have to pay attention to affective factors when giving feedback" (p.106). His research showed that students had shared that negative feedback discouraged them and affected them unpleasantly which adversely affected them when they read the feedback. Students felt that teacher feedback was negative and that teacher should pay attention to affective factors. The students had also stated that their teachers tended to make "a lot of corrections, which was very discouraging and frustrating" (p.106). Poulos and Mahony (2008) supported the claim that when feedback is negative it can be upsetting to students. In their research, Year 1 University students commented that "negative feedback was demoralizing and was subject to poorer recall than positive comments" (p.152). However, Hattie and Timperley (2007) do not agree view that negative feedback can devastate or discourage students. They advocated that negative feedback can be powerful and effective when provided at the self and the task levels. They stated that students are likely to learn from positive feedback if they are committed to a task, but those who are not committed may want to learn from negative feedback as they "need to be driven to learn" (p.99). This view is supported by Boud (1995) who argued that "teachers do not understand the power they have over students" and "teachers judge too much and too powerfully, not realizing the extent to which students experience our power over them" (p.43).

The literature on feedback has shown that students do not benefit from feedback if they do not know how to use it. Either the feedback is brief and vague so students are confused about how it can be applied to learning, or it may be simply the case that students do not know how to apply the feedback to subsequent work. These findings are supported by Zellermayer (1989), who argued that students are unaware about using feedback productively. He also stated that teachers do not monitor and do not have a system which helps them monitor or teach students to effectively use the feedback given. On the other hand Weaver (2006) has suggested four factors that are likely to affect the way students view feedback. These are:

1. Vague feedback

2. Lack of guidance

3. Negativity

4. Feedback unrelated to assessment (p.379)

In Weaver's (2007) study students stated that feedback provided by teachers was not detailed enough for them to understand what was wrong and how to correct it. They also identified that the feedback they got was specific to a particular piece of work so that it was not transferable to another. Negative feedback was yet another problem that Weaver raised, which had also been brought up by Chiang (2004) and Poulos and Mahony (2008) in their studies. Teachers are often emotive or sarcastic in providing feedback which means that the objectivity of the feedback was at stake. Students also claimed that they did not use the feedback if it was unrelated to assessment criteria. Weaver's study showed that this was also "due to the fact that tutors were not yet providing

specific assessment criteria or information on how the mark is computed" (p.390). Weaver claimed that appropriate feedback must be provided to students so they can act upon it for learning. It was also shown by Weaver that although students wholeheartedly recognised the value of feedback in improving their learning, their comments implied that feedback was not as effective as it could be. Weaver also suggested that

> students are noticing that their teachers do not have the time to provide them with relevant feedback and tutors have to become aware that students are increasingly perceiving themselves to be customers with certain service expectations and if the expectations are not met they would express dissatisfaction substantially (p.392).

The view that feedback is considered by students to be irrelevant or too brief to apply for learning is also supported by Boud and Molloy (2013) who claimed that very brief feedback can be unhelpful, so that students can be unreceptive to it.

2.9   Intention and Perception of Feedback

The literature has suggested that researchers have found that teachers and students have differing perceptions of feedback. Carless (2006) has stated that teachers and students have different views of feedback. He said that teachers tend to believe that their feedback is effective, while his study revealed that the views the students held were statistically significant. His study also showed that tutors believed that they were providing quite detailed feedback but the students disagreed. Carless also expressed that in his opinion "staff and students have

different positions, roles and aims and so the scope for narrowing variation in assumptions may be limited" (p.230).

Ramsden (1992) also maintained that different views created difficulties and stated that feedback may not help if the teacher and student do not share a similar understanding of academic discourse. This is where the intention and the perception of feedback do not match. This notion was supported by Lea and Street (2000) who stated that students tend to interpret feedback differently from what teachers perceive and that may be a reason why they do not benefit from it. Higgins (2002) supports these views by arguing that "many students are simply unable to understand feedback comments and interpret them correctly" (p.1). Carless (2006) argued that "when feedback was provided tutors perceived that their feedback was more positive than students did" (p.224). On the other hand he also stated that many teachers did not have a clear idea of what students preferred. He said that this lack of clarity posed a problem for teachers when it came to providing feedback and this also posed a problem for students in understanding and using feedback. Following this another perception students had was the mixed feelings about the fairness of marking, while tutors felt that their marking was fair. Carless stated that this perception that students have affects the way they look at the feedback they receive. This means that even if the feedback is effective, student may have a different or negative opinion of it. As seen so far, students and teachers potentially have differing opinions of feedback and it is important that the dissonances between the opinions are reduced.

Another problem relative to teachers and feedback revealed by the review of the literature is that teachers are not regularly trained to provide feedback which can make it ineffective for learning. Zellermayer (1989) highlighted the importance of teacher knowledge about feedback, and identified four factors that influence the feedback that teachers might give.

These are:

1.   Experience,

2.   Bias,

3.   Training

4.   Educational attitudes of teachers (p.376)

Zellermayer argued that if teachers are not experienced in providing feedback that is constructive, students are less like to be motivated to learn. Moreover, he stated that some teachers may be biased in providing feedback to students with whom they do not have a good relationship which is a view supported by Carless (2006). He also stated that the right type of feedback to the weaker and better student is also not provided thus inhibiting individual enhancement. This means that the different abilities of students are not considered when providing feedback.

Cohen (1987) also addressed the issue of bias when he argued that this affects the nature of teachers' comments to different students. His research showed that teachers in one study had a tendency to devote more comments on content and organization to advanced students, while the weaker students were mostly

confined to grammar feedback. Thus he supports Zellermayer's views on biased feedback. The literature thus far seems to suggest that a teacher has to be conscious about providing feedback to students and reflect and think about what students are receiving from them.

In this chapter, a review of the literature on feedback has revealed various views researchers that researchers have of feedback. The review has shown that some teachers prefer to provide either form or content based feedback while others are in favour of direct and indirect feedback. The literature review has also shown that students can also provide themselves with internal feedback which might hinder the acceptance of external feedback. Moreover, the review has shown that different researchers have shown their differing opinion on what constitutes 'constructive feedback'. Last but not least the review has shown that assessment affects feedback and that teachers should be mindful that their intention of feedback may be difference from the perception students get of the feedback.

In the next chapter, the theoretical and analytical framework of this study, Hattie and Timperley's (2007) framework for providing feedback will be discussed in detail. Moreover, the reflective practice and practitioner inquiry methodology will be explained further in the next chapter.

CHAPTER 3: THEORETICAL FRAMEWORK

The theoretical framework is looked upon as a structure that guides researchers in their studies. It helps them to understand the relation between the factors that affect the outcomes of a piece of research. Through the theoretical framework researchers can develop theories or test hypotheses. Merriam (2001) explained that a theoretical framework provides the researcher with a lens to view the world. Merriam argued that for all qualitative study, the theory is present and questions are asked and "the way the question is phrased and how it is worked into a problem statement reflects a theoretical orientation" (p.7). Merriam also explained that theoretical frameworks help to formulate the research problem for a piece of research and helps to provide a basis for interpreting findings which results from the analysis of the data. Research with reference to a particular theory, then, enables the researcher to link the research closely to the extensive literature.

There are two important aspects to the research in this study.

1. The feedback on student work and

2. The practitioner's personal and professional learning.

The analysis of artifacts that were used as data was framed by Hattie and Timperley's (2007) framework for the provision of feedback, and the second dimension of the study, that of my own professional learning, was framed by an understanding of reflective practice as espoused by Brookfield (1998). In this chapter, the theoretical and analytical frameworks underpinning this study and the reflective practice methodology are explained.

3.1   Hattie and Timperley's Framework for Feedback

There are several models that can help teachers in providing feedback for learning. In particular, there were three in the literature that could have provided a useful framework for this study.   The first one was Pendleton's model (Pendleton, Scofield, Tate and Havelock, 1984) and the second was the Tell, Explain, Listen and Let or T.E.L.L. model and lastly Hattie and Timperley's model for providing feedback. The Pendleton model was developed in the 1980s, and used widely for clinical settings. The model provides a learner with objectives and gives positive feedback for safety and motivates the provision of very specific feedback. However, this model for providing feedback was not useful in providing feedback for college students for their data-response and essay answers.   Feedback was provided to students in written form and Pendleton's model seems to encourage the use of verbal feedback from the start. According to the model a trainee is asked to identify his own strength. But in my case I was going to help my students discover their forte and at the same time I was also intent in identifying my students' strength in writing out answers to data-response and essay questions. Moreover, the verbal feedback sessions which were dialogical started much later for many of my students and so Pendelton's model was not appropriate to be used for my study.

Another model that was recommended by Hamid and Mahmood (2010) is the T.E.L.L. model for providing feedback. However, this model focuses on the environment which must be made conducive for the provision of feedback. A strength of this model is that it "paves the way for a two-way communication process with the ability to discuss the issues in descriptive form along with

solutions" (p, 226). Although it is an interesting model that could have been used in my study, the fact that it focuses only on verbal feedback was not appropriate. I was initially concentrating on providing effective written feedback and so did not embrace this model.

After considering other models, I felt that Hattie and Timperley's (2007) model for providing feedback was most appropriate for me. Although the model emphasises written feedback, the structure was adopted by me for the provision of verbal feedback as well. Hattie and Timperley's model was flexible enough to be used for both written and verbal feedback.

This research uses Hattie and Timperley's (2007) model for providing feedback as an analytical framework with which to view and analyse the data. Hattie and Timperley believed that feedback helps in filling in the gap between what is known and that which is not known. However, they also argued that feedback needs to be effective to reduce this gap. Hattie's (1999) study on around 20 million students worldwide showed that out of the 100 factors influencing educational achievement, feedback meta-analyses showed considerable variability indicating that some types of feedback are more powerful than others. In addition, Kluger and DeNisi's meta-analyses on feedback had also shown that the "power of feedback was influenced by the direction of the feedback relative to performance on a task" (as cited in Hattie and Timperley, 2007, p.85). The study also showed that there was mixed effects of feedback. Hattie and Timperley identified the conditions that maximized the positive effects on learning and formed a model of feedback that could be used as a framework to

understand why some types of feedback promoted learning more effectively than others.

The value of feedback is of utmost importance in relation to the Singapore education system. The Singapore system calls for greater teaching and application of the higher order thinking skills, especially for college students. Moreover, the Desired Student Outcomes (DSO) also demands that teachers tailor learning to suit the needs of the individual student. The demands of the education system have moved from one that emphasised a more general education system which is designed based on the upper levels of Blooms' taxonomy. For such a system, which demands greater student outcomes and development of skills, different pedagogies have been promoted by the Singapore MOE to help teachers teach students. In this study the provision of feedback as one such pedagogy is examined. As seen earlier an understanding of the pedagogy of providing feedback is still in its infant stage in the Singapore education context. Though the term 'feedback' is often used, the 'why to', 'how to' and 'what to' provide has not been adequately dealt with.

Hattie and Timperley (2007) argued that effective feedback helps to reduce the incongruity between a "learner's current performance and the performance towards an objective" (p.86). However, they have also stated that feedback comes after effective teaching and learning. They belief that "effective teaching, is about teachers assessing and evaluating students' understanding of the learning content so that the teaching that follows can be matched to the present understanding of the students" (p.88). Hattie and Timperley suggested that

although feedback has one of the greatest influences on learning, the type of feedback and the way it is provided is effective in different ways. They advocated that feedback can only be effective when the learning context is addressed. This means that for feedback to be effective it should be addressed in relation to something the student has learnt. Feedback cannot be applied when the teaching has not been established. So in order for feedback to be provided, the student must be exposed to a certain amount of content knowledge.

Hattie and Timperley have developed with a model to provide feedback at different levels with the aim to reduce the gap between the current understanding and goal. According to the framework, an ideal learning environment in which feedback is provided should address each of three questions, which can be addressed by both teachers and students. The first question, *"Where am I going?" or Feed Up,* involves teachers setting clear goals and making the criterion for performing very clear. The question allows students to set reasonable goals and allows them to track their performance in relation to the goals. This then allows the students to make the adjustments required in effort to perform up to their expected set goal. For this question the goals have to be clear and if not "it will not serve the purpose of enhancing learning" (Hattie &Timperley, 2007, p.88).

The second question, *"How am I going?"* or the *Feed Back* part is the main focus of the model according to Hattie and Timperley (2007). This feedback, which is linked to the learning goals, helps learners to improve their performance in relation to the goals. At this stage the teacher provides information that helps the learner to understand features of their performance and what they discover they have to do to correct errors to achieve their goals. This question helps the student to "progress in their goals" (p.89). The problem with this aspect of feedback is that "often attention to this question leads to over assessment or testing and this may fail to convey feedback information that helps teachers and students to know how they are going" (p.89).

The last question, "Where to next?" or *Feed Forward,* leads to "greater possibilities for learning" (p.90). This question looks at greater challenges being

provided to students and focuses on their self-regulation. Moreover, this question focuses on "greater fluency and automaticity, more strategies and processes to work on the tasks, deeper understanding and more information about what is and what is not understood" (Hattie & Timperley, 2007, p.90). This is where the student gets the feedback that they should consider with responsibility to achieving their objective or goal. In this stage, the goals are higher and the focus is on a higher level of achievement, for instance achieving better grades. The demands in this stage are higher than the previous two stages. As the term 'Feed Forward' suggests, at this stage the student thinks about how they are able to move on to another higher level of academic achievement. It is expected that they would have specialized or mastered challenges they experienced previously.

It is only after students get the goals and criterion clear that the actual process of providing feedback occurs. The feedback, in this stage, is provided at four levels which are at the task, self, process and self-regulation levels. The feedback provided at these four levels can have "major influences on self-efficacy, self-regulatory proficiencies and self-beliefs about students as learners, such that the students are encouraged or informed how to better and more effortlessly continue on the task" (Hattie & Timperley, 2007, p.90). As seen so far the framework attempts to create conducive conditions for feedback to be provided to students for learning to occur. The first part of the framework, as shown in Figure 3.1, sets the stage or environment for feedback to be given. It maps out the conditions required for feedback to be provided, but the later stages shows

that the responsibility of feedback lies in the hands of the teachers and students.

Hattie and Timperley's model is provided in Figure 3.1.
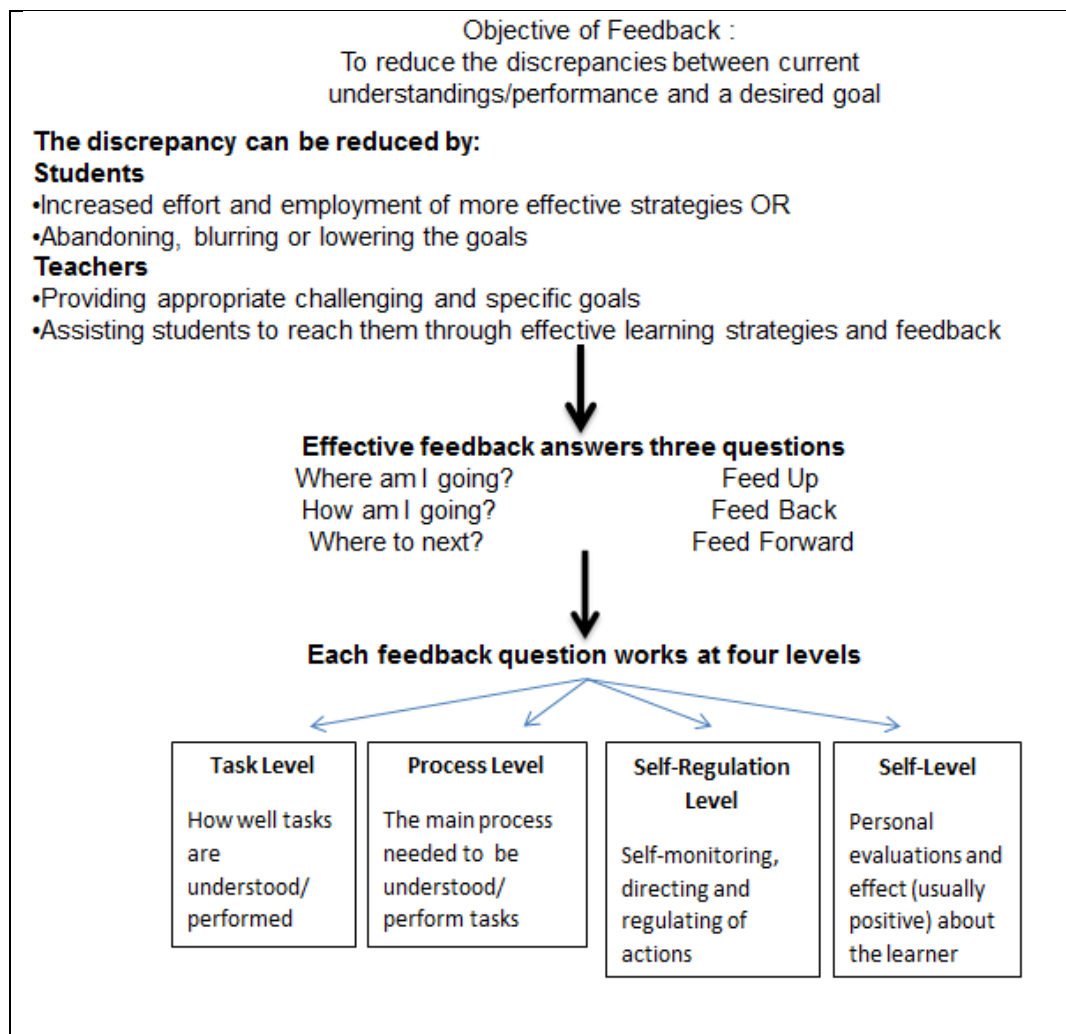
Figure 3.1

Hattie and Timperley's Model for Providing Feedback (2007, p.87)

Feedback at the task level (FT) informs students as to how they are progressing in accomplishing an assignment. At this level the student will understand correct and incorrect answers. Feedback at this stage not only corrects erroneous answers, but it can also be provided to ask for more surface knowledge. One way in which feedback can be provided at the task level is through the provision of cues which can help learners in rejecting errors and this will provide direction

to achieve the goal. However, the problem with feedback provided at the task level is that it is not always suitable to use for complex task performance. Another problem revealed by Hattie and Timperley (2007) is that teachers have a tendency to mix this level with the self-level and give praise and then feedback related to the content or knowledge that is correct or erroneous in a piece of work and this may create confusion for the student. The third problem is that when this type of feedback is provided at the group level, an individual may perceive it as irrelevant for them thus reducing the effectiveness of the feedback provided at the task level. So feedback provided at the task level to a group of students may be perceived as generic feedback which does not contain tailored feedback for individuals.

The feedback provided at the process level (FP) is concerned with the relationships between ideas and students' strategies for error detection. It is also about learners learning from errors. Feedback at the process level is also seen to be more effective than at the task level for enhancing "deeper learning" and it tends to improve "task confidence and self-efficacy" (Hattie and Timperley, 2007, p.93) of a student in becoming independent. Hattie and Timperley also emphasised that feedback at the process level gives the student the "resources for more effective and innovative information and strategy searching" (p.93).

The feedback at the self-regulation (FR) level is where the "student monitors, directs and regulates actions toward the learning goal" (Hattie and Timperley, 2007, p.94). At this level, the student is able to "invest effort into seeking and dealing with feedback information and is able to self-assess" (p.95). The student

is also able to increase their degree of "confidence in the correctness of the responses" (p.94). This is where the differences between effective learners and weak learners or high and low ability learners are more clearly seen. This is because normally, low ability or less effective learners find this type of feedback more tedious and they are the ones who "hardly seek or incorporate information to enhance their learning" (Hattie & Timperley, 2007, p.95). However, one problem pointed out by Hattie and Timperley for this level of feedback, is that some learners do not seek help or feedback because of "perceived threats to self-confidence or social factors" (p.96). Hattie and Timperley advocate that students who are 'effective learners create internal feedback' (p.94). These students who depend on themselves are highly motivated. This type of feedback entails higher order thinking skills and independence on the student's part. The student in this sense moves from one who was passive in the past to one who is active in creating feedback.

Another level of feedback is one that is provided at the personal or self-level (FS). According to Hattie and Timperley (2007) this is a common type of feedback present in a class situation and expresses positive and negative comments about the student. It is personal feedback that gives comments on the student rather than the work they have done. Feedback at this level has little or no information on the task as it does not answer any of the three questions shown in Figure 3.1. It contains "little task-related information and research shows that the effects at this level are too diluted to influence learning gains" (p.96). However, they have also stated that it does not mean that such feedback is not important and there is evidence that it is interpreted differently by younger

and older students. Hattie and Timperley stated that feedback at the self-level that has relationships with self-regulation or self-efficacy may be more beneficial than feedback that is only provided at the self-level.

3.1.1 Four commonly debated issues about feedback.

Hattie and Timperley (2007) suggested that the provider of feedback will also have to consider the following factors which affect the success rate of feedback. These factors are:

3.1.1.1   The timing of feedback

3.1.1.2   Effects of positive and negative feedback

3.1.1.3   Optimal classroom use of feedback

3.1.1.4   Role of assessment in feedback

3.1.1.1 The timing of feedback.

Literature about the timing of feedback is concerned with whether feedback should be delivered straight away or deferred. 'Immediately' may be defined as right after a student has responded to an item or problem or, in the case of "summative feedback, right after the student has completed a quiz or test, and 'delayed' is usually defined relative to immediately, and such feedback may occur minutes, hours, weeks, or longer after the student completes some task or test" (as cited in Hattie and Timperley, 2007, p.15). According to Kulik and Kulik (as cited in Hattie and Timperley, 2007), for feedback provided at the task level, which is a testing situation, some delay is beneficial, while at the process levels immediate feedback is beneficial. However, in another situation Clariana, Wagner and Roher Murphy (2000) showed that the effects of immediate feedback were more powerful for task level feedback and delayed feedback

more powerful for feedback at the process level. Shute has argued that though the immediate feedback can give instant positive effects, students may become too reliant on it and it may promote less careful or mindful behavior. On the other hand, Shute he has also claimed that delayed feedback may encourage learners' engagement in active cognitive and metacognitive processes, but on the flip side may prove to be frustrating to weak or less motivated learners' (in Hattie and Timperley, 2007). The idea that appears to come from this discussion is that in order for feedback to work, a teacher needs to understand his or her students and reflect on whether delayed or immediate feedback would be most useful. The teacher should also keep in mind the competence of the student as well as the level of challenge involved in the task.

3.1.1.2 Effects of positive and negative feedback.

According to Kluger and Denisi (in Hattie and Timperley, 2007) both positive and negative feedback can benefit and pose problems for learning. According to Hattie and Timperley (2007), negative feedback may be needed to drive a student who is not committed, and for a committed student positive feedback is usually effective. However, they argue that for students with low self-efficacy negative feedback may be detrimental. The students may display less motivation for other tasks. Therefore, understanding the self-efficacy level of a student is necessary so that the right type of feedback, either positive or negative, can be provided. In summary, Hattie and Timperley's (2007) study shows that various people look at positive and negative feedback differently. As seen so far, the

literature seems not to have a universal answer to the relative impact of positive and negative feedback on students.

3.1.1.3 Optimal classroom use of feedback

According to Hattie and Timperley (2007), in order for feedback to work there has to be effective instruction that is undertaken first. Moreover, the feedback that is provided has to be clear and appropriate and the teacher has to know when, where and how to provide the feedback. Their research has shown that the most common feedback that is provided in the classroom is feedback at the self-level. They also argue that feedback is given differently to boys and girls with the former being provided feedback at their poor behavior and less effort. Researchers De Luque and Sommer found that students from "collectivist cultures like Confucian-based Asia, preferred indirect and implicit feedback and were not provided self-level feedback" while students from more "individualist cultures such as the US preferred more direct feedback and individual focused self-related feedback that was mostly directed at their effort" (citied in Hattie and Timperley, 2007, p.100) than the answer. In addition, Hattie and Timperley have also detailed how that the climate of the classroom is also critical for feedback to be welcomed and used by students. They have stated that "teachers are important in a classroom as they build climates where error is welcomed and there is an increased probability of feedback" (p.100). Their study has shown also that students who respond to questions do so, in a classroom when they know that their answer is correct as errors are not welcomed in the classroom. Which shows that teachers must be aware of the "nature, timing and response of a student when providing feedback" (p.101)

3.1.1.4 Role of assessment in feedback.

The fourth factor considered in relation to feedback is assessment, which provides information on the student. According to Black and William, teachers do little reflection on what is assessed and it is not discussed critically with peers (in Hattie and Timperley, 2007). They also stressed that assessments were being provided mainly for students to do more rather than receive feedback to improve or enhance learning. Moreover, Timperley and Wiseman (in Hattie and Timperley, 2007) pointed out that teachers see assessment feedback as making statements about students and not about their teaching. In this sense the benefits of feedback may be diluted. According to Hattie and Timperley, feedback provided for assessment is aimed to achieve a better grade and this prevents teachers from giving feedback addressing FP and FR. Moreover, teachers see assessment feedback as "making statements about students, not about their teaching" (p.101). This then stops the students from getting specific information about" directions and strategies they must take to achieve their goals" (p.102).

In this chapter the theoretical framework used in this study to understand the feedback I have provided to students for learning has been explained. The framework used is Hattie and Timperley's (2007) framework for providing feedback at four levels at the task, process, regulation and self. The framework also considers the timing of feedback, effects of positive and negative feedback, optimal classroom use of feedback and the role of assessment in feedback.

3.2   Reflective practice

Research, as described by Kothari (2004), is the fountain of knowledge. He said that research creates knowledge and is an important source of providing guidelines for solving different business, governmental and social problems. This in turn forms a sort of "formal training which enables one to understand the new developments in one's field in a better way" (Kothari, 2004, p.7). Research methodology, on the other hand, is "a way to systematically solve the research problem" (Kothari, 2004, p.8). According to Kothari, researchers need to know which methods or techniques are relevant for their research. He stated that researchers have to find out the assumptions underlying their research and for this, the research methodology is important. In summary he said that when a research study is undertaken,

> how the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why a particular technique of analyzing data has been used and a host of similar other questions are usually answered when referring to the research methodology concerning a research problem or study (p.8).

In this research, practitioner inquiry was adopted as the methodological approach. Practitioner inquiry is a dimension of reflective practice. Practitioner inquiry is often used in the fields of practice in education, social sciences and health care. Practitioner research is a type of reflective practice.

While the data in the study were analysed using Hattie and Timperley's (2007) framework for providing feedback, the overarching theoretical lens is that of reflective practice. One of the most important theorists in relation to reflective practice was Dewey. In the 1930s, John Dewey described the difference between impulsive action, routine action and reflective action. He believed that the first and second actions were based on trial and error and were traditional ways of operating, and these did not require much thought or the thinking process. However, he stated that "reflective action arose from the work of educators who were active; who persistently and carefully considered how they practised and what they were teaching, and was often the result of a need to solve a particular problem" (Dewey, 1933, p.3). According to Dewey practitioners who are throughful look at their instructional approach and the consequences of it. Henderson (2001) also argued that when applied to teaching, if a teacher does not consistently and continuously learn new instructional approaches then the teacher is not practicing craft reflection.

Building on the work of Dewey, other researchers such as Elliot and Adelman (1973) and Stenhouse (1975) were also at the forefront of reflective practice. They argued that teachers should gain an understanding of their work through studying their own problems of practice and reflect on their practices. This was a view also supported by Schön (1983) and Henderson (2001).

Stenhouse (1975) explained that the

> research of practitioners must be made public so that other
> researchers can benefit from it and so that teacher educators,
> university researchers and policy-makers can incorporate the
> knowledge produced through these action research inquiries into
> their courses, which are taken by prospective and practicing teachers
> and into the deliberations through which educational policies are
> formed (p.156).

This notion of reflective practice was significantly developed by Schön (1983, 1987). Schön believed that as a result of reflective practice learners are able to compare their practices with professionals and through the comparison consider their practice and hopefully enhance it. Schön (1983) introduced concepts such as 'reflection on action' and 'reflection in-action', where professionals meet the challenges of their work with a kind of improvisation learned in practice. Schön described reflection as:

> Knowing-in-action [which] is the professional knowledge that
> practitioners actually use, as distinct from the theoretical, scientifically
> derived knowledge that technical-rationalist approaches assume that they
> used. [There is also] reflection-in-action [which] occurs when new
> situations arise in which a practitioner's existing stock of knowledge -
> their 'knowing-in-action' is not appropriate for the situation. It involves
> reflecting on 'knowing-in-action'. 'Reflection-in-action' is a process

through which hitherto taken for granted 'knowing-in-action' is critically examined, reformulated and tested through further action. It is a process of research through which the development of professional knowledge and the improvement of practice occur together (in much the same way as in action research) (pp. 54 - 55).

Schön (1983) stated that when teachers identify problems, they redefine their own relationships to knowledge about teaching and learning and they "reconstruct their classrooms and begin to offer different invitations to their students to learn and know" (p.56). Later he also argued that one may benefit from continuously examining one's practice. Schön (1987), in his later works argued that :

The student cannot be taught what he needs to know, but he can be coached: he has to see on his own behalf in his own way the relations between means and methods employed and result achieved. Nobody else can see for him and he cannot see just by being 'told', although the right kind of telling may guide his seeing and thus help him see what he needs to see" (Schön 1987, p.77)

Reflective practice is commonly used in many professions. In the field of education reflective practice is often related to an educator studying his or her own teaching methods and determining what works best for the students. Larrivee (2000) argued that "reflective practice moves teachers from the knowledge base of distinct skills to a state where they are able to modify their

skills to suit specific contexts and situations and eventually invent new strategies"
(p.293). He also emphasised that teachers should engage in "critical reflection"
in their classrooms (p.293). Larrivee argued that "reflective practice" carries
multiple meanings for professionals engaged in different practices. For example,
some practitioners embrace it in a formally, some explicitly, while others in a
more fluid manner. With respect to teachers, he stated that "unless teachers
develop the practice of critical reflection, they stay trapped in unexamined
judgements, interpretations, assumptions and expectations" (p.293). Larrivee
also articulated how that becoming a "critically reflective teacher cannot be
preplanned but rather lived where teachers meet the challenge and resist
establishing a classroom culture of control and become fluid in the dynamic
environment of the classroom" (p.306).

Yet another important proponent of reflective practice is Brookfield (1998) who
recommended that reflection helps us "detect hegemonic assumptions that we
think are in our own best interests but actually work against us in the long run"
(p.197). Brookfield advocated that practitioners must become aware of their
assumptions they hold to become critically reflective. He stated that a "critically
reflective teacher becomes aware of his/her teaching from many different
vantage points" (p.45). Brookfield also articulated how teachers who critically
reflect on their practice are "excellent teachers who continually hone their
personalised authentic voice", a "pedagogic rectitude" that reveals the "value and
dignity" of the teacher's work "because now we know what it's worth" (pp.46-7).

In order to be reflective about our practice Brookfield proposed the use of four lenses. These are the lens of:

1) Autobiography of learners of reflective practice

2) Learners' eyes

3) Colleagues' perception

4) Theoretical, philosophical and research literature

Brookfield (1998) advocated that our "autobiography as a learner helps us realise that individual crises are collectively experienced dilemmas and helps us draw insight and meanings for practice on a deep visceral emotional level" (p.198). Brookfield promoted the notion that "personal experiences may be looked upon as subjective or impressionistic as the way people deal with struggles acts as direct parallels to someone else's experience even in the face of crises" (p.198). He stated that even in the face of crises people fall back on their memories which guide them to respond to the crises. This shows that our "autobiographies as learners help us understand why we gravitate toward certain ways of doing things and why we avoid certain others" (p.108). In this study, my insights on my practice have served me well in allowing me to understand the way to provide feedback to my students to enhance their learning.

Brookfield's (1998) second lens allows us to understand that our actions may be interpreted in diverse ways, by students, and this in turn helps us teach more responsively. According to Brookfield as learners we "interpret our actions in the way we mean them but often we are profoundly surprised by the diversity of

meanings people read into our words and actions and practitioners should assure anonymity of their critical opinions to learn from learners" (p. 199). Without an appreciation of how people are experiencing learning, any "methodological choices we make risk being ill informed, inappropriate, or harmful so there is a need to try to get inside learners' heads and see classrooms and learning from their point of view" (p.200). The viewing of my practice through the lenses of my students has helped me also mould my practice of providing feedback that suits their learning.

The third lens is our colleagues' experiences, which help us to reflect on our actions. Brookfield (1998) advocates that "talking to colleagues and participating in critical conversation with peers serve as critical mirrors through which we can check, reframe and broaden our own theories of practice" (p.200). He agrees with the view that:

> although critical reflection often begins alone, it is ultimately, a collective endeavor and that colleagues are required to help us know our assumptions and to help us change the structures of power so that democratic actions and values are rewarded within and without our institutions (p.200).

While in this study the third lens has not been formally considered, the various workshops, professional learning sessions, formal and informal discussions with my colleagues have indeed helped me in enhancing the way I have provided feedback to my students. The data from these learning sessions, however, have not been captured in this thesis.

The last lens allows us to name our practice by illuminating the general elements of what we think are "idiosyncratic experiences" (p.200). Theories, according to Brookfield (1998) helps practitioners realize "what we thought were signs of our personal failings as practitioners can actually be interpreted as the inevitable and this stops us falling victims to the view that we are responsible for everything that happens in our classroom" (p.201). A good example presented by Brookfield is anger shown outwardly by teachers who stated that teachers,

> get annoyed or become angry because they have failed to use the right pedagogical approaches, or that they have not been sufficiently creative in finding points of connection between the subject matter they teach and their students' lives (p.202).

Brookfield also stated that reading "critical theory can, in one way, help us realize that students' disinterest is the predictable consequence of a system that forces people to study disconnected chunks of knowledge at a pace prescribed by curriculum councils (p.202). This lens has allowed me to look at my experience of teaching beyond myself. The literature on feedback and teaching and learning has allowed me to re-look at my teaching pedagogy in a more reflective and 'blame-less' way.

In this study, three lenses have been used to look at my practice of providing feedback to students. Three of the lenses, the practitioner's lens, the learner's lens and the theoretical lens, have been directly critical in helping me explore

my practice, particularly when analyzing my journals. My colleagues lens has influenced me indirectly though the data was not captured in this study.

This study has adopted the practitioner inquiry approach, a type of reflective practice, to understand more about how higher order thinking skills and differentiated instruction, which in my case are important tools to help me achieve the Singapore DOE of the MOE, that can help to prepare my students for competence in the 21st Century in the in determinate zones of practice.

3.2.1   Practitioner Inquiry.

The form of reflective practice used in this study is known as practitioner inquiry. In this research, I have focused on a local inquiry to help ameliorate a local problem which is through the provision of constructive feedback. The method of practitioner inquiry was adopted for this study because this research is about my own practice as a teacher. The purpose of practitioner inquiry is to interweave experience into the judgments and actions of reflective professionals as they seek to improve their daily work (Dadds and Hart, 2001). Dadds and Hart maintained that practitioners come with experiences, skills and knowledge that can form the basis of what is required for good practitioner research. As Bassey (1995) claimed that the main purpose of research is to create new knowledge and understanding to help us know something we did not previously know about our own practice. Dadds and Hart (2001) agree, saying that the additional and necessary purpose of practitioner research is not only to create new knowledge, but to put that new knowledge to useful use. In this sense the traditional

separation in research of new knowledge, from its "purposeful application to life is, in principle, resolved in practitioner research" (Dadds and Hart, 2001, p.49).

The literature on practitioner inquiry suggested that the act of engaging in this type of research can lead to almost immediate professional change. This is because once we start reflecting our actions and practices changes. (McNiff & Whitehead, 2002 and Brown & Jones, 2001). Brown and Jones advocated that when practitioners ask questions and explore the answers, the perceptions they have change. This transformation will caution them against accepting fixed truth and allow them to be open to various and alternative versions. This means that practitioners, over time, become very flexible in their practice, so questioning their practice is an important factor for practitioners to consider. McNiff and Whitehead endorsed Brown and Jones' view in that they supported the fact that questioning helps practitioner researchers to identify their educational values and to explore whether or not they are living by them in their professional practices. This shows that questioning our practice is integral to practitioner inquiry as it allows one to explore other options and ways of handling challenges in our profession.

In this research, I have studied and reflected on the way in which I provide feedback to my students to enhance their learning of Geography. The feedback which I provided to students since the beginning of the research project has improved to make it relevant to learning. The Singapore Ministry of Education's Desired Outcomes of Education, specifically, of Differentiated Instruction and Higher Order Thinking Skills were incorporated into the feedback with the aim

of enhancing learning. Feedback was used as a scaffolding technique to help students learn and improve in Geography. In order to further understand and reflect on the feedback that I was providing my students the practitioner inquiry methodology was embraced in this study. The data sources, journals, artefacts and interviews of students were crucial in helping me understand what constructive or effective feedback is.

This project was done so that its benefits could be shared with the teaching fraternity in Singapore and in the larger educational context. Figure 3.2, provided below, gives a pictorial view of my study.
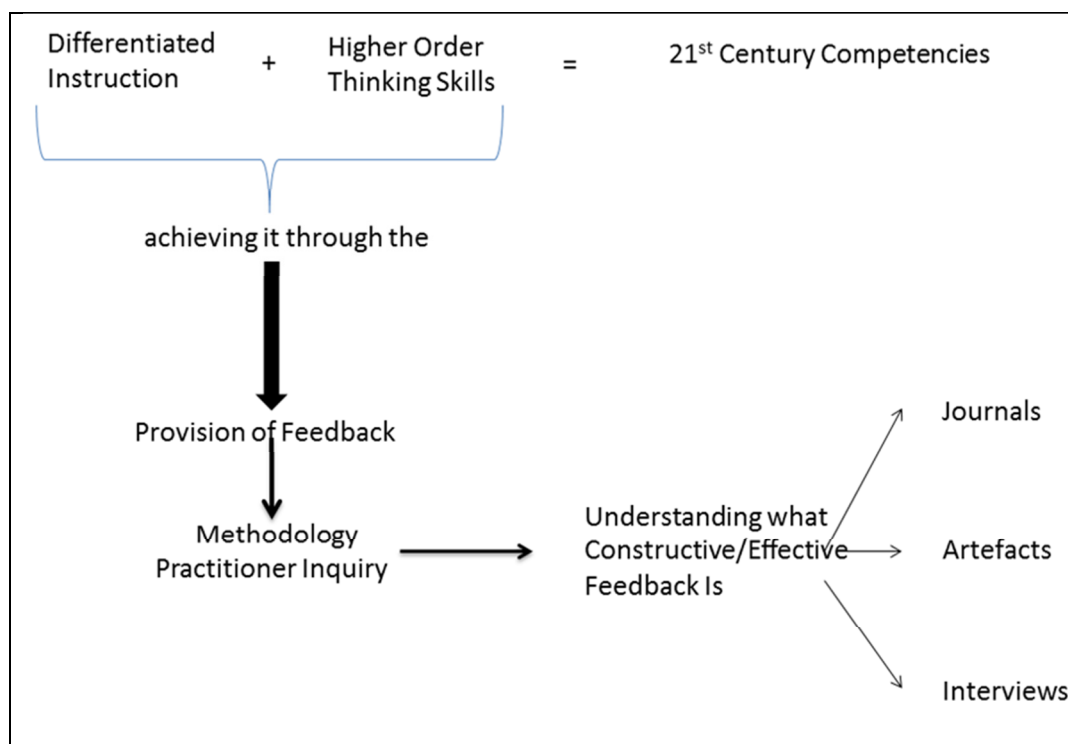
Figure 3.2

A pictorial overview of the study undertaken in this research

According to Dadds and Hart (2001) an essential aspect of practitioner inquiry is that we have to "observe, listen, absorb, integrate information, analyse and make

judgements as a basis for action" (p.15). Cochran-Smith and Lytle (1993) further argued that practitioner inquiry or reflective practitioner methodology uses intentional and systematic ways of gathering recording and documenting experiences, such that "inquiry is planned and deliberate, rather than spontaneous" (p.24). That is the reason I chose interviews with students, student work (artefacts) and on-going journal entries to document my experiences. As Cochran Barnett, Friedman and Pine (2009) put it, the systematic examination and analysis of students' learning (and/or other educational outcomes and issues) is often:

> interwoven with an examination of the practitioners' own intentions, reactions, decisions, and interpretations, thus making it possible for the practitioner researchers to produce richly detailed and unusually insightful analyses of teaching and learning from the inside (p.18).

Cochran Barnett, Friedman and Pine (2009) also stated that in practitioner inquiry there is deeper understandings of how students learn and this most importantly enhances educators' sense of social responsibility. In addition, Groundwater and Mockler (2006) argued that practitioner inquiry also goes on to adopt a sense of responsibility in and for the group participating in the inquiry. Another important character of practitioner research addressed by Hilsabeck (2010) is that it is grounded in studying professional work and has an awareness of its positioned context. Cochran-Smith (2003) argued that when an inquiry stance is taken, local knowledge is generated and practice is theorized. This is then interpreted and questioned by others who research and conduct a similar

inquiry. Over time this process, he argues, brings about both learning new knowledge, questions and practices and at the same time, unlearning some long-held ideas, beliefs and practices, which are often difficult to change.

In summary the theoretical framework chapter has provided a system in which feedback provided to students was analysed and deliberated. The framework used was Hattie and Timperley's (2007) framework for providing feedback. On the other hand to understand my practice of providing feedback the overarching lens that was used was that of reflective practice and specifically practitioner inquiry. In the next section the methodology chapter is outlined. In this chapter the different data sources used for this study and the structure adopted to analyse them have been presented.

CHAPTER 4: METHODOLOGY

In the previous chapter I presented the conceptual framework for this study. In this chapter, I outline the research questions for this study, the methodology, which includes a justification of the reasons for choosing the practitioner inquiry approach, a discussion of the epistemological and ontological underpinnings of the research, and an explanation of the reasons for adopting a qualitative approach for the study. Following this the research methods are explained, namely, the participants, data sources such as artefacts, interviews and journal writing, data collection procedures, data analysis, reliability, validity and trustworthiness of the study, and ethical considerations.

4.1   Research Questions

To examine aspects of my practice, the following research questions were addressed in the study:

1. How does feedback provided by me contribute to my students' learning, particularly in relation to the Singapore Ministry of Educations' initiatives, Higher Order Thinking Skills and Differentiated Instruction?

2. How has the feedback that I had been providing to my students changed over the course of the study?

3. What are the implications of any changes for my pedagogy and beliefs as a teacher?

4.2 Epistemology and ontology of the study

A researcher's epistemological and ontological perspectives influence his or her justification of the choice for a particular research methodology (Crotty, 1998). According to Crotty, "epistemologies, theoretical perspectives, methodologies and methods represent hierarchical levels of decision making within the research design process" (p.3). Epistemology underlies the entire research process and governs the theoretical perspective, while ontology dictates the researcher's choice of methodology, and finally the methodology directs the choice of research methods employed in a study. According to Crotty, epistemology is an important factor in research that has to be understood as it allows one to understand the work or studies done by others and allows the researcher to defend his/her position. Moreover, the knowledge of epistemology and ontology prevents confusions during debates on theoretical issues. Blaikie (2000), has described ontology as "claims and assumptions that are made about the nature of social reality, about what exists, what it looks like, what units make it up and how these units interact with each other" (p.8). As ontology is concerned with what we believe is social reality it is, therefore, a researcher's personal assumption and so it cannot be refuted.

