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Effects of Teacher's Beliefs and Personalities in Practice: A Case Study of a Mathematics Teacher

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ABSTRACT

Research has shown that teachers' personalities and beliefs about learning affect their behaviour and implementation of pedagogies in the classroom. Motivated by the need to further understand the effects of teachers' personalities and beliefs in practice, the study adopted a case study design to provide an explanation to this from the perspective of a single subject of study, who was a Mathematics teacher in a pre-university level. Data were collected from multiple sources of evidence, namely verbal and written interviews with the subject of study, the subject's teaching portfolio (extracts of teaching philosophy and a student's feedback), lesson plan, classroom observation, as well as tests such as Educational Philosophy Test and the Big-Five Personality Test. Findings indicated that the subject's primary educational belief, which was existentialism, and dominant personality traits, which were conscientiousness and extraversion, had a major effect on her lesson's planning and implementation, as evidenced from her lesson plan and classroom observation. Minor factors contributing to her lesson planning and implementation included class size, student knowledge base and time constraint, which were also taken into account. The findings provide insights for future research to match a teacher's educational beliefs and personality traits with his or her planning and execution of a classroom lesson in similar contexts. The findings also imply that the mapping of teachers' beliefs and personalities to their teaching practices can be a crucial tool for professional development of teachers, which will inevitably improve students' learning.

Keywords: Personality, Educational Belief, Case Study Design, Mathematics, Pre-University, Lesson Plan and Implementation

Introduction

Many researchers in the education field have attested to the notion that teachers are a very important element in education. For instance, Soloway (1996, p.11), an engineering professor in a reputable American university claimed that "classroom teachers are the key to making learning work…; teachers play central roles in the lives of our children". Nonetheless, a teacher's role in educating students is often implemented in a variety of methods and pedagogies, due to differing personalities and beliefs, and these are believed to have a significant impact on student learning (Ozel, 2007). Besides, it is deemed that teachers' beliefs about learning will also affect their behaviour and implementation of pedagogies in their classrooms (McCombs & Whisler, 1997). As such,the study aims to investigate to what extent the subject of the case study, a Mathematics lecturer who happened to be the

researcher's colleague, is aware of her own beliefs and personalities and to what extent she reflected these traits and philosophies on her teaching in the classroom.

Sani (a pseudonym) is a teacher whose teaching pedagogies seem to be a strong reflection of her personalities and beliefs on education. In the current institution that she has served for many years, she was known among colleagues and students as a "beacon of hope", which was also stated in one of her student's written letter of feedback on Sani's impact to her students (refer to Appendix 1). This led the researchers to believe that she would be an ideal subject to conduct a case study upon, with the intention of identifying and understanding potential reasons behind the teacher's planning and implementation of a Mathematics lesson. However, these factors could also be specifically related to the content specifics of the subject of the case study, which is Mathematics, and therefore may not be applicable to a certain extent if it were to be compared with other cases of a similar nature.

Nevertheless, certain factors which may impact a teacher's lesson planning and teaching pedagogies such as the effects of the teacher's beliefs on education, as well as the teacher's personalities in conducting the teaching and learning process have a significant relevance, making this case study a worthwhile attempt to bring a greater insight on the educational landscape, particularly in a college setting. Hence, the case study investigated the reasons behind Sani's planning and implementation of a Mathematics lesson, plus the implications of the learning strategies in order for the teacher or other affected parties to take any necessary course of action in addressing issues which may arise from it.

Literature Review

Beliefs, as defined by DeBellis & Goldin (2006, p.135) refer to a highly cognitive construct of ''attribution of some sort of external truth or validity to systems of propositions or other cognitive configurations''. Psychological studies have also defined personality as "the pattern of psychological and behavioural characteristics by which each person can be compared and contrasted with others", or "a unique pattern of enduring thoughts, feelings and actions that characterise a person" (Bernstein et. al., 2008, p.551). The common point of these constructs, which is also the driving force for investigating them in this study, is that teachers mirror their beliefs and personalities towards an object, a situation, or a person in their related feelings and behaviors in the classroom (Philipp, 2007).