Crotty also explains that ontology and epistemology are mutually dependent and difficult to distinguish conceptually when discussing research, and he stated that "to talk about the construction of meaning (epistemology) is to talk of the construction of a meaningfully reality (ontology)" (p.10). Crotty claimed that epistemology is about "how we know what we know" (p.8). It is related to ontology, "the study of being" (p10). Therefore, epistemology and ontology

cannot be divorced from each other. They represent different views of the world which depends on the different ways in which knowledge has been gathered. Teddlie and Tashakkori (2009) describe epistemology as "the relationship between the knower and known (the researcher and the participant)" (p.89). They support Crotty (1998) by stating that the epistemological position adopted indicates to the researcher the type of data that should be collected and the way it should be interpreted. In addition Tuli (2011) also emphasized the fact that the choice of a research methodology depends on the paradigm which acts as a guide for the research activity. This is the belief about the nature of reality and humanity (ontology), the theory of knowledge that informs the research (epistemology), and how that knowledge may be gained. From the epistemology and ontology comes the development of a theoretical perspective, methodology and methods.

The five research elements, explained above, lead to a research approach which is quantitative, qualitative or mixed. Tuli (2011) has stressed that

> although methodologies are acknowledged as a means to conduct research, scholars within the social sciences have argued that the relative preference of each research methodology depends on philosophical issues related to the question of ontology (the nature of reality), and epistemology (the nature of knowledge) (p.99).

The methods used in doing research come with understanding the paradigm. According to Denzin (1994) a paradigm is a "set of basic beliefs (or metaphysics)

that deals with the ultimates or first principles" and it represents a worldview that defines, for its holder, "the nature of the 'world,' the individual's place in it, and the range of possible relationships to that world and its parts" (p.107).

There are two broad epistemological positions or paradigms that research or researchers might take. They are positivism and interpretivism/constructivism. According to the positivist ontology, there is a "single, external and objective reality to any research question regardless of the researcher's belief" (Carson, Gilmore, Gronhaug and Perry, 2001, p.6). Carson et al. further explains that positivist researchers thought is governed by hypotheses and stated theories and that they believe that it is "possible to obtain hard, secure objective knowledge" (p.6). They also state that positivist researchers attempt to remain "detached from the participants of the research", and that this forms an important step in "remaining emotionally neutral to make clear distinctions between reason and feeling, as well as between science and personal experience" (p.13). For these reasons, statistical and mathematical techniques are central in the research methods adopted by positivist researchers and they adhere to "specifically structured research techniques to uncover single and objective realities" (Carson et al. 2001, p.5).

In contrast to positivism, the constructivist paradigm is based upon the acceptance of "multiple discoverable realities which are socially and empirically based; the intangible mental constructions of individuals" (Carson et al. 2001, p.16). According to Denscombe (2002) "social reality is something which is constructed and interpreted by people rather than something that exists

objectively out there" (p.18). He states that results of research are seen as an individual interpretation of fact, but based firmly on a systematic approach of analysis. Denscombe's view is reinforced by Cohen, Manion and Morrison (2000) who also stated that the constructivist phenomenon is shaped by humans who live and express how they look at situations from their own point of view. This suggests that this approach moves away from the assumption that the "nature of knowledge is solid, absolute and based on universal truths, towards relative context-bound truths" (Guba and Lincoln, 1998, p.203). This is further emphasized by Cohen et al. (2000) who stated that truth is "relative, dynamic and constantly evolving" and this, therefore, shows that the "nature of knowledge is not solid and absolute" (p.23).

According to the constructivist researchers, when people search for the truth in their real world, they invoke "experiential knowledge and give meaning to their own truth as lived experiences", which results in "subjective meaning being attached to the phenomenon" (Cohen et al., 2000, p.6). This means that people construct their own "genuineness" and this then makes "knowledge subjective" (Guba and Lincoln 1998, p.212).

In this study, I have adopted a constructivist paradigm. I concur with Cohen's (et al. 2000) view that "truth is constantly evolving and it is a matter of social construction" (p.23). It is interpreted by individuals, (2000) and "invoked by experiential knowledge which results in subjectivity being attached to the phenomenon" (p.6). In order to understand whether my feedback was helping my students I even tracked their grades for the assignments over the nine months.

This was a very simple and the only quantitative analysis I had kept in this study. I have realized, from this study, how feedback can be provided to students and the different ways in which students interpret feedback through my interaction with them. The interaction with my students has allowed me to "construct a reality" (Guba and Lincoln, 1998, p.107) and this has provided me with an understanding of how feedback should be given and how it can be interpreted by students. This has encouraged me to adopt the practitioner inquiry methodology which has allowed me to understand, test, reflect on, test again and critically analyse my practice of providing feedback. This has enabled me to develop professional knowledge and understanding about the way feedback should be provided to enhance learning. The tracking of the way feedback was provided over a period of time allowed me to see multiple realities. I was able to make sense of the world and I constructed my reality from my understandings. Through the data collected, I was able to make sense of the way feedback was given over the period of time the research was undertaken. Through observations and communications with students I continually made informal evaluations and judgements about what it is that I do in my professional practice.

4.3   Data collection

To conduct this research I collected three types of data:

      i.   Artefacts (answer scripts of students);

    ii.   Personal reflective journals

   iii.   Interviews with students

Data collection was undertaken at Innova Junior College, in Singapore during the time period of January to November 2012. The journal entries began in January 2012, before I gained ethics clearance, but the artefacts and interviews were collected and studied only after receiving ethics clearance.

4.3.1   Artefacts.

The artefacts provided information about the written feedback that I had provided to my students from March to November 2012. They refer to students' geography answer scripts composed of assignments, major examinations such as the block tests and preliminary examinations and class tests which are known as formative-timed assessments. The artefacts were comprised of data-response questions, and nine and sixteen mark structured essay questions which students answered in the year 2012. These answers were marked and provided with written feedback. The artefacts consisted of the Higher 1 (H1) and Higher 2 (H2) scripts and they were analysed separately. The artefacts analysed belonged to the 12 students who were interviewed and 12 others who were not part of the interview. The artefacts of the 24 students represented 12 students who were grouped under the higher ability and another 12 under the lower ability grouping.

The following paragraphs carry a brief description of the H1 and H2 examination papers. There is a need to understand the structure of the papers because though there are similarities they also differ in many ways and some of the topics are not examinable for the H1 students. Understanding the feature of the papers will also allow one to understand the different ways in which the H1 and H2 students answer.

The Higher 1 (H1) 'Advanced' level Geography paper (Paper Number: 8812/01) is comprised of only one paper divided into three sections. The Higher 2 (H2) 'Advanced' level Geography papers are comprised of the Physical (Paper Number: 9730/01) and Human (Paper Number: 9730/02) papers and each paper consists of two sections.

4.3.1.1 Higher 2 (H2) Geography Paper.

Each H2 paper consists of two sections. Section A, which is the first section of the paper, consists of four data-response questions. The Higher 2 students have to complete all the 4 data-response questions in both Papers 1 and 2. They do not have a choice of questions in this section. Therefore, questions in section A of the Geography examination paper are compulsory for all Higher 2 students. These data-response questions in section A of the Geography examination paper, according to the Singapore Examination's Branch require students to respond to stimulus materials and interpret geographical information such as maps, photographs, graphs, statistics, texts and diagrams (SEAB, 2013). This section carries 50% of the total marks for Papers 1 and 2. An excerpt of a data-response question that was provided for the 'Advanced' Level Geography Examination is provided in Appendix 3 (on page 348).

Section B of the Geography H2 'Advanced' level examination paper consists of nine and 16 mark structured essay questions. The nine mark essays mostly test content or knowledge based questions. This is where facts, content and conceptual knowledge related to the Geography syllabus are tested. The 16 mark essay questions test mostly higher order thinking skills. The essay questions

expect students to make judgments, critically evaluate, synthesize and make decisions and to take stands. In Section B, the Higher 2 students have a choice. Students can choose to do two of the three topics which are tested in the section. Each topic is comprised of an 'either' and 'or' choice for the students. The 'either' and 'or' parts consist of the nine and 16 marks questions. Section B of the Geography examination paper carries another 50% of the total marks. Both sections A and B constitute 100%. Appendix 4, on page 349, provides an example of an essay question provided for an 'Advanced' Level Geography examination.

4.3.1.2 Higher 1 (H1) Geography Paper.

In the Higher 1 paper, section A consists of four data-response questions. The H1 students have to complete all four data-response questions as these are compulsory questions that have to be attempted. The questions are set in the same way as the data-response questions of the H2 9730/01 or 9730/02 papers. Section B, on the other hand, consists of Physical Geography essay questions. The questions are set the same way as the H2 9730/01 paper too. The topics are comprised of an 'either' and 'or' choice. The students have a choice on what they want to answer. For section B, students choose to answer just one Physical Geography essay question. Section C, is comprised of Human Geography questions on the topic Globalisation of Economic Activity. The question set for the topic is devised the same way as the H2 9730/02 paper. Again the students have a choice. They can choose to do the 'either' or the 'or' nine and 16 mark questions. The Higher 1 students sit for only one paper for a duration of three hours which tests both the Physical and Human Geography topics.

4.3.2   Reflective Journals.

Reflective journals were kept by me from the month of January to December in the year 2012. The writings in these journals contain my reflections on my research, and they provided a qualitative data source that helped me to document my journey as a researcher. Progoff (1992) stated that journals are important resources that help a person to get feedback from those who deliberate on them. This shows that they are a means for us to get feedback from ourselves about ourselves. My journals were updated at on the average of two times a week, initially between the months of January and March. However, the frequency of the journal writing increased to approximately three times a week during the months of July to September. At the end of the year, the journal writing again increased to around four to five times a week, on the average. At the beginning of the study I was unaware and unsure of what I was supposed to write about in my journals, but after a few months, I was beginning to write and discuss my learning. My journals seemed to have helped me define the journey for me. My entries showed that I had become more focused about my learning in providing feedback. In my journals, I explored my ideas, thoughts, grievances and plans for myself and my students. They helped me structure my thoughts about not only giving feedback but also about my learning and growth in teaching. I was able to see my overall development when I read through my journals. Through these journals I was able to reflect, and explore more deeply into the beliefs and practices of the way I provided feedback to my students. One advantage of having a journal is that it allowed me to write whatever I wanted in my active and own voice. I was able to see what I would call 'grey areas' or areas which showed my weakness in teaching in my practice through my journal entries.

They helped me think, analyse and come up with strategies to better equip myself to provide feedback to my students.

However, one of the difficulties I had with journal writing was that I had to make sure that I was not losing track of my main objective of understanding more about the feedback I provided to students. Though the journal provided me with the opportunity to actively display my understanding, I was at times more focused about throwing my grievances about my workplace in my reflective journals. My reflective journal was not meant to be a diary where I kept record of events and experiences, but a manuscript which focused on my learning and practice of providing effective feedback to my students.

In my reflective journal, I had another book glued at the back in which I kept track of individual student's progress. I called that specific part of my journal the tracking book. While I updated my journal entries regularly, I realized that there was a need for me to strategize and understand the performance of my students in my subject. It was also part of my reflection, but this time a very quantitative one which showed the marks my students were achieving for each assignment I gave them. The marks allowed me to understand whether my students were improving or performing badly for Geography. The marks and grades allowed me to understand specific weak areas in their Geography. Moreover, the marks also allowed me to understand whether they were weak in their data-response or structured essay questions. My students' favourite topics for physical and human Geography were also written down in the tracking book. I also wrote down what kind of questions they had most difficulty handling during examinations and

assignments. This form of tracking was done as I wanted to understand my students' strengths and limitations. It was to allow me to strategise and tailor feedback for the individual student. My main objective was to understand my individual students' limitations and rectify these by the end of 2012. The tracking gave me the opportunity to get to understand my students more. I believe that in order for me to effectively help my students in their subject, I had to understand their academic ability over time and this tracking-cum-reflection of my learning were integral in helping me understand how feedback can be provided according to the changing abilities of my students. The tracking of learning was shown to my students. They were able to reflect on how their learning had developed over time. It allowed them to take note of their weaknesses in their answers.

4.3.3   Interviews with students.

The interviews with students elicited their perceptions and opinions, both written and voiced, about the feedback given by me. The interviews provided information on how HOTS and DI were being dealt with through feedback too. Students from two classes were interviewed for this study and they came from the Combination1 (C1) and Combination 4 (C4) groups as shown in Appendix 5, on page 350. These combinations refer to classes which are given different subject combinations. For the students who were from the C1 class they were offered Geography at the H1 level while the students from the C4 class were offered Geography at the H2 level.

In this study both the higher ability and lower ability students from the Higher 1 and Higher 2 classes were chosen for the interviews. This was done to understand the type of feedback that I had provided to students of different abilities. A total of 12 students were interviewed. Six students represented the Higher 1 and another six represented the Higher 2 Geography classes. Among the six students from the H1 and H2 groups, three were the higher ability students and the other three were the lower ability students. Students were classified as higher ability and lower ability according to the 'Ordinary' level examinations aggregate score that students achieve. The tracking looks at the aggregate score achieved by pupils for their GCE 'Ordinary' Level examinations, and then using a formula calculates their ability. The information on the tracking of student grades has been explained in section 1.7, on page 21. Students who gain an average of 6 to 10 points are normally considered higher ability students, those with an aggregate of 11 to 15 points are considered middle ability and those with an aggregate of 16 to 20 points are considered lower ability within a college. This is the form of widely accepted tracking for all the colleges in Singapore. Since the research focuses on how learning can be enhanced through the provision of feedback to cater to Higher Order Thinking Skills and Differentiated Instruction, it was crucial for the interviews to be conducted between at least two ability groups of students.

Interviews for this study were conducted by two teachers in my college. This method was adopted because I was still teaching my students and I wanted them to be critical of the feedback that was given to them by me. As a practitioner doing this research, it was important for me to create a third party interface between my students and myself for this research. If I had conducted the interviews myself there would have been a high possibility of my students not wanting to express their true inner feelings about the way I had provided feedback to them. To understand more about the way I gave feedback to my students, it was essential for me to step away from them and allow somebody else to do the interviews. The two other teachers who conducted the interviews were given a step by step guideline on conducting the interviews. I formulated open-ended questions because I wanted my students to be able to express themselves freely during the interviews. I wanted to elicit as much as possible from the recorded interviews which were not conducted by me. The open ended questions would provide the students with the opportunity to talk openly about their feelings on the way I was providing them feedback. (Symon and Cassell 2012). The interview questions are provided in Appendix 6, on page 355. The questions formulated for the student interviews were discussed with my colleagues who conducted the interviews, and then adjustments were made. The two teachers were also given a brief of my study and its objectives so that they could "activate, stimulate and cultivate" (Alvesson & Ashcraft, 2012, p.242) the responses of the interviewees.

Students who were 18 years of age and above were interviewed for this research. Each interview lasted from 17 minutes to about 57 minutes. The interviews were

conducted individually. The students were from my H1 and H2 classes. The H1 students are those who take Geography at the H1 level which is comprised of only 50% of the overall syllabus that the H2 students take. For the H1 students, Geography is just an extra subject that they take. The H1 students are all pure Science students who take either two or three science subjects with H2 Mathematics. The H2 students, on the other hand, are pure Arts students who take three humanities subjects comprised of Geography, Literature and Economics. For entry into the University in Singapore, the students need to do well for three H2 subjects. For the H2 students, Geography is, therefore, a crucial subject they have to do well in to gain entry into the University as it is a H2 subject. But for the H1 students, Geography is not crucial for entry into the University.

4.4. Data Analysis

In this section the analysis of the three sources of data, artefacts, reflective journals and interviews with students is presented.

4.4.1 Analysis of artefact data.

The first data analysed were the Geography answer scripts or artefacts consisting of assignments, tests and examinations that my students had completed over the period of time between March to November 2012. The artefacts were analysed using Hattie and Timperley's (2007) framework in the provision of feedback.

The artefacts were divided into three time periods. The written feedback that was given for the March to May artefacts was put into the early phase of feedback

category. The feedback that was given between the months of June, July and August was put into the mid-term phase of feedback category. Feedback provided between September and November was termed as being the year-end phase category.

The early and mid-term written feedback was analysed over a period of seven and eight weeks, respectively. The early feedback period included the period after the block exams (known as common tests) were conducted, in the month of March 2012, from the third week of March till the second week of May. The mid-term feedback came in two weeks after the Preliminary Examinations 1 (known as final examinations 1) which were conducted, in the last week of June and the first week of July. The mid-term phase ended in the fourth week of August. This phase of providing feedback started in the second week of July. The mid-term phase was comprised of seven weeks. The year-end feedback, which was analysed over a period of eight weeks, came in after the Preliminary Examinations 2 (known as final examinations 2). The Preliminary 2 Examinations were conducted in the second and third week of September, after which the consultation sessions, only, resumed in the fourth week of September and continued till the third week of November. Consultations refer to sessions of 25 minutes to 30 minutes which teachers block off for students to book. These consultation slots are either booked by a group, pair or individual students. However, from previous years, it has been seen that students normally book the consultation slots for individual consultations. Eight weeks of written feedback was analysed in the year-end phase. Table 4.1 shows the study of the artefacts over the three time periods in the year 2012.

Table 4.1

Table showing the study of artefacts over three time periods in 2012

Early Phase of Feedback	Break	Mid-Term Phase of Feedback	Break	Year-End Phase of Feedback
4th week of March 2012 to the third week of May 2012, consisting of 8 weeks	June – 4 weeks of vacation time for students	2nd week of July 2012 to the end of August 2012, consisting of 7 weeks	September – 1 week of vacation time for students	4th week of September 2012 to the 3rd week of November 2012 consisting of 8 weeks

The categorization of feedback showed that the practitioner's feedback to students evolved after every major examination. The written feedback, as seen from the artefacts, was analysed using Hattie and Timperley's framework (2007). The written feedback was read from the artefacts and they were labeled as feedback at the FT (task level), FS (self-level), FP (process level) and FR (self-regulation level). The terms 'FT, FS, FP and FR' were written beside the feedback. At the same time the limitations of written feedback were also analysed. Feedback that was negative but provided at the self-level were written as '-FS' and feedback that does not come under the task, self, process and self-regulation levels were written as 'NUC', which meant 'not under category of Hattie and Timperley's framework.

4.4.2   Analysis of reflective journal data.

The journals were studied over the same three phases of time as were the artefacts that is, early phase, mid-phase and year-end phase. Through the phases, I expected to understand the way in which the feedback that I was providing my students was changing over time. The kind of feedback that I was providing to students at the beginning of the stage to the end of the stage was considered. In addition to the analysis of feedback on the artefacts, the type of feedback provided, whether it was feedback at the task (FT), personal (FS), process (FP) or self-regulation levels (FR) was also recorded in the reflective journals. The journals not only captured the kind of feedback I was providing or was mostly providing to students during the various sessions I had like tutorials and consultations, but also the kind of feedback I had provided in the artefacts that I had analysed in the phase. This gave me the opportunity to count the number of times a certain type of feedback was being provided and discussed in the reflective journals, and then the frequency of the feedback was studied and analysed over the nine month period. Initially, I started counting the number of times I had mentioned the different levels of feedback (FT, FS, FR, FP) in the journals, but over time I stopped counting and started looking at the general type of feedback that I was mostly providing during a certain phase.

The journals gave me an opportunity to observe not only my practice but record my students' and my own feelings, frustrations and needs. Moreover, on some days, I had also commented and spoken about, discussions I had with my colleagues on feedback and how it should be provided. These professional discussions, both informal and formal, have also been recorded in my journals.

In addition, I also reflected on the relevant literature review that had guided me in understanding my practice of providing feedback to my students. The next stage of analyzing the journals came about when I coded the interviews. During my study of the interviews I also made journal entries which focused much about the way the interviews spoke of the feedback I have provided my students. My journal entries allowed me to see how I viewed the comments provided by students during the interviews. Though the artefacts were analysed objectively using the framework, the journals provided insights into why certain types of feedback were mostly being provided to students.

Saldana's pattern coding was also used extensively to code the journal entries and interviews with the students. According to Saldana, "a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p.3). The coding may not necessarily be understood by others but to me it told a story in a logical manner. During the analysis of the journals I had to decode and encode the data which helped me find out what it meant to me and to identify and categorise them in a way that suited my research. Saldana advised that coding is not done just once. Coding of my personal journal was done several times until a link was seen with respect to the literature and information which I had never expected would be noticed. I used pattern coding to analyse my personal journal. I used the colours red, blue and green to differentiate the different lenses, in relations to Brookfield's (1998) lenses, which informed me of, my students, my literature, my learning, in this journey of providing feedback, in my journals. The highlighters and post-its

were used indigenously to code the journals. The post-its' were mostly used to write notes about my feelings which showed in the journals. Emotions like happiness, sadness and anger were noted down using the post-its' in the journal entries for easy reference.

When coding first commenced, the codes I gave were mainly descriptions and phrases. They were "first impression" phrases derived from an open ended process called "Initial Coding" (Saldana, 2009, p.4). After this, when the journals were revisited the second and third times, the phrases became one word descriptive codes which helped in summarizing the primary idea in an excerpt. The above categories that I had gained from coding the journals, allowed me to view my practice from the theoretical aspect, my reflective lens and also the lenses of my students (Brookfield, 1998) when I interacted with them. Initially I had many codes, but I kept a record of the codes and changed and restructured the codes along the way so that I would not lose track of the initial codes and changes that had occurred.

In the last stage of coding, I placed all the excerpts into themes, through the descriptions, and then analysed how I had been providing feedback and how feedback was evolving throughout the study.

4.4.3 Analysis of interview data.

After each interview with a student, the recorded interview was played back and my co-interviewers and I had went through each question and the answer given

by the student. This was done either within the same day or within the next day of the interview. This practice was adopted as I wanted to receive first-hand information of what the students had commented on during the interviews. During the discussions with the teacher interviewers, interview notes or memos, as suggested by Symon and Cassell (2012), were taken and they were subsequently coded using Saldana's (2009) pattern coding. This practice helped me to also deduce the general feelings of my students during the interview. The tone of the voice in the recordings was captured so that I could understand the emotions of my students. I wanted to see if my students were happy or unhappy with the feedback I was providing them with for their learning. I depended very much on my interviewees for helping me understand the emotions that my students had faced during the interviews.

Moreover, it also helped me ask questions about the way my interviewers had changed the order of the questions. The questions provided to my interviewers were structured in a certain way; however, they were advised by me to adapt the questions to suit the way the students answered them and so sometimes the interview questions were not asked in exactly the same manner or structure. My interviewers had previous experience in interviewing students for their own research and so it was not a problem for them to understand the fact that the questioning technique may not go as planned earlier. Moreover, at times the recorded interviews showed that my interviewers had repeated a question at least twice and in some rare cases three times. The interaction with my interviewers immediately after the interviews helped them look back on why the questions were repeated. Moreover, the session with my interviewers also helped me

understand the mood and reactions of my students. They were able to relate to me the general attitude my students had to the way I provided feedback to them for learning.

4.5   Reliability, Trustworthiness and Validity of the Research

Quantitative researchers, in contrast to qualitative researchers, are comfortable with an "orientation toward understanding the objective world via experimental designs that test hypotheses born from theories and result in statistical generalizations that apply to a population at large" (Suter, 2012, p.345). However, qualitative researchers rely on their "skills to receive information in natural contexts and uncover its meaning by descriptive, exploratory or explanatory procedures" (Suter, 2012, p.345). Although qualitative and quantitative researchers may disagree with each other on what is reliable or valid, Suter (2012) concedes that both types of researchers value rigorous data collection which is supported by logical arguments.

The validity of qualitative research relies on the trustworthiness of the data and its interpretation. Common methods of assessing validity according to Suter (2012) include consistency checks, coding and use of stakeholder checks. In this research Lincoln and Guba's (1985) model of validity is used. Lincoln and Guba posit that trustworthiness of a research study is important to evaluating its worth.

They stated that:

> Trustworthiness involves establishing credibility which is the 'truth' of the findings, transferability which shows that findings have applicability in other contexts, dependability showing that the findings are consistent with each other and conformability which shows a degree of neutrality where the findings show that the study is shaped by respondents and not the researcher's bias (p.290).

These checks were maintained in this research project. Initially, I thought I knew how to provide feedback and I was confident in providing feedback to my students. I was unaware of the rich literature review behind the provision of feedback. However, with the extensive reading of the literature on feedback, the interviews, journal entries and the study of artefacts, my views on how feedback should be provided moved proving that the research is truthful. The realization that I cannot depend just on myself to shape my practice was understood during the course of this research. I had to consider the views of my students too.

In order to achieve consistency and validity in my research the "triangulation method" was adopted (Creswell, 1994, p.280). The three data types were holistically viewed for inconsistencies and links. Moreover, the interviews were recorded and played back several times. The interviews were also conducted by my two colleagues. I also went through the interviews with the two teachers who interviewed the students. This demonstrates that the data are credible and neutral and that as far as possible my bias did not affect the data. The data was extracted

from the recordings in its raw state with no opinions being formed and the transcripts were not tampered with in any way.

Another way in which the credibility of the data was enhanced was when the questions asked during the interviews were repeated by the interviewers. This was a discussion I had with my interviewers after going through each interview question with them. Moreover, after every interview, when my interviewers told me that students were having difficulty understanding or answering certain interview questions, I and my interviewers changed the questions together and made them simpler and reframed them.

According to Knafl and Breitmayer (1989) four types of triangulation exist and they are: the triangulation of data methods, data sources, theoretical triangulation and triangulation of investigators. In this study the triangulation of data methods was considered. Knafl and Breitmayer stated that the most common approach is when data is collected from different means and compared. In this study there were three types of data which were collected, namely the artefacts, interviews with students and reflective journals. I employed the triangulation strategy to reinforce the validity by comparing the interview data with the journal entries and the artefact study. Triangulation, according to Creswell (1994) is done by "corroborating evidence from the different data and this ensures that the study will be accurate as the information is not drawn from a single source, but a few" (p.280). Through triangulation the data were assessed against one another or cross-checked.

Moreover, in order to bring about the credibility of the research, member checking, as suggested by Lincoln and Guba (1985) was done. One way this can be done is by playing the recorded interviews to the interviewees for their responses. However, in this study this was not done. Instead I adapted the member checking aspect by going through with the interviewers the recorded interviews so that no aspect of the interview was represented differently. Moreover, member checking, with the interviewers, allowed me to also understand the feelings of my students from the interviewers.

4.6   Ethical Considerations

To embark on this research ethics clearance was gained from the Singapore Ministry of Education and the Monash University Human Research Ethics Committee (MUHREC). The project number is CF 12/2377 – 2012001290. I gained approval for students from both my classes to be interviewed in the year 2012. In order to reduce the power relationship I have with my students, two teachers from my college interviewed the students on my behalf. I provided an explanation of the research objectives, questions and process and sample of consent forms and the information for the students to the committee. I also gave MUHREC the official permission letter from the Singapore Ministry of Education which allowed me to conduct my research in my college.

Participants (students) who were to be interviewed were given the choice to decline to be interviewed at any point in time. Consent forms were given, through my colleagues to my students. The students were asked to take the

consent forms if they agreed to be interviewed. The students were asked to put the consent forms in the teacher's (my) assignment handing up drawers, outside the staff room, if they consented to being interviewed. Objectives were clearly stated and a complaints clause was included on the explanatory statement. In addition, students were asked to give their artefacts (scripts) to be studied if they were willing. Forty-nine students gave their thick work files to the General Office and some told other teachers to place them on my table in the staff room. All this was done only after the 'Advanced' Level examinations for Geography were over in the month of November. The students were also given the assurance in their consent forms that their names would not be used in any part of the thesis.

In the next chapter, the findings from the data will be presented and discussed.

CHAPTER 5: RESULTS AND DISCUSSION OF DATA (ARTEFACTS and JOURNALS)

In this chapter, the findings from the analysis of the artefacts and the reflective journals are presented and discussed in relation to Hattie and Timperley's framework and other relevant literature. Hattie and Timperley's (2007) framework was used to inform my teaching from the beginning till the end of the study. Moreover, their framework was also used to analyse the data from the artefacts, interviews and reflective journals. The findings cover the analysis of the artefacts and reflective journals in the early, mid and year-end phase of providing feedback. The analysis has been structured in the following manner:

5.1   Early Phase of Feedback

      5.1.1   Artefacts

      5.1.2   Journal Entries

5.2   Mid-Phase of Feedback

      5.2.1   Artefacts

      5.2.2   Journal Entries

5.3   Year-End Phase of Feedback

      5.3.1   Artefacts

      5.3.2   Journal Entries

5.1   Early Phase of Feedback

In this section the analysis of the artefacts and reflective journal entries will be presented.

5.1.1   Artefacts.

This section provides the findings of the feedback that was provided to students in the early phase of 2012, through artefacts. The data were collected over a total of eight weeks. The findings from the analysis of the artefacts from the early stage will be presented in two parts. The first five weeks of the early stage represent the first part and the weeks after that are representative of the second part. The analysis will be presented in the following manner.

> 5.1.1.1   Early practice of providing feedback without knowledge of Hattie and Timperley's framework
>
> 5.1.1.2   Providing feedback using Hattie and Timperley's framework

Hattie and Timperley's (2007) framework was used to inform my teaching from the beginning till the end of the study and the framework was also used to analyse the data. However, in the first part of the early phase, which represents the first five weeks, feedback was provided without a clear knowledge of Hattie and Timperley's (2007) framework. Mistakes were made in the way the levels of feedback were interpreted in the early stage. However, developments in the early phase, after the sixth week, showed that I had begun to use the framework with

understanding. A summary is provided after the analysis of the artefacts and journals after each phase.

5.1.1.1 Early practice of providing feedback without knowledge of Hattie and Timperley's framework.

In this section, the feedback that was provided to students in the early phase from the month of March to May 2012 will be presented. Knowledge of Hattie and Timperley's (2007) framework was not used initially, when providing feedback to students. After an analysis of the data, the following themes emerged. The feedback provided in this stage has been discussed in relation to these themes:

    i.   Providing answers as feedback

    ii.   Question marks, underlining and positive and negative feedback

    iii.   Illegible and late feedback

<u>Providing answers as feedback</u>

Data for the early phase suggested that I was not scaffolding the learning for my students because I was in fact giving my students the easy way out by providing the answers. I was '*afraid of silence*', as seen from my journals, in the class. Ip (2005) advocates that if a student needs assistance in answering a question, teachers should look to other students to provide help rather than providing it themselves. Marquardt (1999), on the other hand, stated that "questions can be asked to help in learning as questions expect the students to go deeper to understand, respond and give some thought about what is being asked" (p.30-31).

But instead of doing the above, I provided the answers. As a teacher, I have *'always been very keen on getting the right answers from the students'*, as my journals informed me. However, as Adams (2010) argues, there was a tendency for people to reward answers and not the questions and the learning. Which means that here was a need to move away from wanting a *'correct answer or response'* to valuing answers more than the learning. As Goldberg (1988) explains, "sometimes the conditioned hunt for answers represents a desperate attachment to 'knowing,' and a simultaneous avoidance of any anxiety associated with not knowing, or even appearing not to know." (p.4).

For example, in a formative assessment tested on both the Higher 1 and Higher 2 students, students had missed writing out a crucial geographical concept. The topic tested was on 'Lithospheric Processes, Hazards and Management'. The missing concept, which was crucial to the answer, was stated in all the scripts when I marked them. Upon analysis of the twelve formative-timed assessment, given in the month of March or early feedback period, 11 of the 12 students who did not provide the concept and answer called *'slap pull',* had the term written in all their scripts with an *arrow pointing* to where it should have appeared in the answer. The answer was not only provided but the place where it should have appeared in the script was also stipulated in the feedback. According to Adams (2010) questions must be provided and students must be allowed to search for the answers which could help them in problem-solving. This is because, as Cotton (1997) stated, questions are scaffolds which can help develop thinking skills and stimulate students to pursue knowledge on their own. Whatever the scaffolding technique is, according to Rosenshine and Meister (1992) it should

increase student responsibility and mastery. In this sense it can be seen that learning must shift from the teacher to the student.

Answers or corrections which were briefly written or elaborated upon were also provided to students in the early phase of feedback. For four out of the six H1 scripts analysed, students received answers which were at least four to five lines long. The four students scored four marks out of a total of seven marks for the data-response question. An excerpt of my feedback on the answer is given below for those who scored four marks. The excerpt provides an answer to the students on how they could have described the incidence of certain types of lava from eruptions. The excerpt provides an example of how an elaborated answer was provided to the student as feedback.

> From the figure it can be seen that most of the eruptions on the continents seem to give evidence of andesitic and rhyolite lava. For example the eruption of Nevada del Ruiz in 1985 shows incidence of andesitic lava. However, the eruptions in the oceans/sea seem to show evidence of basaltic lava e.g.: Mauna Loa.

The above excerpt shows that I had provided the students with comprehensive answers for the data-response question. In another example, I had provided the student with pointers briefly, as answers. The photograph, provided below, provides a snapshot of feedback that was given to a student. The question asked for reasons why an area (specified in a hydrograph or a storm graph of a river) was experiencing floods. The Figure 5.1, shows evidence of brief pointers that

116

were provided to the student as answers to explain why an area experiences floods. The corrections done by the student below the red ink shows how the pointers that I had provided had been used.
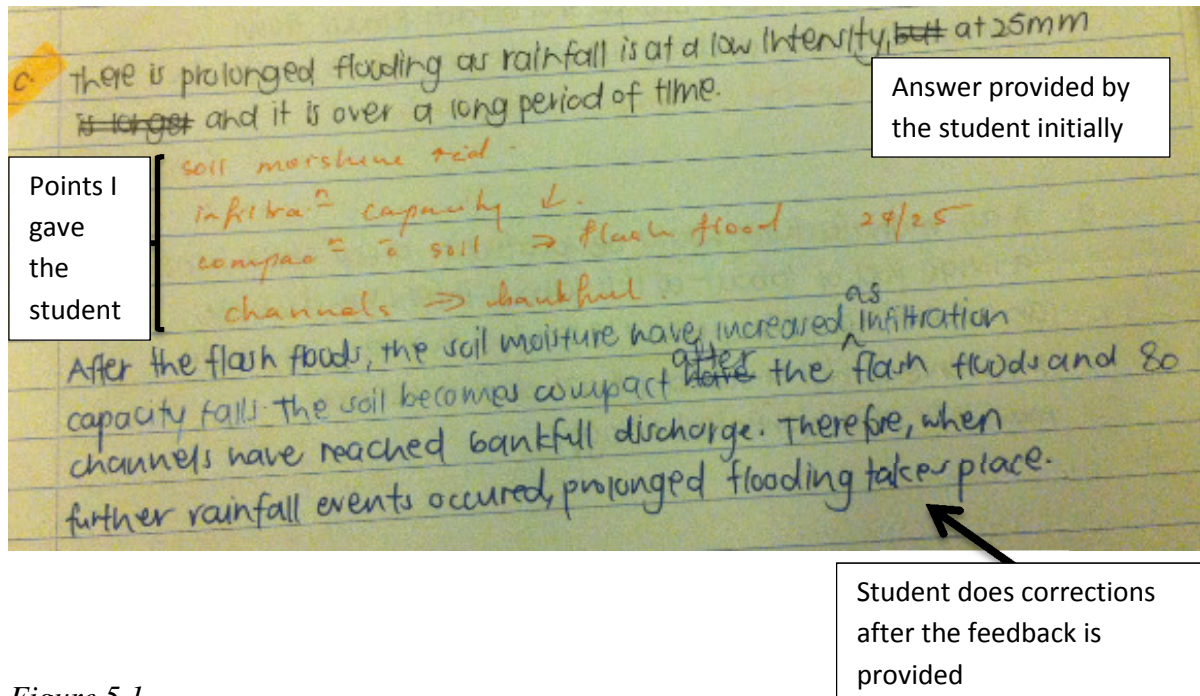
Figure 5.1

Pointers provided to student as answers

The corrections showed how the feedback I provided had been used by the student. The pointers I provided had not been elaborated on but simply put into statements. The answers presented initially by the student and the corrections indicate two very important factors. Firstly, the answer provided in the corrections was still not deserving of a full mark but it was definitely a better answer compared to what the student provided initially. This is evidence that the student had, in a very objective way, not learnt to answer the question or understand the content. The student had only mechanically placed the pointers provided by me as an answer in sentences.

117

Upon analysis of the feedback provided in the early phase, it can be seen that I gave either brief or elaborated answers instead of feedback to students. I provided the students with the corrected version of the answers instead of giving the students the responsibility of rectifying an error or inaccuracy. According to Hattie and Timperley's (2007) framework, the process of providing answers does not fall into any aspect of the feedback at the task (FT), process (FP), regulation (FR) and self-levels (FS) of feedback. The provision of answers instead of feedback also shows how differentiated instruction and the encouragement of higher order thinking skills were not encouraged in my written feedback. Like the examples provided above, all the artefacts in the early phase showed that I had the wrong impression that providing brief and elaborated answers to students was part of providing effective feedback. Instead of providing answers, the students could have been given scaffolds which would help them find the answers. According to Applebee (1986) scaffolds allow students to take ownership of their learning. Instead of providing answers, scaffolds can be provided to help a student to approach a task well. Answers, contrary to my earlier belief, may not always help a student to understand a concept fully. Students might, as shown above, use the answers in a very mechanical way showing a lack of mastery of the content or answering techniques.

Question marks, underlines and positive and negative feedback

Another type of expression or sign that was evident in the marking of artefacts was the use of punctuation marks and underlining. Scripts for a formative assessment were analysed. The H2 students had sat for a formative assessment in the month of March. In the scripts, punctuation marks and underlining were seen.

The question mark and underlining had been used commonly in the artefacts in the early phase of providing feedback. Table 5.1, provided below, shows the number of times question marks, underlining and other feedback appeared in the H2 answer scripts for the formative assessment.

Table 5.1

Analysis of types of feedback provided in the early phase of providing feedback in the artefacts (H2 Scripts)

		Types of feedback provided in the early phase		
Script 1	Mark for the Script	Question Mark	Underlining	Other Factors
Script 2	5 marks	3	Underlining on lines 2, 4 and 8	Tri-cellular **(It is an atmospheric concept-but it was not defined as such)**
Script 3	1 marks	1	All 10 lines underlined	Did not study and a big question mark with brackets
Script 4	2 marks	2	No underlining	*----nil -----
Script 5	2 marks	2	Underlining on 3 lines, lines 5 , 6 and 7	*----nil -----

(*nil means – no feedback was given)

In the case of the H2 students' scripts, for five out of the six scripts I had marked, as seen in the table above, question marks had been provided in various parts of the data-response question. For script 1, for a six mark question, three question

marks were seen in lines two, four and eight. The answer earned five marks. Achieving five marks out of the total mark of six is a relatively good mark, but the question marks used had given me the impression that there were missing links in the answer. However, there was no relation seen between the numbers of questions marks that appeared in the answer and the marks. Moreover, according to Hattie and Timperley's (2007) framework, question marks do not fall into the categories of feedback at task, process, self-regulation and self-levels.

The parts of the answer which had question marks drawn on them were also underlined for the four scripts analysed. In script three, the whole answer is seen bracketed and a big question mark is drawn on it. Underlining has been made on every one of the ten lines of the script. A negative piece of feedback, *'did not study'* was also given. The answer had scored one mark. Upon reflection, the negative feedback refers to the self-level or personal feedback, which is aimed at personal attributes (Hattie and Timperley, 2007). Such feedback, according to Hattie and Timperley (2007), is not effective as the feedback is too dispersed or general. However, self-level feedback seemed to have appeared commonly in the scripts compared to the other three types, FT, FP and FR, of feedback. In two of the scripts analysed, two question marks were present for the five mark question. One of the scripts, script 5, had three lines underlined, while script 4 did not have any underlining.

The fact is the question marks do not state what is, specifically, missing in the answer, whether it is data, a concept, and content, or whether the whole paragraph or statements are erroneous. In the initial phase of this research, as

shown in Table 5.1, I was more accustomed to underlining and putting in question marks when something was incorrect. However, the underlines and question marks failed to explicitly state what is incorrect about the answers. Upon analysis of the artefacts in the early phase, it can also be seen that for a particular formative assessment, answers, both brief and elaborated were given, while for another formative assessment more punctuation marks, underlining and very brief one line of feedback was given. According to Hattie and Timperley, the provision of answers, punctuation marks and underlining do not fall into the four types of feedback, that is, FT, FP, FR and FS. The feedback, *'did not study',* can be put into the feedback at the self-level. However, the feedback at the self-level (FS) does not help students rectify the problems they have in arriving at the right answers. As the practitioner, the analysis of the artefacts suggested that I had the wrong impression of what feedback was in the early-phase period. Unknowingly, however, I have been providing feedback at self-levels which had "not contributed in promoting self-efficacy, nor lead to a greater understanding of learning tasks" (Boud and Molloy, 2013, p.114).

In another case, for a nine mark semi-structured essay question, given in the month of March to the H1 students, question marks, underlining and other types of feedback also appeared. The data has been captured in a Table 5.2, on page 122. In five scripts, arrows were drawn and then question marks were drawn in some parts of the nine mark essay. Some sentences in the scripts were also underlined. For script 1 a large wrong mark and a very large question mark, which is half a page big, had been drawn. This is the only script without underlining and it was given zero marks. For script 2, which earned five marks,

three question marks were seen on various parts of the answer with underlining. The term 'concepts', was also crossed out. For script 3, which got six marks out of nine marks, two question marks were seen with underlining, while another script which also earned six marks (script 4) carried with it three question marks with underlining. Both the scripts had no other feedback given besides the punctuation marks and underlining. For a question that earned seven marks, only one question mark was seen and there was no underlining on this script. However, the term 'example' had been crossed out.

Table 5.2

Analysis of certain types of feedback provided in the early phase of providing feedback in the artefacts (H1 Scripts)

Script Number	Mark for the Script	Question Mark	Underlining	Other Feedback
Script 1	0	1 (big question mark)	--nil---	A big wrong symbol and arrow --nil---
Script 2	5	3	3 underlines	Concepts, arrow
Script 3	6	2	2 underlines	---nil---, arrow
Script 4	6	3	3 underlines	---nil---, arrow
Script 5	7	1	---nil---	Example, arrow

Overall, upon reflection of the artefacts, I was unable to see a relationship between the question marks, underlining and number of marks awarded to the students. The feedback that I had provided to my students appeared to be unhelpful to their learning. Upon study of the artefacts, even I, who had provided the feedback, was unable to decipher what I meant by providing the question marks and underlining or what they represented. In addition, the interviews with the H1 and H2 students had revealed that students found the markings and arrows in their scripts discouraging and difficult to understand. The reason was that they were unable to understand the codes understood only by me, and I had not taken the initiative to explain to the students what I meant by the ticks, underlining, question marks and other such codes and symbols found in the scripts. At the point of marking the scripts in the month of March 2012, I might have had an idea of what the question marks, underlines and arrows represented. However, upon reflection on the artefacts, I was unable to decipher what they meant. I had forgotten what the question marks, underlining and arrows represented. This goes to show that I did not have a structured way of marking and providing feedback to students.