Background of teacher

Sani has been serving in the education field in the last 24 years. She started her education career as a secondary school teacher in two reputable public missionary schools, now known as national schools, teaching Mathematics and History to upper secondary students. Subsequently, she ventured into tertiary education as a local private college lecturer to pre-university students in various Mathematics subject areas, and has been doing so for the past two decades. She was also a recipient of a prestigious teaching award for her excellence in teaching in that college. As such, her length and breadth of experience in the teaching fraternity were admirable. Based on the readings as mentioned above, the researchers were therefore curious to confirm if her decision to join the teaching profession was a result of her personality and beliefs on education. However, the following excerpt of the interview came as a surprise:

Extract 1

Q: What makes you want to teach?

A: Do you mean why I decided to become a teacher?

Q: Yes.

A: I didn't decide to become a teacher. It happened by accident.
Q: Could you describe that?
A: It was just because my results are not good enough to take me to the course I wanted, and I just choose whichever course that could take my scores then, without even realising that it was a teaching course.

(Interview 1)

From Extract 1, it seemed that the reason Sani became a teacher was not driven by her passion. Teaching was more of a last alternative to what she had wanted but could not do. It intrigued the researchers that she would continue her teaching profession for over twenty years, and so this prompted the researchers to investigate the matter further. Upon reading through the teacher's teaching portfolio, the researchers discovered from her teaching philosophy (Appendix 2) that Sani experienced personal growth and development during her teaching career, as illustrated in the extract below:

Extract 2

> "...laid out platforms of opportunities for me to venture and grow. Eventually, the realisation of my presence and my purpose in life became more obvious. I saw my priorities and my focus changing… To me this is a profession that lays out a stage for us to perform many meaningful and heartfelt roles choreographed by the students… a teacher is a teacher… and deep inside I know I am one."

As seen in Extract 2, Sani made a profound statement on how the opportunities of growth in her career had laid the path for her to discover her purpose in life as a teacher. To further explore Sani's beliefs and personalities behind her rationale of actions, which led to the implementation of related teaching pedagogies in her lesson, an analysis of her work was conducted. The following section explains the methodology of data collection adopted for the case study.

Methodology of data collection

As the case study was explanatory and exploratory in nature, a qualitative approach was adopted as rich descriptions were necessary in generating findings of a considerable quality (Yin, 2014). Table 1 below illustrated the research methods in conducting this case study, which utilised interviews, artefacts (i.e. lesson plan and teaching portfolio), and classroom observation. According to Yin (2014, p. 119-120), "a major strength of case study data collection is the opportunity to use many different sources of evidence", which will then enhance its reliability and level of quality, as "any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of information". The triangulation technique employed corroborated inferences made with evidence from more than a single source to support the notion of construct validity (Creswell, 2007, p. 208), as multiple sources of evidence would provide multiple perspectives and angles of the same phenomenon (Yin, 2014). In order to investigate Sani's educational beliefs and personalities, multiple sources of evidence were collected and analysed. The following table shows how each source of evidence is mapped to each aspect of investigation.

Table 1
Multiple Sources of Evidence

Source of evidence	B	LT	P	TP	SP	SF
Sani's Interview (Subject of study)	/	/	/	□		
Sani's Focused Interview	/	/	/	□		
Teaching Portfolio (Sani's work)	/	/	/	□	□	□
Lesson Plan (Sani's work)	/	/	/	□		
Educational Philosophy Test	/	/		□		
Big 5 Personality Test			/	□		
Classroom Observation	/	/	/	□	□	□

Note: B - Beliefs, LT - Learning Theories, P - Personalities, TP - Teaching Pedagogies, SP - Student performance, SF - Student feedback
(/: causes, □: effects)

Interviews

Two interviews were conducted with Sani. Prior to the interviews, a set of questions was developed to guide the researchers in data collection. This was necessary in order to conduct each interview in a structured and coherent way (Kim, 2008). Moreover, this would preserve the chain of evidence by tracing any findings from the initial research questions to the final case study conclusions. In doing so, the case study process can proceed with set procedures, which closely mapped the interview questions to the research question of the study, and ultimately the results (Yin, 2014). A written consent was obtained from the interviewee by explaining the nature and purpose of the study, as well as the rights as a participant of the study, thus assuring the privacy and the confidentiality of information gained.

The traditional face-to-face interview technique was used to conduct the initial interview session, as it had the ability to probe further using unscripted follow up questions and pay attention to any form of non-verbal communication, which worked to the interviewer's advantage. A quiet area was essential in this form of interview (Driscoll, 2011), thus a private discussion room available in the college's facilities was reserved and utilised for this purpose. To ensure that the interview sessions were conducted in an in-depth manner, effective questioning and further probing were occasionally done so that the interviewee would be more inclined to elaborate on given responses, hence providing more insightful information (Cheah & Tan, 2015). The reliability of the methodology of data collection was also strengthened with the recording of interviews using an audio recorder, which were then transcribed to indicate "trivial but often crucial, pauses and overlaps" (Creswell, 2007, p.209), as well as a more accurate representation of what happened (Hammersley, 2010). The interview transcripts then underwent multiple readings to minimise the risks of any aspects of the interviews from being overlooked or neglected. Thus, if the same protocols were used to

conduct a similar case study, the findings should reinforce the same or at least similar conclusions (Nair & Jain, 2015).

For the second interview, a non face-to-face method was adopted. The researchers decided not to be physically present, in order to avoid preconceived judgment and bias which may arise from the interaction in the previous face-to-face interview, in terms of the likelihood of a subtly skewed methods of questioning, which may persuasively influence responses. The questions, which were a follow-up from the first interview were forwarded to Sani via email, and she was asked to provide a response to the questions in writing, without the researcher's "monopoly" (Creswell, 2007, p.140). The results from the focused interview enabled the researcher to fill in the information gaps which arose from the initial interview session, thus further strengthened the findings of the case study.

Artefacts and Tests

The focus of the case study was on the perspectives behind the teacher's teaching pedagogies in a classroom lesson. It was therefore vital for the teaching portfolio and lesson plan (written artefact) to be a crucial piece of the chain of evidence. The artefact was her conception of how her lesson should turn out, which will be presented in a cropped graphic form of a scanned copy of her lesson plan (refer to Appendix 3) and teaching portfolio. It was essential "to establish a knowledge gap... which ties into the chain of evidence in the form of major/minor causes" and effects to the lesson (Nair & Jain, 2015, p.75).

Two tests, namely Educational Philosophy Test and the Big 5 Personality Test, were administered to further support the inference made from the interviews and artefact. The Educational Philosophy test (Jersin, 1972) was sourced from Andrews University's website, while the Big 5 Personality test was easily attained online. Sani was requested via a follow up email after the interview to take the two tests at her own convenience. This was to avoid the researchers' bias from influencing the test results where her responses could be affected by the researchers' presence (Creswell, 2007). The tests were free of charge and would enable the researchers to have an indication of Sani's dominant educational philosophies and personality traits. The Educational Philosophy test would give a clearer picture as to whether Sani's position on education was inclined to progressivism, which is the belief that education should focus on the whole child rather than on the content or the teacher; perennialism, which focuses on knowledge and the meaning of knowledge; essentialism, which emphasises the teacher's authority in the classroom; or existentialism, where teacher's role is to provide pathways for students to explore their own values, meanings, and choices. Meanwhile, the Big 5 personality test gave an indication of Sani's prominent traits with regard to her attributes in relation to the set of five personalities, namely Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience. Understanding her traits amongst these modalities would give an indication as to whether the learning strategies utilised were matched to these traits.

Observations

The teacher's consent was obtained in order to gain permission to observe the actual lesson, in order to understand the implementation of the lesson plan and any identified outcomes or implications. Unobtrusive observation technique was adopted in this case study, whereby the observer did not interact with the participants, namely the students and the teacher during the lesson, and the objectives of the observation were to record the way the lesson plan was realised, the teacher's actions, as well as any eventualities that may occur in a classroom setting. In an attempt to minimise bias in the observation notes, 'double-entry

notebook' method, a form of observation log that separate the factual observation from the researcher's interpretation or judgment made on the observation was adopted (Driscoll, 2011).

By using multiple sources of evidence, the issue of construct validity was addressed, while the corroboration of evidences served to verify the findings in this case study. The following section presents an analysis of the data obtained.

Analysis of Data

The findings were analysed in two broad themes, which were major and minor causes leading to the consequence and result, known as effects. A more detailed flow of the themes can be seen towards the middle of the analysis section, which will provide in-depth understanding of the causal relationship of the chains of events that resulted in Sani's implementation of her lesson plan.