Even though the use of question marks, underlining and arrows had been common in the marking of scripts, I had not provided the students with clear instructions on what they meant and represented. The feedback needed to be clear to the students every time they referred to their marked scripts. Feedback should have offered clear guidance on how work could be improved.

On the other hand, I realized that feedback at the task level had been provided to the H1 students in particular. The terms '*concepts*' and '*example*' showed me that I had provided clues to the students to tell them that there were missing concepts and examples in the answers. However, I was not sure if the H1 students had benefitted from the feedback provided at the task level. This was because the feedback did not seem specific enough. The type of concepts and examples used needed to have been specified more clearly for the student to have benefitted from them. This was supported by evidence from the interviews.

Illegible and late feedback

Illegible and late feedback had also affected the way feedback was provided to the students in the early stage. For many of the scripts analysed, the feedback that was provided was illegible. I was unable to make out what I had written on the two scripts beside the question marks and answers on some parts of the essays. The feedback did not seem to provide meaningful direction for students as the feedback was difficult to read. Illegible written feedback is deemed unconstructive feedback as it does not help students correct their problems or enhance their learning. Moreover, the interviews with the H1 and H2 students showed clearly that the illegible written feedback had hindered learning in many instances for them. Students have stated in their interviews that illegible feedback has made them disregard it. Students don't seem to like the written feedback and prefer the verbal feedback as they have difficulty reading the former. What was surprising was the fact that the journals, on the 17th of May 2012 showed that I had *'problems understanding my own handwriting and I was unable to make out what I had written out on the artefacts'*. This was something I had to correct as a practitioner. The images of two artefacts, Figure 5.2a and

5.2b, shown below, gives an example of illegible feedback that I had provided to students in the early stage of providing feedback.
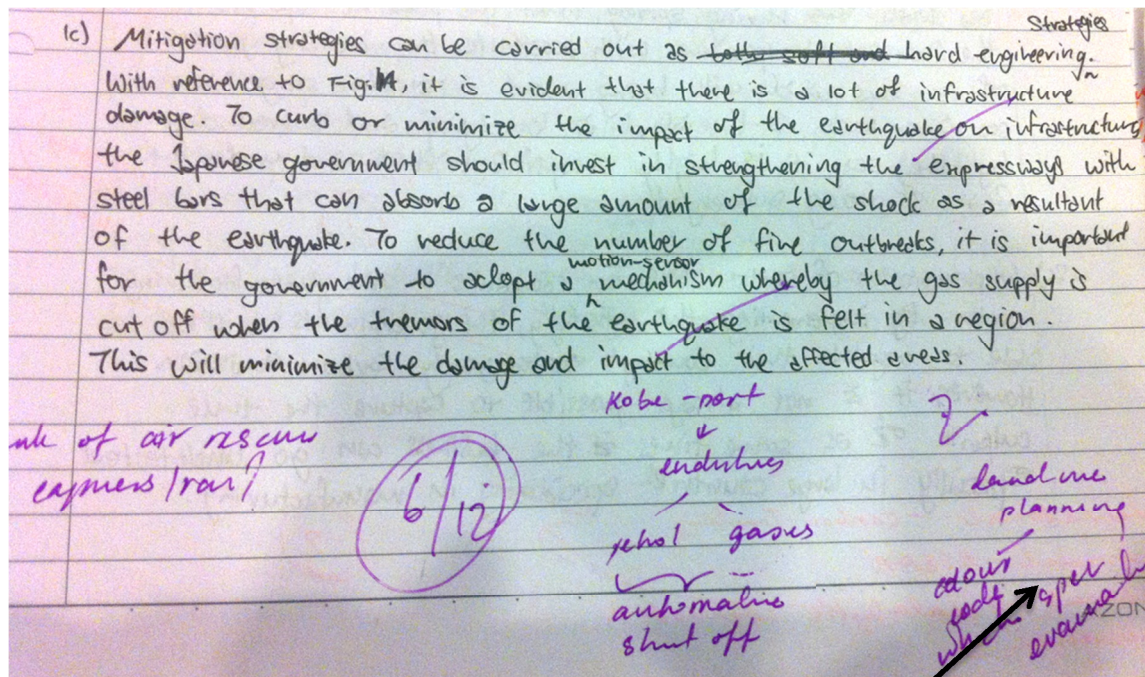
Figure 5.2a

Illegible feedback

The feedback provided in this area is illegible compared to the others
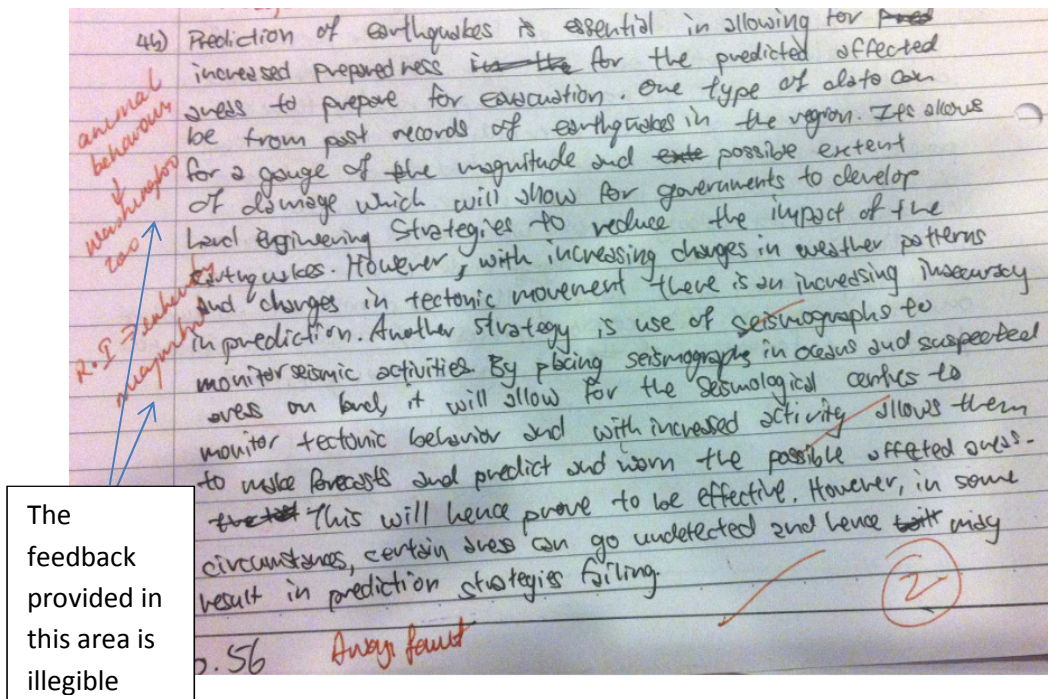
The feedback provided in this area is illegible

Figure 5.2b

Illegible feedback

Another important factor in relation to feedback was that it should be provided in a timely manner. According to the literature, feedback provided immediately or within a short period of time tasks are completed is more effective compared to feedback that is delayed (Kulik and Kulik, 1988, Hattie and Timperley, 2007, Hamid and Mahmood, 2010). However, in the early phase, assignments were marked and given to students after three weeks to one month. The interviews of the H2 students showed that immediate feedback was important and initially such immediate written feedback was not provided to them. In the interviews, students had expressed the need for immediate feedback. Within a matter of three to four weeks after submitting an assignment, the students had moved on to deal with a different skill or genre of question and so the feedback provided for the previous work was either forgotten or not applied.

This suggests that illegible feedback and feedback that is provided too late is not constructive to learning.

5.1.1.2 *Feedback provided using Hattie and Timperley's framework*

This section examines my use of Hattie and Timperley's (2007) framework for providing feedback in the second part of the early phase, which came in after I had reflected on the way I gave feedback. The use of the framework was applied from the sixth week of the early phase. The discussion in this segment has been divided into four parts to further understand the feedback that was provided to students.

These are:

    i.   Analysis of the feedback at the self-level for the H1 and H2 students

    ii.   The feedback provided at the task level for the H1 students

    iii.   The feedback provided at the task and process levels for the H2 students

    iv.   Summary of the feedback provided in the early phase

Analysis of the feedback at the self-level for the H1 and H2 students

In the early phase, many types of self-level feedback were seen in the H1 and H2 scripts. However, I had no idea that I was providing such feedback to my students. I was not conscious of the fact that I was using such feedback as I was still not familiar with the use of Hattie and Timperley's (2007) framework and I was still learning how to use the framework. Expressions such as those shown in Table 5.3 were seen in all of the 12 scripts analysed from the early phase period. Each student had received between three and five of the negative forms of the feedback and there were 18 examples of the positive feedback seen in all the scripts. Some of the self-level types of negative and positive feedback which were provided were:

Table 5.3

Examples of feedback given at the self-level

Negative Feedback (Feedback at the Self-Level)	Positive Feedback (Feedback at the Self-Level)
OMG! (Oh My God)	*Wow*
Are you sure?	*Brilliant*
Think again!	*Smart Girl*
What?	*Smart Boy*
Really?	*Well done*
This is a stupid answer.	*I love this*
Huh!	*Coffee Time for Me*
Nonsense!	*Good*
Were you ever present during lessons?	*Very Good*

The snapshot of an answer script provides a view of the feedback given at the self-level.
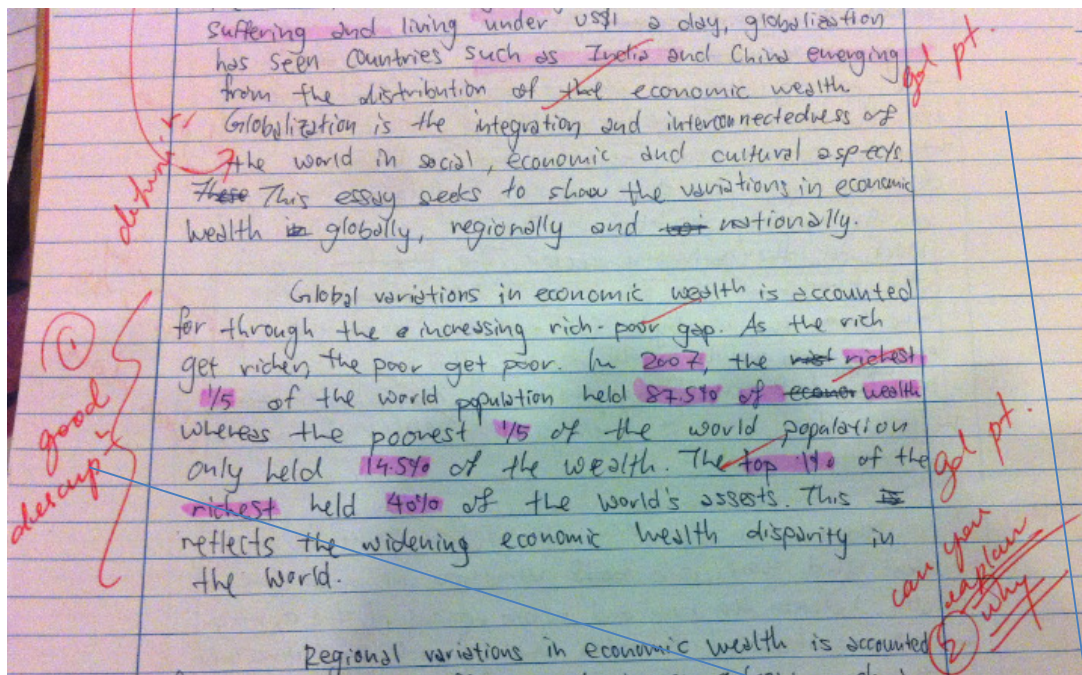
Figure 5.3

Artefact showing positive self-level feedback

Positive Self-Level Feedback shown in the marked script

128

When analysing the artefacts, it was evident that I had given negative feedback at the self-level (FS), for the following reasons:

a) The concept written in the answer was erroneous

b) There were missing facts or concepts

c) Expressions that were not understood by me

d) Lack of answers/facts given for the mark

The positive feedback at the self-level was given when the answer:

a) Gained a full mark

b) Some parts of the answer/s were written well

c) There were pleasant and relevant geographical expressions or statements that were written in the answer.

These different types of feedback were not given for just one type of problem, or strength seen in an answer, but they were generically given for a variety of limitations and strengths seen in an answer. On analyzing the artefacts which carried feedback at the self-level (FS) the reason/s the answer was worthy or flawed was not clearly defined. For instance, for positive self-level feedback, whether the feedback was provided for a pleasant statement or geographical expression, or for a part of an answer that was well written, was not specified. There was no clue as to why the student would have been provided such self-level feedback. Moreover, upon reflection, too many positive self-level

feedbacks were also being provided within just two paragraphs as seen in Figure 5.3. This shows that there was no system as to what kind of conditions would deem a certain type of self-level feedback. It looks as if I was provided redundant self-level feedback repetitively.

On the other hand, upon reflection, some scripts carried negative feedback which shows that I had been overly critical of the answer written by the student. The feedback shows that there was a poor choice of words used in providing feedback. The terms like *'messy', 'horrible' and 'this is a stupid answer'* are very unconstructive to furthering learning. Upon reflection on the answers written by the students, I felt that I could have been more empathetic towards the student for giving wrong answers. I feel that I was not providing them the opportunity to learn at their own pace or from their mistakes. The scripts also showed me that I did not have a fixed way of providing feedback, but rather provided feedback any way I wanted. This was very unconstructive in terms of learning as it did not provide the student with any preconceived idea of how I marked and provided feedback. My marking and provision of feedback showed that I was very unpredictable in providing feedback. This lack of predictability is unhelpful in helping students get used to and learn from feedback that I provide them.

According to the framework, feedback at the self-level should be positive, however, in this case I had also given the students negative feedback at the self-level. In the interviews, some students, mostly H1's, had complained to the interviewers of *'harsh negative feedback'* that had appeared on their scripts,

which had '*de-motivated*' them many times. But the H2 students had not complained about the negative feedback. All six H2 students had agreed on the need for harsh feedback which motivated them to revise their work and '*get their stuff right*' (Lower Ability H2 student). Thus it was evident that students with high self-efficacy were able to accept negative feedback at the self-level more readily than students with low self-efficacy (Hattie and Timperley, 2007) such as many of my H1 students. Moreover, students who had a better rapport, with me, like the H2 students, were accepting about receiving negative feedback compared to students with whom I had low rapport. The interviews, with the H1 and H2 students inform me that the H1 students were more affected by the negative feedback I provided them with than the H2 students. This may also be because I only see and tutor the H1 students 5 tutorials a week while I tutor the H2 students eight times a week. I see the H2 students more and interact with them more than the H1 students. My journals suggested to me that many times I had openly voiced frustration when '*I see the same mistakes repeated again and again*'. I had articulated that it was becoming a '*major chore*' to keep correcting mistakes that had been pointed out to students, '*especially the H1 students*'. This frustration had pushed me into providing negative self-level feedback to the students. However, such harsh negative feedback had demotivated my H1 students. The interviews with the H1 students indicated that the negative self-level feedback was inappropriate and did not add value to their learning. Students, in their interviews, have shown that they disregarded such feedback and were even upset about consulting me. This was more so for the H1 students than the H2 students.

This suggests that even though I had provided students with self-level feedback it had not been constructive to their further learning as I had not specified what was 'good' or 'bad' in their answers.

Feedback at the task level for the H1 students

For essays marked in the early feedback phase, some scant feedback had been written on the artefacts. In the case of an assignment that the H1 students had done in the month of April, all the six essays had little feedback given on various parts of the scripts. The feedback given in the essays was feedback provided at task level. For all six scripts, the term *'examples (egs.)'* had been used. Upon reflection, this term suggests that examples had not been used in the essay. According to the framework, feedback at the task level is provided in response to corrections and to ask for more surface or content to appear in the answers. In this case the six essays lacked the surface knowledge required and so feedback at the task level was provided. However, for some scripts, instead of giving one word feedback, a brief statement at the task level was given. For three of the scripts, at the end of the answer the following feedback was provided.

Your examples are missing. Lack of reinforcement of answer.

Weak essay.

All the three scripts were given Level 1 marks according to the levels of marking of essays for Geography. (The levels of response for marking has been explained in Appendix 7, page 356) of between five and seven marks out of a total mark of

sixteen. No other feedback was given for the three scripts. It was evident that this was corrective feedback, which was at the task level, and stated what was missing in the answer. Though the way the feedback was provided had improved from what I had provided students at the beginning of the early phase one problem with this type of feedback was that it lacked information on what aspect of the work needed to be reinforced. It gave an impression that the student would know the examples to provide. The feedback was also given to a higher ability, an average and a lower ability student. So the feedback, provided by me, did not consider the ability of the student in providing the information needed. The feedback was provided with respect to what the answer held. Therefore, as seen from this case there seems to have been a one- size-fits-all type of feedback. It is general feedback only, and not feedback catering for individual students' learning.

For one of the scripts, which scored a Level 2 mark of eleven out of sixteen, the following feedback given was:

> Could have used better examples. Lacks evaluation. Content is
> sound. Too much regurgitation.

Moreover, in the script, the term *'evaluation?',* with a question mark had been written beside two of the content paragraphs. Again this feedback was related to feedback at the task level which showed that the answer was lacking in some ways. In addition, the feedback stated that the student lacked evaluation. For such problems, Hattie and Timperley (2007) argued that further information is

more powerful than feedback information. Further information in this juncture refers to a teacher providing more help or scaffolding to help the student evaluate. Just by writing out the term '*lacks evaluation*' the student may not be able to establish the task. This is because 'evaluation' is a higher order thinking skill. If 'evaluation' is a problem for the student, then the scaffolds required for evaluation could have been provided to the student, but they were not. The feedback in this artefact showed that I had assumed that the student would know how to evaluate. According to Bruner (1978), scaffolding supports progress through a relatively difficult task. He also stated that scaffolds motivate a student in directing their actions and helps in controlling frustrations experienced in completing a piece of work. In order to achieve the higher order thinking skills, scaffolds are necessary, and one way in which the thinking could have been encouraged to students is through feedback. The feedback, cited above, could have given students the prompts to evaluate. Providing students with a series of steps for evaluation or providing them with a checklist that helps them to evaluate, could have helped them to achieve writing out their 'evaluation'.

Upon further analysis of the feedback the kind of specific examples that may have been considered for the answers were also not defined in the feedback. I could have provided the student with the scaffolds required to choose the most suitable case studies which would have helped them with HOTS. If the students, indeed, had a problem in choosing the right case studies, then providing the process level feedback through scaffolds would have helped them and this would have satisfied differentiated instruction, as each student was at a different level of proficiency in achieving learning outcomes. Process feedback provides

connections across tasks to broaden or expand tasks into new areas and "assists the learner to develop their cognitive processes and apply it to other difficult or untried tasks" (Boud and Molloy, 2013, p.111). But the feedback clearly shows that the student was not given such feedback to help them develop their cognitive skills.

Feedback at the task and process levels for the H2 students

Six H2 essays were marked in the month of April. For these essays, more feedback at the task level was in evidence. The data has been extracted and shown in Table 5.4. For three of the essay scripts, which earned Level 1 marks of four, five and six marks out of a total of 16 marks, the feedback given was:

Table 5.4.

Feedback for three 16mark essays

Script 1	Misinterpretation of question. Need to understand command words, refer to the list provided. Need to learn to use the right examples	4 marks
Script 2	Weak in using concepts and conceptual errors	5 marks
Script 3	Unclear about which examples to use	6 marks

In these scripts, one instance of feedback showed the student's weakness in using examples. This was a piece of feedback given at the task level where I had clearly stated what was 'incorrect' about the answer. The answer with the lowest mark showed the weakness in understanding a question and the need to understand command words. This feedback was given at the process level (FP).

135

This is the first time, in the early phase of providing feedback that feedback at the process level had been provided to the student. The feedback showed the student the limitations seen in their work. The feedback also showed that there was a need for the student to become effective in, for example, using the right examples and understanding command words. The answer which gained five marks showed weaknesses in geographical knowledge. This was feedback given at the task level and it stated what was 'incorrect' about the answer.

The scripts which were given six and four marks, belonged to two higher ability students and the five mark answer belonged to an average student. This is evidence that again, the written feedback given did not consider the student's learning ability. In the early phase it appeared that I was only interested in correcting the answers given by the students. I was not thinking at all of the ability of the students when providing written feedback.

In another instance, I had marked three essays in the first week of May. For two essays, feedback was provided for Level 2 answers. Two of the essays scored Level 2 marks of nine and eleven out of a total of sixteen. However, the feedback given for both the essays was different. For the essay which earned nine marks the feedback was given as follows:

> You only have one case study. You need to learn to use the case
>
> study well instead of regurgitating the contents. Think of the 5Ws
>
> and 1H *(5Ws – why, when, what, where, which and 1H- how)* to
>
> give a summary of the relevant information.

Again, as seen from the written feedback, only task level feedback was given. This was corrective feedback that stated to the student what was lacking. It did not provide information on how well the lacking information could have been processed or presented by the student. However, advice that had been provided on what the student should do to learn to use case studies can be considered as feedback at the process level. Upon reflection, however, the feedback lacked the scaffolds required for a student to write a good answer. Obviously, the comment *"you only have one case study"* shows that the answer is lacking information so the student has to give more than one case study, but it does not state how many case studies are essential for a good answer.

In contrast, the answer that scored 11 marks received the following feedback;

Good use of examples. You could have compared the examples

and that would have shown some amount of evaluation.

The feedback provided for this essay was very positive. The feedback clearly stated what was positive about the essay, like the use of examples. The term *"good"* shows self-level feedback which accompanied feedback at the task level. The feedback focused on the information that the essay provided to earn the marks. However, feedback was also given at the process level (FP) as I had given the student a strategy to be applied effectively to perform better in the future which is to compare the examples to show evaluation.

The third script scored a Level 3 mark of 13 out of 16 marks. For this essay feedback at the task, process and self-levels was provided. The feedback given was;

> Very good use of examples seen. Think about how you can make your stand clearer. Follow the SEXI-Eee strategy for both your contents. Compare your case studies for more sound evaluation.

As can be seen from this feedback, I had clearly spelt out how well the task had been accomplished which accompanied a positive self-level feedback. The feedback also provided scaffolds on what else the essay required as seen from the feedback *'think about how you can make your stand clearer'*. This phrase shows how HOTS could be used in the essay through comparison of case studies. As seen so far the feedback provided for essays to the H2 students at the different levels of responses showed variety. This is evident of how I was starting to embrace differentiated instruction in the provision of feedback within the early phase. This section showed that the incidence of the process level or FP was starting to arise in the artefacts, though not all the artefacts showed such feedback. The evidence of the use of feedback at the process levels also provide evidence of HOTS being embraced in the feedback.

Summary of the feedback provided in the early phase

The analysis of feedback for the artefacts during the early phase showed that initially I had been providing students with brief or elaborated answers. This was a practice I had adopted since I began my career as a teacher. I also appeared to

have had a misunderstanding of what effective feedback was. Punctuation marks and underlining, which according to Hattie and Timperley (2007) are not effective feedback, were used as a means of showing students that the answers were erroneous. However, such feedback was not understandable to students and even to me, as shown in the journals and images. Nevertheless, I had also been providing students with self-level feedback, which was both negative and positive. However, self-level feedback rarely contributes to task completion, though it can motivate students.

In addition, the written feedback, as seen from analysis of the artefacts, was not given to students immediately. There was a gap of a few weeks before the marked assignment was given to the students. The literature relating to the feedback showed conflicting results about delayed and immediate feedback. However, the interviews and the journal entries showed that students were keen on getting immediate feedback. Therefore, this study has shown that there was a mismatch of what I believed in and what the students wanted in relation to how soon assignments should be marked and given back to students. The students wanted immediate feedback as they were sitting for their National Examinations, the 'Advanced' Level Examinations, at the end of the year. They were clearly unhappy in getting delayed feedback.

Finally, the feedback provided in the early phase showed no attempt at providing feedback to help students with their higher order thinking skills. Students were not provided with the scaffolds required for them to make evaluations. They were only given feedback that stated that any evaluation was missing. The

feedback also did not show that I had been attempting to solve individual weakness in order to achieve HOTS through differentiated instruction. This was because all the artefacts contained feedback that was provided to both the higher and lower ability students and the same feedback was provided to students regardless of whether they were H1 or H2 students. The feedback seemed to be quite general, to all the H1 and H2, both higher ability and lower ability students and therefore, it seemed to be a 'one size fits all' approach. This shows that feedback was not tailored to meet the needs of students in the early phase.

Upon analysis of the scripts, the H2 artefacts seemed to show more varied feedback provided at the self and task levels compared to the H1 scripts. The H2 students also seemed to have completed more questions compared to the H1 students. This was due to the fact that the H2 students had four lecture periods and eight tutorial periods per week compared to the H1 students who had two lectures and only five tutorial periods per week. Therefore, the H2 students had completed two times more artefacts than the H1 students. Moreover, the H1 syllabus is only 50% of the syllabus tested relative to the H2 syllabus which tests six topics, or 100% of the 'Advanced' level syllabus. This might be one reason why the H2 students had started to receive feedback at the process level in the early phase, compared to the H1 students. On the other hand, I truly believed that in order to achieve good 'A' level results the results of the H2 students had a bearing on my experience and expertise as a teacher. So I consciously marked and provided more feedback to them than the H1 students.

In the next section the findings from the journal entries will be presented.

5.1.3 Journal Entries.

In this section, the findings from the analysis of the journals from the early stage will be presented. Cochran-Smith and Lytle (1990) argued that journals are accounts of classroom life where teachers record their experiences and reflect on them over time. My journals also helped me understand the various assumptions that I held about my H1 students which I thought to be the ideal. However, the entries allowed me to flip the coin and see the other side of my position in an objective way over time too. The journals were analysed and categorized into three parts. In the first part, I reflected on the actual feedback which was provided to students in the artefacts in my journals. This category shows the focus on providing answers as feedback, illegible writing, providing students with irrelevant feedback such as underlining and question marks, and the time factor, or providing late feedback. I have termed these factors as being at the 'micro-level' as I felt that these were 'surface problems' seen in the feedback which could be corrected easily.

In the second category, I focused on the other major issues which affected the way feedback was provided. These included the assumptions I carried as a teacher regarding my students and the feelings I had faced providing feedback. In this category I also dealt with my confidence in providing feedback to my students. This category was coined the 'macro-level category' as I felt that this was an important aspect of my practice which required conscious effort at changing. This aspect of my study had been the lens (Brookfield, 1998) from which I was able to develop my own learning.

In the third category I examined my reflections in greater depth on the issues faced at the micro and macro levels and provided strategies to address the problems.

5.1.2.1 Micro-level category: reflecting on the micro level problems of providing feedback.

In the initial stage of journal writing, the entries showed that I had a superficial understanding of providing feedback to students. I had pre-conceived ideas of what feedback constituted and that was what was being practised. As stated in my reflective journals, it was a practice '*imbued in me for over eighteen years and the practice was never questioned*'. I was only '*continuing doing what I was comfortable with and had never experienced problems with it before and therefore, there was no reason for me to change my practice of providing feedback to students*'. I had been providing students with answers which I considered to be effective feedback. Moreover, the feedback that I had been providing them lacked detail and was provided late. In addition, the feedback was mostly illegible. The factors reflected on in this section are;

    i.   Providing answers as feedback

    ii.   Feedback lacking detail/explanation

    iii.   Illegible and messy written feedback

    iv.   Late feedback

Providing answers as feedback

In the early stage of this project, feedback to me was about providing students with answers. This was a practice that I had repeated since I started as a teacher

in my secondary school. The journals, which form my autobiographical lens, informed me that I gave answers as I was '*encouraged by my senior teachers to do so*'. This practice had kept with me all the way for eighteen years. '*Providing answers did not affect my students negatively as they had never complained of it*'. However, what is noteworthy is that I had questioned myself, in the journals as to why I had provided students with answers. For example, I wrote on the 22nd of April:

> Some of the scripts have so many answers and so much red ink that it affects me. I give feedback – try to give feedback that is relevant and I am still understanding how to give it and here in the scripts I see answers, but are answers feedback and are they constructive? Does it help the student learn? Am I not supposed to get the students to come up with the answers? Why am I showing them that I know the answer which is obvious? I have to make them learn and get the answer not just give them the answer.

It appeared from this journal entry that I was against providing answers to students. I realized this at the end of the early phase of providing feedback. Marking scripts takes a lot of time and the act of providing answers makes the process only longer. I questioned my practice after studying the artefacts and reflecting on them in my journals. My journals proved that I was instinctive in providing feedback to my students and it was because I felt that, '*I had better answers than my students and that I am able to express the answers in a better way too*'. I was providing answers and transmitting knowledge when learning was meant to be owned by the student. This shows me understanding my

learning through my students' lens. I, in fact 'owned my students' learning. The phrase, in the excerpt, '*supposed to get the students to come up with the answers*' showed that I believed that I should not be '*spoon feeding*' my students with answers. However, I had been providing answers to students for over eighteen years. It was a '*practice I have to forgo*'. The term '*have to forgo*' shows that I had made up my mind to not provide answers anymore. It showed that I had reflected on what was not constructive to my students learning and I was intending to eliminate that practice.

Feedback lacking detail/explanation

Another issue that surfaced in the journals was that I had become aware that the feedback I had provided to my students lacked detail or explanation. My journals showed that feedback had been provided in ways that students may not have understood. For example the journal entry dated 21st April stated that:

> I see underlines, question marks, circles, arrows, parallel lines, crosses and ticks which just do not make sense to me, now. What was I trying to inform my students? What does that question mark represent? Why do I underline, for a good statement or for a statement that is erroneous. What is the meaning of all the signs that appear in the scripts?

Upon reflection of the artefacts in the journals, I seemed to become aware that I was unable to decrypt the underlining, question marks and circles. I am able to sense the frustration I was facing. If I had provided the lines and circles, then I

144

should have understood what they were provided for. This was the first time I was actually analyzing pieces of work that I had marked. This study that I had embarked on, was giving me the opportunity to re-look at my own marking and feedback. This aspect of my learning was motivated by my literature or theoretical lens. The theoretical lens was teaching me that there was a need to scrutinize my practice. The artefacts were the only bridge I had linking my practice to the way feedback was provided. However, the journals showed that I was '*clueless*' as to my practice of providing feedback. I had no idea what the feedback which consisted of answers, circles, lines, question marks and other such signs, meant. However, I knew that they were not constructive. I had no legend to inform the students or myself of what the circles and lines meant. This again brought me to the question as to whether the act of providing circles and lines and question marks helped students to understand the mistakes or even positive aspects of their answers. The above excerpt also showed me that I had assumed that my students knew how to interpret the lines and circles that I had provided as feedback in their scripts. I had presumed that the students would have known my views of their answers when I was marking their scripts. This, in my view, is a grave error. I had been blindly practising something which had not been 'constructive' to learning for my students and I had not realized it for eighteen years of my teaching practice.

In another entry, I had stated that terms like 'content', 'concept' and 'examples' have been 'splattered' all over the scripts. The journal entry on the 26th of April stated:

I see content, concept and examples splattered everywhere in the script. Most of the time I can think of more than two or even at times four concepts and examples that can go into those answers. The fact is that I am not specific about what (concept) I want and the students might not be able to pin-point specifically the concept that is required in that particular answer especially if there are weak in their content knowledge.

This was evidence that the feedback I was giving was not specific and that such feedback may be looked upon as vague or generic. The feedback lacked the detail required for the student to understand what was wrong or right about their answer. This is feedback that I understood but realized that my students would not have understood it in the same way. Weaver (2006) argued that such information " that does not refer to specific criteria and cannot match students' expectations with performance, is not useful in helping students as such feedback is worded to the tutor's understanding and not the students'." Moreover, he also advocated that students need advice on how to use and understand feedback and if they are not taught to decipher feedback it will be rendered useless to students. This was also evident in my practice as I had not provided my students with a legend to decipher what the signs I had used in their answer scripts, meant. My students were, therefore, unaware of how to decipher feedback I provide.

Illegible and messy written feedback

Another factor which was making feedback 'unconstructive' as seen from the journals was the fact that the written feedback was illegible. With respect to illegible handwriting, the journals showed me that many of the scripts carried

feedback that was scribbled and scrawled. For example one excerpt on the 10th of April stated that:

> Illegible writing seems to be a major problem upon reflection. My writing is messy and it is all over the place and there is red ink splashed across the papers. What was I thinking of when providing feedback to the poor kids? Did they even understand? Upon reflection I feel that the students would not have wanted to read the feedback. I would not want to read too much feedback written in red ink. It looks like the paper has been ripped apart with a knife. I would not know what to correct first.

The term 'messy' as used in the journal entry, also showed that the feedback that I had provided was disorganized and shambolic in nature. What was worse was the fact that too much of feedback was being expressed to the student. This is what Askew and Lodge (2000) mention as "killer feedback" (p.7), where the learner is overpowered by too much feedback. In such situations, the feedback provided in the scripts would be rendered 'unconstructive' as there is '*too much feedback*' and the student '*would not know what to correct*'. Moreover, Semke (1984) also argued that too many "red marks on assignments loom so large that the learner becomes unaware of all the good, or at least comprehensible, language which has been produced" (p.195). My journals, from the perspective of the students' lens, informed me that I felt that the feedback provided to students in the 'early phase' and for the past seventeen years was

'*unconstructive' to learning as students would not have understood or deciphered*' the illegible and messy way of presenting feedback.

Late feedback

My journals also showed evidence of another problem, from the entries, which were providing feedback late. For example one entry stated:

> Most of the time the marking is done late maybe two or three weeks later and by the time other pieces of work e.g.: tutorials are done and lectures are taught, the student tends to forget what they had done. When I give the feedback about what they actually meant in their answers when they wrote something in a certain way, it does not make sense to the students. Students no more feel for that piece of work after a long time. Anyway, by that time, the same mistakes would have been repeated already.

The excerpt above, suggests that feedback was provided late to students so much so that by that time the students were involved in doing other assignments. The journals showed that by the time I had given the marked assignments back to students, there was a mismatch in the kind of work the students may have been doing by then. Moreover, the assignment that was given to them at a much later date with the feedback did not contribute to their learning as '*students tend to forget what they had done*'. This means that feedback must be provided to students within a short time frame so that students are able to reflect on the work and not repeat the mistakes again. However, the fact that written work was

marked and provided to students a few weeks later suggested that timely feedback was a weak area experienced in my practice. Weaver (2006) argued that when feedback is provided late, students will not have the opportunity to reflect and act on the feedback and this hinders them from improving in their work. Though this may seem to be a weakness in the practice, teachers in my college are allowed to take a maximum of four weeks or a month to complete marking. It is an unwritten clause which I had been following for the seven years I had been with the college. The journals reflected that the decision made by the school management to give teachers substantial time to mark and provide feedback for a written assignment was not a good pronouncement. However, the one month time-frame could have been provided so that teachers could take time to reflect on their students work and mark consistently, and also at the same time, provide effective feedback. However, the time frame was hindering the feedback from contributing to the learning as it was being provided too late. Moreover, as expressed in my journals in the early phase the '*late feedback matched with illegible handwriting and scant feedback deems it useless*' - as expressed in my journals in the early phase. To make matters worse the interviews and journals also show that late feedback was hindering students' learning. For instance Student Z stated during the interview that '*feedback is disregarded especially if the work has moved on or if another type of genre of writing is expected*'. This goes to show that the marking of scripts does not keep up with the teaching of skills. One journal entry on the 12 of March stated that '*Student X, told me that he does not remember the work he did (which was three weeks ago) and that he will have to read the whole essay again to understand the stand he has taken*'.

The above entry shows that the feedback provided by me has clearly not been understood by the student due to the fact that it was provided late.

5.1.2.2. Macro-level category: reflecting on the macro level problems of providing feedback.

In this section, I have presented not only reflections on the written artefacts, but also on other macro-level factors I had to consider when I provided feedback. These ideas have been presented in the following ways:

    i.   My assumptions on how students handle feedback

    ii.   My feelings on providing feedback

<u>My assumptions on how students handle feedback</u>

Brookfield (1995) argued that assumptions bare the belief that they are factual and valid. The journals showed that I had made assumptions about the aptitude and attitude of the H1 students within the first term of 2012. The journals also informed me that the assumptions I had of the way the H1 and H2 students reacted to feedback had influenced the way I viewed and provided feedback. The journals informed me that '*I had always assumed that students don't read feedback and that they are only interested in the marks or grades*'. This is supported by Wojtas (1998) who stated that students in higher education did not read feedback but rather were only interested in the grades. When marked assignments were given back to students, they were only interested in the mark or grade they had achieved. I wrote in my journal that if the '*assignment does not carry a mark the students don't even consider it an important piece of work*'.

Therefore, there was no reason why '*feedback should be provided to students*'. This could have been another reason why I did not focus on providing 'good' feedback to students. I was never aware of these assumptions I had of my students and so did not explore their impact on my teaching and my students' learning. This is what Brookfield (1995) coined as "assumption hunting" (p.3). This study had provided me, especially the reflective journals, with the opportunity to scrutinize my practice and in the process the assumptions I had of my teaching was discovered though the journals. The assumptions I had of the specific groups of students, that is the H1 and H2 students, will be discussed separately in the following sections, after which, I explore my feelings as a teacher who provides feedback to students.

The journals on the H1 students seem to show that they were showing disinterest in their Geography consultation sessions. The excerpt from the journals in the month of March showed:

> My pair work session with my H1 kids is going so badly. The kids are not coming. The worse thing is that students like Z, JY and T, just don't even inform me that they are not attending the sessions. ... Some of them come for the session only to listen to what their pair has done and how the feedback is given. They always say they don't seem to have the time to do their Geography. This goes to show that Geography is really not their forte.

The journals seemed to show me that I seem to have branded my H1 students as students who cannot do Geography just because they did not attend the consultation sessions. I had assumptions about my H1 students and their competence in Geography and this was seen through the phrase '*Geography is really not their forte*'. I had branded them as students '*who are disinterested in wanting to do well, especially in their H1 humanities subjects*'.

However, the journal excerpt also demonstrated that the H1 students lacked responsibility in not informing me earlier of not attending the consultation session. This suggests that the students lacked the self-regulation which would make them take responsibility and attain goals (Hattie and Timperley, 2007). Hattie and Timperley have argued that self-regulated learners set clear goals and are able to monitor their progress and have high levels of motivation. In the case of my H1 students, my journals represented a different picture where their self-regulation levels were very low. This is an assumption that I seemed to have had of my H1 students as revealed by my reflective journals.

The journal data that showed how the notion I held of the H1 students changed, was seen at the end of the early phase of providing feedback. At the beginning of the early phase I felt that the H1 students were clearly not interested in Geography. But towards the end of the period I began to realize that Geography was not a '*priority subject for the H1 students'*. In the journals entry dated 13 April it stated that:

> I cannot be unfair to my H1 kids. Geography is their extra subject
>
> for them. Seriously, they don't really need my subject to get into

the University. They have enough subjects. What they ought to do is to look at their H2 subjects and do well because those subjects will secure them a place in the university.

The reflective journals seemed to show that my opinion of the H1 students had changed from March to April. Within a matter of four weeks the journals were beginning to sound more positive and empathetic towards the H1 students. The journals confirmed that I was beginning to understand the H1 students and their reasons for not performing well in Geography. The perspective I got from the lens of my H1 students was showing me the wrong assumptions I had of them of not being self-regulated learners. They were merely prioritizing their subjects and if they were unable to cope, they would pay less attention to Geography which was '*their extra subject*'. The journals also informed me that this was a dilemma faced by other teachers in the school. As stated:

Students doing H1 Maths are different it seems. In order for entry into the University, all students must have a basic pass in Maths... So the students doing H1 Maths are very earnest in going for consultations and revision classes, but with respect to Geography, History, .., ,as long as it is not a subject considered heavily for entry into the university the students seem not to take interest in this so called extra subject. Because students have already secured GP (General Paper) ,PW (Project Work) and MT (Mother Tongue).

This excerpt from my journal showed that I was able to understand why the aptitude of the H1 Geography students was weaker than for those taking H1 Mathematics. It was because of the entry requirement of the Universities in Singapore, which asked for at least a pass in Mathematics. Such conditions do not exist for the other H1 subjects like Geography, History, and Literature etc. Within the same early phase I was able to eradicate the assumptions I held about the H1 students. The fact that I was reflecting about my teaching in my journals could have contributed to me making sense of why the H1 students were the way they were.

Analysis of the journals also showed that as a teacher I was faced with the dilemma of having to make sure that the H1 students performed well, or at least achieved a small value added performance at the 'A' levels. Value added results refer to a situation where the students perform than what is expected of them. Value added results show improved performances. This is shown in the following excerpt:

> I cannot just let the H1 results drop because Geography is an extra subject for my students. I have a responsibility to ensure that the results at least hit no value added results. I have a responsibility to ensure that the students who take H1 Geography in my college can value-add to the subject instead of de-value (show that they have performed badly then what was expected of them).

In this entry, I was able to sense the dilemma I was facing as a teacher who understood my students and was able to accept the fact that they were going to pay little attention to H1 Geography. However, I had the responsibility of creating value-added results or at least achieving a zero-value added performance for H1 Geography in my college. There definitely existed a dilemma which I had to rectify. I would have to strategise and think of ways to bridge the gap between the students' decisions and college demands.

My journals revealed that with the H2 Geography students I was facing another problem. Since Geography is a H2 subject, I knew that the students needed to excel in it or perform well to move into University. They need Geography as it was a crucial subject. I assumed that my H2 students would have realized this and would be working hard for all their three H2 subjects (Geography, Economics and Literature). However, it was a '*shock for me when I realized that the H2 students for Geography were not managing their time well*'. They were either '*studying too much for Geography or focusing on their favourite H2 subject (Economics or Literature)*'. I had assumed that their time management would not have been a problem for me to handle. But as a teacher I was faced with the predicament of helping my students handle time management issues too.

With respect to the H2 students another problem I faced was that my students were expecting me to make them achieve their dream grade. I had given my students an impression that they can all achieve an 'A' grade for Geography.

In one journal entry on the 26th of April I had expressed:

> Each time I see them, they talk of nailing a good grade for Geography. One student exclaimed that Geography was going to be like a visa for him to gain entry into the University. What I don't get is that I can only do so much for them: the hard work still needs to come from them. They have to do the work for me to mark and give feedback to and they have to reflect on it and use it and do other types of questions and then improve and so on and so forth. It is not about me, but about them.

I had provided my students the plan of having clinics, pair work sessions and individual feedback sessions for the year 2012. They were assuming that with such a plan designed just for them, they would be able to achieve a good grade for Geography. My H2 students seem to have created an assumption themselves that they would do well in Geography. To make matters worse, my students had openly discussed with me how, '*Geography was not going to pose a problem for them but rather the other H2 subjects*' where they were not receiving the same treatment or focus. My H2 students were '*assuming that the plan I had strategized for them was one that the other subject teachers should also encompass*'. They were '*beginning to compare the other subject teachers to me*'. This was posing a problem for me because they were in a sense creating problems for me in my department. These entries show my dilemma in teaching in the year 2012.