Major Causes

This case study aimed to establish the causes which resulted in Sani's method of implementation of her lesson plan in class. The multiple sources of evidence, including interviews, the teacher's teaching portfolio and lesson plan, as well as the classroom observation log were collated and analysed in terms of "reducing the data into themes through a process of coding… and finally representing the data in figures and tables" (Creswell, 2007, p. 148). The researcher's initial examination of the teacher's teaching portfolio has led to the discovery that her teaching philosophy has been the backbone of her rationale behind the lesson planning and its implementation. When asked about her views on education, as well as teaching and learning, Sani's responses were as follow:

Extract 3

> Q: What are your views on education? What do you think teaching and learning should be?
> A: Teaching and learning is sharing whatever you have learned from past experience and your accumulated knowledge, within a school setting, but not to be confined to books.
> Q: What do you think a good teacher should do?
> A: A good teacher should mould the child to have a balance in everything, and being a good role model.
>
> (Interview 1)

According to Extract 3, Sani described a good teacher as someone who can be a good role model for students in moulding them. It seemed that the teacher possessed a humanist view in education, which "focuses on character strengths such as wisdom, courage and humanity" (Bernstein et al, 2008, p.572). This can also be seen from Sani's teaching philosophy and from the interview extracts below :

Extract 4

> "We play an important role model. They watch what we do, they see who we are, they can choose to ignore what we say or we can make a mark in their lives… I teach them about life and that is something that they can take with them for the rest of their lives…"

Extract 5

> Q: What do you aspire for your students? What do you want them to be?

A: A good, caring and independent citizen. More of character, rather than just having the knowledge of whatever field it is they want to pursue. Character (nods her head).

(Interview 1)

With the corroborating evidence revealed above, the researcher was prompted to confirm Sani's educational philosophies and beliefs as the main factors for her implementation of a particular lesson plan, through the administration of the Educational Philosophy test. Sani's results in the test highlighted her dominant educational philosophy, which is Existentialism. In terms of Sani's perspective on the institution she is teaching in, it was prevalent from the interview session that she takes pride in teaching in the college, as she holds similar beliefs and is aligned to the aspirations of the institution. This is captured in the extract below:

Extract 6

Q: Okay, moving on the the college background, how do you perceive the way things are done in this college, in terms of observed practices?
A: So far the practices that have been carried out in this college do not clash with my educational philosophy. They have been aligned to them, and I feel that I could practise whatever I have learned and believe in. So the freedom is there.

(after a series of questions)

Q: What do you think the college vision is? What is it that the college is striving for?
A: I could remember the words of wisdom from the founder of this institution, which is nurturing the seed.
Q: Alright, do you think the college's practices and culture is aligned to its vision?
A: Yes, because I can see that they (the college) are making it happen, and not just saying it in words, but also putting it in action.

(Interview 1)

Based on Extract 6, it was clear that the beliefs and aspirations of the institution Sani was working in did not clash with her own philosophies and beliefs, but instead complemented them. Therefore, it was reasonable to infer that since Sani's beliefs were aligned with her workplace, it was relatively easy for her to exercise her beliefs in her teaching practice.

Nonetheless, upon further reading into the interview transcripts and analysis of the personality test results, another major cause was later found to be Sani's personality traits, which had direct implications on the manner in which she planned and executed the lesson. In order to further understand the concept of personality, the Big-Five model of personality was explored to provide psychological perspective. The dimensions included in this model are illustrated below in Table 2.

Table 2
The Big-Five Personality Dimensions

Dimension (Traits)	Defining Descriptors
Openness to Experience	Artistic, curious, imaginative, insightful, original, wide interests, unusual thought processes, intellectual interests

Dimension (Traits)	Defining Descriptors
Conscientiousness	Efficient, organised, planful, reliable, thorough, dependable, ethical, productive
Extraversion	Active, assertive, energetic, outgoing, talkative, gesturally expressive, gregarious
Agreeableness	Appreciative, forgiving, generous, kind, trusting, noncritical, warm, compassionate, considerate, straightforward
Neuroticism	Anxious, self-pitying, tense, emotionally unstable, impulsive, vulnerable, touchy, worrying

Source: McCrae & John (1992).

The Big-Five or Five-Factor model of personality, which has been deemed a global breakthrough model in examining the most significant elements of human personality with rich descriptions (Carver & Scheier, 2004), encompasses the substance needed to relate those personality traits to the teacher's implementation of her lesson in a unique manner. This model was used due to its vast applications in many research studies, and the correlation between its personality traits with emotional and behavioural outcomes (Paunonen & Ashton, 2001). The researcher believed that the usage of this test would assist in making sense of the teacher's personality traits, and their impact on her lesson planning and implementation.