In one journal entry, in the month of April, I had expressed:

> Teacher S confronted me today and explained very nicely that the 1241A students had asked for individual consultation sessions. Teacher S clarified that he/she was a full time teacher unlike me who was doing the part-time teaching scheme in the year 2012.

To enable me to complete my studies, I was doing part-time teaching in 2012, and so was able to afford the time to provide my students with individual consultations, but of course this could not be expected from other teachers. My dilemma was in providing my students with the maximum time I could afford and still not burn bridges with my colleagues in my college. As a teacher, my journals inform me that I was torn between being a teacher for my students and a friend for my colleagues. This aspect of my data has helped me in informing me about my colleagues lens which I am not considering in this study. However, I am mindful about the fact that I have to maintain a good working relationship with my colleagues.

The clinic, pair and individual feedback sessions were all planned to provide students with tiered discussions. I assumed that such a tiered plan for my H2 students would help. However, my journals showed me that I did not think much about how I was going to handle the sessions.

For example my journals give evidence of how the pair sessions were not working in the way I expected them to in the month of March:

> I can clearly see that the pairs, even though they are good friends are so different. Even content wise and topic wise they are different. They seem to like different topics. They are good in even different disciplines e.g.: Student N is good in Human Geography but her friend Student R is weak in both Human and Physical. She is a very weak student and Student N has paired up with her. I don't really think that Student N will benefit if she keeps coming for the pair work sessions with Student R. I have to make sure that the right pairs are grouped together for the next six weeks before the vacation at least.

I had given the students the authority to choose their pair so that both could consult me, assuming that they would choose someone who was at the same level of competence as themselves. However, the pairs were not complementing each other. As I noted in my journals, I had to change the grouping of the students. The journals also showed that there was a need for me to reorganize my session in such a way that I could work with the higher, average and lower ability students separately, for them to benefit from the feedback. A few weeks into the consultations with the pairs, I realized that I had to start working with the competencies of the students. So I had to take into account their abilities. This was the first instance of differentiated instruction being adopted into my teaching. I was focusing on the abilities of the students and thinking about how

feedback should be provided to help them thus focusing on differentiating my instruction and helping them to achieve the HOTS.

My feelings on providing feedback

Another factor that I had to be mindful about was my experience in providing feedback to my students. The journals, in the months of March 2013, showed that I was not confident about providing the right feedback to my students. For instance the journal entries on the 24th and 28th of March stated:

> I have been teaching for so many years and I am really not sure about feedback. I have to make sure that my sessions are all very useful for the students. I guess I have to give feedback which is constructive. I am not going to think about it so much. When I look at the answers I will give them the feedback and tell them what is right and wrong. I will correct them, that is what will happen first and I am sure I will learn. My students must do a good job during exams and the results must be good. If not, I think I will be a failure. My education would have failed me and people will take the opportunity to laugh at me.

The above excerpt shows me my learning through my autobiographical lens. The phrases '*I am not sure about feedback*', '*I have to make sure*', '*I guess*' and '*I am sure I will learn*', all suggest that though I had the aspiration to make the feedback sessions useful for the students, I did not seem to understand what to expect and do during these sessions. These sessions, called clinic and group

sessions had been conducted by me for the past seven years in my college. But this year '*I was going through some anxiety, as suddenly a session which seemed so familiar to me was starting to look blurry*'.

The excerpts from the journals also suggested that I was expecting the feedback sessions to be like the tutorials, clinics, pair and individual feedback sessions that is, to inform and lead me more to understand the process of providing effective feedback to the students. To me '*things were looking new though I had been having group sessions and pair sessions in the past for my students, and even the tutorials were looking different*'. This might have been the case for me, as I was now consciously looking at my practice as a teacher. I was scrutinizing my work and this may have contributed to my being nervous. According to Campbell and Groundwater-Smith (2007) practitioner inquiry helps in confronting dilemmas in practice and in developing a culture of inquiry. However, in my case confronting the dilemmas that lay in front of me was only making me uncomfortable. This was expressed in the reflective journals on the 8th of April 2012:

> My journal entries are like my diary entries. I am scrutinizing my work and commenting on it and in a way criticizing it. My comfort zone in my practice has suddenly become a discomfort for me. I feel that I am seeing things which deem me as a useless/hopeless teacher. Even though I have created results in the past, all that I had done seems to not make sense to me. So what have I been doing for the past 17 years?

My autobiographical lens was bringing about the confrontation with my past practice and the need to want to change the practice was making me look at the past as a watershed period. In one way the hostility with the past practice was critical in making me ask questions about my practice of providing feedback. However, the journals also informed me that I was upset about realizing the fact that I was not providing feedback in the 'right way' and was becoming defensive as I had used the phrase '*even though I have created results in the past'*. This goes to show that I had to learn to address the shortcomings in my practice rather than look at them as being part of my own, personal shortcomings. From the above entries, one fact remained and that was that I was not sure of what constituted effective or constructive feedback for students. However, the journals also showed, that I seemed to have gained an impression that the feedback sessions I was having with the students over and above the tutorials were being appreciated by my students, though the term *'I think'* gave me the impression that I was not sure of the effectiveness of the sessions. For example:

> I think the sessions are going very well. I have seen all the students,
> none of my H2 kids have missed the sessions and my feedback was
> good, I think. Very few questions were asked.

The fact that the students did not ask many questions seemed to be conveyed in a positive light in the journals, which may not have been necessarily true. I had also assumed that just because the H2 students had attended the consultation sessions, it showed that the feedback was good, not heeding the fact that the intention and their perception of the feedback, as revealed in the interviews,

varied greatly. For instance, Carless (2006) stated four differing perceptions students have of feedback concerning the amount of detail, usefulness, extent of students' interest in grades and the fairness of marking.

In summary the feedback provided to the students in the early phases was mostly ineffective, as the journals revealed. I appeared to be a teacher with assumptions about the H1 and H2 students and these assumptions were affecting the way I was providing feedback them. Moreover, the journals are also reflective of the frustrations I was facing as a teacher of students and as a friend of colleagues in my college. My confidence in providing feedback was also low and I seem to have been very unsure about how feedback should be provided for learning.

5.2   Analysis of the Mid-Term Phase of Feedback

In this section, the analysis of feedback in the mid-term phase is discussed. The artefacts were examined to find out the way feedback was provided at this stage and information from the journals in the mid-phase period was also extracted to further understand the way I was developing in providing feedback to help my students learn. The analysis revealed that in the mid-phase I had provided feedback at different levels. The feedback also showed variety and changes were also made in giving marked assignments back to students earlier than usual.

The analysis was then structured according to the following factors, which are:

    i.   Feedback at the task level for the H1 students

   ii.   Feedback incorporating HOTS and DI for the H2 students

  iii.   Specified self-level feedback

  iv.   Time factor and artefacts

   v.   Comparison between the H1 and H2 students

5.2.1 Artefacts.

5.2.1.1   *Feedback at the Task Level for the H1 students.*

In the mid-term phase the artefacts which were analysed did not carry with them negative self-level feedback. The self-level feedback provided was positive. Another factor that was evident was the fact that there was no underlining, or question marks which were drawn without being represented by feedback. Moreover the feedback provided in the mid-phase period was clearer and legible. I was able to read the feedback and understand what was intended.

During the mid-term phase underlining was seen in the artefacts, but it was represented with feedback attached to it. Reasons as to what the lines represented were provided for students in the artefacts. For example, in one script the underlining represented erroneous descriptions and in another script it represented irrelevant content. Though the act of underlining statements was still maintained, the reasons for underlining parts of an answer were articulated through the written feedback. Prior to this stage, the underlining was drawn with no reasons or feedback attached. This was a significant changed compared to the

early stage of providing feedback. The feedback attached to the underlining even represented different reasons, so it was not a one-size–fits-all type of feedback that was provided to the students as was the case in the earlier stage. The following paragraphs provide evidence of the analysis done with the H1 and H2 scripts which were marked in the mid-phase of providing feedback to students.

For six of the nine mark semi-structured essay, H1 homework assignment, I had provided feedback to explain why the underlined lines were inappropriate and invalid in the scripts. For one script the feedback given at the task level for a particular section of the answer was:

> There is no need to give a comparative case study as the question is asking for the contents for just one specific example. More elaboration of the case study is required.

This feedback was given in relation to the answer which gave a comparative account instead of giving a descriptive one. The student earned seven marks out of nine marks for the answer. The feedback was given at the task level and it showed whether the answer was correct or erroneous. Moreover, what was required to get more marks was also stated in the feedback.

For two of the other H1 scripts, lines were underlined and the term *'missing concepts'* was written in. The two scripts were awarded six marks. Again, it was clear from these two scripts that I was trying to address missing answers relevant to the answer. For another script, the feedback provided was: *'What is the case*

study you are referring to?' and the script was awarded three marks. The student had not given specific details of the case study and the feedback was provided to ask the student to provide more information. For yet another script the feedback I wrote was:

> Your definition is not clear and there are conceptual errors. Please revise your work.

This answer was awarded four marks. The feedback given above was also seen as provided at the task level. However, in this case, the feedback provided information on faulty interpretations. For the sixth script, zero marks were awarded and the feedback given was:

> Misinterpretation of question. Conceptual errors show that you are weak in this topic. See Me.

The feedback at the task level, given above, again shows that there were faulty interpretations and a lack of knowledge shown in the answer. According to Hattie and Timperley (2007), feedback at the task level is more powerful when it is about faulty interpretations and not lack of information. So in this sense, the feedback given at the task level was intended to help students to understand their problems and to rectify them. Instead of just underlining and giving out question marks, I had made conscious efforts to explain briefly what was wrong about the answer/s given in the scripts in this phase. Though the H1 scripts showed that the feedback provided to students was mostly at the task level, they were still

varied. Compared to the feedback provided in the early stage, the feedback given in the mid-phase stage was more diverse. This suggests that I was focusing on providing differentiated feedback for individuals' answers instead of providing a 'one-size-fits-all' type of feedback. In the previous phase, the feedback provided was generic and it was common to see many students receive the same type of feedback, and there was a lack of variety, but in this stage the feedback provided was more suited for the individual's work marked by me.

However, despite these changes to what Hattie and Timperley (2007) might suggest was more effective feedback, upon study of the H1 scripts in the mid-term phase both brief and wordy answers, for different types of questions, were still given to the students. This was an indication that the responsibility of getting the right answer was still not given to the students, but rather, retained by me. For five data-response questions, full answers had been given for a question in which all the five students had not performed well. Though the analysed H1 scripts in the mid-term phase showed evidence of feedback that was provided to help students understand their mistakes, all the five students had also been provided with specific answers. The artefacts provided evidence to show that I was consciously making changes to my practice of providing constructive feedback to my students. However, the artefacts also showed that I still believed that providing both brief and elaborated answers was essential. From the journals, discussed in detail below, it was also understood that I was facing difficulty '*breaking away*' from the act of providing answers to my students. The journals informed me that I still believed that '*I was capable of giving the best*

answers'. This shows that the act of providing answers as a feedback strategy was ingrained in me.

5.2.1.2 Feedback incorporating HOTS and DI for H2 students.

In the mid-term phase, the analysis of a variety of scripts showed that the feedback incorporated Higher Order Thinking Skills (HOTS) and Differentiated Instruction (DI) for the H2 students. The kind of feedback that was provided to the H2 students differed from the feedback that was provided to the H1 students. For example, feedback given for an assignment (essay) which contained a paragraph that was not written well was presented in the following way:

> You seem to have an impression that there are more clouds
>
> at high latitudes and less clouds at lower latitudes. Clear
>
> this misconception.

In the particular assignment, the feedback carried the conceptual error which had been stated clearly to help the student detect an error. This was feedback provided at the process level. According to Hattie and Timperley (2007) feedback, especially at the process level, allows a teacher to help students see the kind of problems they may have with their writing and answers and it is an important scaffolding technique. The written feedback provided in the mid-term phase appeared to show evidence of further scaffolding for students. Two scripts for the same data-response question marked in the month of August for the H2 students were analysed. In the two scripts scaffolding at various levels was provided.

For one script the feedback given was:

> The Namib Desert is not a hot desert. Misconception regarding the
>
> location. Think of O to 5 degrees N and S for hot deserts.

In this feedback, both FT and FP type of feedback was given. The feedback that stated that the Namib Desert is not a hot desert showed that I had corrected the student with the feedback given at the task level. I had informed the student that he had a misconception about a desert. However, I had also given the student the direction for searching for the correct answer by stating in the feedback about the misconception he held about the Namib Desert and to look for deserts within the region zero to five degrees north and south. In this feedback, I was not only focusing on feedback at the task level but also feedback at a higher level, the process level. I was guiding the student by providing him with directions to find the answer. The student was not left alone to find out the answer, but the clues were provided in the feedback to help him search for information. In another script the following feedback with scaffolds was also given:

> You need to know the difference between deserts formed due to
>
> topographic effects and those formed due to a STHPB (sub-tropical
>
> high pressure belt). Would help a lot in your answer.

Again in the above feedback, I had showed how the student had misconceptions about deserts formed due to two different effects. I gave the feedback at the task level to show that there was a misconception or error. However, I also gave

feedback at the process level to help the student detect conceptual errors. The feedback at the process level also gave the student advice and direction on what he must do to clear the misconception. This was an example of how I attempted to help students achieve HOTS. Knowing the differences between STHPB and Topographic effects, would help the student argue about which factor played a bigger role in forming deserts for specific case studies.

As has been seen in section 5.1.1.1 the feedback that was provided to the H2 students was no different from the feedback provided to the H1 students in the early stage. Answers were provided as feedback and symbols like question marks and illegible and late feedback were provided. Regardless of whether it was a H1 or a H2 student, generic feedback that was illegible and incomprehensible was provided. However, in the mid-phase period it was evident that the feedback had improved. In particular, feedback at the process level was being provided to the H2 students. However, like those for the H1 students, the artefacts for the H2 students did not carry with them brief or elaborated answers. None of the H2 scripts held answers. The feedback provided to the H2 students was mostly feedback at the process level. It was clear, neat and guided. Compared to the H1 students the H2 students were given more scaffolds through the process feedback.

5.2.1.3   *Specified self-level feedback for the students.*

In the early phase, providing feedback at the self-level was common. However, the limitation of such feedback was that it did not explain what was acceptable about an answer, or what was not acceptable in the answer. Phrases like, "*Are*

you sure?, Think again!, What?", were all provided as feedback. This feedback was insufficient because it was not informing the student what was 'wrong' or 'right' about the answer.

In the mid-term phase, however, feedback at the self-level appeared to carry with it brief and sometimes well explained reasons why the answer was commendable or weak. According to Hattie and Timperley (2007), it is important to distinguish praise that directs attention away from the task to the self. They inform that praise directed to the processes and if related to the task motivates and contributes to learning. For a formative assessment completed by the H1 students, a handful received positive self-level feedback like, *'fantastic answer', 'good' and 'well done'.* However, the self-level feedback carried with it brief reasons explaining why the answer was praiseworthy. For a nine mark essay, which earned a full nine marks, the following self-level feedback directed to effort and task was provided:

> Fantastic answer. You have explained the three factors promoting
> globalization very well with the use of relevant examples.

The feedback which was provided at the self-level was compensated with more feedback that was directed at the way the task had been accomplished. This means that the student would get to know why the answer gained a *'fantastic'* self-level feedback.

For another script, the following feedback was provided for the same nine mark question which gained only six marks. Again the praise was directed to effort and task:

> You have provided me with two good paragraphs with the use of examples. However, you could have explained a third factor.

In the above feedback, the limitation of the answer was stated. The reason why the answer achieved six marks is articulated in the written feedback. The two marked assignments received different feedback. The feedback was tailored to the work completed by the individual student. This goes to show that differentiated instruction was more evident in the mid-phase period of providing feedback than in the early phase. The feedback was also clear and had guidelines on what must be done to improve on the answer. However, the feedback provided to the H1 students was more corrective in nature. I summarized in the feedback what the students had written in their answers and then gave them information on 'what else' they could have included, or the need for future information.

But the scenario was different for the H2 students with respect to providing feedback at the self-level.

For a formative piece of assessment done by the H2 students in the month of August for a sixteen mark essay question, for an essay, feedback was provided as follows:

> You have shown me a clear distinction on how latitude
>
> and altitude affects temperature here. Good.

This feedback at the process level showed clearly what was credible about the answer which was that there was a '*clear distinction shown between latitude and altitude*' and the student is praised for making the distinction clear and therefore gets the self-level feedback of '*Good*'. For another essay the feedback provided was as follows:

> Your evaluation on how natural factors are more important
>
> in bringing about the formation of deserts is clear though you
>
> could have also recognised the contribution of anthropogenic
>
> factors and the comparison of the two factors would have
>
> contributed to making your evaluation stronger.

Again the feedback at the self-level was enhanced when feedback at the task and process levels were also provided. Here in this feedback, I was providing information on how the evaluation, which is a thinking skill, could be enhanced by the student. I was providing prompts and scaffolds to make their evaluation stronger.

The feedback between the H1 and H2 students was different as I did not give very specific feedback on the number of facts provided, but gave feedback aimed at thinking skills, comparison and evaluation. I had focused on the comparison skill and evaluation and provided the feedback on these rather than the general structure of the answer as in the case of the H1 scripts analysed earlier. This indicates that feedback that addressed the HOTS was provided more in the mid-phase period of providing feedback than the early phase for the H2 students. According to Hattie and Timperley (2007), the effects of feedback at the self-level become too diluted if it is uninformative, which was the case in the early phase of feedback provision, and I had consciously rectified the problem in the mid-phase period. They also stated that self-level feedback is often present in classroom situations and is too often used instead of FT, FP or FR and that feedback at the self-level (FS) does not contribute as much to learning as the other types of feedback. Despite this, the "self-level feedback can have an impact on learning if it leads to changes in students' efforts, engagement or feelings of efficacy in relation to the learning or to the strategies they use when attempting to understand tasks" (Hattie and Timperley, 2007, p.89). Therefore, in the mid-term phase, self-level feedback was consciously designed to direct attention away from the self to the task and process levels so that the praise had information value for achievement and learning (Hattie and Timperley, 2007). The conscious attempt made to change the way I was providing feedback shows that I was modifying the way I normally gave feedback in response to a growing understanding of the effects of different types of feedback.

5.2.1.4 Time factor and artefacts.

In the mid-term phase, the homework scripts which were given in for marking were handed back to the students within one week. This improvement was brought about as I felt that there was a need for the students to receive feedback immediately, as I noted in my journals. Though the literature advocates that some delay in feedback is fine, the dates on the artefacts showed that the homework assignments were being given back to the students from three to four weeks later. Such feedback, which is read by students so late does not help but rather hinders learning as the students may have forgotten the content, question and skills involved in writing the answer to the assignment by the time they receive it back. Moreover, my journal informed me that going through the answers to the corrected work was *'ineffective after two or three weeks and sometimes even a month as the students had moved on to a different sub-topic or the skill taught had changed making the correction unsuitable'*. In the mid-term phase, my practice had changed. I *'collected the homework assignments on a Friday, and, I took the weekends (Saturday and Sunday) to complete my marking'*. The marked scripts were handed back to the students on a Monday. The journals showed that feedback for assignments was given at two levels. Firstly feedback was provided at a class level, where, for example, interesting phrases and ways of writing out paragraphs were presented. General problems and strengths of the work were also provided to the students. Moreover, erroneous and well answered parts of answers were shown to students. For such erroneous and well answered parts, students worked in small groups to discuss what was good or weak about the paragraph given and then presented their answers to the class. This was evidence that there was an attempt to provide

feedback at the class level which was a practice that I had not adopted in the early phase of providing feedback. This collaborative work between students acted as a mechanism for sharing their ideas and opinions about the work provided. According to Boud and Molloy (2013), when structured appropriately, a "cooperative learning group provides students with the specific role to complete a set task" (p.178). Though this study does not consider the effects of peer feedback, Boud and Molloy have stated that peer feedback is a powerful source of feedback for one another as students, as when they work collaboratively they are able to "reason quite differently from teachers or individuals who have mastered the material or practice and they gain valuable insights from their classmates" (p.181).

5.2.1.5 Comparison between the H1 and H2 artefacts.

For both the H1 and H2 artefacts, there appears to have been a stronger relationship between the feedback and the marks and grades they had achieved in the mid-term phase compared to that of the early phase of feedback. Upon analysis of the H1 and H2 scripts, feedback at the task level was being offered to both groups of students. However, for the H2 students, feedback at the process level was also being given. Such process level feedback did not appear in any of the H1 scripts in the mid-term phase. Therefore, there seems to have been a clear distinction between the kinds of feedback that was being given to the H1 students compared to the H2 students at mid-term. Moreover, for the H1 students, brief and well explained answers were still being given. But the H2 students were not given answers any more.

Analysis of the H1 and H2 scripts also showed that more scaffolds were given to the H2 students compared to the H1 students, especially for thinking skills. This may have been because the H2 students were being provided with more feedback at the process level which required scaffolding compared to the H1 students who were given feedback at the task level. Moreover, scaffolds seemed to have been given for the particular topic, 'Atmospheric Processes' mostly. This is a topic that most of the H2 students were weak in as shown by the journals and tracking book. Therefore, scaffolds were readily given to the students to help them with the topic. Also for the H2 students efforts to accommodate HOTS and DI in written feedback were seen clearly.

The mid-phase feedback also showed that students were provided with self-level feedback that was enhanced by including feedback at the task and process levels. The feedback at the self-level was more descriptive as to what was erroneous or correct in terms of answers. The feedback provided to the various students was also differentiated showing proof of differentiated instruction being carried out in the provision of feedback. However, for the H2 students feedback aimed at the thinking skills was mostly provided showing evidence of attempting to give feedback aimed at the HOTS.

5.2.2 Journal Entries.

The journal entries in the mid-term phase, between July and August, were examined. The Preliminary 1 Examinations were conducted at the end of June and in the first week of July, and the Geography answer scripts were analysed and discussed in my reflective journals. In this phase the journals represented a deeper understanding of providing feedback using Hattie and Timperley's (2007) framework and discussed how students were taught to study the feedback I had provided to them. The journal entries in this phase also provided evidence of how feedback provided at the self-level changed to cater more to the needs of the students. The themes that emerged from analysis of the journal data are as follows:

  i. Deeper understanding of feedback and applying the framework for feedback

  ii. Exploiting the strengths and overcoming the limitations of the framework

  iii. The complex nature of the H1 and H2 students

  iv. My feelings and emotions in the mid-phase of providing feedback

A Deeper Understanding of Feedback and Applying the Framework for Feedback

Upon reflecting on the artefacts and journal entries in the early phase of providing feedback, I was motivated to structure the way I provided feedback to students. For this Hattie and Timperley's (2007) framework was used. The desire to use the framework arose in the early part of the mid-term phase where my reading on

feedback for this study was fully established. The journals showed that I had made a conscious decision to adopt ideas from Hattie and Timperley's framework as seen below in the journal entry dated 25th of June 2012:

> I think out of the readings that I had done, H and T's framework seems the clearest for me to use. I am going to use their FT, FR, FP and FS type of feedback for questions that I am going to mark for Preliminary Examination 1. However, the problem will be in understanding what task, process and regulation type of feedback is when I mark the scripts. Self-level feedback is easier to understand.

As seen from this excerpt, the mid-phase period saw the emergence of the use of a framework to provide feedback to students. Though I had made up my mind to use the framework, the journals informed me that I had not applied the framework before, from the phrase, '*problem will be in understanding… when I mark the scripts*'. But I had a good idea of what self-level feedback was, however, as I had applied it before.

However, using the framework for the Preliminary 1 Examinations proved to be a tedious task as I was taking a very long time to mark 140 data-response questions, 140 nine mark structured and another set of 140 sixteen mark structured essay questions for the 70 students in the cohort. Within a matter of four days, only 13 students' scripts were marked and the deadline was in another 10 days' time.

One journal entry dated 13th of July states:

> In my opinion it is impossible with written feedback. If I give the feedback 'good' then according to Hattie and Timperley it has little effectiveness associated with it as it lacks information on what is good. This (marking the Preliminary 1 scripts) is taking me forever, and it is clearly not practical when we have a short deadline to adhere to. Moreover, the feedback is long winded and I am unable to explain everything in written form. Such feedback might work for extended deadlines…. but for examinations it is a 'no, no' for me. For short deadlines verbal feedback …works.

As the journal suggests providing feedback was becoming too time-consuming for me with the lack of time I had. The journals also explicitly stated that not everything can be clearly explained through written feedback. This is supported by Boud and Molloy (2013) who stated that complex tasks require communication between the teacher and the student to be understood clearly. Moreover, the journals seemed to tell me that verbal feedback was more suited for tight deadlines compared to written feedback. The deadline was so tight that in the end my journals showed that I gave up providing feedback at all to students for the examinations. Price, Handley, Millar and Donovan (2010) found that time constraints impacted on feedback effectiveness. In this research both staff and students had complained of the lack of time taken to provide feedback. I had realized that with time constraints it was impossible to apply Hattie and Timperley's framework.

This is shown in the extract:

> I give up giving feedback, I have resorted again to giving question
> marks and underlining which are useless and my feedback has
> become negative. The pressure of time and the need to hand back
> work….. and complete admin work is killing me and I had to rush
> with the marking to complete it. Have Hattie and Timperley thought
> of tight deadlines for this framework? I have used short forms and
> abbreviations which I am sure students will not understand as I don't
> have a legend for them. Maybe it is time I gave a legend or give up
> giving feedback at all for examinations.

This showed me that if a teacher is faced with such constrictions they might not
be able to provide students with effective or constructive feedback. After
examinations, a teacher is faced with adhering to deadlines as the reporting time
slips by, and with the students' grades achieved for major examinations needing
to be printed and given to parents. These were the administrative duties to which
I had to conform. As a teacher I might want to provide effective feedback
instead of providing underlining and question marks which take less time, but
the administrative constraints were an obstacle. The fact that I had to '*rush*' my
marking had led me to resort to providing feedback that was, in my view, not
constructive to learning.

I felt that Hattie and Timperley's (2007) framework made more sense in being
applied to class work, and individual consultations than during examinations.

Moreover, in order to apply the framework appropriately time was of utmost importance. Another important pointer which arose from the journal entry was the fact that for complicated feedback or complex task, a verbal form is better than providing it in a written form.

Exploiting the Strengths and Overcoming the Limitations of the Framework

As the journals revealed, the experience of using Hattie and Timperley's (2007) framework for providing feedback in the preliminary examinations had indeed taught me a lesson. Entries in the journals stated that the framework was '*a very useful tool*' and that '*it clearly spells out the feedback that is needed for students to improve thus making it constructive in nature*'. However, there was a need to:

    a.   Learn to apply the framework in a systematic way on my part

    b.   Teach students to understand the feedback I was providing

The journal entries clearly stated that written feedback using the '*framework helps in handling simple feedback related to feedback at the task, self and process levels*'. However, for feedback related to complex task, process and self-regulation, I wrote that I believed that verbal or oral feedback contributed more. Written feedback provision for complex tasks were too time consuming and with tight deadlines it is impossible to consider providing such feedback.

For example an extract from my journal dated the 19th of July stated:

> The problem with written feedback is that it is not dialogical. College kids ….. are dealing with higher order thinking skills so they have to clarify the way they think, write etc. The words on the script need to communicate to them, but the words do not communicate. Instead the words are interpreted differently by them and when this happens there is a mismatch between the marker and student and this is a worry. This discrepancy or mismatch must be reduced through dialogue. Such feedback which requires a two way process cannot be forced into a one way process, as it will not work.

The above entry supported what Boud and Molloy (2013) had advocated in that for complex tasks, such as feedback related to self-regulation it is more effective when discussed orally. This is also endorsed by Ramsden (1992) and Lea and Street (2000) who agreed that the perception and the intention of feedback may not match when the feedback provided was not clear. I had written in my journals that for complex issues, verbal feedback would benefit the student more than written feedback. The mid-phase shows that the view I had of Hattie and Timperley's (2007) framework had changed. The framework is a very relevant one which cannot be applied only for written feedback. My reflections in my journals show that I have to make adjustments to strictly adhering to my practice of providing feedback only in written form. There was a need for me to consider providing feedback verbally too.

In another journal entry, I had voiced yet another concern. The entry dated the third of August stated:

> Written feedback can be tedious as there can be so much to write and all cannot be written down in one assignment. Red ink is also another stressful point for students. When they see red all over their paper the motivation level goes down and their eyes turn wide and mouths open. This happens even before they take a look at the feedback which may be positive. So looking at the marks and images counts.

This goes to show that there was a need for me to not only provide just the right amount of feedback, but also provide a supportive environment which promoted the reflection and understanding of the feedback. The journals informed me that there was a need for the teacher to be empathetic to students' feelings when expressing feedback.

The journal entry, quoted above, clearly stated that college students need to deal with HOTS, and with written feedback these skills were different in being clarified. Therefore, clarification in terms of verbal feedback was required. This would also reduce problems related to the intention and perception of feedback, as the '*mismatch between the marker and student*' was reduced. In order to exploit the strengths of the framework, it was clear from my journals that a combination of both written and verbal feedback needed to be applied.

These excerpts provide evidence of my changing practice. From someone who was more focused about written feedback, I began to see the need to have verbal feedback also. I felt that the written combined with verbal feedback would help students more. Moreover, I felt that both written and verbal feedback '*complement each other*'. My journals expressed that '*with only written feedback, I would not be able to provide constructive feedback*'. I also needed to provide verbal feedback. I had to be flexible enough to understand when written feedback worked and when it did not.

Another factor that the journals seemed to focus on dealt with students' understanding of the way feedback was provided by me to them. In my journal dated the 22nd of July, I wrote:

> Feedback that I give my students must be understood by them. I have to make sure that I give them a legend if I want to use abbreviations for simple feedback. But a bit more complex ones, I can write or better still use a verbal feedback method, but I must make sure I don't flood the assignment with my so called 'red ink'. I have tried using pink, purple and even green colours to mark, the alien marking and my writing on the script affects students. So the next stage would be to deal with it by giving consistent consultations which can definitely help them.

The journal entries discussed in the early phase had expressed how students did not understand much of feedback that I had provided them with. This was also

expressed during the interviews with the H1 and H2 students who commented that the written feedback provided to them early in the year was not understood compared to the feedback provided later on in the year. In this phase, the way that I had handled the problem was to have a legend for abbreviations which I gave to students after the Preliminary 1 Examinations were conducted by the first week of July. I also discussed with my students the need to make sure that they consulted me regularly and that they understood the way feedback was provided. This structure I had adopted in practice was also seen to have been endorsed by my students in their interviews (discussed in Chapter 6). This was an approach endorsed by Weaver (2006) who stated that students may need advice on understanding and using feedback before they can engage with it. In another entry dated the 4th of September (a week before the Preliminary 2 Examinations) I explained that:

> Regular consultation with me has benefitted students in that those students were showing improvement in their marks and grades for Geography. Those who did not see me regularly were the ones not performing well.

This was new knowledge that I had gained from undertaking this study and that I had documented in my journal entries. The journals had clearly shown that regular and consistent feedback sessions with me had brought about improvement in the performance of students for Geography and this was further evidenced by the results which my H1 and H2 classes had achieved for the 'A' level 2012 examinations. This suggests that it was not about having an effective

one off feedback session that would help students. Rather, it was about getting continuous and progressive feedback that benefits all students. As a teacher I had to be mindful of the fact that I should not think about just providing effective feedback and expect students to improve within one session. I had to see students regularly and '*keep in touch*' with their learning and facilitate and troubleshoot their weaknesses and boost their strengths for a period of time, till the students were better able to handle their learning themselves. This sequence or structured approach to providing feedback helped students the most.

The complex nature of the H1 and H2 students and improvement in grades

In the early phase the journals had suggested that I was having difficulty handling the H1 students who were clearly treating Geography as an '*extra' subject and who were visibly showing their disinterest in coming for consultation or feedback sessions*'. The H2 students, on the other hand, seemed to be very confident about Geography and were expecting other teachers also to put in the same effort that I was putting in for them. However, in the mid-phase, I was facing more complex problems with my H2 students as seen in the journals. The excerpt, below, shows that I was becoming increasingly aware that the H1 students did not have the benefit of applying knowledge from the other topics as did the H2 students. It also showed that I believed that out of the two categories of higher ability students, the H2 students were more capable than the H1 students. Therefore, there was a vast performance-based difference between the H1 and H2 higher ability and lower ability students.

For instance one journal entry dated the 14th of August stated that:

> The problems the H2 higher ability have compared with the H1 higher ability is that the H2 HAs have more varied and challenging problems in examinations compared to the H1 students, even though they may belong, for example, to the higher ability grouping. The H2 HAs are exposed to more topics, six topics, so their holistic thinking is better. They are able to relate to more topics and have a better helicopter view compared to the H1 HAs who only do 50% of the syllabus. There is, therefore, a clear distinction between the Higher Ability H1 and H2 students. There is a need to focus on the H2 students. The same goes for the lower ability kids where some of the LA of the H2 is at a par with the H1 HAs.

Even though there were some students who were considered high ability in my H1 class, when it came to Geography they performed like the H2 low ability students. Just because some H1 students were considered high ability did not naturally mean that they performed well for Geography and, moreover, their performance was at a lower level in relation to the H2 lower ability students. This meant that I had to go slower with my H1 students during tutorials even though there was a handful that was considered higher ability.

The excerpt also showed that since the H2 students were exposed to more topics, their examinations were pitched at a more challenging level compared to the H1 papers. This tells me that the H2 students, be they higher or lower ability, may have required more attention than the H1 students as H2 Geography was a

crucial subject for them to gain entry into the University. In an excerpt in a journal entry, I stated that:

> What I achieve with the H1 students in like three or four consultation feedback sessions can only be achieved with the H2 students in seven or eight sessions as the demands of a question and the type of feedback provided to them (H2 students) is different. Questions are more challenging and they need to tap on the wider knowledge they have to evaluate or analyse.

This again showed that the nature of the feedback that I had provided the H2 students was different and at a higher level compared to what I had provided to the H1 students. This was because the H2 students had a more complex syllabus compared to the H1 students. This goes to show that I had to be meticulous about the mastery of skills by the H2 students as Geography was their major subject. The journals show that I became increasingly aware that the H1 students' examination questions have lower demands than those compared to the H2 students. However, since the demands of a question are lesser for the H1 students, it does not mean that I can assume they would know the skills. The skills must be taught slowly and even skills like understanding how to 'describe' and 'explain' must be taught in a structured manner. Moreover, I could not be comparing my H1 students to my H2 students. I had to look at my H1 students as being a 'different' set of students with 'different' abilities and ones '*who move slower in Geography compared to the H2 students*'.

In addition the journals also showed that I seemed to address more complex problems with the H2 students than the H1 students. For instance the H1 students seemed to show that they had problems with content, concepts and thinking skills even till before the examinations. The journals informed me that I was still providing feedback at the task, self and process levels to them. However, the journal entries on the H2 students enlightened me to the fact that more challenging feedback was being provided to the H2 students, even the H2/LA students. Feedback at the self-regulation level was mostly being provided to the students. For instance one entry in August states:

Student H2L is good in his language and I taught him how he can use his language to work for him for a question. H2D on the other hand is a very content and concept person. She is strong in that, but her language is rather weak. I taught her how to be factual and conceptual – work on your forte – so no one can doubt you or think you have not said the right thing. I taught them how to choose questions in the examinations. In another case there is student H2V. He is good in his language and in his evaluation but he is lazy. I taught him skills to summarize case studies and compare case studies. Meaning within two paragraphs he will have written his essay out which is mostly an argumentative one. He does not write out his paragraphs in a conventional way, which I have taught to the others. His is just argumentative as he has the power of the language. It is working. Let's keep fingers crossed that he gets at least a 'B' grade.

In the above entry, it can be seen that I had attempted to teach the H2 students, through feedback, as to how they could go about choosing their questions for the examinations by considering their fortes. This is self-regulation feedback that, according to my journals, none of the H1 students had received. Again this showed that the challenges faced by the H2 students were more complex compared to the H1 students. By working with a student's forte, I was indeed seen to be adopting the lessons of differentiated instruction in providing feedback to my students. Moreover, teaching students how to choose questions from a question paper in the examinations was also evidence of encouraging them to use HOTS. Knowing their forte, students needed to analyse a question and evaluate if they were going to be able to answer it effectively. Reflecting back on my journals, after the Preliminary 1 Examinations, I was able to see the students (H2V, H2D, H2L) achieve better grades compared to their block examinations. They had all '*moved up at least one grade*'. This was an achievement for me as these were the H2/LA students and results were already being seen in their preliminary examinations.

The results achieved by the H2/LA students showed that they were '*motivated to want to do well for Geography and they were coming to see me regularly with zest'. Some of them were doing very challenging questions which I did not expect of them before*'. The H2/LA students were improving in their performance in Geography. In my view they were receiving constructive feedback that was helping them in their learning and this was helping them know what to do. In turn, knowing what to do was helping them achieve better grades in the examination and this in turn was motivating them. As for the H2/HA

students, they were already performing well after Preliminary 1 and their regular feedback session was being conducted to keep track of their performance and learning. However, the feedback that was provided to them was through the consultation session and the sessions were regular. This again showed that the feedback had to be provided regularly to students before they were able to handle the learning themselves. Moreover, students must be allowed to improve at their own pace. I could not be forcing them to improve and learn faster. However, I also realized that the regular meetings with students had contributed to the effectiveness of the feedback they were provided with. I was learning more about my students in this study. From a person who used to force students to come for consultations, I was now having students stand in a queue to see me for feedback. Moreover, the constant reflection and tracking of my students was giving me the confidence to talk to them freely about their strengths and limitations. This was something I had not experienced in the past. I used to hate consultations, but now I had started to love them as I did not only see my students improving, I saw myself improving as a provider of feedback.

The mid-phase period also showed me that the H1/HA students were regularly booking me for individual consultation slots. Most of the H1/HA students had come up to me '*to request individual slots instead of slots with a pair or group*'. The journals dated August 16 to 23 stated:

> I don't seem to be having my usual coffee, lunch breaks and just time-offs. I feel stressed; have constant headaches and feelings of giving up. But on the flip side my H1 higher ability are coming to see me and demanding individual slots from me. A good sign indeed.

I can't just leave them there in the lurch and move away without giving them what they want. If they think the individual slots will help, I guess I can try it out with them. But deep in me, I know it would help, them to do well but as for me?

The journals informed me that many of my H1/HA students were benefitting from the feedback sessions with me, but they were more interested in attending individual consultations to get the feedback. This suggested that both the H2 students and H1/HA students were benefitting from the feedback sessions from me. However, my journals also informed me that the students were receiving feedback at the task, process and self-levels and that they had not yet received feedback at the self-regulation level. This is seen from the journals during the same period which stated:

The feedback was still at the task, process and self-levels. The feedback does not seem to move up to the self-regulation level for these students. But I can see that they are doing well. Each time I see them (over a period of four weeks), I see improved work. I am confident they will get their A grades for Geography H1.

Moreover, some students who I had not consulted and who had not appeared for many of the clinics and pair sessions were beginning to see me. '*Students like H1X, H1F, H1S and some others were coming back to see me*' for at least 25 minutes. The entries in the journals told me that though the feedback provided to these H1/LA students was at a lower level compared to the feedback provided to

the H1/HA students, the fact that they were performing better in their knowledge based questions was indeed a bonus for me. In my view the fact that these students were seeing their peers benefit from the consultations with me was inherent in motivating them to come for consultations. This suggests that the learning environment contributed to students wanting to come for consultations. This is new knowledge gained from this study. For instance my journal states :

> Seeing their own peers come regularly for Geography sessions with me was either motivating or worrying other students who have not been taking the initiative to get their work marked during consultations.

The learning environment is an important factor which drives students to do something and in this case many students were booking my consultation slots to have their *'work'* marked by me.

Overall, the students were benefitting from the feedback provided during the mid-phase period and they were becoming more prepared for the Preliminary 2 Examinations. This was then encouraging more students to see me for Geography as they also believed that they would benefit. In my view, I had to understand how the volatility of the environment in which I practised contributed to my improvement. As a teacher I was depending on my students to help me to learn. To learn more and apply the knowledge and become better at what I practiced, I needed my students and the learning environment which was changing slowly to be contributing to my own learning and practice of providing feedback.

My feelings and emotions in the mid-phase of providing feedback

The journals seem to represent me as a tired teacher in the mid-phase. The *'many consultation sessions'* with the students were taking a toll on me. This was seen from the journal entries between the 16th and 23rd of August. The journals state that:

> I feel that my free time slots in my time table are paralysed. I don't seem to have time for my usual coffee, lunch or even a sandwich. Besides being able to shed some weight, I feel stressed, have constant headaches and I feel like screaming away from school…

The journals showed the first instance of me as a tired practitioner, in the mid-phase. The journals also carried words like *'burnt out'*, *'having eye bags'*, *'dreaming of consultations and feedback'*. The evidence in the journals showed that I was getting too involved in my practice and was facing time management issues. The fact that I was marking at least one data-response question, one nine marks and one sixteen mark essay question during a 25 minute consultation session and providing tailored feedback to the student was creating stress. The journals also stated that I was also seeing at least seven students per day which meant I was marking at the least, a total of 21 questions consisting of data-response questions and essays. This was over and above the teaching load for a day. I was only doing part-time teaching in the year 2013 and the timetable along with the number of consultations per week were becoming difficult to handle physically and emotionally.

In the early phase, I had seen myself as a teacher who was not prepared and confident about providing feedback. But in the mid-phase I had transformed into a practitioner who was confident about giving effective or constructive feedback, but one who was becoming physically drained. This shows that I had to be mindful of handling my workload carefully. The journals also informed me that I felt that the individual feedback sessions were more efficient than the group or pair sessions. Therefore, I seemed to be forcing myself to help students individually. However, this kind of practice was adversely affecting my health.

In this phase the journals indicated that I was, initially, success using Hattie and Timperley's (2007) framework in the Preliminary 1 Examinations in the college. However, providing feedback using the framework was time consuming and I was unable to adhere to the deadlines provided for marking for the examinations. Moreover, this phase showed my changing pedagogy as I realized that written feedback is alone not enough in helping my students. I had to also provide verbal feedback to help my students with complex skills. Furthermore, this phase also showed that feedback must be provided regularly and consistently to students over a period of time for it to be successful. It is not a one off session or practice, without continuous and progressive feedback, students will not be able to improve or enhance their learning.

In addition, this phase showed the complex nature of the H1 and the H2 students. In the early phase it was apparent that I made assumptions about the abilities of the H1 and H2 students but in this phase the journals show that I was beginning to reason out and ask questions about why the H1 and H2 students were performing differently. This shows that I was actually scrutinizing my practice

and reflecting on my teaching and learning of students. Finally, the mid-phase also saw me as a tired and emotional teacher who was drained off energy. Though the early phase showed me as a teacher who was excited to learn but one with lack of confidence, the mid-phase showed me as a teacher with confidence but one who was becoming exhausted.

5.3 Analysis of the Year-End Phase of Feedback

In this section the analysis of the year-end phase of feedback will be presented. The first set of results will focus on the artefacts followed by the journals.

5.3.1 Artefacts.

In this section, the feedback provided to the students at the year-end stage is discussed. The feedback was provided after the Preliminary 2 Examinations, in the third week of September. In the year-end phase, formative assessments were not given to the students. All pieces of work were purely assignments, which the students did out of their own free will and initiative. This was because two weeks after the Preliminary 2 Examinations, the students were given 'study leave', by the college. Students came to college purely to revise on their own, with their peers or for consultations with their tutors. Students were not given common tests. So the questions which the students answered were all different. The students practised what they felt they wanted me to mark and provide feedback on. Some of the students practised questions on topics which they were better in and others practised questions on topics which they were weaker in. Upon analysis of the artefacts a few themes emerged.

Findings in this section are categorized as:

     i.   Feedback at the process level for the H1 students

    ii.   Feedback at the self-regulation level for the H2 students

   iii.   Written feedback encouraged by students

   iv.   Time factor and artefacts

5.3.1.1 Feedback at the Process Level for the H1 students.

Upon examination of the artefacts written during the year-end phase it was noticeable that the H1 students received feedback at the task, process and self-levels. This was in contrast to the feedback that was provided to the H1 students in the mid-term phase, when they received feedback only at the task and self-levels. In contrast, in the year-end phase, more feedback at the process level was evident in the artefacts. Moreover, the feedback provided was neater and clearly legible as seen from the excerpt of an artefact shown in Figure 5.4 below. The feedback was self-explanatory and was easily understood, in my opinion. There was no underlining, question marks or any other signs that were not easily understood as there was in the early stage. Moreover, the feedback was purely giving the student the information needed to improve on work rather than providing answers which had been a practice adopted with the H1 students in the early and even the mid-phase stage.
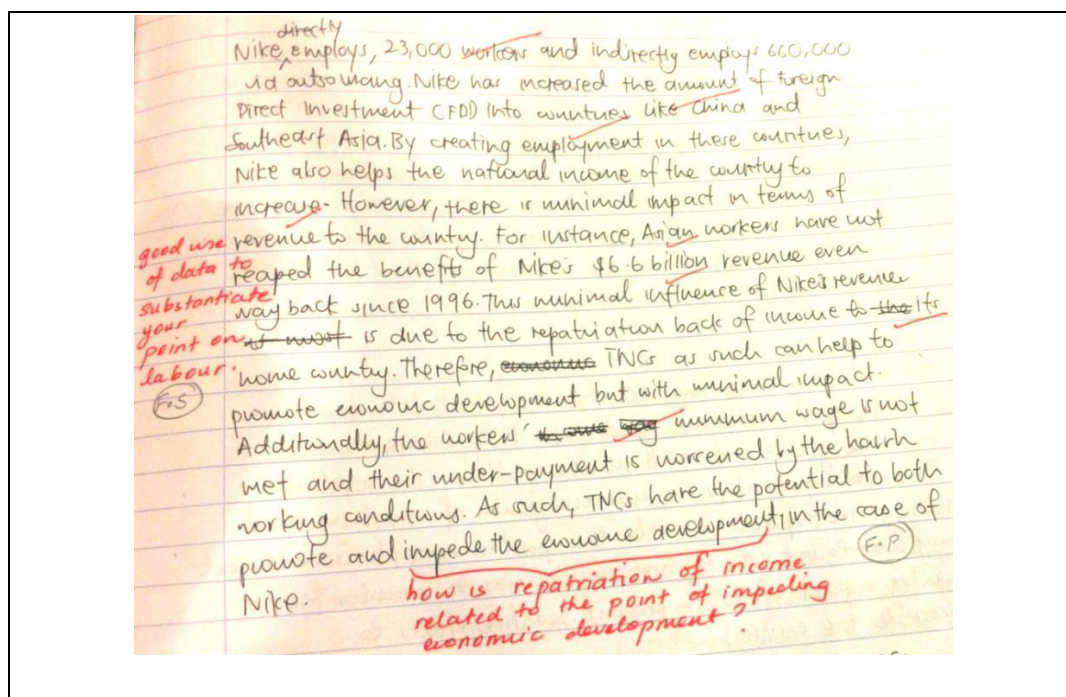
Figure 5.4
Excerpt of a paragraph that was provided feedback for a H1 essay

In another script the written feedback provided for a H1 essay was analysed and it showed more comprehensive feedback given at the task and process levels. The written feedback given for an H1 essay which was awarded 13 marks out of 16 marks (L3), was:

> Well answered, good use of case studies and … good
>
> comparison of the case studies. However, you could have given an
>
> elaboration of your stand in the introduction. Work on your
>
> conclusion paragraph – give a summary.

Within this feedback, all three types of feedback were evident. There was feedback at the task, process and self-levels. The student was given information about the knowledge of results (feedback at the task level), positive evaluation, (feedback at the self-level), and the direction they should take to do better (feedback at the process level). The student was not only provided with positive

198

self-level feedback like '*good*' but they were also provided with feedback at the task level which informed them of what was good in the answer. Moreover, the student was also provided with information on how the answer could be improved. This was quite different from the feedback that was given in the early phase and mid-phase periods for the H1 students. During the early phase, feedback at the self-level was given but not explained in order to show what aspect of the answer in the script or artefact was strong or weak. In the mid-phase period the self-level feedback was accompanied with feedback provided at the task level but the feedback provided in the year-end phase appeared to be very encouraging as it had elements of feedback at a positive self-level.

A significant finding from the analysis of artefacts from the end-phase was that I had stopped giving answers to the students. In the past answers were provided to the H1 students, both brief, and elaborated. In contrast in the year-end phase the feedback provided gave clear guidelines on the strengths and limitations of the piece of work. The H1 students were provided with the ownership of learning in the year-end phase and they were given more scaffolds. There was no evidence of answers having been provided for the H1 students. For example in a data-response script the following feedback was provided:

> Lack of data has been extrapolated. Be careful about the terms used for horizontal entry of water into the soil structure.

The feedback at the task level, given in the first statement, expressed the need for the student to acquire more or different information. It also assisted the student in rejecting erroneous hypotheses and this type of process level feedback

can be seen in the second line of the feedback given above. The information provided was useful in helping the student understand how to improve their answer. In another H1 nine mark semi-structured essay, the following feedback was given:

> Your description and explanation of the convergent plate movements is fantastic. However, you could have given a diagram too, as diagrams play a crucial role for physical Geography.

The first line which was feedback at the task level conveys what was factual about the answer. It then followed with feedback at the self-level which made positive mention about the answer. In the last line, feedback at the process level gave directions for improving the answer by providing the student with the advice to include *'diagrams'*. The information provided in this feedback was again very useful in that it gave the strengths and at the same time suggestions on how the answer could be improved.

Another notable change in the written feedback in the year-end phase was that it was clear and legible. The writing was more easily understood and neatly presented on the script, unlike the feedback that was provided in the early and mid-phase periods. In the early phase, the writing was often illegible and feedback not understood; in the mid-phase most feedback was legible and more easily understood and in the year-end stage the feedback was always presented neatly and clearly.

5.3.1.2 The feedback at the Self-Regulation Level for the H2 students.

During the year-end phase, the feedback given to the H2 students seemed to be provided more at the self-regulation level. This was different from what the students had received from me in the mid-phase period, when they appeared to only receive feedback at the task and process levels. According to Hattie and Timperley (2007), "feedback at the self-regulation level monitors, provides autonomy, self-control, self-direction, self-discipline and is able to help a student achieve personal goals" (p.93). Three of the H2 scripts analysed in the year-end phase showed evidence of feedback at the self-regulation levels. For example, one piece of feedback was:

> You are good in Geography but you have a major time management
> issue. You have to learn to complete your answers for DRQ, 9 marks
> and 16 marks within the stipulated time; if not you will never be able
> to get your 'A' grade.

As seen from data in my journals and the interviews, this student was sound in his Geography but he had '*problems completing questions when they are timed and in tests and examinations*'. The student also claimed during his interview that he was '*unable to complete their questions within the three hours because he gets carried away answering the questions*' and that he had '*difficulty summarizing his content*'. However, time management was a great issue and an anxiety for many other students too. After the Preliminary 2 Examinations, many took the initiative to see me because they had a particular problem with essays. Their data-response questions and nine mark essays did not exceed the time limit

stipulated for a question to be completed, but their sixteen mark essays did. This student was capable of achieving an 'A' grade for Geography, as seen from the excerpt, however, he had only been achieving a 'B' grade for Geography since the early part of 2013.ry 1 and 2 Examinations. Like him many other students were also given feedback to help them address time management issues.

One piece of feedback given to the student during the individual consultations in the year-end phase as an attempt to address his time management:

> You need to give details that are relevant to your answer. The IR (irrelevant) content is taking time away on helping you focus on the much needed content. As a start cancel away the statements that do not answer the needs of the question.

This feedback stated the problem that was causing the student to lose time by including unnecessary information and asked the student to edit their work. This was typical feedback provided at the self-regulation level in relation to time management. When analyzing the artefact, I noticed that the student appeared to have used a green pen to strike off some sentences within the paragraph showing evidence of editing.

In another sixteen mark essay attempted by the same student he had received the following feedback:

> Are you sure you can write this essay out in just 35 minutes? You are very long winded and you have written out needless information. Why do you have to produce four case studies to prove your point? Just provide two essential ones. Learn to prioritise.

From the feedback it can be seen again that I was attempting to teach the student to prioritise and summarise answers and that I was trying to help the student manage their time in writing out an essay within thirty-five minutes. This type of feedback at the self-regulation level encouraged the student to self-monitor their progress and to improve his performance. By helping the student manage their problem, I was attempting to differentiate my feedback in response to this particular student's learning needs. According to Tomlinson (2005) a teacher provides clear guidelines to students for independent work that matches their needs. After September, upon reflection of the journals, more specific and strategic work was done with the student and the length of the student's essays was reduced over a period of three weeks into September. In fact many students with time management issues were taught the skills of summarizing as a strategy to prevent them from being very long winded in their sixteen mark essays, and they learnt to summarize essay answers effectively. During the individual sessions I edited their work to help them see what was irrelevant in the answer. Over the period, these students' essays became shorter, for example, from four or five pages to two. Upon reflection, it can be seen that without learning to

summarize answers students would have difficulty writing within a stipulated time. So even though the students were taught the content and concepts for my subject at the year-end phase there was also a need to 'teach' my students other types of skills required to address the demands of an examination. If such teaching was not conducted, feedback would not have contributed to learning as feedback is a result of teaching. My study shows, therefore, in order for feedback to contribute to learning, there is a need to at times re-teach content, teach new content or skills. This is my view is 'required teaching' for feedback to be constructive at that point in time. Therefore, teaching and provision of feedback cannot be seen separately. They need to complement each other.

Time management was not the only problem that I attempted to assist students with through feedback. For one student I gave feedback to reflect on the kind of questions they were better at answering compared to another genre of question they had been answering. In one script this H2 student was given the following feedback, which is at the self-regulation level:

> Dear (Name of Student), you are better at answering evaluative
>
> questions rather than very theory based questions like concentric
>
> patterns, Hess's urban design and Caldwell's flow of wealth etc. Try
>
> not to attempt such questions as your answer seems messy and you
>
> lack the evidence and proper discussion of the theory.

This student had a particular problem writing answers for questions which test theories. However, the student was better at answering other types of questions

which did not require theoretical knowledge. Moreover, since the Geography examination paper had sufficient questions to choose from, the student was given the feedback at the self-regulation level to understand their strengths and to work with these to overcome their weaknesses. The student was advised to understand their strength in answering questions and was given feedback that helped them realize their strength in answering certain questions. This feedback, at the self-regulation level, indicates helping students to develop autonomy and self-control as suggested by Hattie and Timperley (2007). Hattie and Timperley stated that students need to constantly review and evaluate their skills and knowledge about a topic and the way they think about it. In this sense, the feedback the student was provided with aimed to help them realize their strengths in answering certain types of questions more than others. This was a way to help the student invest effort into their strength and for them to know their limitations at answering certain types of questions. However, for feedback at the self-regulation level to be useful, Hattie and Timperley argued that it depends on the individual characteristics of the learners, and that whether or not the feedback at the self-regulation levels work for a student depends on their interest in wanting to receive the feedback that would help them. According to Hattie and Timperley, students with lower efficacy are not as keen to self-regulate their learning as other students.

5.3.1.3 Encouraging students to write out my verbal feedback.

In the year-end phase, I encouraged my students to write out my verbal feedback in a different coloured ink, green, for them to reflect on. When a student met me for consultation the pieces of work marked were comprised of my written feedback and the verbal feedback provided. The verbal feedback was jotted down on the assignment by the student. This was done so that the students could

also play a role in self-regulating their learning. They had the choice of writing out or even recording my verbal feedback to help them when they were attempting another question. Upon reflection on the artefacts in the year-end phase, all the H2 scripts had the verbal feedback written out on the scripts. With respect to the H1 scripts, most of the students who came for individual consultations had such feedback written on their scripts. The verbal feedback that contained advice and scaffolds had been written out by the students. This was over and above the written feedback that I had provided to the student. Such feedback, written out by the student, helped them in deciding which feedback they wanted to adopt and which they do not want. This was understood in the interviews, when students commented that the verbal feedback I gave that they wrote on their scripts was clearer and it allowed them to "*choose or adopt the choices and evaluations provided*" by me during the consultation sessions. Moreover, the feedback that the students had written out on their scripts was legible and understood by them. This was an improvement over the feedback that was provided in the early and mid-phases where students had commented about illegible feedback and feedback that they understood differently.

Interestingly, I noticed that the feedback that I had provided verbally did not include feedback at the self-level. I had embraced Hattie and Timperley's framework of providing students and had made diligent efforts to provide students with feedback not only at the task, process and self-regulation levels, but also positive self-level feedback. I had been providing negative self-level feedback in the past and conscious efforts were made to give students positive feedback. However, the fact that the students had not written out the self-level

feedback which I had provided them with verbally, as stated in my journals, shows that they were very task oriented at that point in time. Students were more interested in getting the scaffolds and ideas to improve on their work and they were more concerned about writing such feedback down in their scripts. Students were prioritizing the feedback they wanted to write out when verbal feedback was provided to them. The feedback, which was mostly written out in the scripts by the student, was feedback at the task and process level. Some attempts to write out self-regulation level feedback were also seen. The feedback gave evidence of how I had provided tailored feedback and also feedback that had helped them achieve the HOTS. Most of the feedback contained information on how to critically evaluate a question or answer. For instance one script contained the following verbal feedback that I had provided the student with.

Could have compared the case studies at the end of the content paragraphs to show how the effect of state policies on … works in one country but not in another.

The feedback given above shows, that I had provided a process skill to the student by encouraging her to compare case studies at the end of a paragraph. However, the positive self-level feedback was not seen, though the journals inform that I had been providing feedback at the self-level diligently. They had not written it out the self-level feedback in their scripts. The journals state that:

Though I had provided my students with positive self-level feedback it does not seem to have appeared in the scripts. Students were

207

obviously not interested in writing out such feedback. However, I think that the feedback at the self-level is important because it gives them information on the practices that they should adopt.

My journal entries and the feedback in the artefacts written out by the students seem to show that my intention of providing the positive self-level feedback was obviously not embraced by the student. They would not have seen the necessity of writing out the positive self-level feedback.

5.3.1.4 Time factor and artefacts.

The feedback provided to the students in the year-end phase was immediate. Students would normally complete some data-response questions and structured essay questions and these questions would be marked during consultations. I did not collect the work to take them back for marking. Any piece of work the student completes for the week was marked during the consultation session which were organised on a weekly basis for the individual student. The students were seeing me for compulsory consultation sessions. The students in the year-end phase had to book consultation sessions with me so that I could mark and provide feedback for the questions they had answered. During the consultation slots the students had to bring with them three completed questions: A data-response question, a nine mark and a sixteen mark structured essay. The students worked on the questions at home while I gave them the feedback almost immediately during the consultation session. Each student had either a 25 or 50 minute slot with me every week. So equal opportunity was given to all students.

Again, the H2 students took advantage of this individual consultation opportunity more than the H1 students.

5.3.2 Journal Entries.

Analysis of the journal entries for the year-end phase provided me with important information about my students and about myself. The themes that emerged related to the characteristics of my students before the examinations; the relationship I had with the different groups of students and personal characteristics of myself as a teacher. These findings are presented under the following themes:

    i.   Sense of urgency and initiative in H1 students

    ii.   Relationships with students matter for feedback

    iii. Preference for Verbal feedback

    iv.   Myself as a teacher

5.3.2.1 Sense of Urgency and Initiative in H1 Students

In the early and mid-phase periods, the data showed that I was mostly encouraging my students to come for regular consultations with me. However, I was not forcing them to come for consultations like I used to in the previous years. The H1 students did not take an interest in the early phase, but the H1/HA began to show some interest in consultation in the mid-phase period. Now, at the year-end phase the H1/LA students were showing initiative to see me for consultation to get feedback on their work. This came about rather late in the year, after the Preliminary 1 Examinations. However, data in my journals

showed that the sessions with the H1/LA were not regular. I wrote that I '*give up hope for my H1/LA kids'*, however, I still understood them in a sense so that I had given them the benefit of the doubt and assumed that they were '*focusing on their H2 subjects'.* It seemed apparent to me that the '*sense of urgency*' the H1/LA students were feeling was encouraging them to see me for Geography consultations. This sense was due to the fact that they were going to sit for their 'Advanced' Level Examinations in a few weeks' time. One journal entry dated the 30th of September stated:

> H1Z is coming for consultations: she has booked me for many sessions. She told me she wants to be consulted like H2WQ. I can't do so much with her the last few weeks. H1Z is also getting the same help (doing the same questions as before) when I had already marked and given the feedback in term 3.

The above extract shows that the H1/LA student obviously had seen and knew how a H2 student was performing in Geography. However, she was lagging behind and she wanted to achieve a distinction for Geography at H1. Her sense of urgency and, I believe, her lack of initiative for the early part of the year had pushed her to come for consultations in the last few weeks before the examination. The positive outcome here was that she was consulting me with all her work and I was providing feedback to her. This informed me that the feeling of urgency and the lack of time students had before the major or national examinations could motivate them to attend sessions with their teachers.

210

Another issue I could see from the above excerpt was that the student was being given the same feedback again. This showed that the student had not been consistent with revision or that she had not been filing her work or self-regulating for her revision. It informed me that I had to encourage my students to have a structure in which they were able to re-look at the work I had marked and learn from the feedback. I could have had more timely checks on my H1 students to see if they were keeping up with their revision. I had to help them self-regulate their habit of filing their work so that when necessary they would be able to refer back to it to see the feedback they had been given and then apply it to other questions. This would also help me to reduce my workload in repeating the same feedback.

5.3.2.2   Relationships with Students Matter for Feedback.

Another of my H1 student booked me for individual consultations. She saw me over two sessions and I was confident of her getting a pass for Geography at the 'A' levels. The journals dated the 2nd and 11th of October respectively showed me that:

> I was able to see that she had incorporated some of the writing style and thinking from the model essays she was given for the Prelim 1 and 2 packages (compiled Geography questions). She was mainly practising her content and concept, not her thinking. I hope she comes for another three sessions so that I can comfortably help her strategise to get a C grade for Geography.
>
> The student stood me up today. She did not come, no phone call, no SMS….I am not going to consult her anymore. I am frustrated…I

am not going to consult anyone who is not interested enough to even inform me….. I don't think I deserve such treatment from my students. I deserve respect.

From the above excerpts I can see that the student needed a few more sessions with me, however, she did not attend the session. The extract showed that the relationship I was having with the student was beginning to deteriorate. According to my journals, this was not the case for just one student. A handful of students, mostly H1s, had cancelled their consultations without informing me. The terms '*frustrated*' and "*not going to consult anyone who is not interested'* showed the anger that I felt at that point in time. This extract also informed me that I had to monitor those who had booked me for consultations. Moreover, in order for me to be able to comfortable providing feedback I needed to have a good relationship with the students. As Boud and Molloy (2013) argued, a smooth relationship will foster a more productive two-way communication between a student and teacher. As much as the students needed to trust me I also needed their trust and understanding. I needed them to give me due respect for the work I had done for them. The journals showed that I had provided feedback consciously, keeping in mind the HOTS and the need to tailor the feedback for the benefit of the student. To do this, I thought a lot and I '*cracked my brains'* to give feedback that was effective. Sometimes the feedback was easy to give, but at other times I had to take time to think of what I should tell my students so that they would take my word for it and practise. Therefore, I was not going to provide such constructive feedback to students who were not going to inform me that they were not attending the sessions they had booked with me. From the above entries and excerpts the fact which was clear was that relationship

between the teacher and student is crucial for feedback and both parties must show mutual trust and respect for each other for the relationship to be maintained. However, my journals show that these relationship issues were common with the H1 students but not with the H2 students.

5.3.2.3 Preference for Verbal Feedback.

Data in my journals showed me the kind of feedback that I was most comfortable with. In my journals I stated that for some types of feedback, I was more comfortable with verbal feedback than with written feedback and that I believed that to be effective, feedback should be, as Boud and Molloy (2013) had argued, dialogical. In the past I had given written feedback that was illegible and I believed that feedback given once should help students improve. However, over this study I began to realise that written feedback has its limitations and that I had to interact with students regularly to help them understand my feedback. For that to occur verbal feedback was crucial. Moreover, feedback was not a one way process, but rather like a two way expressway. Students and teachers must connect in dialogue. They have to interact and talk to gain further insights into the feedback. On the 23rd of September I stated that:

> I like to give verbal feedback. It helps me help the students clear up their problems. It is faster, though time consuming. I like to communicate with the kids and they clarify and ask questions and things settle fast. I give them the air-time. Short cuts are given, strategies are taught and I deal with the individual there and then.

My log book on the kids is also working well as I am well informed

of their strengths and weaknesses in Geography.

The 'air-time' that students get through consultation time slots showed the dialogic nature of the feedback. From a one way process, as seen in the early and mid-phase, generally, now the feedback had moved to a two way process (Boud and Molloy, 2013).

5.3.2.4 My Journey as a Teacher.

Analysis of the journals revealed much about my strengths and limitations as a practitioner, and about my likes and levels of confidence.

My journey as a practitioner taught me a great deal about myself and my students. The journey had taught me much about what causes me stress as a teacher and it had showed me some of my limitations as a practitioner. At the beginning of the early-phase I was very nervous about providing feedback. I was unsure of what constructive feedback was, but I was interested to learn more about my practice in providing feedback. In the mid-phase data showed that me becoming comfortable with using Hattie and Timperley's (2007) framework to provide feedback but I was also seen to have become tired and frustrated with some students. In the year-end phase, I am able to see myself becoming more agitated and angry with some students. The journals show that lack of time I was having for other activities have contributed to my frustration and anger. This shows that I have to learn to manage my time well by considering all the dimensions of my life which include my career, family and social life.

However, the journals have also shown how my confidence in providing feedback to students had increased over the course of this study. In one entry dated the 4th of November I wrote:

> I just feel that I am moving away from looking at the work the students give me, their drqs???, 9m and 16m and the answers. In fact I see my students in the answers they present me. I see their strengths, or fortes, and their weakness and I work with these aspects of their weaknesses and strengths. I see myself having moved away from providing immediate responses like FT, FP and FS to more umbrella type or overarching responses like FR. So there is change seen not only in the artefacts, but also a change over time in the way I provide feedback.

The journals informed me that I had become more self-assured in the way I provided feedback to my students. The fact that I could see their '*weaknesses and strengths and fortes*' rather than their answers, showed me that I had begun to work with them and that I was focusing on self-regulation. Though I started out as an unconfident person, I had learnt how feedback can be provided to students and how it could be made constructive for learning and this boosted my confidence. Moreover, I also realized that it was not about just correcting answers but in helping students cope with their overall learning, and time management that I was actually moving into in the year end phase of my practice. The way I was providing feedback had changed from the early to the year-end phase. The feedback I was providing to students was seen to be

embracing a students' overall learning. This is seen from my journals which stated on the 14th November, just before the 'Advanced' level examinations:

> The feedback I provide students helps them in Geography. But I have seen me move away from Geography and provide feedback on their study habits, time management and other such issues. I think feedback for me has gone beyond the textbooks. I am now providing feedback which is more consultative and can be used for other subjects and their general well-being.

This entry showed me that I had realized that I had to be a person who was willing to help groom students to not only study Geography well, but to be able to excel in everything they had embarked on. I was teaching them to apply their '*skills and knowledge for life*' rather than just for Geography. This is evidence that through this study I have gained the realization that teachers are just not there for content, but for the greater benefit of students. In this sense the meaning of the term 'educator' has changed for me. My philosophy of teaching and what teaching entails has changed. My journals reveal that '*teaching only Geography is myopic*'. I have to '*reach beyond the shores of Geography and embrace the students to handle life-long skills and values*'.

5.4.   Summary of reflective journals in the year-end phase

In summary, the year-end phase of the artefacts showed that I had moved to providing the H1 students with feedback at the process levels. However, for the H2 students the feedback was being provided at the self-regulation levels and the focus was on the HOTS. The feedback provided was clear and legible in this phase. In addition, the focus of the feedback was more for the individual student, as it was tailored to meet the individual students' needs. The feedback provided to the students was also more immediate than in the earlier phases.

This year-end phase has shown me, through my journals, that feedback works best with students when there is a sense of urgency. This sense of urgency brings about the development of initiative on the part of the student to help them thus paving the path for self-discovery or self-regulation.

The journals have also shown that relationships are important for feedback to be effective. As Boud and Molloy (2013) argued when there is not a smooth relationship between a teacher and student the feedback cannot become a two-way communication. So for feedback to be constructive, the teacher and the students must have good rapport with each other. Finally, this phase has also seen me move from a person lacking confidence in the early phase to a confident although tired and sometimes frustrated person in the year-end phase. The increased workload that I took on to provide more effective feedback was affecting my emotions and energy levels. This is a warning to me to learn to strike a balance and manage my time better.

In this chapter, the findings from analysis of the artefacts and journals have been presented and discussed. In the next chapter, the findings from the analysis of the interviews will be presented and discussed.

CHAPTER 6: FINDINGS AND DISCUSSION OF DATA (INTERVIEWS)

In the previous chapter the findings and discussion of the artefacts and journals were presented. In this chapter, the interviews with the students are presented and discussed. Four groups of students were interviewed and they include the H1 lower ability (H1/LA), H1 higher ability (H1/HA), H2 lower ability (H2/LA) and H2 higher ability students (H2/HA). After analyzing and coding the interviews, common themes emerged from the four groups of interviews. Findings are presented for each group of students. The themes that emerged from the analysis were:

   i.   Attendance and motivation of students

  ii.   Student's views on written and verbal feedback

 iii.   Feedback and HOTS and DI

 iv.   What is 'constructive' feedback to students

  v.   Teacher assumptions about feedback

 vi.   Limitations of feedback

6.1 Interviews with the Higher 1/Lower Ability (H1/LA) Students

In this section the interviews of the Higher 1, lower ability (H1/LA) students will be reported. These are students who take Geography as a minor subject or only cover 50% of the syllabus of the H2 students. These are mostly students from the Science classes in my college, especially from the C1 classes who take two Science and Mathematics H2 subjects. Their H1 subjects are General Paper (GP), Mother Tongue (MT), Project Work (PW) and Geography.

6.1.1   Attendance and motivation of the H1/LA students.

Data from interviews with the H1/LA showed that in general, the students did not attend the feedback sessions or consultations that had been organised, since the beginning of 2012. The students stated that they did not attend the group feedback sessions regularly. When the students were queried why they did not attend, student H1/LA1 indicated that it was because he was too focused on his H2 subjects and that Geography was a '*low priority subject*' for him. Student H1/LA2 stated that he felt that too much time was being taken for a H1 subject and that he '*had no time for the subject*'. Student H1/LA3 explained that he realized his mistake of having '*been lazy in Geography but it was also because it was not his priority subject*'. This suggests that there was a lack of motivation to attend Geography group feedback sessions, in the early phase of the year 2012, as the students did not consider Geography to be an important subject. This was evident in the use of terms such as 'low priority' and 'no time' for the subject. It was apparent that generally the motivation to attend consultations for Geography H1 was low among the H1/LA students.

The three H1/LA students were asked which type of feedback session helped them the most. The answers given were varied. Out of the three H1/LA students, only one student (H1/LA1) stated that he preferred the one-to-one session where the teacher paid more attention to him, which was conducted after the Preliminary 2 examinations (year-end feedback phase). However, student H1/LA2 claimed that he preferred the tutorials with the rest of the students and group sessions where four to five students are met once a fortnight for consultations. The third student, H1/LA3, indicated that he liked the clinics. I

was surprised initially by this response as I expected the students to tell me that they preferred the one-to-one consultation sessions more than the pair or group or tutorial sessions. As I had stated in my journals, this is because the one-to-one consultation sessions were organised for the '*individual student to get personalized feedback*' for their work and performance. I believed that '*students would gain more from the individual consultation sessions because their individual strengths and weaknesses are dealt with*'. Moreover, the '*feedback that is provided to them is tailored to meet their needs*'. However, the interviews clearly showed that two of the three H1/LA students preferred the clinics and group sessions more than the pair and individual sessions. Again, I had assumed that a certain type of feedback session would work best for all students regardless of their ability. But the interviews had shown that this was not necessarily the case. The data suggested that I have to be mindful of the type of feedback that most benefits students and what they prefer to attend, instead of assuming and conducting sessions which I feel are more appropriate or beneficial for students. The interviews showed that I must clarify with my students the kind of session they would most prefer to attend. This, therefore, may have contributed to their lack of motivation for attending the sessions I had organised for the H1/LA students.

The interviews with the H1/LA students also confirmed the struggles two of the students had with their H2 subjects. This had implications for their H1 subject, Geography. For example student H1/LA1 was not performing well in Geography as he was also struggling in his H2 subjects. He stated:

I am too focused on the H2 subjects, which are so difficult to score in. Still am because H1 Geography is a low priority for me. But I missed a lot out and cancelled consultations and feedback sessions with her [teacher]. I could have taken more initiative from the beginning of the year. I did not focus on Geography because it is a H1 and I already have other H1 subjects. I got a B for PW which is H1 and I got another B for my MT (Punjabi) which is also H1 Geography is like not crucial for me. I read the feedback yes, but I have to file my stuff and some of the stuff is missing already. So I have to kind of start new.

The very strong terms like '*Geography is a low priority for me*' and that '*Geography is not crucial for me*', suggest that this student had clearly not focused on Geography. The student seemed to have made up his mind that Geography was not an important subject for him. Moreover, the fact that he was also having difficulty scoring in the H2 subjects suggested that the struggle would have resulted in him spending less time on Geography and that could have made him miss and cancel consultations and feedback sessions. The excerpt also shows that the student had to prioritise his subjects as he was struggling in almost all his subjects and Geography would have be listed as the subject of least importance to him. Moreover, the fact that he had already completed two other H1 subjects, Mother Tongue and Project Work, as shown in the excerpt above, showed that he did not require H1 Geography for entry into University as he already had two other H1 subjects he had performed well in. To gain admission into University in Singapore, a student needs to score a minimum of B to C grades for all the H2 subjects, a pass in Project Work (PW), the

General Paper (GP) and Mother Tongue (MT) subjects. Without H1 Geography, this student would still be able to gain entry into University as he had the back-up of three other H1 subjects. For this reason too, Geography could have lagged behind compared to the other subjects for this particular student.

Student H1/LA2 had also voiced his opinion in the interviews that he also did not have '*time to just focus on Geography alone which is H1*'. However, his comment was different in that he said:

> I have no time to just focus on Geography alone which is H1 and not my H2. So many times I forget and I try to look at it after some time and then I am lost on what it means (refers to the feedback). Actually I like to just practice instead of looking at what was said as feedback before. I don't know why, but I just like to start all over again and again.

From this comment it can be seen that the problem student H1/LA2 had was different from student H1/LA1, in that H1/LA2 had a problem with continuity. He was unable to keep up with the consultation time slots. Furthermore, he was not reading his feedback immediately after getting his marked assignments. He tended to read it after some time and this lag time affected his understanding of the feedback. Also the student had clearly admitted to the fact that he did not like to read feedback and that he liked to '*start all over again and again*'. In this sense the feedback then becomes unconstructive. Gibbs and Simpson (2004) clearly stated that the thirst for feedback and the need to read and use the feedback must correlate with each other. Students must take the initiative to read

and understand feedback for it to be of constructive use, and when time is not spent to clearly understand feedback it becomes a wasted effort for the teacher. In this case, the student is not interested in reading and understanding the feedback to enhance his learning. On the other hand, the excerpts also suggest that he student would have had difficulty understanding the feedback in the first place and that could have prevented him from applying it to his learning.

However, not all H1/LA students disregarded the feedback. For example student H1/LA3 stated in his interview that:

> After the pair work consultation sessions, I realized that I was improving, so I take her words (feedback) very seriously and write them down on 'stick-ons' or post-it notes and then I look through each time I do an essay to follow and see if I can use the feedback.

The fact that he referred to the feedback and said that he wanted to '*see if he can use the feedback*' showed that he was self-regulating from the feedback and using it '*each time*' he did another essay. The fact that the student used the feedback and tried to '*see*' if he was able to '*use the feedback*', showed application skills. The student was learning to not only improve in the current assignment on which I had provided feedback, but he was also trying to use the information to inform himself of actions he should take for other assignments. The interview data also showed that students needed to be motivated to take and reflect on feedback seriously. In the excerpt above, the student showed that he had become motivated and started taking the feedback seriously when he saw

improvement in his work. Therefore, when a student does not see an improvement in his work he may disregard feedback thinking that it does not value-add to learning.

6.1.2 Students' views on written and verbal feedback.

All three H1/LA students were asked, during their interviews, to comment on the written feedback that they had received. Two students replied that they preferred it when the answer was written out by the teacher. Both of these students commented that they liked their '*teacher*' to write down answers '*fully*'. They liked it when '*everything is written out*' for them. For example student H1/LA1 had elucidated as follows:

> I like the written feedback– I think if she writes it out (answers), it is easier for me to understand, I like her to write everything (of the answer) out for me.

And student H1/LA2 stated that it is:

> Better when it is written at the area which went wrong and (I will) know exactly where and what the problem is, but, I want the teacher to write it fully also (answers) like everything on my paper and I like it

However, student H1/LA3 held that he preferred the verbal feedback to the written feedback. The student posits that:

> The written (feedback) is illegible and you need to see expressions to understand the teacher's comments, so the verbal is really good.

Among the three H1/LA students, one student had clearly shown he preferred verbal feedback to written feedback. He was the only one, out of the three students who stated the limitations of written feedback. For example he stated that the '*written feedback seemed rushed with the illegible handwriting*' and that the '*feedback is not explained enough*' for him to understand his problem with the answer. Student H1/LA3 expressed his preference for verbal feedback unlike the other two H1/LA students. In fact student H1/LA3 expressed his liking for verbal feedback just like the H1/HA and H2/HA and H2/LA students. Student H1/LA3 detailed how verbal feedback was more dialogical than written feedback. He stated that:

> …Like understanding how to evaluate and all that is fluid you see, you cannot write it down for me to understand, it is very dialogue like. I have to talk and express my views and she has to talk and help clear or strengthen my views, so the verbal is better for me because the communication makes things clear, not the writing. Sometimes I get the wrong information (from written feedback) and then because I have a different view of the feedback.

The student had shown that verbal feedback provided him with the platform to engage with the teacher. He preferred to interact with the teacher than just receive the feedback from the teacher. Student H1/LA3 had also suggested that written feedback did not allow him to clarify doubts and build upon his skills, but that the verbal feedback did as it constituted an exchange of ideas. This was an indication that even though these H1 students had taken the same subject combinations and were considered low ability for Geography, they had different needs with respect to what they desired as feedback from me. Though I preferred to provide verbal feedback, I realized that my H1 students had a preference for written feedback. They also had shown that individual consultations did not always contribute to their learning and therefore were not preferred by them, as I had assumed at the beginning of this journey.

The data also revealed that two of the H1/LA students wanted answers as written feedback. These students seem to prefer answers to scaffolds for learning. In the early and mid-year phases I had the tendency to provide answers as feedback for students and obviously that practice had benefitted these H1/LA students. However, they fact that they are still struggling in Geography shows that the answers provided by me in the early and mid-year phases have not helped them in improving in their Geography marks.

During the interviews, the students were asked to give examples of written feedback, and explain how they viewed and rated this feedback. Student H1/LA1 stated that he was given comments on content and relevant examples for an

answer. This student interestingly enough, used the terms 'comment' and 'feedback' interchangeably in his interview. He stated that:

> I hate Drainage Density, Efficiency of Drainage type of questions, but she helps me by teaching and telling me what is wrong with the answers. So I get the content from her. Concepts means like being geographical. Like when I say water moving into the soil, I have to say water infiltrates. The word infiltrates is a Geography concept – something like that.

The interview clearly shows that instead of purely giving feedback to the student I had taught the student concepts and sub-topics. From the interview, it can be seen that the original lectures and teaching had not benefitted student H1/LA1. For this reason, it may be difficult to only provide feedback and not teach at all during the times when I provide feedback to students. I can be mainly providing feedback, but it may be necessary to do some teaching also. Moreover, as Hattie and Timperley argued, for students who are weaker some teaching must be done before feedback is provided. The teaching can be to clarify, test or even simply teach some concepts before feedback is provided. This, I believe, only helps to enhance the feedback and makes it more effective.

As for student H1/LA2 the feedback given to him was mostly for concepts. In the interview he stated:

> I am totally weak in concepts. I write well, which is what Mdm Gowri has told me, but my paragraphs and answers are like not geographical. So many times she sits there and gives me a stare and then asks me, what is the concept you should put here. What about here and she helps me come up with the concepts. I feel I know the concepts when I am with her but when I am alone I just don't even think of the concepts. I hope she can sit beside me during exams. She does not have to talk. When I see her face I will somehow think of the right concepts.

The comment made by the student informs me that the student was mostly given feedback at the task level. He was always being prompted to give the 'right' concepts to make his answer geographical. The excerpt also shows that some H1/LA students needed the assistance of a teacher to think and this except also suggests that this student is not independent. This may be because some students are overly dependent on their teachers and therefore, their self-regulation levels in learning are low.

Student H1/LA3 also gave evidence of feedback he had received from me. He stated that:

> She helps me by giving me hints on the concepts which I may have missed out. I used to not be geographical, but now I am becoming geographical like putting in the concepts and the right 'words' so to speak. But she told me that I am improving and she seems to focus more on my L3 in my paragraphs like the comparing, evaluating, synthesizing and stuff. I find it difficult, so I have to read the same thing she has corrected a few times and follow the structure of thinking and writing for other essays. It is tough for me. But at least I got my content and concepts settled to some extent so I know that I am improving.

From the interviews, it was evident that some H1/LA students were provided with feedback at the process level. In the case of student H1/LA3, he had given an indication of the struggle he had with thinking skills which the teacher had provided him with. He stated that it was '*tough*' for him and that '*at least he got his content and concepts settled to some extent*'. Though it shows that the H1/LA3 student had received feedback aimed at the process level, he has still not developed in his thinking skills.

6.1.3 Feedback and HOTS and DI.

The students were specifically asked to give evidence of feedback and comments related to higher order thinking skills that they had received from me in their

assignments. Out of the three students, student H1/LA1 received feedback related to basic content and concepts and he was taught, more than given feedback, to write convincing stands for essays. However, the student had admitted that he had difficulty making evaluations and judgments so he would be only working on his content and concepts for Geography and therefore only developing his lower order thinking skills. He stated that he was ready to achieve a 'C' grade for his H1 Geography. He also openly claimed in his interviews that he '*had no time for H1 Geography*' and that he was '*going to aim for a pass, especially for his sixteen marks essay which tests the HOTS mostly*'. The statement provided by student H1/LA1, as seen below, gives evidence to show that he was unable to cope with the higher order thinking skills and this means that he was only aiming for a pass for Geography:

> She gives me comments on how I wrote the stand wrongly and she taught how I can convince in my stand. But I am weak in that. So I am going for L2 (low) marks where I need to be clear with my content more than my higher order thinking so to speak. I am okay till S.E.X (**s**tating point, **e**laborating, giving e**x**ample), I don't even reiterate at times so the evaluation is a 'no, no' for me. I have difficulty with evaluation for essays and also for the application type of questions for data-response questions. I think the focus would be the H2 subjects for me so a pass in Geography will do.

The comment made by the student shows that I had provided feedback on higher order thinking skills, however, the student had difficulty understanding and

applying it. Therefore, the student had made a decision to only aim for a C grade for Geography. For this student, evidence from the interviews and the tracking of his results showed that I had been providing him with feedback at the task and self-levels (FT and FS). The feedback, and the examples that the student had provided during the interview, also showed that even feedback at the process level was seldom provided while feedback at the self-regulation level was not provided at all. However, the student had made up his mind to achieve a C grade for Geography at the 'Advanced' Level Examinations. This suggests that students self-regulate their learning too, and this student had definitely done so. Therefore, the feedback I provided him at the process and self-regulation levels may not have been constructive for him as he had made up his mind to only achieve a pass for Geography. This also suggests that sometimes the feedback which is constructive to learning for one student may not be so for another student. Feedback may appear to be constructive, but whether the student wants to use the feedback to help themselves is a different issue. The student quoted above seems clear about his priority in spending time to revise Geography. He has demonstrated that he understands his ability to handle his subjects and so is self-regulating his revision so that he is able to spend more time for his H2 subjects than H1 Geography. From this student I learnt that self-regulation is not only about revising or doing well in academic subjects, but that it is also about strategizing for the examinations and being able to cope with the demands of preparation, so in this sense this student has self-regulated his learning.

In the interviews, student H1/LA2 gave evidence of feedback provided for higher order thinking skills. He stated that:

> Some of her comments when I write an essay or do a data-response with my full brains at it are like - So where is the comparison between Bangladesh and Mississippi? You could have given me the comparison between South Korea and Nigeria's industrialization programme so it could have hit a higher thinking level etc. etc. So my Eeee (evaluation) is a problem.

> This is fantastic, I love this statement. Well done for this part here. (*Student shows the artefact to the interviewer who reads out the feedback to be recorded*).

The feedback provided to this student shows that I had given the student guidelines to evaluate by asking for a comparison which was feedback related to process (FP). I even seem to have told him that such a comparison would have been an example of HOTS. However, the student also explained that he had difficulty in evaluating even after feedback was provided. The student stated:

> I am provided feedback that has HOTS, actually, but I am still uncomfortable. Each time I see a new question I don't seem to know how to apply the skills. There are too many types of questions out there for me to do and not all the feedback I get can be used to answer the questions effectively.