Sani's prevailing personality traits, as highlighted from the personality test results, are conscientiousness and extraversion. Her high score in the conscientiousness category explained her detailed lesson plan, as well as the steps she had taken in class to ensure ground rules as well as the flow and timing of the lesson were being adhered to according to her plan. The researcher's analysis on the interview transcripts also revealed the subject's extraversion personality and its effect on her lesson, as shown below:

Extract 7

Q: About conducting lessons, how do you plan your lessons in general?
A: I would sit and think about how I can relate the topic of the day to real life situations.
Q: How would you begin your lessons usually?
A: I have warm up sessions, where I don't start my lesson proper, but I would talk to my students and find out about their day, how was their homework, and things like that.
Q: Why do you do that?
A: To get them energetic. By doing this, I can see that they become more involved and interactive, which helps when I start my lesson.

(Interview 1)

Upon further analysing the above extract, the researcher had an "epiphany" (Creswell, 2007, p.155), where his "assumption" (Hannock & Algozzine, 2006, p.41), or rather the initial inference on what might have been the only major cause was not after all. Instead, Sani's dominant personality traits were also the major reason for her execution on the observed lesson.

After analysing multiple sources of evidence, including the interviews, the personality test result as well as the lesson plan and the observation log, it was deduced that Sani's educational philosophies and personality traits were the major causes of her lesson being conducted in a certain manner.

Minor Causes

A number of minor causes were found to have affected Sani's planning and implementation of her Mathematics lesson. These minor causes were the class size, students' knowledge base and time constraint.

Sani usually had a class of approximately 40 students, and she had one hour and 15 minutes in each class to conduct her lessons. The number of students in her class to be relatively large, and that the duration of the lesson to be rather short. Sani also shared during her interview that her students generally had similar knowledge background prior to her lessons, due to the selection of students via a placement test:

Extract 8

> Q: Do you have a technique in dealing with students from different backgrounds, such as weak, average and good students?
> A: I usually don't have this problem, as my Math classes have been filtered, as in they undergo a form of streaming, a placement test, to be able to enter into my class, and so my groups of students are all having about the same knowledge base and understanding of the subject.
>
> (Interview 2)

She also realised the need for her to display strictness to maximise the implementation of her lesson plan, due to the large student number and short lesson duration. This was illustrated in the following extract:

Extract 9

> Q: Could you describe some of the classroom management techniques you have used to disruptive students in your class?
> A: I don't really have disruptive students in my class, as I have always set ground rules since Day 1, and my students wouldn't dare to disturb my class after that. They will make sure that they are well behaved. That is why I don't really used techniques to deal with disruptive students, as I have not been in a situation where students are being disruptive. Perhaps they are well aware of my style of teaching, which is no-nonsense. I made it very clear about my objectives and expectations of them, so they don't play around. This is so I can finish what I planned to cover on time.
>
> (Interview 2)

Therefore, in addition to the major causes of educational beliefs and personality traits, minor factors such as class size, student knowledge base and time constraint have affected her implementation of the observed lesson. The effects of these were shown in the observation made on her lesson in lieu of her lesson plan, and the class level of engagement, as illustrated in Table 2.

Table 2
Causes and effects of Sani's Mathematics lesson

Causes	Effects
Major: Educational philosophies Personality traits	Consequences: Lesson planning Implementation of lesson
Minor: Class size Student knowledge base Time constraint	Results: Student feedback Student level of engagement

Consequences and Results

Besides Sani's detailed lesson plan and her rationales behind the planning, it could also be seen that she adopted the problem solving approach to her teaching. This can be described as a "specific mathematical activity directed toward a goal, where the solver (the student) does not initially know how to reach that goal" (Maab & Schloglmann, 2009, p.5).

Based on the classroom observation, the investigation activity served as a tool for students to utilise their problem solving skills in completing the activity. The particular teaching method that Sani used could be linked to George Polya's (1957) four steps in solving a problem, namely understanding or interpreting the issues raised in the investigation study, formulating a plan to address the issue raised, implementing the formulated plan, as well as reviewing what has been done. In this case, a continuous process of decision making is vital for students to solve the investigation problem effectively. Being a decision maker, Sani had actually applied the fundamental aspect of existentialism into her teaching practice, which is choice. According to Jersin (1972), a teacher who upholds the existentialistic point of view will emphasise the students' ability to make a choice in addressing an issue or a problem, and this was prevalent in Sani's classroom lesson which was observed by the researcher.