This shows that though feedback on HOTS had been given the student was unable to apply it. Moreover, the excerpt seen above also informs me that the student must have been exposed to different genres of questions which entail different types of feedback. However, the fact that the student is unable to cope with the different genre of questions is evident in the interview. What the H1 student had stated in his interview showed me that I may have not been providing the relevant assessment to help the student in developing his HOTS and become comfortable with handling some types of HOTS. The student seems overwhelmed with the different genre of questions and feels *'uncomfortable'*. The transition from moving from a simple to more challenging questions could have been considered in my practice so that students do not experience such *'shocks'*. Moreover, the relevant or tailored assessment for this student could have contributed in helping him perform better in Geography. This demonstrates that assessment and feedback are linked and that they cannot be independent of each other. Students must be exposed to different types of questions for which the feedback provided will be different. Moreover, a teacher must be mindful of helping a student transit from simple to more challenging questions.

In contrast, student H1/LA3 appeared to show evidence of being more comfortable with the higher order thinking skills than the other two students in this group. He was the only one who showed shown confidence in handling questions testing the HOTS. He explained in his interview that he has been able to achieve at least L2 high grades after the Preliminary 1 Examinations in July. Out of the three students he seemed to be more comfortable in attempting HOTS.

He stated in his interview:

> I am not worried about the HOTS, actually. I think I can score L2 grades and I can do the application type of questions in the data-response questions. The feedback that Teacher Gowri has provided like kind of steps to compare, evaluate and do the answers to whatever extent of the type of questions. Just need to be careful to interpret the question and choose the case studies carefully.

In this interview excerpt, the student seemed to show that he had been provided with feedback at the self-regulation level. He was the most independent out of the three H1/LA students and also showed the most improvement. Out of the three students his self-regulation was the highest, as he mentioned that he '*has to be careful to interpret…… and choose the case studies carefully"*. He explained in the interview that the feedback provided to him was varied, and that he had also attempted to do different genres of questions. This suggests to me that some of the H1/LA students could have developed an understanding to handle HOTS over the one year of 2012. Before undertaking this study, I assumed that the H1/LA students could not handle the HOTS. However, this student has shown otherwise.

The three H1/LA students were asked, during their interview, about how they valued the quality of feedback in the different sessions such as the tutorials, clinics, group, and pair to individual feedback sessions. All three students unanimously agreed that the quality of feedback had certainly improved from the

beginning of the year to the end of the year, although they did not mention which session. The students stated that by the end of the year they knew what their weaknesses were and that they were provided '*advice on how to troubleshoot their problems*' that they had with '*answering questions and studying*'. For instance student HA/LA3 stated "*I know my problems now and I am aware of what my weaknesses are*".

This goes to show that the quality of feedback had improved enough to allow for the student to realize his weaknesses and advice was being provided to help him to overcome his problems. However, the information provided in the interviews also showed that the students had only become aware of their weaknesses by the end of the year. This is a significant point which shows me that the feedback I had provided early in the year could have had very little impact on learning. Students would not have found it constructive enough. However, towards the end of the year the clear application and adaptation of Hattie and Timperley's (2007) framework could have contributed largely to the enhancement of learning.

When the students were asked if the feedback was contributing to their learning, all three students unanimously agreed that the feedback was helpful to their learning. However, the reasons given by the three students were diverse. Student H1/LA1 stated that he was more aware of the thinking skills '*now*'. The term '*now*' shows that even though feedback had been given with respect to the HOTS, the student was only able to grasp the skills '*now*', or just a few weeks before the 'Advanced' Level Geography Examinations.

For instance student H1/LA1 stated:

> Yes, I realize it now that I feel that I have improved in writing in just two sessions with her individually. I know how to write an evaluative type of essay. I have practiced four already and I am scoring an 11. Before it was four marks. I have done the same type of questions, so the structure and the skills are the same. But I have yet to learn the 'To what extent type of questions.

Another piece of information I can extrapolate from the data was the fact that the student was unable to achieve higher marks with the feedback provided in the past compared to the feedback he was provided a few weeks before the examinations. There might be several reasons why the feedback provided in the past would not have helped him. For instance the feedback that I had been providing in the early phase was mostly answers. For the H1 students, I was providing answers from the early to the mid-phase period. Answers, therefore, would not have provided him with the opportunity to develop his/her thinking skills. Another reason may be that, as the H1 students had commented earlier, they were disinterested in attending the clinics and consultation sessions as they felt that Geography was not a priority for them. However, the sense of urgency and initiative could have increased towards the end of the mid-phase or year-end phase and this could have contributed to the student improving in his Geography. He would have taken the initiative to be more mindful of the assessment and feedback and he would have been conscientious in his revision.

6.1.4   What is 'constructive' feedback to students?

In the interview, the students were asked for their definition of constructive feedback. All three students had stated that it was feedback that showed their strengths and limitations. However, each student had a different need and definition expressed in the interviews about their strengths and weaknesses. For example student H1/LA1 asked for more positive feedback which would be constructive to him and he described me as '*impulsive in throwing words*' around. The student had also articulated that:

> A lot of time I spend (to do the assignments), she marks and she says truthfully that it is bad, and I am sad. It is like wasted effort. She is impulsive in throwing words. I just get a shock. She needs to be empathetic.

This interview excerpt showed that the student wanted encouragement and motivation from me, and that he wanted to see positive comments or more feedback at the self-level. The details stated in the excerpt indicated to me that I had to be more aware of the feelings and emotions of students. In other words, he wanted me to be '*empathetic*'. The fact that I had to be more aware of emotions was also a factor that I had commented on in my journals. Another student had complained and was unhappy with the fact that I had '*practically slashed'* his essay during the individual consultation taking '*no regard of the hard work that he (I) had put into the work*', and that the work marked by me has '*red marks and comments everywhere'*. Boud and Molloy (2013) argued that practitioners must think of ways to ensure that the process of providing feedback

engenders more positive than negative emotions. They argued that the way feedback is provided affects the way learners receive and act on it. Moreover, they have stated that when there is a discrepancy between "internal and external judgments" (p.64) occurring, there is likely to be some feeling of discomfort generated for the learner with the feedback. Therefore, there is a need to make sure that the "feedback is not overly critical of their work" (p.60). The scripts were also scribbled with many red marks and they were giving me a view that it was "killer feedback", which Asker (et.al. 2000) had pointed out about in his research. Such feedback does not quantify as being constructive.

Student H1/LA2 stated that to him feedback that '*caters to an individual's need*' is constructive feedback. The student had conveyed the idea that even '*simple issues like how a paragraph is structured should be provided for*' in feedback and he went on to further explain:

> I like the feedback she gives me. I am able to understand my problems and I will try to solve them when I do a similar question.

This comment suggested that for student H1/LA2, teaching how to write out paragraphs and to state problems he was facing was deemed constructive feedback. Student H1/LA3, however, suggested that '*something that can help me improve*' is constructive feedback, though he has not stated exactly what the '*something*' could be. Although all the students are H1/LA, each had a different notion of what constructive feedback was. This supports Tomlinson's (2005) notion that in order for feedback to contribute to learning, the needs of the

student must be addressed. This requires a philosophy of teaching that is based on the premise that "students learn best when their teachers accommodate the differences in their readiness levels, interests and learning profiles" (Tomlinson, 2005, p.1).

The students were asked whether or not they were provided with other types of feedback besides those of HOTS and DI. All three students gave varying replies for this question. For example, student H1/LA1 spoke about how he was advised to '*work on content using concept maps and mind maps*', while student H1/LA2 talked about how he was advised to change his '*attitude towards school and come to school regularly.*' The third student was given directions on how to '*cope with time management issues and smart tips for examinations*'. These examples of feedback showed that all three students were given personalized feedback related to their individual needs. The personalized feedback showed that I was trying to target and help each student overcome their individual difficulties. This suggests that feedback provided to the H1/LA students was going beyond the Geography content, and was helping students self-regulate their learning more generally.

6.1.5   Teacher's assumptions affecting feedback.

My assumptions about the H1 students were also expressed in the interviews. The most interesting comment from the interview was given by student H1/LA2 who declared that my method of teaching and providing feedback was not suitable for the Science students. She clearly stated that there was a mismatch

between what I assumed and what the H1 students actually knew and understood. Student H1/LA2 stated that:

> In the beginning of last year (2011), her method of teaching and giving feedback was more for arts kids, I am (a)Science kid, she focus(es) on evaluation and thinking skill(s), which many don't understand. We are the Science kids. She assume(d) we knew how to structure (answers) so (at) the beginning of last year we had difficulty, we need (ed)a structure to think and if you give us the basic way to think it will help. This year she continued and again she assumed that we already knew more and so now I am having difficulty. So we are not doing well in Geography. We can't seem to get the HOTS and data-response questions right.

This comment clearly showed a mismatch between my perception and the student's perception of her ability. The excerpt suggests that I had been providing feedback which was too advanced for the H1 students. Price et al. (2010) claimed that feedback is a bridge between the teacher and the student and that the bridge is not formed when the intention of the feedback and the perception students get of the feedback are different. Price et al. also claimed that if the student who receives the feedback does not recognize the benefits then the feedback has not served its purpose.

I had assumed that the students understood my feedback. For instance, in my journals I wrote informed me that: "*I am so happy giving my students so much feedback to learn from*". This excerpt was written at the beginning of the early

phase where I had believed that *"giving a lot of feedback is the way to helping students"*. My journals showed that *"more feedback showed me that I am hard working and is scrutinizing my students' work for mistakes to correct"*. What these data suggest is that, although individual differences were understood and feedback was provided to students, initially during tutorials and group sessions, I had not been providing feedback that was suitable for the H1 students as shown in the excerpt above. I had assumed that the H1 students understood my feedback when in actual fact the feedback was not contributing to their learning. I had assumed that my students understood and appreciated the feedback. The interviews and journal entries informed me that I was not in actual fact looking closely at my practice in the early phase of 2012. My practice was formed and shaped, initially, by assumptions I had such as the thought that my students knew how to evaluate when they did not and the thought that my students were learning from my feedback when in actual fact they were not. The assumptions had been formed due to experiences I have had in my teaching. I had been under the impression that giving more feedback is a good practice especially for Pre-University students. Moreover, I was under the impression also that students will take the initiative to clarify problems in their work, which is what was expected of the students. The above were expectations and assumptions I had formed which had implications for my teaching and practice of providing feedback.

6.1.6 Limitations to Feedback.

The students were asked if feedback had contributed to their learning. All three H1/LA students agreed that feedback had indeed helped them. However, students H1/LA1 and LA2 stated that although they were able to see the

improvement they were still not performing well overall due to other problems they faced in completing the paper and not having revised the content. For student H1/LA1, it was about '*revising the content for Geography*' and for student H1/LA2, it was about '*not being able to handle the content for all the subjects he takes, especially the H2 also*'. The problems they faced were inhibiting them from seeing actual improvements in their grades, though they were able to see improvement in their marks for individual assignments. The students also commented that feedback alone was not enough to help them learn and perform better in Geography. For example student H1/LA1 stated in his interview:

But I need to take more initiative which I will from now. I have to get my content settled which I have not.

Students H1/LA2 and LA 3 also mentioned content in their interview:

I guess if you know the content then feedback works best and if not what is the use of feedback, I don't get the relation between what is written on my paper which is very little and what the teacher says (student H1/LA2) No … you need the content and to become better you must take initiative to study and understand and practice and consolidate. Not only feedback (student H1/LA3).

All three H1/LA students had clearly stated that without content knowledge and initiative in revising, feedback was not going to help them. As Hattie and Timperley (2007) stated that to be effective, feedback needs to be "clear,

purposeful, meaningful and compatible with students' prior knowledge" and that feedback can only "build on something and it is of little use when there is no initial learning or surface information" (p.104). This is supported by data in my journals which stated that:

I am able to correct a student (FT), show him the steps involved in getting to the answer (FP) and provide him with the structure to regulate his learning (FR). However, in order for me to move and provide feedback that allows a student to move to a higher level where he is able to interpret and answer more challenging questions and master the HOTS, I need the basic structure to be established and the basic structure refers to the basic content knowledge the student must have and the discipline to study and revise work (8th September, 2012).

The above excerpt from my journals told me that without prior knowledge and the discipline or initiative to revise, I would not be providing feedback that would help a student develop his skills of thinking and writing. I required the content to build on and to help students develop higher order skills. This suggests that without the basic content knowledge feedback will be of little use.

6.2 Interviews of the Higher 1/ Higher Ability (H1/HA) Students

In this section, the results of interviews with H1/HA students is discussed.

6.2.1   Attendance and motivation of the H1/HA students.

Compared to the H1/LA students, the H1/HA students were more motivated to attend all clinics, pair and individual consultation sessions. Generally the journals informed me that '*the H1/HA students were able to handle all their H2 and H1 subjects fairly well*' so there were no issues of non-attendance for the sessions. However, the students were asked which type of feedback session they preferred out of the tutorial, group, clinic, pair or individual sessions. All three students stated that they preferred the individual feedback sessions compared to the group and pair sessions. Student H1/HA stated that he preferred the one-to-one feedback sessions which provided him with more '*personal feedback, instead of the teaching of skills*'. The other two students stated that individual feedback sessions were '*focused*' on them. The H1/HA students had clearly shown the need for individualized feedback during their interviews. All three students also explained that the '*quality is better*' for the individual feedback sessions. Student H1/HA1 stated that the sessions have helped him '*clear problems rather than be involved in other people's problems,* while student H1/HA2 and HA3 indicated that the individual feedback sessions had helped them '*maintain/sustain grades*'. From the interviews it can be seen that students judged the quality of feedback when they were attended to personally and through the grades they achieved. The H1/HA students were clearly only interested in their performance and not that of others. That may be the reason why when group or clinic sessions were conducted to clarify feedback provided

in the assignments, these HA/H1 students were not interested because they were also required to listen to other students' feedback.

The students were also very interested in discussing their performance immediately and preferred getting feedback as soon as possible. They stated that this was one reason why they preferred the individual sessions, where the work that they had practised was marked immediately and feedback provided to them at once. This was not surprising considering the fact that the students would be sitting for their 'Advanced' Level Cambridge Examination which is a milestone in their life, to get into University. When the essays and data-response questions were marked during the individual consultations, feedback and marks were provided to the students immediately. The students also stated that when they saw their grades improving after consulting me, they were motivated and started wanting to see me regularly. Clearly the H1/HA students were not only motivated, they were also very focused on achieving good grades.

The three students also stated that the feedback I was providing them was helping them become better in Geography. They were also seen to book me for consultations regularly and use the feedback I provide them. For instance student H1/HA1 provided the explanation that when he did not see me for consultations and feedback regularly, he tended to have problems.

He stated that:

> I use her feedback, I try to but some of the questions require a longer
> thinking process and I tend to lose track of time and when I do not
> consult her and there is no continuity then it is a problem and I forget. It
> is easier when I see her regularly. So I take the initiative to see her. It is
> important for me.

In the case of this student, when he did not see me for questions which required a longer thinking process there was a tendency for him to forget the feedback that was given to him. This shows that feedback is not a one off thing. In order for feedback to work students must be provided with it regularly until they master a skill or are able to eradicate problems they have with writing or learning. Some skills may be easy to master and take less time, while other skills may require more time to develop and for that, getting regular feedback is important. Likewise, the other H1/HA students also articulated in their interviews that the regularity of the consultation cum feedback sessions were helping them improve in their Geography.

6.2.2   Students views on written feedback.

The students were asked about their views on the written feedback that was provided to them. Out of the three H1/HA students, two of them stated that they preferred to get verbal feedback as opposed to written feedback. Only student H1/HA2 stated that he '*does not mind written feedback*'. The students gave various reasons why they preferred verbal feedback to written feedback.

247

Student H1/HA1 stated:

> The handwriting is bad and Mdm Gowri wants to say a lot to us and written does not seem to help….I am unable to get what she wants to tell me so I prefer verbal as I am able to gather what she means and what I want to know…

Student H1/HA2 detailed how:

> I prefer when feedback is written and then again verbal is given…..she identifies the place where the mistake has been made and then when she explains…she clearly articulates the reasons and I get to see the expression… I then write down what she has said in the way I understand her.

Student H1/H13 specified that:

> I get verbal and written feedback but I like verbal, as when someone says it I hold it better, but written I sometimes do not take initiative to look at it… I cannot read it as it's illegible and hard to understand…I don't want to interpret it wrongly.

Two of the students had commented on the problem of illegible handwriting which had prevented them from understanding the feedback clearly. However, all the H1/HA students commented on an issue which was more important than the illegible handwriting. All three remarked that verbal feedback helped in clarifying written feedback. The students clearly voiced how there was a

tendency for written feedback to be interpreted wrongly and for it not to be able to articulate clearly the mistakes. Even my journals informed me that '*written feedback is like a one-way street where the student is unable to clarify issues and discuss with the teacher*'. Boud and Molloy (2013) have argued that when complex tasks are being learnt, written feedback is inadvisable. They also stated that in situations where "written feedback can be misunderstood, there is a need to explore how opportunities for dialogue and iteration can be maximized with written feedback" (p. 106). The excerpts of the interviews showed that the H1/HA students were keen on understanding the feedback correctly and they felt that to rely on written feedback was not going to help them achieve this objective, so they needed verbal feedback as well.

The students were also asked to give examples of different types of written feedback that they had received from me. All three students stated that they got a lot of motivational phrases and stickers. They showed evidence of getting terms like '*good*', '*well-done*', '*fantastic work, I love it*', in their assignments, tests and examination scripts. However, they also had evidence of negative feedback which they had received in their scripts. Terms such as '*hopeless piece of work*', '*utter rubbish*', '*are you sure you are an 'A' level student?*' had been written in the scripts. The students stated in their interviews that the positive feedback encouraged them but the negative feedback brought their morale down. However, the H1/HA students did not show evidence of anger or frustration receiving such negative self-level feedback from me compared to the H1/LA students.

As student H1/HA1 puts it:

> Well, I guess positive feedback is good, but if something is bad then I think we have to accept it and listen to the music (scolding), even it if means that my spirits go down.

According to Ende (1983), studies have indicated that feedback characterized by praise had little impact on learners' performance. He also said that negative feedback, on the other hand, showed negative influence of a teacher's power over a students' confidence. However, Molloy (2010) advocates that the "feedback sandwich" where negative feedback (the meat) is sandwiched between layers of positive feedback (the bread) could be given to the student so that the criticism is easier to digest. It appeared from the data that the higher ability students were able to accept criticism and negative feedback more readily than the lower ability students.

6.2.3   Feedback and HOTS and DI.

The three H1/HA students gave more evidence of feedback provided for the HOTS than for the content. Though they stated that they were provided feedback at the self-level and at task level for content and concepts the evidence from the interviews showed that more feedback was aimed at the HOTS. For example student H1/HA2 stated that he was provided with feedback that was *'more on evaluation, now, more of the thinking like questions like the Level 3 descriptor type'*.

This statement suggests that the student was provided with the scaffolds to evaluate a sixteen mark essay question. This was feedback provided at the process level. However, student H1/HA3 stated that he was given feedback '*on structure, how I have convinced my stand and whether the conviction could be stronger'*. This showed that the student was given feedback at a higher level known as the self-regulation or FR level. Even though the three students had been categorized H1/HA, there seems to have been a clear distinction in the way they performed individually. One student was mostly provided feedback on the content and concepts while another's feedback was on a particular thinking skill, evaluation and the third student's feedback was more on how he could make his stand stronger. This suggests that the feedback was differentiated for the three higher ability H1 students.

The H1/HA students were asked to give their overall view of feedback that they had received from me in the year 2013. All three students unanimously agreed that feedback had brought about an improvement in their work. Student H1/HA1 stated that:

> I am clearer about how to write, interpret questions, analyse data, look out for content, and case studies that are relevant. My regurgitation of content and case studies has reduced. I seem to have been cleaning myself up for writing.

The above quote shows that this student felt empowered to handle aspects such as writing and interpreting questions. The comment also expresses how he had been able to reduce problems he had faced in the past such as regurgitation. The

term '*cleaning*' appears again to denote that the student had been able to cleanse his writing off problems he had faced with respect to Geography through the feedback provided. Student H1/HA2 stated that his improvement could be seen in relation to himself '*doing more analytical questions instead of knowledge based ones where there is little thinking or analysis*'. This again indicates that feedback had allowed the student to achieve the higher level of thinking. The comment shows that he was able to handle more challenging questions due to the feedback that he had received.

6.2.4   What is 'constructive' feedback to students?

Students were questioned about the kinds of feedback they considered to be constructive to their learning. Looking at the interviews data two main factors emerged: Higher Order Thinking Skills and Differentiated Instruction. All three students seemed to indicate that feedback became constructive when it attempted to advise them on HOTS and was tailored to meet their specific needs. The students also gave reasons justifying why they preferred individual feedback sessions compared to the other (group, pair) feedback sessions. For instance, student H1/HA1 replied that he had a preference for individual feedback sessions because:

> It is not easy to get personal feedback during group sessions. It can be embarrassing as my pair gets to know my problems, so I prefer the one to one sessions…..I gain more feedback about myself and how I am doing and doing the work the correct way in the individual sessions.

In the case of student H1/HA2, he stated that he was daunted that someone else knew his problems:

> I will not feel intimidated during individual sessions… I am interested in knowing how I am faring instead of someone else. The group sessions scare me and the others will either know I am good or bad.

Two out of the three students claimed that they were daunted by the fact that their peers knew their difficulties during pair sessions. The comments made in their interviews showed that their weaknesses in Geography were personal issues which they would rather not share with others, so feedback sessions needed to be individual or personal sessions for some students. However, data from the interviews also showed that the students were interested in knowing more about their weaknesses overall, rather than only knowing what went wrong in their assignments. The H1/HA students seem to indicate that they were uncomfortable about knowing their weaknesses and strengths during the group sessions. This shows that the students not only wanted differentiated feedback but also feedback provided personally.

An interesting comment came from student H1/HA3 who stated:

> She concentrates on my problem because people have different problems and I want my problem to be addressed and currently I want to make sure I am prepared for 'A' levels so the individual sessions are worth more. It is not that I have low preference for the other sessions, but they are for different purposes.

This statement shows that the H1/HA student was keen on getting his problems overcome through the individual feedback sessions. The excerpt also shows evidence of differentiated instruction being addressed in a sense, that through the individual sessions his '*problem is addressed*'. This higher ability student seemed to want his weaknesses to be addressed so that he was '*prepared for the 'Advanced' Level* Examinations. Moreover the phrase '*the other sessions, but they are for different purposes*' told me that the student considered the individual feedback sessions more for his individual improvement in Geography and that the other sessions were not as successful in catering for individual needs. This comment is, therefore, interesting because it gives evidence of me having applied the principles of DI, that is, to provide information on the demands and needs of the individual higher ability student. It also gives a glimpse of the other sessions (group and pair) which the H1/HA students felt did not help a student develop individually. As can be seen, the characteristics and demands of the H1/HA and H1/LA were very different.

The H1/HA students were very clear about the need for feedback to be tailored to meet their individual needs. For instance student H1/HA2 stated that:

> Feedback must be tailored to meet my need. It is about me and my work…like how to analyse data, extrapolate information …

The term '*tailored to meet my need*' suggested that this student wanted his feedback to help him in his individual learning. It appeared that for this student a 'one-size-fits-all' approach was not acceptable as feedback. Moreover, the

phrase '*how to analyse*' showed that students were interested in knowing how to handle HOTS, which is a requirement for examinations at the 'A' Levels. Student H1/HA gave a similar comment:

> …Something that can help me achieve. It must help me clear the problems I have, pinpoint my limitations and help me overcome them. I now don't have difficulty comparing and evaluating.

The phrase '*help me clear my problems…. pinpoint my limitations and help me overcome them*' shows that students wanted feedback to be personalized to meet their educational needs. The fact that this student did not '*have difficulty comparing and evaluating*' shows that the feedback that he received had helped him with thinking at higher levels and now he was more comfortable attempting questions that demanded such thinking skills. On the other hand, the comment also shows that the student was facing difficulty in the past with HOTS but now he was not as his individual limitation or problem has been dealt with through the feedback provided to him. However, I believe that though feedback had allowed the student to be able to handle the higher level thinking, these higher ability students had been consulting me consistently since the beginning of the year. As seen from my journals, they had attended the clinics, and pair and individual sessions. This attendance and motivation to want to do well had contributed to them seeking relevant feedback that had helped them improve in their Geography.

Two of the H1/HA students, H1/HA2 and H1/HA3, stated that constructive feedback was one that '*cleans up*' thinking, organization and writing. Student H1/HA2 stated that useful feedback:

Tells me the problems I have along the way and then cleans me up, cleans up my writing, my thinking etc.: it is tailored to meet my needs.

Student H1/HA3 stated the following:

I still have my weaknesses, I want better conclusions, more conviction in my essay and I have too much to say and I want to learn to organize it properly and she helps me do it well and I have kind of cleaned up my essay.

These two students spoke about the problems they had with Geography and the term '*clean*' shows that they wanted to make sure that what they thought, organised and wrote moved in the right direction. In order for them to do things the 'right way' they believed that it was necessary that their individual problems were handled through feedback. Such feedback would then help them to achieve and become confident in their answers.

The students were also probed as to whether they were given other types of feedback besides those related to content, HOTS and DI. All three students had varying answers for this question. For instance, student H1/HA1 stated that he was given advice on time management and that this had helped him with '*self-*

studying and content learning'. Looking at the evidence given by the student it can be seen that he was provided with feedback at the self-regulation level which helped him administer his own learning. The feedback given to this student appears to have gone beyond textbook knowledge. In the artefacts, the H1 students seemed to have been provided with only feedback at the task, self and process levels. However, the interviews informed me that feedback at the self-regulation level had been provided to the H1 students too. This highlights a mismatch between what the artefacts showed in relation to self-regulation feedback and what the interviews present. This might be because, as reiterated earlier, feedback at the self-regulation level was too complex for it to be written out in the scripts. Therefore, I adapted the way I provided self-regulation feedback by explaining it to the students verbally as opposed to in written form.

Student H1/HA2, however, stated that he had been provided with feedback that helped him attempt questions from the H2 examination question package (a compilation of exam questions for the H2 students from different colleges). This was also evidence that the student was working at the level of some of the H2/HA students. This was the only student, according to the journals, in my H1 class who was performing as well as the H2 higher ability students. In the case of student H1/HA3, he did not give any evidence of other types of feedback but rather, he commented on how the teacher had stopped giving 'stars' (motivational stickers). He mentioned that he was given more stars in JC 1(Junior College 1) and though it '*does not help him directly, indirectly it encourages* him and gives him *reassurance that what he is doing is correct'*. This remark shows that some students did take the positive feedback at self-

levels seriously and that such feedback encouraged them to perform well. Hattie and Timperley (2007) have argued that feedback at the self-level does not promote self-efficacy or lead to greater understanding about learning tasks. However, from the interviews it was apparent that giving stars and personal feedback did encourage and motivate some students. The interviews did not inform me about how the feedback at the self-level contributed to greater understanding about learning tasks, but it gave me the clear indication that FS did encourage the student to produce a desired result.

6.2.5   Teacher assumptions affecting feedback.

Students were asked during their interview, if they had disregarded feedback provided to them or about instances when they felt that the feedback was not helping them. All three students gave examples of instances when they had disregarded feedback. Looking at the statements provided, it could be seen that feedback was mostly disregarded at the early and mid-phase part of the year, or before the Preliminary Examination 1. Some feedback that was provided during tutorials was also disregarded by all three students. All three stated that during tutorials there was a tendency for me to assume they knew too much and provide feedback that was more suited for the H2 students. They claimed that the feedback provided was not easily understood and not achievable for them, so it was disregarded.

For example student H1/HA2 stated that:

> We are H1 students and she is under the impression we are H2 kids. She must slow down a lot, as she treats us like H2 students and we have to work harder to reach that level. So sometimes the feedback given is disregarded, especially when I feel I cannot reach that level as I don't know how to.

This was similar to the comments that the H1/LA students gave in their interviews. The above description supports Hartley and Chesworth's (2000) finding that when the students' level of understanding is insufficient, they are unable to make sense of the feedback provided. They found that students frequently had difficulty interpreting the feedback and the requirements of different subjects and of different tutors. This was evident in my data too. The H1 students had less content to master compared to the H2 students and there was a tendency for me to give them examples and content which they had not studied but which when used could help them achieve better results. But the fact is that their level of understanding was insufficient. A good example was shown in my journals, when I gave them the connection between the physical topics of the lithosphere, hydrology and atmosphere. Many students did not understand the broad picture I was providing them with and the connection I was making with respect to the three topics as they were not taught the topic on atmosphere. My journal recorded that the students were not even '*taking the interest to want to understand what I was explaining*' as shown in the journals on the third of April 2012. There was a need to understand the fact that I had the tendency to

think that H1/HA students were able to understand the higher level feedback and content analysis that was provided to them. However, such feedback "carries high threats to self-esteem" (Hattie and Timperley, p.86) and so there is a need to self-regulate my teaching and make sure that it is pitched at a level that is understood by the H1 students.

6.2.6   Limitations to Feedback.

The H1/HA students were asked if they considered feedback to be the most important factor for learning. All three students agreed unanimously that feedback was important to learning. However, like the H1/LA students, they stated that with only feedback learning cannot be accomplished. The H1/HA students commented on factors like having the initiative to revise work and adopt strategies that allowed one to remember the content and concepts, over and above feedback. For example student H1/HA1 stated:

> Feedback is important but if my Geography was weak, then I will not be able to do questions and Mdm Gowri cannot give feedback, you see. So I guess the learning is crucial. Also I have to remember the content and concepts. This is what is required for Geography. I must do mind maps, concept maps etc. to learn and remember my content.

This supports Hattie and Timperley's (2007) view that feedback comes after learning. Without the required content knowledge, there is no basis for feedback to be provided.

Student H1/HA2 stated that besides the learning which was required, a student needed to put in the effort to answer questions. He stated:

> One can have the content and concepts but without practicing questions feedback will not be provided. I think that applying what we have learnt and practicing questions is as important as feedback and if not, what feedback to give then.

In this excerpt, the student seems to be focusing on the need for assessment to complement feedback.

Student H1/HA3 stated that the most important factors would be the initiative taken to study, being regular for tutorials and consultations and having a good relationship with the teacher. He stated:

> As far as I know it is about initiative and taking the trouble. If I am a student who is not interested then I must be prepared to fail. But I am interested and I take the initiative to see my Geog. teacher and I do not absent myself from school unnecessarily like some of my classmates and my teacher has commended me for it. My teacher thinks that I am very interested in Geog. and she helps me and I must also make sure that the time she spends helping me pays in the end. I must maintain this relation…

He was the only student who claimed that a good relationship with the teacher was crucial to learning. Moreover, student H1/HA3 showed that feedback alone may not be enough for learning, but there needs to be the initiative to want to learn and receive that feedback. The attitude of the student, therefore, is important to learning. Without a positive attitude, feedback may become redundant.

<u>Summary of analysis of interviews between the H1/LA and H1/HA students</u>

The analysis of the interviews of the students showed that the H1/LA students were mostly provided feedback at the task level or Lower Order Thinking Skills (LOTS). One student was receiving feedback at the self-regulation level and feedback for HOTS but he was unable to cope with the demands and the changes required in his writing to embrace the HOTS. He decided in the end to get a pass for Geography as he wanted to self-regulate his own revision for the 'A' Levels for his other subjects. He prioritized his H2 subjects over H1 Geography. However, for the H1/HA students the feedback that was provided to them was mostly for the HOTS instead of the LOTS. But these students were keen on knowing their overall weaknesses and strengths rather than the weakness shown in an assignment. They were taking more responsibility of their revision for Geography and were self-regulating their learning.

For both groups of students it was seen that teacher assumptions about their ability to decipher or understand how to attempt certain questions or the HOTS was too high. Based on the interview data there was a clear mismatch about what I believed the students could do and what they could actually perform. In

addition, the students also showed that feedback alone will not help them achieve their grades and that there is a need for them to revise their content to do well for Geography. But the H1/HA students showed that there was also a need to put in effort, show initiative and attend consultations regularly for them to perform well, besides knowing the content and receiving feedback from me.

6.3 Interview of the Higher 2 /Lower Ability (H2/LA) Students

In this section, the results of interviews with H2/LA students are discussed.

6.3.1 Attendance and motivation of the H2/LA students.

All three H2/LA students said that they preferred the individual sessions more than the tutorial, clinics, group and pair feedback sessions. Terms like, '*I prefer the individual sessions*', '*I learn the most from her*' and '*I have developed a lot due to these sessions*', suggest that these students preferred the individual feedback sessions and they felt that their improvement in Geography was due to these private sessions. For instance student H2/LA2 stated that:

> During tutorials she must focus more on the lesson than answering questions asked by individual students. … So the questions can be asked during the group or individual sessions. Some people want to take advantage of the tutorials for their own use and this is not a good thing. I think the general teaching must be done for tutorials but for the feedback it should be provided in the individual sessions.

Feedback was provided to students at all times, during tutorials, group sessions, pair sessions and individual sessions but this student seemed to have the

263

impression that feedback must be provided during the individual sessions only. That is why the student used terms like, '*focus more on the lesson than answering questions asked by individual students*'. The student appeared to see tutorials and individual consultation sessions as different entities. That may be the reason why he claimed that those who asked questions were exploiting the use of tutorials for their own benefit. The excerpt of the interview also shows that what may be seen as feedback to one student may not be so for another. During tutorials, it is inevitable that students will ask questions to clarify and further understand something, but this might not necessarily benefit the other students.

However, two H2/LA students pointed out that the sessions where they acquired individual feedback from me caused them some anxiety. For example student H2/LA1 stated that:

> She is a little rash with her feedback, so it is scary to go before her and I used to get the jitters, as she just scrutinizes so much. It is better and scarier for individual, but, yes I want to have the individual. The worry has reduced a lot because I have spoken to the rest of my classmates and they told me to be thick-skinned because the feedback is about me and my work.

Student H2/LA2 remarked:

> She is specific to the problem I have. Her feedback does hurt at times but
> I am used to it. It helps me realize my mistakes and I try to avoid them.

This indicates that individual feedback sessions can be threatening to some students. Hamid and Mahmood (2010) maintained that the environment created for the provision of feedback must be positive and encouraging. The excerpts show that at times my feedback sessions had been threatening for students, suggested by phrases such as '*scary to go before her, get the jitters*' and '*feedback does hurt at times*'. However, student H2/L2 had also stated that he has gotten '*used to it*', which meant that after some time the students were conditioned to getting such feedback and that they learnt from it. However, the fact that student H2/LA1's classmate had told him to be '*thick-skinned*' shows that for other students too, my individual feedback sessions had been intimidating. Therefore, I believe that the atmosphere created to receive feedback must be a factor that has to be considered in the future, when I provide feedback. The atmosphere for providing and receiving feedback must be a pleasant or a reassuring one and such an environment would help students to be ready to accept both negative and positive comments.

Research by Hamid and Mahmood (2010) has found that creating a respectful environment for providing feedback to students is essential. Moreover, they emphasized that there is a need for the parties, the teacher and student, to "reinforce and observe correct behaviours where neutral and specific language is

used to focus on performance" (p.787). In addition, they saw the need for "an atmosphere which provides the learner with support and care" (p.788). Still, even if the environment that I have created for providing feedback has been a threatening one for students they have taken the initiative to attend all the sessions which goes to show that they were motivated to want to do well in Geography.

Besides commenting on the problem of a threatening environment, the three students also gave positive comments about the feedback sessions. They stated that they preferred the individual feedback sessions because they felt they had more quality than the tutorials, group and pair sessions. Student H2/LA3 stated that:

> It has increased a lot (quality) of course (since the beginning of the year). But I have been getting this individual session from her since March after the block exams and I think it is so much better because I can now do more challenging questions just like Student J [*another student*].

This data strongly suggests that this student was attempting more challenging questions as a result of feedback and that the feedback was '*quality driven*'. Also the student referred to another student who was a higher ability H2 student too. The student who was referred to in the excerpt was a high ability student who had been consistently achieving good grades for Geography. The interviewee referred to a higher ability student and indicated that he was able to attempt more challenging questions, just like him. This also suggests that student

H2/LA3 had moved from someone who was unable to attempt such challenging questions to one who was able to attempt them. According to Tomlinson (2003), readiness can vary widely over time and according to topic and situation and that teachers should decide the evolving readiness levels of students in their class and accommodate this by providing tasks that are suitable for them. In this instance, the feedback that student H2/LA3 had been provided helped him become ready to attempt more challenging questions such as those attempted by the H2/HA students. This indicates that the feedback that I had provided to the student since March 2012 had helped him to perform well in Geography.

The students commented on why they preferred to receive feedback from me individually rather than with a group or pair. Student H2/LA3 explained in his interview that:

> …. Because (in the classroom) there are 22 of us who are trying to gain her attention…and sometimes I think my teacher struggles with answering everyone's questions. We all want a bit of her, so I think instead of competing with the rest for her attention I would rather have the individual session.

This comment shows that this student felt that his needs were not met when competing with other students for the attention of a teacher or to receive personalized feedback. Coffin, Curry, Goodman, Hewings, Lillis and Swann (2005) argued that the higher education students in their study, showed positive responses when they received individualized feedback on their writing pieces

which targeted their strengths and weaknesses. This was evident in the data for this study when students H2/LA2 and H2/LA3 stated that they preferred the individual feedback sessions where they were told what they lacked. This helped them improve on their individual strengths and helped to overcome their weaknesses. This excerpt also suggested to me that not everyone in a class may benefit from the feedback all at the same time as readiness levels are different for different students.

6.3.2   Students' views on written feedback.

The H2/LA students were asked in their interview for their views on written feedback. Out of the three students, one preferred to receive both verbal and written feedback as he felt that both had their strengths and limitations. The other two students, however, preferred verbal feedback and not written. Generally, the data suggested that there was a preference for verbal feedback among the H2/LA students. Student H2/LA1 stated that:

> I am able to clarify and when written work is given back and when there is written feedback and that is cleared with the teacher, there is a discussion, you see, so I am able to converse about the work.

This is similar to Boud and Molloy's (2013) finding that "written feedback provides information to the individual, but the conversation with the teacher helps in clarifying doubts and so there is a need for verbal feedback to maximise the written feedback" (p.107). Moreover, the excerpt above shows that the

student preferred to engage him with the feedback, so there was a need for verbal feedback to complement the written feedback he received.

On the other hand, the other two HA/LA students preferred to get verbal to written feedback. One stated that:

> I like the verbal feedback which is the best as you can clarify answers. The feedback on the script is useful, because it is at the place where the mistake is done. I receive a lot of feedback as she is truthful and does not hold back from her opinion. She is not interested in being politically correct, she is truthful and I like it. But sometimes, the feedback (written) is illegible and sometimes the assignment is given back a little late… That was initially, but then all assignments are now marked during the consultations you see, so for me this kind of individual session works.

Student H2/LA3 stated that:

> I prefer verbal sessions of course. I want to extrapolate as much as I can from her. I prefer to write it out when she talks. I don't like the written ones, I can't read, anyway I think I am a more audible kind of person.

These comments show that the written feedback became redundant or unconstructive when it was illegible as stated by both the students and student H1/LA3. However, one student also stated that when feedback was provided late it makes no sense and is not constructive.

Generally the comments provided by the students showed that they preferred to have a dialogue about their work with me instead of receiving only written feedback. Compared to the H1/LA students, the H2/HA seemed to want to have verbal feedback sessions rather than written feedback. The problem with written feedback is that it is a one-way communication system, from the teacher to the student. In this case the students seemed to want a two-way communication system which involved verbal feedback. Boud and Molloy (2013) suggested that in order to understand feedback clearly, students need to "develop insight into the quality of their own work; to enable a meaningful dialogue between tutor and student and for that verbal feedback sessions are important" (p.116). This appeared to be what was preferred by the H2/LA students, generally.

The H2/LA students were asked what type of specific written feedback they were provided with. From the interview data it could be seen that the H2/LA students received more feedback at the task, process and self-levels in the initial stages than in the later stages. However, over time they began to receive more feedback at the self-regulation levels. Student H2/LA1 stated:

> A lot of feedback on thinking skills, content, concept. She gives me question marks, underlines etc. and then when I clarify she goes through …scrutinizes… and then I am shot down: it is like an AK47 gun. Where is the concept? Then she tells me to think of the SEXI—Eee and then I realize I have not followed it and then she glares at me and then does the work, part by part with me (handling the work paragraph by paragraph or question by question).

This comment shows that most of the feedback provided by me was related to the task level. I had helped the student arrive at the answer by providing feedback like '*where is the concept?*'. However, the student also seemed to have received feedback targeted at the process level when he was reminded to use the 'SEXI-Eee' strategy, which helps in formulating the structure of an essay.

Student H2/LA2 also appeared to have received both forms of feedback aimed at the task and the process levels. However, the student H2/LA3 had stated that he has received more feedback at the self and self-regulation levels. This, therefore, contradicts what was found in the artefacts which stated that all students received only feedback at the self, task and process levels till the end of the early phase. Some H2/LA students had received feedback at the self-regulation level in the early part of the year in 2012. This only goes to show the weakness of the artefacts in allowing one to assess the kind of feedback that students have received from me. The artefacts only provide evidence of written feedback. The artefacts do not provide evidence of verbal feedback. The verbal feedback sessions provided to the students could have had feedback provided at the self-regulation levels.

From the analysis of the interviews of the H1/LA students, it was evident that written feedback has its limitations, and that these could be overcome by verbal feedback. Complex tasks like self-regulation were difficult to explain through written feedback and so the support of verbal feedback was required. This was also conveyed by the H1/H2 students. This suggests that I needed to be flexible enough to deliver feedback in both written and verbal forms.

6.3.3 Feedback and HOTS and DI.

Student H2/HA3 explained in his interview that I had given him positive reinforcement for using higher order thinking skills in his work. This indicated that student H2/LA3 seemed to be more comfortable in handling HOTS compared to the other two H2/LA students, who had been provided with minimal feedback on handling HOTS. Student H2/LA3 stated that he was provided with feedback on how thinking skills can be incorporated. He stated:

> She knows I know my content and concepts by heart and when she reads my work she tells me 'good, very good' etc. However she expects me to write better evaluations, better judgments and she gives me clues to think and reflect on and it is mind blowing when I am with her. She makes me feel so smart. She gives me more ideas and feedback on how I can incorporate some of the thinking skills: she layers it for me.

The student provided evidence on how feedback on the HOTS was given to him. He spoke about '*clues*' that are provided to him to make better evaluations and handle the HOTS. The term '*layers it'* suggests that I had scaffolded his thinking skills so that he was better equipped to handle the HOTS through feedback. The feedback appeared to greatly increase his confidence in using HOTS, through such phrases as '*it is mind blowing when I am with her'* and '*she makes me feel so smart.'*

Out of the three H2 students, it seems that only one student had been receiving feedback on HOTS from me. Student H2/LA3 had provided evidence of the

types of feedback in relation to HOTS that he had received. However, the other two students H2/LA1 an H2/LA2 did not provide any evidence of feedback that was provided to handle their HOTS. The students had stated that they could not think of any help on HOTS that was provided to them. However, upon analysis of the artefacts, scaffolds had been provided to these two students to handle HOTS. Data from the interviews and from the artefacts seemed to disagree with each other on this issue. One reason for the explanation was that the H2/LA might not have understood what HOTS were. He would have had little knowledge of the fact that the feedback in the artefacts would have been about handling their HOTS. It could also have been the case where the students did not read the feedback provided in their scripts. As well, it could have been that the students did not understand the feedback as it was intended by me, that is, intention and the perception of the feedback could have been different. This illustrates how show that students must clearly know how to use the feedback. In my journals, I had mentioned that I trained students to learn to read and understand the feedback that I gave them. However, the training may not have helped these two students.

6.3.4   What is 'constructive' feedback to students?

The students were asked to explain what type of feedback they considered constructive to their learning. Student H2/LA1 stated that for him:

> One that goes straight to the problem I have – like what is the problem and it should be specific. Yes she does give me suggestions on how to improve and what could have been done better but I take a long time to reflect and so I am worried about that.

For this student feedback was constructive when it was being specific about the problem he had with Geography. This is reiterated by Hamid and Mahmood (2010) who stated that feedback should deal with the precise performances of students and not vague comments or generalisations. Such feedback, which is specific to the student's performance, becomes relevant and tailored to meet the needs and interest of the individual student. Student H2/LA2 stated that he preferred feedback that:

> 'Helps him solve the limitations he has for Geography'… 'application of data for data-response questions, evaluation type, look out for concepts'…subsequently I noticed that I seem to know what to do when I do the data-response questions and the essays. I am more confident.

The above statement shows that this student had become 'confident' about handling such questions and that the feedback that had been provided to him had helped him overcome his individual challenges. This in turn shows that the student had been provided with specific feedback that had helped him cope with specific problems related to content and the HOTS. With respect to student H2/LA3, he stated in his interview that he wanted to get feedback related to:

> Concepts as A levels is about them and I want to apply the right ones. Of course for me it is about giving better structured answers, well planned answers, good application of skills involved for A levels etc.

Again as can be seen from the excerpt, the student wanted to be provided with feedback that achieved the objectives of the 'Advanced' Level Examinations that he would be sitting for at the end of the year. Moreover, he also states that he wanted feedback that allowed him to provide answers which were well thought out and written. This in his view was constructive feedback, one that trains him to handle the national examinations. In this excerpt it can be seen that the student wanted feedback tailored to meet his needs and this provides information of the need for DI when providing feedback.

The comments provided by all the H2/LA students indicated that '*feedback that helps*' is constructive to their learning. This shows that when the individual strengths and limitations are understood by the teacher and handled when providing feedback it becomes constructive. This relates to DI as the feedback was provided to different students who have diverse needs. Some problems that students face in their Geography may be similar but not all problems are the same. Feedback that is provided understanding the different problems that a student has is, therefore, tailored feedback that is rendered constructive. However, student H2/LA3 suggested an extra quality that the feedback must have in order for it to be constructive for him. He stated in his interview:

> I want to receive feedback – a positive one, but I don't want a harsh reply, I want an encouraging reply She gives the hard approach. I am queasy about receiving help for content from her as she believes that content is the student's duty. She does not want to teach during her consultations but I need to clarify my content so I like her to teach at times.

This student indicated that he preferred to be provided the feedback in an affirmative manner. He did not like it when feedback was provided in a negative manner such as '*harsh*' feedback. According to Hattie and Timperley (2007) feedback which is negative contributes adversely to learning. Therefore, from the comment given by the student it seems that providing feedback in a reassuring or positive manner encourages him to clarify problems in a timely manner. When feedback was provided in a negative manner the student was reluctant to ask more questions which, can be extrapolated from the term '*queasy*' in the excerpt of the interview. However, the student seemed to want to be provided with feedback that helped him with content also, which is what I do not wanted to provide during my feedback sessions. There seems to be a mismatch between how I define my consultations sessions and the way the student defines the sessions. To me the individual consultations sessions were about providing students with essential feedback only but for the student it was a session not only to get feedback but also to clarify content which requires teaching. I get the feeling that the student was uncomfortable about asking me for help in relation to content as he uses the term '*queasy*' and the phrase '*she does not want to teach during her lessons*'. From the excerpt it is apparent that the student knew that I did not want to re-teach content during feedback sessions, but, from the students' lens (Brookfield, 1998) it also tells me that re-teaching is sometimes necessary to clarify some aspects of content that the student requires. This was a point that even the H1/LA students raised in their interviews. Therefore, for some students some teaching may have been required and re-teaching of some aspects of a topic was necessary for feedback to be constructive as the re-teaching placed the content in perspective. Therefore,

learning and feedback have to go hand in hand for some students. Even my journal entry dated 24th of October, informs me that '*there is no escape from re-teaching some aspects of content as the students had been taught the majority of the topics when they were in JC 1 and there is a need to refresh their memory, so re-teaching is inevitable*'.

According to these three students, feedback could also be considered constructive when I provided responses that were unrelated to their subject area, Geography. For instance student H2/LA1 said:

> Yes, she gives me ideas on which topics I am weak in and suggests topics that I should do. Eg., Atmosphere is something which I cannot understand so she tells me to skip it and do Hydro and Litho instead. Also I have been advised to do Globalisation and Urbanisation instead of Population which I am weaker in, so she knows what I am weak in from her black book (tracking book which is part of my journal).

From this excerpt it is evident that the student knew that I had a record of the topics a student was better at or weak in as can be seen from the term '*black book*' or tracking of student performance in my journals. The student was struggling in two topics and I used my notes to provide feedback on the topics that he could choose in the examinations. Such feedback is unrelated to content area but can be categorized under the feedback provided at the self-regulation level to help students handle their problems and increase their performance by looking at their fortes.

In another case, student H2/LA2 stated that he had always been worried about completing a Geography paper within three hours. However, the feedback provided by me had helped him to '*manage time during tests and examinations*'. Student H2/LA3 gave examples of how he had been provided with feedback to manage studying for the 'Advanced' Level Examinations. He stated in his interview that:

> Mdm Gowri, gives me the motivation to do well. She teaches me how to get other teachers to mark my work, giving them one piece to mark at a time, etc. She teaches me about how to manage my studying for the A levels, because if I do not do well in the other two papers, I am a goner. So she helps me with that and she listens to me when I talk to her about my revision. She even talks to me about looking at the syllabus and understanding what it entails for all subjects. So she helps in more things, not only Geog. She was my civics tutor last year and she wants us in 41A to be the best in everything.

Some feedback at the self-regulation level can be "psychologically reassuring" (Hattie and Timperley, 2007, p.95). Students wanted to get such feedback which would give them the motivation to move on. Though such feedback provided to the student had not contributed to his performance for the subject, it was "desirable feedback" (Hattie and Timperley, 2007, p.93) and helped the student settle his thinking and management of his subjects. From the interview excerpts provided by the three H2/LA students, it appeared that they felt the feedback provided at the self-regulation level "enhanced their self-efficacy" and as Hattie

and Timperley argued, this "causes students to invest more effort or commitment to the task" (p.95). Data from my journals supported this, when I wrote that '*at times students require feedback to generally motivate them and keep them going*'.

6.3.5   Feedback alone is not key to performing well.

The students were asked if they had ever disregarded feedback and if they had the reasons for this. Out of the three H2/LA students, two openly stated that they had disregarded feedback. Both students gave various reasons for this. In the first case, student H2/LA1 commented that he had disregarded feedback as it was illegible. However, over time he managed to meet with me to clarify the written feedback. On some other occasions he had also disregarded feedback as he was unable to understand a certain topic. He stated in his interview that:

> There have been times when I disregarded feedback on atmosphere, so I had a talk with her and she strategized and told me to focus on the topic for the content and concept and not focus on it for essays.

The excerpt suggests that the student may not have understood the feedback as he was unsure of the content. Therefore, he may have disregarded the feedback until I helped him to strategise for the topic. Student H2/LA2 stated that he disregarded feedback at the beginning of the year when he was '*not really bothered about Geography, was slacking and never thought could make it to university*. The student also stated that he was '*slacking*' at the beginning of the year and that he did not have the confidence to make it to university. This shows

me that when there is no sense of urgency and if motivation levels are low, there may be a tendency for students to disregard feedback. However, the student believed that the one-to-one sessions helped him get personalized feedback that led to improvements in his Geography. After the Preliminary 1 Examination, he had then been taking note of feedback more seriously. These data were evidence that when feedback did not benefit students directly there was a tendency for them to disregard it.

The students were asked if they had benefitted from feedback and whether or not they believed that feedback had its limitations. All three H2/LA students unanimously agreed that feedback had its benefits and they had improved in their Geography with the personalized feedback that they had received. The three students gave evidence of achieving better grades in their Preliminary 1 one Examination which they believed could be attributed to the feedback that I had given them. For example, student H2/LA1 said that '*he was able to pass his Geography due to feedback he received*'. He stated in his interview that the encouragement provided in the feedback was an important factor for him. He also mentioned that he was told that he can move to achieving a B grade. The student also stated that *"it is nice to know you are going to get quality results when you hardly passed Geography for two years.* This suggested that feedback had indeed helped this student. The fact that the HOTS were dealt with in the feedback and the fact that the feedback was tailored to meet the needs of the individual student and in addition the motivating feedback had contributed to him passing his Geography.

However, for the other two students, feedback had showed to have helped them answer more challenging questions. For example student H2/LA2 stated in his interview:

> I have always been failing Geography – I have improved to a D grade and I am happy with that. I understand and that is important. I have passed and I have never ever passed my Geography before. My content was weak, I did not study even at the beginning of the year, I was complacent, until I feel the heat of the A levels after my Prelim 1, I am worried and so for Prelim 2 I have moved to a D grade. It is a wow factor for me. I am confident about the answering technique, interpretation or questions, methods of answering data-response questions now.

Student H2/LA3 stated that:

> I used to be scoring E at the beginning of the year and now I got a C. I have moved two grades. To enhance my Geography and make me get an A grade, I think it will be to try out a variety of questions and different types of questions of how to tackle them and also field work and I am comfortable now – I want to get all the marks I can.

Though being able to achieve better grades was stated as the main factor benefitting from the feedback I had given, the two students indicated that as a result of the feedback they were now able to tackle more challenging questions. This means that feedback can benefit students in various ways. For some students it was not just about achieving better grades, but about being able to

handle more difficult questions and to utilize HOTS to interpret and understand the overall picture of what they had been learning. Feedback challenged students move away from their comfort zone and to engage with HOTS.

When asked about limitations of feedback, the students also pointed out that it had its disadvantages. All three consistently agreed that feedback could only help when they were comfortable with their Geography concepts and content. They stated that if their content knowledge was weak then feedback would not benefit them. For example, student H2/LA3 stated:

> I guess you have to do your studying, but for those who know their content and have the concepts at their fingertips then it is only feedback and nothing else you see. I mean it is about what she says executing your writing, making it relevant, to the point, structuring etc.

This supported Hattie and Timperley's (2007) argument that feedback comes after teaching. Without having a good knowledge base feedback alone will not help because it is built on a strong content knowledge base.

6.4 Interview of the Higher 2 / Higher A (H2/HA) Students

In this section, the results of interviews with the H2/HA students is discussed.

6.4.1   Attendance and motivation of the H2/HA students.

All three H2/HA students commented that they preferred the individual sessions which had helped them to understand their individual problems and to overcome

them and that the group sessions had only dealt with teaching of skills. For instance student H2/HA1 stated that:

> The small group was more for skills-teaching and analyzing essays to understand the difference between an essay which got an L3 and another getting L2 or L1…to learn about structure, planning etc. But the individual session is the best one, which caters to me and my problems for Geography and it helps me in overcoming and troubleshooting the problems I face and... I score.

Student H2/HA3 stated that:

> I am so thankful for the 25 minute (individual) session. The data-response questions, 9m and 16m – work that I did has been marked and slowly within a matter of six sessions I was able to see the improvement. It was slow initially, but I was able to understand my problems.

As can be seen from the excerpts provided by the two students, the individual feedback sessions or consultation sessions had helped these students in handling their individual problems and to improve in their Geography. This is evidence that the feedback was accepted and used by students when it catered to their learning needs. The excerpts also showed that the higher ability students were very performance-oriented, in contrast to the other groups of students, as they used words and terms like '*I score*' and '*in a matter of six sessions I was able to see the improvement*'. Student H2/HA2 stated that he loved the individual feedback sessions because '*It was just me… during that time with nobody else*'.

283

The phrase also shows that the high ability students preferred to get feedback in an individualized manner. All three students seemed to have shown in their interview that they liked personalized feedback as compared to feedback provided to a class, group or pair. This is consistent with Huxham's research (2007) that a higher percentage of students preferred personal feedback, which gave personalized guidance on specific strengths and weaknesses.

All three students in the H2/HA group unanimously agreed that the quality of feedback was very high in the individual feedback sessions and that they had become much more confident in Geography through these sessions. For example, student HA/H23 stated in his interview:

> I think the individual sessions are the best. She was kind enough to see me improve and secretly gave me 50 minutes. So I got upgraded, yeh… The session is awesome, I love it, and my confidence for Geography just rose after that. I never thought I would be able to become comfy with Geog. I love the individual sessions. I think I have lower preference for the clinics, as I just want to have like tuition with her. I feel that during the group sessions, the students in the group like WQ and L and even D are so prepared and their work replicates what Mdm Gowri says, but my work is crappy so I am a little down with the sessions.

The above extract illustrates how the type of feedback session that a student experiences matters in bringing about improvement in the way they view, study and write. The above student showed that the reason he had become '*comfy*', seen improvement and become confident was due to the individual attention

provided during the feedback sessions. The extract also shows that the student compared himself to other students during the group sessions such as the clinics, where feedback was received from the teacher. These situations brought down his morale, so he preferred the individual sessions. These higher ability students did not have a problem with attendance and motivation. They were very enthusiastic about their consultation sessions and were keen on improving in their Geography. In fact, from the beginning of the year, they were seen to be taking the initiative and were showing the 'want' or 'need' to do well.

6.4.2   Students' views on written and verbal feedback.

The students were asked to comment on the written feedback that they had been receiving during the year from me. All three students stated that they preferred to be provided with verbal rather than written feedback and they outlined many problems that they faced with written feedback. For example all three students pointed out that the written feedback was '*illegible*' at times and this had led them to disregard the feedback given. They did not provide any strengths of the written feedback, unlike the H2/LA, H1/LA and H1/HA students. The three HA students had stated that they had problems *'deciphering', 'understanding'* and *'making out'* what was written in their scripts after marking. Two of the H2/HA students also commented that they needed more *'precise'* information on what the problem was with the answer in their script, while student H2/HA1 pointed out that the marks were not *'reasoned properly'* in the written feedback. This suggests to me that the students felt that the written feedback provided to their script was not catering to their ability or need.

The H2/HA students stated that getting a grade with no comments was feedback that was useless and did not contribute to further learning. For instance student H2/LA2 stated that:

> The first thing when one gets an assignment is to just move straight to look at the mark and without a mark' he 'would not be interested in the feedback, so when she gives me a piece of work with only feedback like for some essays written I don't read it.

This is inconsistent with the research conducted by many researchers who claimed that withholding grades encourages students to engage with the feedback as there is a need to find the value in what they had done. For example, Butler and Winne (1995) argued that students perform better on tasks when they received comments rather than grades. Carless (2006) also supports this claim, stating that removing the mark from feedback promotes student learning. However, all my H2/HA students strongly stated that the marks and feedback should be provided concurrently. They indicated that without marks the feedback would be disregarded. This also concurs with data from the H1/LA, H1/HA, H2/LA students, who claimed that marks, were more crucial than feedback.

On the other hand student H2/HA1 claimed that he disregarded any feedback provided that does not '*justify the marks'*, and student H2/HA2 stated that feedback was '*sparse*' in examination scripts and therefore, such written feedback was disregarded. Weaver (2006) found that feedback was considered

unhelpful to improving learning when it was too general or vague; lacked guidance; focused on the negative and was unrelated to assessment criteria. These were issues which were also reflected in my journals. I noted that by the end of the year my students had become used to feedback that was provided to them in a clearer manner from the mid-phase period. This clarity was evident in the analysis of the artefacts from the mid-phase period onwards and in the interviews.

Another factor that arose from the interviews with respect to unconstructive feedback was when student H2/HA3 indicated that the written feedback I had provided him with, was *'too summarised'* and that he was unable to understand what the *'corrections'* were. This was further evidence that when there was a complex task being learnt, written feedback would be inappropriate (Boud and Molloy, 2013). Student H2/HA2 also stated that the written feedback was *'not self-explanatory'* and that *'it required an explanation as abbreviations, underlines, and question marks which were used by the teacher were not understood by him in the past and for the recent marked examination script'* (Preliminary 1 and 2 Examinations). This was a problem that surfaced when the artefacts were analysed for the early phase. The artefacts that I had marked carried such abbreviations, underlining and question marks which were not understood by the students. The student also mentioned that I had not provided a *'legend'* for the abbreviations and what they stood for. This notion is also supported by Hattie and Gan (2011) who stated that teachers' feedback is often confusing and non-reasoned, and that students have difficulties in applying it to their learning. Moreover, researchers have found that it cannot simply be

assumed that when students are given feedback they know what to do with it (Brookhart 2008; Sadler 1998).

During the interviews, all three H2/HA students stated that verbal feedback helped in clarifying issues related to skills generally. Such clarifications, as stated by student H2/HA3, '*helps in explaining tips on writing style and thinking skills*'. Student H2/HA2 preferred verbal feedback as it helped him 'reflect' on his writing. He stated:

> I prefer verbal. I love the clarification then doing another similar type of question and then seeing where I stand then moving to another type, reflecting on what I can use and then write it and then receive feedback.

Student H2/HA1 stated that he liked verbal feedback because he was able to ask many questions and when he had clarified his problems he executed the improvements in his writing. He also stated that he preferred to write down the feedback as it helped him understand it better than when the teacher wrote it down on his marked assignments. The need for verbal feedback was not only emphasised by the H2/HA students, but also by the H2/LA and H1/HA students who felt that written feedback was limited and there was a need for verbal feedback to be provided. The students had also asked for an exchange of ideas between them and the teacher which would enhance the feedback and their learning.

The H2/HA students were asked to provide evidence of written feedback in their Geography scripts during the interview. All three students stated that initially they were provided with feedback on content and concepts, but over time the feedback was directed more towards thinking questions. For example, student H2/HA3 stated:

> Concepts please and then she gives me questions on that so I can get the right concepts. Then she says that my content is not explained well and she questions me. But initially she gave me the answers and then later on she asked me questions and then I would answer her to get the answer.

This comment showed that initially answers were provided as feedback. Then feedback related to the task level was provided but over a period of time, as shown by the term '*later on'*, the feedback provided expected him to provide the answers especially when scaffolds were provided to him. This was evidence of a change in my practice as I began to provide feedback at the process level by giving him clues or scaffolds to come up with the answers himself.

6.4.3   Feedback and HOTS and DI.

The H2/HA students had provided evidence on how feedback had helped them tackle the HOTS and DI. For student H2/HA1 the feedback provided was at the process and self-regulation levels.

He said that:

> She likes to probe and ask questions to see if I am answering the question rightly. For example, 'How can you improve on this, what else can you comment on? Do you think it shows HOTS?' So most of the time, I am providing feedback to myself. So I try to ask myself the same questions when I am writing my answers and it works sometimes.

This comment by the student showed that feedback on thinking skills was provided to him and that he was also encouraged to think and answer the questions when I provided him some scaffolds. However, what is interesting in this account is that he had shown that he tried to apply the questioning process and to come up with good answers by himself. This process showed that the student was able to self-regulate his learning as a result of the feedback provided. This indicated that the feedback provided to tackle the HOTS was also helping the student to self-regulate his learning.

However, for student H2/HA2, the feedback mostly provided to him was self-regulation. He stated:

> A lot on summarize this part, long winded, irrelevant, too much of content here, cut this down etc…very little on HOTS. She likes the HOTS provided in my work, as she says it is my forte. But the time management is my enemy. She says that when I get to my honours year in University, I will have no problems with writing a thesis but for now, I am in trouble as I cannot seem to complete writing my answers.

Firstly, the student's excerpt shows that he did not appear to have a problem with HOTS. He clearly showed that he was well-developed in handling thinking skills. However, the data shows that he had difficulty in completing his work on time and therefore, he was provided with feedback that helped him self-regulate his work. This is evidence that I expected him to monitor his learning and regulate actions so that he was able to achieve the learning goals. In order to help him self-regulate I had provided him with skills which helped him summarize and edit his answers.

The H2/HA students also explained that the HOTS were one thing which helped them understand the thinking skills involved and to apply them in different contexts. For example, student H2/HA2 stated that he loved to attempt '*tough questions'* as there was much '*thinking involved*' and each time he did such questions the feedback he was provided with was different and that made him a '*confident thinker*'. In the case of student H2/HA1, the fact that he had become '*more comfortable with the thinking skills*' clearly showed that the feedback he had received was '*constructive*' as he had become '*more conscious and aware of the different genre of question and what it entails and demands*'. In the case of student H2/HA3, he felt that being able to '*think alone and individually without anyone's help*' showed evidence of constructive feedback. It was apparent in the interviews that these students had found HOTS difficult to master and that they now believed that the feedback assisted them to become more competent in applying these skills. From the above evidence provided by the students, it can be argued that if a student's individual strengths and weaknesses are addressed

and they are able to apply the HOTS, then the feedback that they had been receiving could be considered to be constructive to learning.

To student H2/HA1, constructive feedback was that which '*targets the forte of the individual*'. He stated:

> There was a time when I asked her why Student V was also getting 'A' and 'B' grades for his essays. I was also getting the same grades, but I know that I am better than Student V. Mdm Gowri, got Student V to come for the consultation session and I read his essays and understood his writing style which was different from mine. I am more structured and long winded but Student V is to the point and I just cannot write like him. So I realized that the strategies are different for different kids and I realized that it is just about understanding what she calls our forte.

This statement by the student H2/HA1 shows that feedback was seen to be constructive when it worked on developing the individual's strengths. Therefore, feedback that helped one individual needed not necessarily help another. This is where the principles of differentiated instruction become relevant. Clearly the feedback that I had been providing the students was targeted at their individual needs rather than a one-size-fits-all type of feedback. The excerpt also shows that what may be necessary feedback for one student may be seen as irrelevant for another student. This is because students are all at different levels of performance in learning. One student may be considered high ability, while another may be considered to be a low ability student. Therefore, as a

practitioner, I have to be mindful of the fact that the individual talents, levels of performance in my subject area and other factors need to be considered so that I can tailor my pedagogy to suit the individual student's learning. The evidence provided by the students clearly stated that I had been providing them with tailored feedback which again illustrates the application of DI.

6.4.4   What is 'constructive' feedback to students?

The three H2/HA students were asked what the term 'constructive feedback' meant to them. All three commented that feedback that helped them *'improve'*, *'value-add to their learning'* and '*clear (overcome) their limitations'* was constructive, and that feedback was a personalized mechanism which helped them individually. For example student H2/HA3 stated that feedback "*helps me clear my limitations and helps me understand my strengths - something that contributes to me doing better*". The student also showed that it was not only about him knowing his weaknesses but also about him realizing his strengths. The students also went on to explain in their interviews that feedback unrelated to the subject area was also provided to them.

For instance student H2/HA3 stated that he was provided with feedback that urged him to focus on other subjects besides Geography. He stated that:

> Yes, she tells me to focus on my other subjects as well. She told me I will get my B, but Geog may not be my best subject, and that my Literature teacher has told me that I am better at Literature. So she helps me juggle my time and tells me to study Literature and Economics a lot. I appreciate that. She is not only focused about her subject doing well, but I think she is open enough to understand how much I can move up. I want to do Geography at university, so she tells me of course I am capable, but she also tells me that for me to get into University, my Literature and Economics will be like a passport and visa. I don't know what it means – maybe it means I am good in those subjects. True, I love them, but now I am beginning to love Geography because I am performing already.

This comment suggested that the student was provided with feedback that helped him regulate his revision for all three of his subjects so that he would be able to gain entrance into university. It appears that the feedback provided by me was not only for the subject area, Geography but also at the self-regulation level so that the student could self-assess his learning and address other aspects of his own learning that needed attention. In other words self-regulatory feedback such as this helps students to evaluate their understanding in relation to the curriculum and in judging their performance against that of their peers. Unlike

the other groups of students in the H1 class and H2/LA group, these students did not comment about the feedback provided at the self -level in their interviews.

6.4.5 Feedback is the key to performing.

The most interesting and satisfying analysis came when I saw the comments made by the H2/HA students when they were asked if feedback is the key to performing. All three students stated that feedback has helped them the most to performing for Geography. For instance student H2/HA2 stated that:

> I am the studious type who knows the content and concepts and all that. But if I have improved in my Geography today it is due to the feedback given by my teacher. She has clearly shown me how to choose case studies and write out an argument for my essays. She has given me very appropriate feedback which has helped me to improve in my subject.

The excerpt provided above is one which I am most proud of as I had been faithfully thinking only of feedback for past three years of my life. But above all, the excerpt show that for higher ability students who are conscientious in their revision, feedback helps greatly. The excerpt shows that the feedback provided has gone beyond those given at the task, self and process level to those provided at the self-regulation levels. This student has obviously been provided with feedback aimed at HOTS and it has helped him perform better over the months. So for those who have a strong grasp of content knowledge, feedback may be seen as the only factor that can help them enhance their learning of attempting certain types of questions or writing answers in a specific way or even arguing or showing HOTS in the answers.

In another excerpt student H2/HA3 stated that:

> Being an 'A' Level student I have to know how to answer very challenging questions which test the HOTS. So I think that only feedback has helped me. Because each time I answer a question testing HOTS I need to learn to apply my content knowledge and in my problem is with answering not the content so for me the feedback has benefitted a lot...I believe feedback is the most important factor that helps enhance learning.

Compared to student H2/HA1, student H2/HA2 has also provided evidence that when he is able to self-regulate his learning and revision the only factor that contributes to learning and improvement in his grades is feedback. This suggests that feedback, as argued by Hattie and Timperley (2007), can only be provided in context to the content. Because these two students have sufficient conceptual and contextual knowledge, feedback is able to contribute and add value to their learning. The feedback, in relation to student H2/HA3, provides focus on the HOTS rather than information on content. The excerpt also shows that the feedback which is provided to the student focuses on self-regulation rather than task or process levels.

Summary of analysis of interviews of the H2/LA and H2/HA students

The data provided by the two H2 groups, H2/LA and H2/HA, interviewees show some similarities and many differences. Both the H2/LA and H2/HA students show that they have not shown any problems in attending tutorials and consultation sessions. Both the groups have also shown that they want to receive feedback individually rather than with a group. However, one major difference between the two groups show that the H2/HA students were more competitive than the H2/LA students. The H2/HA students are more aggressive in showing the 'want' to achieve an 'A' grade for the 'A' Level Examinations than the H2/LA students.

Both groups have shown that they find written feedback illegible and that they have a preference for verbal feedback. However, the H2/HA students have shown that they had been comparing feedback provided by other teachers during the Preliminary Examinations 1 and 2 Geography papers. They had openly provided comments about feedback that has not helped them as they compare the feedback that I have been providing them and the feedback that other teachers provide them. The above excerpt is, therefore, evidence of the fact that my students have understood the feedback I provide to them. But it could also be that the H2/HA students have become used to the type of feedback that I provided. They have been taught to use the feedback that I had been providing them, but they are not used to the feedback provided by the other teachers who marked the Preliminary 1 and 2 Examinations Geography papers. This may have created a major problem for understanding the feedback that other teachers provide to them.

Both the H2 groups have shown that the feedback they had received had indeed helped them in achieving the enhancement of their HOTS and is tailored to meet their needs. However, when both these groups are compared it can be seen that the H2/HA students have been provided more of the self-regulation feedback than the H2/LA students. The H2/HA students also stated, in their interviews that they prefer to practice challenging questions while the H2/LA had shown evidence of their struggle with challenging questions.

The H2 students suggested that constructive feedback is one that gives specific information about their performance. However, the difference is that the H2/LA believe that the specific information is related to their assignment while the H2/HA prefer specific information about their overall weakness and strength in Geography. The H2/LA students have also shown that they seem to need reassuring feedback, one that motivates them, more unlike the H2/HA students who are confident and are able to motivate themselves.

Finally, the H2/LA students have shown that feedback alone is not enough for them to do well in their subject area and that they have to take the initiative to revise content. However, the H2/HA students have shown that feedback is of utmost importance to their learning as they feel that without feedback they would be unable to write or learn to use the HOTS in their answers.

6.5   Summary of analysis of interviews of the H1 and H2 students

The four groups of students who were interviewed namely the H1/LA, H1/HA, H2/LA and H2/HA have provided varied opinions of feedback for Geography provided in the year 2012.

The interviews have shown that out of the four groups the H1/LA students showed low motivation and attendance during tutorials, clinics, group, pair and individual consultation sessions. Out of the other three groups, the H1/HA and H2/HA showed the most motivation to attend the sessions. The H1/LA and H2/LA students have also shown that they are threatened when they consult me individually while the H1/HA and H2/HA have shown their preference and motivation to attend individual consultation sessions. Out of the four groups the H1/LA students seem to show that they have difficulty coping with their H2 subjects and regard Geography as a '*low priority*' subject, however, the H1/HA and H2/HA students have shown that they are able to handle Geography either at the H1 or the H2 level. The H2/LA students have revealed that they do have difficulty handling their other H2 subjects as well but they have shown that H2 Geography is an important subject that they have to perform well in to be able to qualify for entry into the University. Moreover, the H1/HA and H2/HA students have shown their discomfort when feedback provided to them is discussed in tutorials or group consultation sessions. To them feedback is personal.

Out of the four groups of students the H1/LA students seem to want to get more written answers as feedback. However, the other three groups of students have voiced their preference for verbal feedback which helps them clarify doubts on

their answers and written feedback. They have stated that they prefer to discuss and have a dialogue with me on the marked work in order to further understand how they can enhance their answering skills. The H1/LA students' interviews have also shown that they have been receiving feedback at the self and task levels more while the feedback provided to the H1/HA and H2/HA students have been at the process and self-regulation levels. As for the H2/LA students, they initially received more feedback at the task level and only received feedback at the self-regulation level at the later part of the year in 2012.

The feedback provided to the H1/HA and H2/HA students have been aimed at helping them give convincing stands, balanced arguments and evaluations for their essays. Moreover, for the H2/HA students the feedback has also encompassed time management skills and in choosing the right type of questions to answer in an examination. The H2/HA seems to be the only group of students who seemed to have received feedback which went beyond their content and skills for Geography since the beginning of the mid-phase period of year 2012.

The students also gave different opinions of what constitutes constructive feedback. For instance to the H1/LA students the provision of positive feedback at the self-level is constructive. For the H1/HA, however, feedback that helps them handle the problems in their assignment and that which provides them scaffolds to handle the HOTS is constructive. For the H2/LA, feedback must be specific and help them handle their 'A' levels examination objectives. For instance, the feedback must carry information on the demands of a Geography answer which should be provided at the 'A' levels. For the H2/HA students,

constructive feedback is one that helps them choose the right questions to answer at their 'A' levels. It should be one that focuses on their forte in answering a question.

Out of the four groups of students, I had the most assumptions about the H1 students. I overestimated their abilities and the assessment that was provided to them did not match their ability. Feedback was provided for such assessment which did not help, especially the H1/LA students. However, the H1/HA managed to cope with the challenging assignments. The assessment provided to the H1 and H2 students were not tailored to meet their needs and therefore, the students were not able to use the feedback effectively for learning initially.

The students were asked if feedback alone was key to performing well. Out of the four groups the H2/HA students were the only ones who stated that feedback is key to performing well in Geography. The other three groups of students provided other factors which were important to performing well. For instance the H1/LA students stated that knowing the content was more important than feedback. Without content knowledge, feedback will not work. As for the H1/HA students, they stated that a student can only perform well if he has the initiative to learn and practice questions. The H2/LA, on the other hand, stated that students can also do well and learn from feedback when they show interest in their work and learn their content. Their comment was similar to the ones provided by the H1/LA and H1/HA students.

The interviews with the students have been very crucial to this study as they have informed me of the way feedback was provided. Moreover, the interviews have allowed me to understand the kind of additional feedback that is required for learning to occur and the kind of feedback that can be omitted. I was also able to understand from the interviews the misconceptions I had been having of the way I had been giving feedback to my students. The feedback that I thought was relevant and important to students could have been considered otherwise by the latter. Through the interviews I was also able to gain insights into the way learning can be enhanced through HOTS and DI through the provision of feedback.

In the next chapter the conclusions and recommendations for future study will be presented.

CHAPTER 7: CONCLUSIONS

7.1   Introduction

In this chapter, the conclusions from the study are presented. Also presented are the implications and limitations of this study. I have also made recommendations on how the practice of providing feedback could be improved for the benefit of the teaching fraternity in Singapore.

The purpose of this study was to examine my practice of providing feedback to students in Geography. The research questions were:

1. How does feedback provided by me contribute to my students' learning particularly in relation to the Singapore Ministry of Educations' initiatives, Higher Order Thinking Skills and Differentiated Instruction?

2. How has the feedback that I had been providing to my students changed over the course of the study?

3. What are the implications of any changes for my pedagogy and beliefs as a teacher?

In drawing conclusions, I address each question in turn.

**7.1.1 How does feedback provided by me contribute to my students'
learning particularly in relation to the Singapore Ministry of
Educations' initiatives, Higher Order Thinking Skills and
Differentiated Instruction?**

The study I have embarked on represents a substantial and significant
contribution to knowledge about how feedback can be provided to students. The
study has shown that the quality of feedback is an important tool which enhances
learning. Good quality feedback is one that is constructive for students' learning.
It helps in closing the gap between what a student knows and what they need to
know.

Evidence from the early and mid-phase of my data collection has shown that
much of my feedback was not particularly useful to learning for students. The
feedback was characterized by illegible writing which students were unable to
decipher and instead of providing students the opportunity to learn I was
hampering it and providing answers instead. This is not constructive to learning
because the ownership of learning should be with the students rather than the
teacher. Students should be provided with information to help them derive at an
answer and not given the answer. By providing answers I was preventing my
students from learning.

However, by the end of the mid-phase period I was using a framework to
address my students' work. Hattie and Timperley (2007) have provided a very
important and useful framework that helped me in providing constructive
feedback to students. Moreover, the framework has defined and guided me in
providing appropriate feedback when students start moving from handling

content to thinking based questions. For instance, a student who is weaker in subject knowledge has to get his or her content settled, so they would be receiving more task level feedback. Those who are practicing more challenging HOTS questions would be provided with more process and self-regulation feedback.

In the later phase, I was providing my students with feedback at the self, task, process and self-regulation levels. The feedback was constructive because it was giving students information about their answers and at the same time giving them clues to improve on their work. When providing the feedback the 'readiness' (Tomlinson, 2000) level of the student was considered and feedback was provided at the self, task, process and self-regulation levels. This allowed me to provide feedback for different ability students. Some of the higher ability students who were ready were provided feedback at the self-regulation level but others who were higher ability were provided more feedback at the process level. The recognition of a students' ability allowed feedback to be tailored to the needs of a students and in this way differentiated instruction was seen to be achieved. Understanding the readiness level of a student also helped me in providing them with feedback that attempted to scaffold the HOTS. Students who were improving in their performance for Geography were slowly providing with feedback at the process and self-regulation levels which helped them establish their HOTS while the weaker students were provided with feedback at the task level as they were not ready enough to handle the HOTS. In this sense the feedback that was provided to a student by the end of the mid-phase period

305

not only took into consideration the assignments completed by the student but also the general ability of the student to handle thinking skills.

The study has also shown that in order for feedback to be tailored to meet the needs of the individual student and to help students improve in their HOTS there is a need to understand the relationship between feedback and assessment. When feedback becomes repetitive and when the student has shown instances where he has mastered a skill there is a need for the assessment to change to add value to learning. At this stage when a more challenging task is required, the relation between feedback and assessment can be clearly seen. The teacher has to diagnose the ability of students in a timely fashion. When they feel that the student has improved, they have to encourage the student to try out more challenging tasks and move away from their 'comfort zone'. Then feedback is again provided for that particular challenging task. Assessment that tests that next challenging task is provided and feedback is at the same time also provided to help the student master the task. In this way the feedback provided for the student moves into a higher level. It does not just rotate around the student's comfort zone. In order for feedback to help a student improve, especially in his/her HOTS assessment must vary and become more challenging as a student becomes more equipped to handle more complex thinking skills.

For the above to happen, the data from this study shows that the teacher must also be mindful of the student's performance and learning. The teacher has to take an interest in understanding the weaknesses and strengths of a student and help the student tackle difference genres of questions and challenging tasks which the student has been unable to do in the past. This is the only way in

which the student can benefit more from feedback. If the teacher does not understand the abilities of the student, then feedback may not contribute significantly. The student might still be attempting to do simple tasks, and the assessment provided to the student by the teacher or the assessment practiced by the student may not match their ability level. This becomes a very crucial issue when considering the abilities of the low and high ability students. When a teacher does not clearly understand a student's ability in a timely manner, they might not be able to encourage the student to practice assessment that is appropriate for their ability. For instance a low ability student may be practising a difficult and challenging task, while a high ability one may be practising a task that is unchallenging for them. So in order for feedback to help students in the long run, it must complement assessment and for that to happen, a teacher has to understand their students' abilities. They must have timely checks to see if a student has indeed improved from where they were initially. I had created a system which helps keep track of assessment, feedback and my understanding of the ability of a student in a timely manner. This is represented in the Figure 7.1
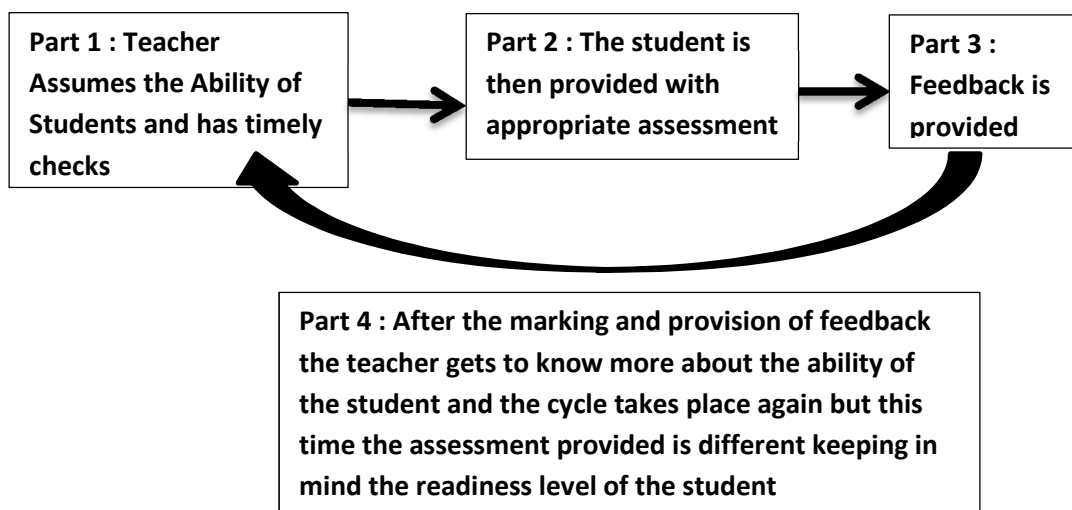
Figure 7.1

Seeing the relation between the ability of students and feedback

My reflections have shown me that in order for me to provide constructive feedback I must take careful steps or measures. I have to see a relation between the ability of my students and feedback. Understanding the ability allows me to provide students with appropriate assessment and feedback which becomes constructive to the needs of my students as time progresses. Figure 7.1 shows that a teacher has to assume the ability of students, initially. This comes about when the teacher views a student's work or assignment. As shown in the second box, the student is then provided with appropriate assessment that suits his ability. The assignment or work that is completed by the student is then marked and feedback is provided as represented by the third box. After which the teacher gets to understand more about the student and this time the knowledge about the student's ability is more accurate than the previous opinion she would have had. The assumption changes and the teacher then provides assessment that is more appropriate for the student the second time round. The cycle continues. After each cycle the knowledge a teacher has of her students only becomes more accurate. Moreover, the teacher would also understand the improvement to learning after each cycle. Such checks are necessary to understand the ability of a student, provide appropriate assessment to test the student and give 'constructive' feedback to help a student improve or add value to learning. In this way a teacher is able to provide feedback to achieve DI and HOTS. This is a structure that I will be adopting which arose from this study and it is a contribution to knowledge from my study. The above structure, shown in Figure 1, will also help students in transiting from attempting to answer simple to more challenging questions. The timely checks will allow me to check for the

student's readiness level in attempting different genre and thought provoking questions.

The conscious provision of feedback appeared to contribute to achieving value-added results for Geography for the year 2012 in my College. The provision of feedback, according by me, seemed to be an important factor in helping my students achieve better results for Geography at the H2 level. Out of the 22 students in the H2 class which I taught in the year 2012, 72% of them had achieved either an A or B grade. My college achieved the highest value-added results for the National Geography Results in the year 2012. My mean subject grade for the H2 class had moved from an expected 3.45 (an average of a C grade) to an actual of 1.6 (an average of an A grade). My students had improved almost two grades. As a comparison, my previous cohort of H2 students had achieved a mean subject grade of 3.63 actual, from an expected 3.57 in 2010. The Geography results had de-valued in the year. Only 21.1% had achieved an A or B grade. The improvement in the Geography results does not show an absolute relationship between the feedback I provided and results, but it gives a strong indication that the feedback has made a difference.

7.1.2 How has the feedback that I had been providing to my students changed over the course of the study?

Over the course of the study the feedback that I provided to my students changed. In order to provide more tailored feedback I opened up more consultation timeslots for my students. I felt that the tutorial and group or clinic sessions were not fostering a conducive environment for personalized feedback to be provided and discussed with students. Each student was, therefore, encouraged to book for individual consultation sessions. Moreover, feedback was provided according to Hattie and Timperley's (2007) framework and in using the framework I was able to provide feedback that was catered to the needs of the individual and at the same time help students improve in their HOTS.

I realized that motivation was an important factor that helps students learn better. My students were going to sit for their 'A' level examinations at the end of 2012. Especially at the JC 2 level, what students required was motivation. So feedback provided at the self-level was given positively. Such feedback also helped me to enhance the rapport I have with my students when positive feedback was provided. The students got the impression that what they have answered has some credit when positive feedback was provided. So even though Hattie and Timperley (2007) have claimed that "feedback at the self or personal level is rarely effective" (p.102), my research informed me that it was truly needed feedback for my students. However, the feedback at the self-level, as reiterated earlier, was accompanied with feedback at the task or process levels, or both levels. Moreover, the environment in which feedback was provided to students became more empathetic. For example, a positive environment where there was

more discussion between my students and me was set up. I became very conscious about the need for my students to want to clear doubts. I was aware of the fact that even if the questions seem trivial to me, it may not be so for the students. I was not critical of their questions and gave them an opportunity to converse with me with ease. The environment was made positive by greeting the student and asking them how they were feeling for the day or week. I was more open about giving verbal feedback like '*good question*' and '*that's a challenging question, let me think first*'. I was also more willing to teach and help students clarify doubts they had about their content and concepts for Geography.

My study has also shown that feedback at the self, task and simple process levels can be provided or is easier to provide in written form compared to self-regulation feedback. Some forms of process feedback and feedback provided at the self-regulation levels deal with more complex issues of learning. For instance they can deal with time-management issues that a student has so feedback has to be consistently provided to help them handle time so as to complete a paper on time. Or the self-regulation feedback can be provided to help students argue a stand and learn to make convincing stands. For such situations a student has to become independent to handle the HOTS. Therefore, in order to facilitate clearer feedback the process and self-regulation feedback may be provided verbally rather than in written form. Providing such feedback in written form makes the feedback seem long and the script, as seen in my journals, bleeds with red ink. Moreover, the articulation of the process and self-regulation feedback helps students get the right view of the feedback. When feedback at the process and self-regulation levels is provided verbally discussion

between the teacher and student is encouraged and this helps in settling the intention or perception of feedback between the teacher and student. To exploit the use of Hattie and Timperley's (2007) framework, I adapted the way I provided feedback to my students and this is shown in diagram 7.2. Hattie and Timperley (2007) have provided a flexible structure which I used to provide feedback to my students for learning. However, with respect to the genre of students I teach in my college, the Singapore MOE and the findings from my study, I have made some modifications to Hattie and Timperley's model to help me provide feedback more effectively. The modified model is provided below: provided below.

An adaptation of Hattie and Timperley's Model for Providing Feedback

Objective of Feedback : Reduces the gap or discrepancies between what students know at the current moment and what their desired goal is and this is representative of the grade or knowledge a student wants to and is willing to achieve

Both written and verbal feedback can be made equally effective to achieve the above objective and they should be provided without delay

Written Feedback

Verbal Feedback

Positive Self-Level	Task Level	Simple Process Level
Personal evaluations and effect (usually positive) about the learner.	How well tasks are understood/ performed.	The main process needed to be understood/ perform tasks. It looks at simple cues.

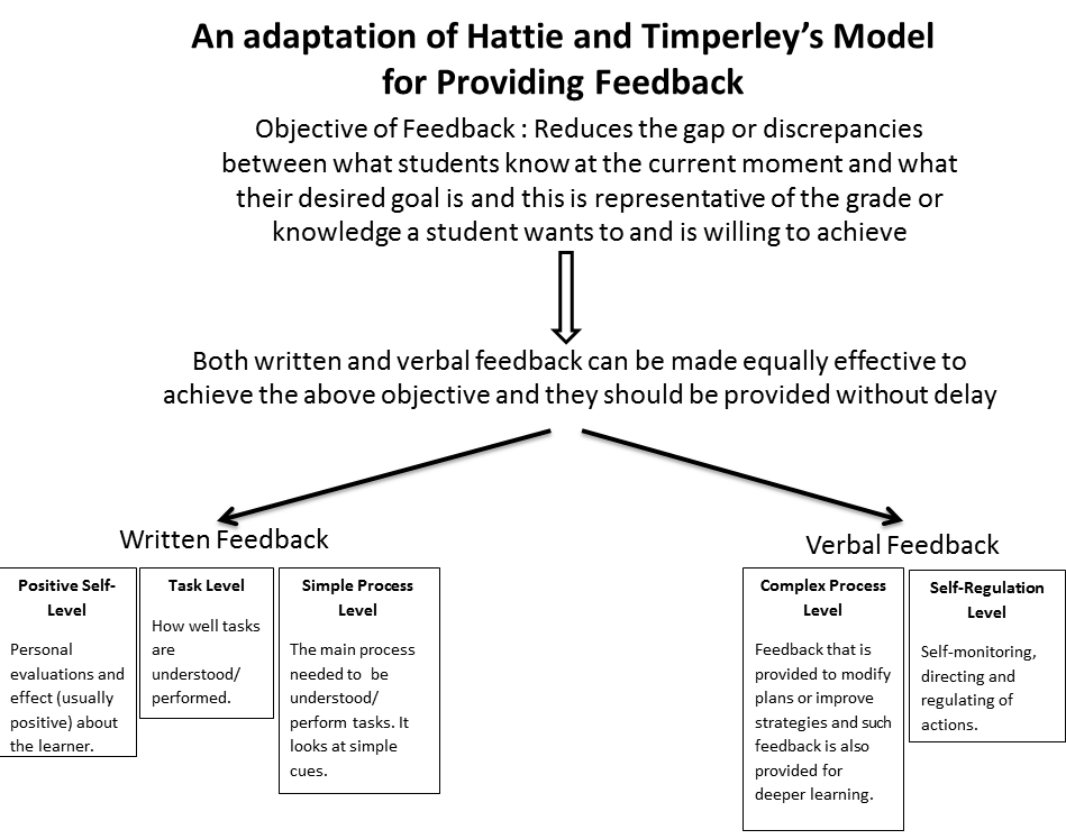| Complex Process Level	Self-Regulation Level
Feedback that is provided to modify plans or improve strategies and such feedback is also provided for deeper learning.	Self-monitoring, directing and regulating of actions.

Figure 7.2

Changes made to provide feedback

This modified model shows that not only does effective feedback reduce the gap between what students know and their desired goal but clarifies that the desired goal is set by the student who is willing to achieve it. In Singapore the mean subject grade (MSG) that a student achieves in his 'Ordinary' Level Examinations are used to project the expected grade that a student would achieve for his 'Advanced' Level Examination subjects. The expected grades need not always match the desired grades a student wants to achieve. This is especially so for the H1 students who have taken Geography as a contrasting subject. Taking up a compulsory contrasting subject is a Singapore MOE initiative which was formulated with the aim to ensure breadth of skills and knowledge development in the academic field. Many H1 students who struggle with H1 Geography have shown that they are willing to get a lower grade than what is expected of them in relation to the projected grades for the 'A' levels. Therefore, it is necessary to understand the student's desire to achieve a goal rather than the school or teacher to deduce the goal that they should achieve through projection of results.

In this modified model I have shown that to be effective, feedback has to be provided in written as well as verbal form. Feedback should be delivered in these two ways in order for it to contribute effectively to student learning. My study has shown that the four types of feedback, as explained by Hattie and Timperley at the self, task, process and self-regulation level cannot only be provided through written feedback. Some types of feedback especially those related to the process level and self-regulation levels becomes effective when provided verbally. This is because feedback at the process and self-regulation

313

levels are multifaceted which means they contain complex information which will make sense if they are discussed with the student instead of being provided in written form. Moreover, such complex feedback, when provided in written form, can be very long winded and have shown not to carry the full intent of what I expected the students to understand. In order for written feedback to be effective for learning, it appeared from my findings that only feedback at the self, task and simple process level can be provided. When feedback becomes complex it will be more effective if it is provided in verbal rather than in written form because such feedback caters for dialogue between the teacher and student. I embarked on this study with Junior College 2 students who were to sit for their 'Advanced Level' Examinations at the end of the year. This is an issue which all colleges in Singapore face. There was, therefore, a need for immediate feedback to be provided to the students and for that reason too there was a need to use both written and verbal feedback so that students can make use of the information fast to self-regulate their learning.

My research has also informed me about the importance of verbal feedback. Though it was not an aspect of my study, my interviews and reflective journals showed that my students had shown a preference for verbal feedback. Written feedback, to me, has become a one-way mode of communication, from the teacher to the student. Written feedback does not create avenues for feedback to become dialogical. Written feedback alone does not help students as much as verbal feedback. This is likely because verbal feedback motivates communication between the teacher and the student. Feedback is clarified and it creates possibilities for its better use. Moreover, written feedback embraces

delayed feedback while verbal feedback embraces immediate feedback. Most of the interviewed students were keen on getting verbal feedback that was immediate. There have been inconsistent findings in providing delayed and immediate findings in the literature. However, my study has shown that students preferred immediate feedback. They preferred to consult me individually and get their assignments marked and be provided with immediate feedback. This might also be due to the fact that they have to sit for examinations at the end of the year and so there is this sense of urgency that the students have. They want to write out their answers and get it marked and be provided with feedback immediately. I realized that my 'A' level students were basically fighting with time and they wanted to learn fast. When these students were in their JC 1 classes, I realized that they were not as pressed for time. But at the JC 2 level, with the national examinations being conducted in the month of October, my students were showing their preference for immediate feedback. My study, therefore, shows that for the JC 2 students, especially, there is a need to provide immediate rather than delayed feedback. So the delivery of feedback will encompass both written and verbal forms.

My framework also represents the need for positive self-level feedback to be provided to students through written form. My study has shown that positive self-level feedback contributes to learning, for schools in Singapore. Students need the motivation especially in Singapore schools where there is emphasis on formal assessment. Students need to be inspired and get the enthusiasm to want to do well and for that positive self-level feedback is vital and such feedback must be provided in written form so that students are able to see which part of

their work is commendable. For the above reasons, Hattie and Timperley's framework for providing feedback was modified to suit the local conditions.

The research has shown that feedback is not a one-time process. It has to be provided over a period of time before one can reap the benefits from it. In this sense, feedback has to be regular. My research has shown that when feedback is not provided regularly to students or if it is not consistent, the students do not show improvement in their answering of questions. When there is irregular provision of feedback the students tend to start from the juncture they started from previously and there is no value added to their learning. So in order to add value to learning, feedback has to be provided constantly till the student masters a skill. This means that feedback has to move from making sense of a topic or sub-topic to making sense of skills and applying them. After the mastering of a skill, feedback can then become repetitive and that is when the need to provide the student with a more challenging task or assessment is initiated. The feedback that follows such challenging tasks will consist of feedback provided at a higher level. In this way the objective of learning is achieved.

Finally, my study has shown that feedback has to be provided consciously to students. One has to think clearly before the feedback is provided. In my opinion constructive feedback is provided with the ability, strengths and weaknesses of a student in mind. Feedback is not about just giving support to allow a student to come to an absolute answer. It moves beyond the boundaries of getting to an answer. It is about helping students to overcome challenges in deriving at an answer. Feedback has to provide students with the skills to handle different

genres of questions and analytical skills in formulating answers. Basically, a teacher has to think and consciously provide feedback with the end in mind, which is about equipping a student with the skills to handle their learning. So initially a student may start with feedback given at the task and process levels, but the students must self-regulate their learning and improve their knowledge or content of the subject so that the feedback can move on to tackle the HOTS. Finally the objective of feedback will be to equip the student with the skills to self-regulate their learning. For this to occur, a teacher has to be conscious about providing feedback. A teacher has to, in my view, think deeply about the feedback that a student is going to be given either in written form or verbally. Initially, the kind of feedback provided, by me, was instinctive. What comes to the mind is immediately provided as feedback and that can bring about devastating effects as many times it turned out to be negative feedback. However, in order to provide constructive feedback for learning a teacher needs to have a clear understanding of how feedback is provided so that they can help their students learn. Moreover, a teacher must be keen on learning how to provide effective feedback to students when they start improving in their work.

7.1.3 What are the implications of any changes for my pedagogy and beliefs as a teacher?

The study of feedback showed and revealed much information about me and about my practice. The study had portrayed me as a practitioner who lacked confidence in giving feedback to one who had become much more confident. At the beginning of this study, I lacked confidence in giving feedback, and was unsure of myself about providing feedback that could help my students. But I had the integrity and the willingness to admit that I was not providing students with constructive feedback. This willingness to face the problem has clearly allowed me to see what was 'right' or 'wrong' about the way feedback should be provided. As argued by Brookfield (1998), the first step to critical reflection comes when people are able to challenge their own beliefs in doing what they do. He stated that the critical reflection allows one to review practice through the four lenses to "surface the assumptions we hold about pedagogic methods, techniques and approaches and the assumptions we make concerning conditions that best foster student learning". (p. 32)

Unfortunately, the study has shown me in an undesirable light on occasions. I see myself becoming over-confident in myself. In the beginning it was the humility I had which helped me learn, but now the higher level of confidence I have may actually hamper my learning. I am aware that I have become much more confident in my ability to provide feedback, but I am worried that this may develop into another assumption that the feedback I provide to students is the best and that I no longer need to critically reflect on its appropriateness. This may push me to provide feedback in just this way without allowing me to look

into the abilities of students or changes in assessment implemented by the Ministry of Education and changing examination demands. This suggests to me that what drives the feedback I give must always be the needs of the students, rather than what I think is best for them. The long journey of understanding how feedback can be provided to students constructively may lead to a situation where I may think that the feedback I provide is the best and that it is the right way to do it. I realized this over-confidence also from the tone I was using to my students and colleagues at the year-end phase. I saw myself being determined to get my point across and this may not be the best feature of my character to endorse. I feel that I have become more forceful in trying to get my views across to my colleagues and students and this was not a characteristic I had at the beginning of this study. Learning is life long and with over-confidence the desire to learn and upgrade might diminish because I might get a 'this is all there is to it' feeling and believe that this is the end and not a process of learning. Such feeling gives avenues for new types of assumptions to form and, so, I feel that I have to be conscious of this aspect which I have developed in my journey of learning.

The study has also aided me in understanding another dimension of myself that is, that I tended to get carried away with work, having no regard for time. The year 2012 was challenging in that sense. I was determined to learn and shape my practice and that made me ignore my family and the other commitments I had. Also, the fact that I was seeing my students frequently and constantly thinking about them got the better of me. I started becoming angry and frustrated with myself and my students. I was losing patience over students towards the end of 2012 and was feeling 'burnt out'. Time management is not only an issue for

students: it is also an issue for practitioners. I have to learn to stop and move away. I have to step away from my practice to be able to see what I had developed. I took leave from my job to complete my thesis and during the twelve months I was able to at last see and understand the seeds I had sowed. I stepped away to see my practice and realized the development and at the same time the 'pruning' that my practice required to be able to improve the feedback I gave to my students. Gaining this perspective was important, because reflection allows practitioners to understand their practice by considering what they learn on a day to day basis. The questioning and inquiry on practice allows the practitioner to further develop "professional knowledge and exercise professional judgement" (Loughran, 2002, p.34).

My study has also informed me about a dilemma I face as a teacher. On the one hand, I see myself eager to provide feedback and to help my students learn and achieve better grades. I see myself wanting my students to self-regulate their learning of Geography through feedback. But when my students self-regulate about the grade they want to achieve for my subject and if it is a 'C' grade and below, I do not seem to want them to self-regulate their learning in this way. The demands I have of my Geography students are different from what they can or want to achieve. On the whole, when a student self-regulates their learning holistically, it is a commendable practice, but I still wanted my students to achieve that 'A' or 'B' grade for my subject. I was not demanding such good grades for myself to get an award, but I was tired of not achieving higher results for Geography for many years. I wanted to prove to myself that I could achieve the good results and my practice was helping me do that. Still my students,

especially the H1s students, were not ready to spend the time and effort needed in my subject to achieve that grade. They were comfortable about achieving a lower grade as a compromise for them to achieve better grades for their priority H2 subjects. This caused a conflict for me between my own goals for their achievement and their own self-determined goals in relation to their total study commitments.

As a teacher I was shocked to see that I held beliefs that were sometimes irrational. This was particularly apparent in my journal entries. I had held assumptions of my students and this had affected my teaching and provision of feedback. I believed my students to be 'like this' because of reasons that I had made up or rationalized without any reason. Moreover, I had assumptions that had been passed on through conversations I have had with other teachers and I have not always seen my students for what they are due to these assumptions. I was in the dark and that lack of awareness prevented me from helping my students in the way I should have. I never explored the impact that my assumptions had on my teaching and my students' learning and this is an important lesson I learnt from Brandenburg (2008). This research has opened my eyes to the world of assumptions and how they can affect the way we practise. Assumptions are in a sense sweeping statements which we believe to be the truth and as a practitioner, without exploring my assumptions, I was not freeing myself to learn (Brookfield, 1998).

This study has also suggested implications for the assumptions that other teachers teaching H1 subjects may have. Students are most likely to choose to do

well in selected H1 subjects. As was evident in this study, students who are weak in their subjects will most probably lose track of their H1 humanities subjects as they are unable to handle so many H2 and H1 subjects. The fact is that if I had been a weak student, I would have done the same thing in terms of prioritizing my subjects to get to University. It would have been the most strategic thing to do. I will, therefore, be using what I have found to help the teachers in my college and the teaching fraternity to strategise with such students. This research will help me in informing the fraternity the dilemmas of the H1 students.

My practice has shown me that feedback has to go beyond the textbooks. I cannot always be focusing only on my subject area, Geography. I have to help students embrace all their other subjects too. My study has taught me this wonderful lesson. My students cannot only be winners in my subject area, but in other subjects too. When I regularly saw my students and gave consultations on their work, my feedback changed. While I was marking I would focus on the script in front of me and the student and provide feedback on their work. I moved from providing feedback for a script to providing feedback for the student. In the midst of providing feedback I was also helping the student incorporate the skills into other subject areas. I was telling the students to adopt practices which would help them in their learning for other subject areas too. Moreover, I started to take a lot of interest in the students overall revision or the examinations and learning. The rapport I had with my students was building because I was showing them that it was not only Geography I cared about but them.

Feedback is also not the only key to performing well in education. Though my research was predominantly on feedback, I was convinced that feedback alone cannot do the job. There is a need for certain other factors to be established for feedback to work. Feedback is a secondary factor which can help if the primary factors are stable. The primary factors refer to those elements like the initiative of the students and assessment. Students must have an aim and be resourceful enough to practice different genres of questions. They should begin to help themselves so that the help teachers provide can help them even further. But it does not end there. The student has to take the initiative again to do more questions of a similar genre to see if the feedback has been incorporated and then do different genres on which to get feedback. Such initiative brings about progress. Therefore, feedback alone is not enough. It must be supported by initiative and assessment.

7.2 Limitations of this Study

While some important findings have emerged from this research, there are some limitations that need to be acknowledged. For example only 12 students were interviewed in the research. It only represented 10% of the Geography cohort in Innova Junior College. In order to provide a broader and more in-depth study more students would have needed to be involved.

The question that arises at this juncture is whether my practice is sustainable and whether I can continue giving feedback in the same way as I did in the year 2012. The main limitation is whether I can afford to spend time with the individual

student or handle multiple small groups to help them handle their HOTS and tailor feedback to meet their needs. I cannot stop asking myself whether feedback can be provided constructively with lesser time spent with students. Also teachers in colleges may find handling the individual students or multiple small groups effective, but the same practice may not be applicable to teachers who teach the secondary schools or seventh to tenth graders.

7.3 Recommendations for Future Research

According to the Singapore MOE, "globalisation, changing demographics and technological advancements are key driving forces of the future and students will have to be prepared to face these challenges" (MOE, 2014). Further research could be undertaken to examine how teachers in Singapore can employ the use of feedback in other subject areas, to understanding how it contributes to the Desired Student Outcomes of the Singapore Ministry of Education in the ever changing educational reforms in Singapore.

Moreover, future research can also look at how peer feedback can contribute to learning, especially among college students. The current research focuses on just teacher feedback, but peer feedback is also an important factor to consider. Tapping into peer feedback for learning is research which would serve to benefit teaching and learning.

In addition, in today's context many students are using online programs to submit their assignments to teachers. Future research could, therefore, also address how feedback can be provided online for student work. There are an

increasing number of assignments which are offered to students online. In Singapore, for example, for secondary schools a specific day is also set aside for online lessons known as 'e-learning day' and on that day, students do not have to come to school. Even for college students online lessons are provided. Since such online learning environments are being commonly used, the feasibility of providing feedback online can also be studied for future research, as this is an area which appears to lack research. The challenge will be in finding out how effective feedback can be provided to students via online learning environments.

An important aspect which arose unexpectedly in my research was the preference of students for verbal feedback. Even though verbal feedback was not recorded as data in this study, in order to further understand and exploit its use in providing constructive feedback to students, further research is needed. Most students sitting for examinations are very interested in gaining feedback immediately. Moreover, my research has shown that students have voiced the need for verbal feedback over written feedback. Further research can explore the difference between written and verbal feedback in contributing to learning.

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Appendix 1 : The Key Stage Outcomes of Education

At the end of Primary school, students should:	At the end of Secondary school, students should:	At the end of Post-Secondary education students should:
Be able to distinguish right from wrong	Have moral integrity	Have moral courage to stand up for what is right
Know their strengths and areas for growth	Believe in their abilities and be able to adapt to change	be resilient in the face of adversity
Be able to cooperate, share and care for others	Be able to work in teams and show empathy for others	Be able to collaborate across cultures and be socially responsible
Have a lively curiosity about things	Be creative and have an inquiring mind	Be innovative and enterprising
Be able to think for and express themselves confidently	Be able to appreciate diverse views and communicate effectively	Be able to think critically and communicate persuasively
Take pride in their work	Take responsibility for own learning	Be purposeful in pursuit of excellence
Have healthy habits and an awareness of the arts	Enjoy physical activities and appreciate the arts	Pursue a healthy lifestyle and have an appreciation for aesthetics
Know and love Singapore	Believe in Singapore and understand what matters to Singapore	Be proud to be Singaporeans and understand Singapore in relation to the world

Desired Outcomes of Education

Retrieved from http://www.moe.gov.sg/education/files/desired-outcomes-of-education.pdf on the 5th of January 2013.

Appendix 2 : The Education Pathway (Journey) in Singapore (Singapore Ministry of Education, 2014)
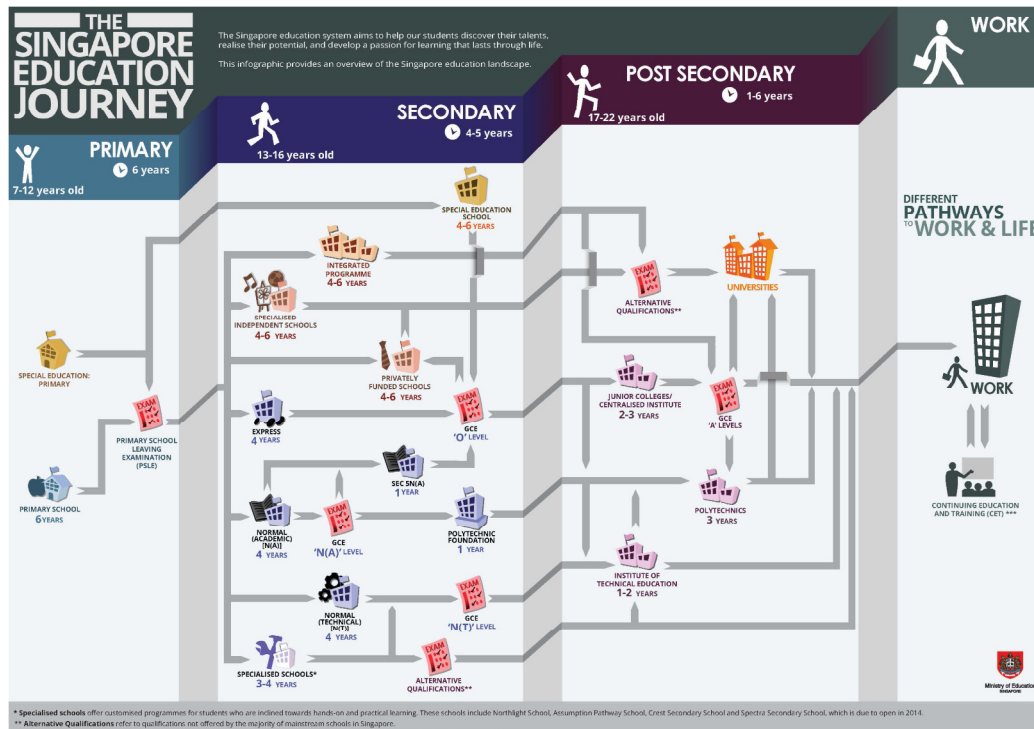
Our Education System

Retrieved from http://www.moe.gov.sg/education/

Appendix 3 : Example of a data-response question

4   Fig. 4 shows a model of the post-industrial global city.

    a) Describe the location of the low income residential areas shown in Fig. 4.   [3]

    b) Give **two** ways that the central city (CBD) may function as a 'Global Command Centre'.

                                                                      [2]

    c) Suggest reasons for the decentralisation of the global city in Fig. 4.   [7]

Fig. 4

c) Suggest reasons for the decentralisation of the global city in Fig. 4.   [7]

Figure 4

Model of a post-industrial global city

CBD

Edge City

Low Income residential area

Boundary of the Global City
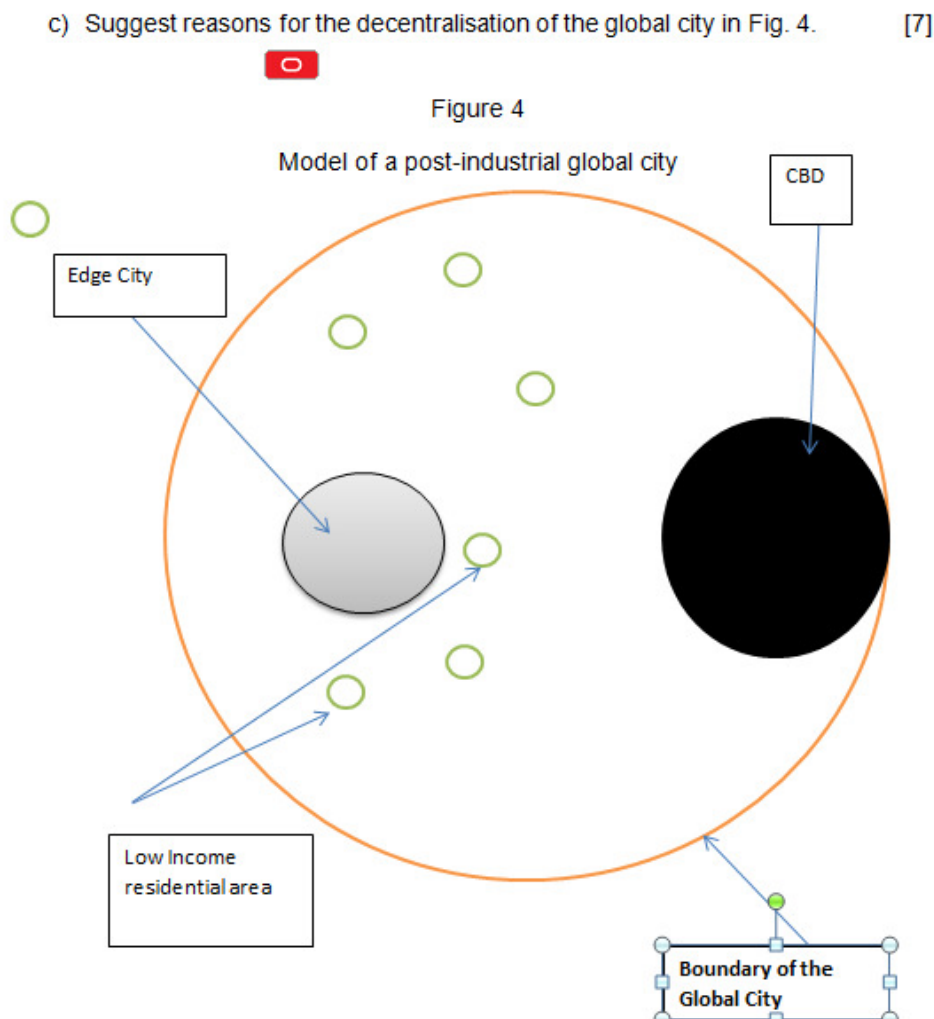
Appendix 4 : Example of an essay question

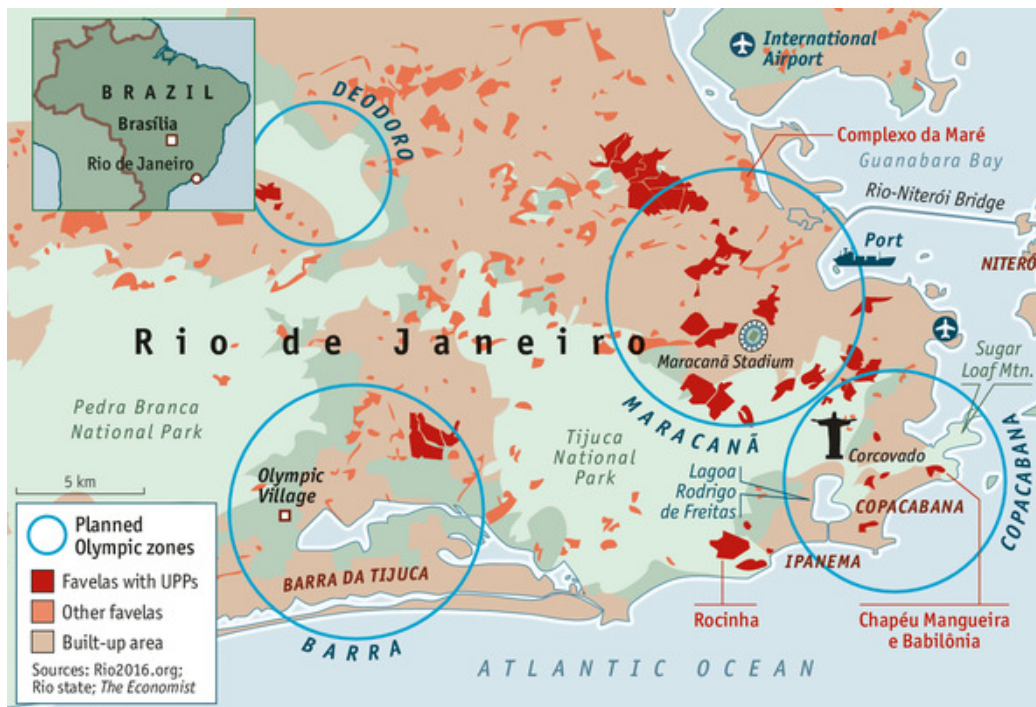**7   EITHER**

a) Compare current urbanisation trends in DCs with those in LDCs.

[9]

b) To what extent do you agree that primacy simply represents an early stage in a country's urban development?   [16]

OR

a) Identify the factors which may help to explain the distribution of squatter settlements within a city such as that shown in Fig. 5.

[9]

b) Assess the success of one or more attempts to relieve homelessness in large urban areas.   [16]

Retrieved on the 10th of January 2014

(http://www.economist.com/news/americas/21586322-sensible-security-

programme-brazils-olympic-city-no-longer-enough-satisfy-voters)

Appendix 5 : Subject Combination Offered in 2012, Innova Junior College

2012 JC1 Subject Combinations

Code	H2	H2	H2	H2	H1	H1	H1	H1 (Contrasting Subject)	Remarks
C101 (X / C / M / T)	MA	CH	BI	EC / CLL / MLL / TLL	GP	PW	* MT		These are 4H2 Subject Combinations. For eligibility, L1R5 MUST be ≤ 12. Refer to **ANNEX A** for details on subject requirements and pre-requisites.
C102 (X / C / M / T)	MA	CH	PH	EC / CLL / MLL / TLL	GP	PW	* MT		* If CLL, MLL or TLL is opted, H1 MT will be exempted.
C101	MA	CH	BI		GP	PW	MT	EC / GE / HS / E. LIT / GSC	
C102	MA	CH	PH		GP	PW	MT	EC / GE / HS / E. LIT / GSC	
C201	MA	BI	EC		GP	PW	MT	CH	
C202	MA	BI	GE		GP	PW	MT	CH	
C203	MA	CH	EC		GP	PW	MT	BI / PH / GE / HS / E.LIT / GSC	Refer to **ANNEX A** for details on subject requirements and pre-requisites.
C204	MA	CH	GE		GP	PW	MT	BI / PH / EC / HS / E.LIT / GSC	
C205 (C / M / T)	MA	CH	CLL / MLL / TLL		GP	PW		BI / PH / GE / EC / HS / E.LIT / GSC	Students opting C201 & C202 MUST offer H1 Chemistry.
C206	MA	PH	EC		GP	PW	MT	BI / CH / GE / HS / E.LIT / GSC	Students opting for C501 & C502 MUST offer H1 Mathematics.
C207	MA	PH	GE		GP	PW	MT	BI / CH / EC / HS / E.LIT / GSC	
C208	MA	PH	HS		GP	PW	MT	BI / CH / EC / GE / E.LIT / GSC	*If CLL, MLL or TLL is opted, H1 MT will be exempted.
C209	MA	PH	E. LIT		GP	PW	MT	BI / CH / EC / GE / HS / GSC	
C210 (C / M / T)	MA	PH	CLL / MLL / TLL		GP	PW		BI / CH / GE / EC / HS / E.LIT / GSC	
C501	BI	CH	EC		GP	PW	MT	MA	
C502	BI	CH	GE		GP	PW	MT	MA	

SUBJECT LEGENDS:

BI – BIOLOGY   CH – CHEMISTRY   PH – PHYSICS   EC – ECONOMICS   GE – GEOGRAPHY   HS – HISTORY

MA – MATHEMATICS   GP – GENERAL PAPER   PW – PROJECT WORK   E.LIT – ENGLISH LITERATURE   MT – MOTHER TONGUE (CHINESE/MALAY/TAMIL)

CLL – CHINESE LANGUAGE & LITERATURE   MLL – MALAY LANGUAGE & LITERATURE   TLL – TAMIL LANGUAGE & LITERATURE

GSC – GENERAL STUDIES IN CHINESE

Appendix 6 : Interview Questions for Students and Rationale

Monash University – PhD Research

Question	Rationale
What is your name? Your date of birth and your age?	The name is so that I am able to identify the student that is being interviewed so that I am better able to place the student under the higher and low ability groups for my data analysis. The date of birth is to show that I am interviewing a student who is above 18 years of age and the student is also asked for his/her age so that there is proper confirmation that the student is at least of 18 years of age during the interview.
What class are you in and what grade did you get for your geography at the beginning of 2012 for block exams?	This is to differentiate the higher 1 students from the higher 2 students. The 2 groups of students are crucial for my research. I am hoping to get information which is different between the higher 1 and 2 students. Hopefully, the views given during the interviews will give me important insights which can help me mould my teaching practice.
Do you receive feedback from your geography teacher, regarding your work in class? When do you receive feedback?	This is to see if the students are able to think about their tutorials, clinics and pair and individual consultation feedback sessions. (I will also ask them what kind of feedback or consultation sessions they have been having all the while and this is also related to the question – this is in case the student is unable to think about the different feedback sessions they have had with me)
When did your geog teacher start giving feedback, besides tutorials?	This question has to do with the time factor, I want the students to think about how long they have been having consultation sessions with me for geography.
How have the consultation sessions changed from the beginning of the year till now? Can you explain the impact of this change for you?	My consultation sessions have moved from a group size of 5-6 to a pair session to individual sessions and I want my students reflect on how the sessions have changed and how the feedback provided has also changed.
What is each session like? (Group, pair and individual)	I want students to see if they are able to give me information on each session and what they feel about the different types of sessions they have had. This would help me see if the objectives of the sessions from my view is the same for them or whether my students see the sessions very differently from

	me. This will have many implications for my research especially if the objectives I wanted to achieve with the sessions are different from what my students expected.
Which type of session do you like the most and why? Which session do you have low preference for and why? How do you feel about the quality of feedback in the different sessions?	I want to know which type of feedback session they prefer and why they like it and this is an important question as it informs me of what the student finds useful in the session and whether it tailors to meet their learning needs – differentiated learning. I also want to know which type of session, the class, the big group, pair or individual session they do not like and the reasons for it and it will help me understand more about whether I am catering to differentiated needs and learning and whether the student is able to benefit from the feedback sessions.
What type of feedback do you mostly receive and prefer – Verbal or written? Can you explain why, please?	I want to know which type of feedback they prefer, this will clearly tell me the different needs my students have and whether I, as a teacher has understood their needs and is catering to their learning needs.
What does your teacher write in your assignments? do you understand the comments/ feedback? What is your view on them. How valuable are they to your learning?	I want to know more about the written feedback, because I spend a lot of time giving feedback for data response questions and essays and I feel that the views my students have of the feedback I give them will give me clear indications of whether I have spent the time correctly to help them learn and understand the subject better.
Can you give us some of the comments your teacher has written on the assignments?	This is to see if the student remembers the comments that have been given to them in written form. It will help me see if the students are the type who will read the comments and take time to reflect on it and apply it. According to the literature review, students, mostly do not read the comments given by their teachers for their assignments and I want to see if my students are also the type who do not see the comments and if they take the feedback given, lightly.
Have there been times when you disregarded feedback?	This is to see if what the literature says about students disregarding feedback is true.
Do you think the feedback your geog teacher	This is to find out what my students think of the feedback, whether it is useful for their learning or not. If they feel that some types of feedback has not been useful then it will only

gives you is crucial to learning? How/Why can you give an example	further help me understand the needs of students and what type of feedback to provide for some types of students.
What kind of feedback do you require for you to become better at your geog? Does your teacher provide you with such feedback? Have you conveyed your needs to your teacher?	I want to know if the students have a preference for some types of feedback eg; content, paragraphing, structure, HOTS etc They have to also tell me if they are being given the feedback they require, especially during their consultation sessions. This is so that they are able to improve in their geography. I also want to know if the students are the type who own their consultation sessions or the type who depend on the teacher to analyse/deduce their weaknesses. This is an important question, as I am hoping to see some students give me comments on how they take ownership of their own feedback while others expect me to do thinking and deducing for them. For the students who do not own their consultation sessions – most probably some of the feedback sessions may not cater to their needs as their needs are not conveyed but rather only deduced by the teacher.
What is constructive feedback to you? Give me some examples.	I want students to think of the kind of feedback that I have given them and see what kinds of feedback, they consider to be constructive. I hope to see an array of answers as my students are from the higher and lower ability groups. So what is constructive to one student is not constructive to another because they have different learning needs.
What is hots? Do you receive feedback pertaining to HOTS? Give me some examples.	Another DOE (MOE) is on HOTS and I want to know if students have understood, HOTS and whether they are being given feedback on HOTS. I want my students to give examples, as it is for me to see if they have understood what is HOTS or whether I have given them a correct view of what HOTS is.
Are you able to clarify doubts on HOTS with your teacher? Are you able to apply the feedback to other questions etc? How does this (the feedback) allow you to use or develop your HOTS	I want to know if students are able to – for example for essays – move up to Level 3 of answering a question. This is the higher level a student can hit for answering an essay question. For a student to answer such a question the HOTS must be strong for the student/s. I also want to know if the feedback given caters only to a certain type of question or whether the student is able to apply the skill to different types of questions. So there is processing skills involved instead of only ending feedback at the task level (Hattie and Timperley)
Do you take the initiative to read, reflect on and	I want to know if the students are the type who take feedback, lightly or the type who take it seriously. Obviously the better ones who take the feedback seriously. What about

353

apply the feedback given by your geog tutor?	the weaker or lower ability students? If they take it seriously then why are they still doing badly for my subject? Are they
Are you good or weak in your geography? Why do you think so?	I want to know reasons why a student is high ability or low ability for my subject. If the student is a low ability one then the reasons must be clear and this would help me reflect on what I could have done and this would help me mould my practice and help me understand the different needs of my students.
Is feedback the best and only way to improve your geography?	I want students to think about what else is needed besides feedback and whether they can just rely on feedback. Is feedback a constructive tool for them or the only tool for them to do well.
Are there other types of feedback your teacher gives you besides ones which are specific to HOTs and DL?	I want my students to think about the different kinds of feedback that I could have given them and I want them to reflect on whether it has helped them.
What grade do you think you will get for your 'A' levels?	I want my students to give me their grade because I want them to reflect on what they got and what they will be getting for their 'A' levels. This is to see if their confidence level has gone up or down after the very many feedback sessions.

Appendix 7 : Levels of Marking for Geography (Essays)

To what extent is state planning primary in influencing land use patterns in different urban areas?

L3 (13-16) : Candidates are able to explain what state planning is in detail in the answer and then is able to provide a well-articulated stand which shows the factor he/she feels is primary in influencing land use in different urban areas. Candidates must provide an example of at least 2 countries or urban areas, preferably in different countries. Candidates are to provide reasons why state planning is more influential than other factors in influencing land use patterns, which goes to show that another factor that influences urban areas must also be explained in the answer. The account is clear, structured and the arguments are convincing.

L2 (8-12) : Candidates are able to explain what state planning is in detail though the stand could have been more convincing. Two regions in the world are used to explain the stand, however, the candidate provides a very balanced argument is not able to show that the chosen factor is primary. Candidate is able to provide another factor that also influencing urban planning and the account is written out well, however, the candidate is unable to compare both the factors and prove that one factor still stands out as the primary factor. The account is generally clear and structured though arguments are not written with conviction.

L1 (0-7) : Candidates are able to explain what state planning is only generally. There is no stand or there is a stand which is written superficially. The candidate is able to provide just one case study of a region and the other case is either not written or not well explained in the account. The account is incomplete and time management or content/concept inadequacies are seen in the answer. A weak essay

Appendix 8 : Monash University Ethics Approval Letter

MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date:	22 October 2012
Project Number:	CF12/2377 - 2012001290
Project Title:	Teacher professional learning through the provision of feedback
Chief Investigator:	Dr Judy Williams
Approved:	From 22 October 2012 to 22 October 2017

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.**
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.
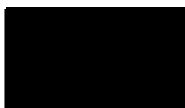
Professor Ben Canny
Chair, MUHREC

cc: Ms N. Gowri

Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton
Facsimile +61 3 9905 3831
www.monash.edu/research/ethics/human/index/html
ABN 12 377 614 012 CRICOS Provider #00008C

356

Appendix 9 : Approval from the Singapore Ministry of Education to do the

Research

1 North Buona Vista Drive
Singapore 138675
Robinson Road P.O. Box 746

Facsimile : (65) 67755826
Website : www.moe.gov.sg

Ministry of Education
SINGAPORE

EDUN N32-07-005   Request No.: **RQ100-12(08)**

7 August 2012

Ms N. Gowri
5 Kandis Walk
Singapore 757680

Dear Ms Gowri,

STUDY ON TEACHER PROFESSIONAL LEARNING THROUGH THE PROVISION OF FEEDBACK ON STUDENT WORK: A PRACTITIONER'S INQUIRY

I refer to your application for approval to collect data from schools.

2   I am pleased to inform you that the Ministry has no objections to your request to conduct the study in 1 junior college. Please use the *attached letter, including Annex A, the application form and the approved research tool(s)* to seek approval from the principal and during the actual study.

3   Please observe the following conditions of approval for conducting research in schools:

a) to adhere to the approved research proposal;
b) not to publish the findings without clearance from the Ministry;
c) to ensure that school(s) record the participation in Annex A; and
d) to complete the data collection in the school(s) within 6 months from the date of this letter.

4   Please acknowledge receipt of this letter by contacting me at Tel: 68796065 or Ms Leong at Tel: 68795976. Alternatively, we can be reached at any of the e-mail addresses at the top right hand corner of this letter.

Yours faithfully

Teo Kie Eng (Ms)
Head, Data Administration 3
Data Administration Centre
for Permanent Secretary (Education)

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