One of the student's feedback, which was obtained from her teaching portfolio upon consent (Appendix 1), revealed that Sani had incorporated an element of choice by way of interaction with the student. This could also be seen from the way the teacher counselled the student when the student scored poorly in a Mathematics assessment, by saying that the circumstances would "not dictate my (the student's) future", but what the student chose to do about it would. Again, this displayed the effect of the teacher's existentialistic beliefs on individual choice in practice, or in this case in her counselling approach. In analysing the effects and the causal correlation of this case study, the chain of evidences that resulted in Sani's lesson was validated, establishing the triangulation of data (Yin, 2014).

Conclusion and recommendation

This case study sought to investigate factors that resulted in Sani's implementation of her Mathematics lesson. From the interviews conducted, the subject's educational beliefs and dominant personality traits were identified as having a major effect on her lesson, and that the class size, student knowledge base and time constraint were minor factors to her lesson planning and execution. This was further corroborated with the administration of the Educational Philosophy test and the Big-Five personality test, where the results showed that

Sani's dominant educational philosophy was Existentialism, and her prevailing personality traits included conscientiousness and extraversion.

The identification of the causes that resulted in Sani's lesson planning and implementation, inadvertently also calls for a venture to match educational beliefs and personality traits with a teacher's planning and execution of a classroom lesson. It is also worth noting that while the mapping of teachers' beliefs and personalities to their teaching practices can be a crucial tool in the improvement of teaching in schools, students' beliefs are also an important aspect of their mathematics learning in class lessons (Maab & Schloglmann, 2009), but this was not covered in this case study.

This case study was conducted on a single subject and was not meant to generalise the findings to the larger population. The findings, however, contribute to a better understanding on how a teacher's beliefs and personalities might affect his or her planning and actions, thus enabling the teachers to better understand their own strengths and weaknesses in practices. It is hoped that the methodology of this study can be replicated for studies in similar context.

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Appendix 1: Student Feedback (Portfolio's extract)

Less than 6 months, that is all it took. What am I talking about you may ask. Well, it would be about my very intriguing lecturer of course!

Ms. is an excellent lecturer. In fact, excellent doesn't seem to even be appropriate enough to describe her. What makes an excellent lecturer in a student's eyes? Capturing our attention would make you a good lecturer, but capturing it, holding on to it and even knowing when to recapture it when it begins to slip makes you beyond excellent. and Ms. has achieved all of the above. Mathematics is the subject she teaches and she has managed to make even a studen who simply has no affinity towards mathematics, like me, enjoy going to class.

Every lecturer has their own method of spreading knowledge to the students however Ms. 's ways simply just, fascinate me. I remember that first time I met her at my orientation session where I thought she must be the strictest person on earth! Looking back, I still laugh to myself because Ms. might look strict and fierce but underneath all that she is truly a joy to learn from. I truly misjudged her and all it took was time to get t know her better.

Ms. has changed my, as well as my friends' perspective on a lot of matters as she not only teaches lessons of math, but she also teaches lessons of life. The smallest lessons ca sometimes be the most important and is easily overlooked by many but not her. for example, before the doorknobs were changed in the classrooms, Ms. taught us the value of being punctual just by locking the doors after she walked in to class and making us replace the class later on which also teaches us to follow through when we do something. Moreover, Ms. not only teaches us, but allows us to teach her new things as well. She is ever ready to learn and remain open minded to new things and experiences.

Recently, my grades have been suffering and I opted to give up on my math as it would affect my overall grades which in turn would affect what I would do in future. When I shared this with Ms , she immediately told me not to give up. She gave me encouragement and support and told me she would be there for me should I need her. In my darkest hour, she inspired me and told me that the subjects I take now do not dictate my future and somehow, she touched my heart.

Ms. is really a beacon of hope, hope that not all teachers and lecturers teach because it i just another job but because it is a passion to reach out to students and change their lives. Her authenticity sets her apart from so many other lecturers and it is people like her who will help people like me grow up right. People like her are rare and Ms. should share her skills with younger teachers, to inspire them, to train them to become an outstanding teacher. I believe Ms. is a a mission, to touch our lives, to help us through tough times, to teach us how to live and honestly, I think she has succeeded because she has definitely left her mark on us.

Appendix 2: Teaching Philosophy (Portfolio's extract)

MY TEACHING PHILOSOPHY

I have been in this profession for the past years. I am a trained teacher from the university and therefore my initial posting was to public schools but lasted only for four years. I decided to move to the private college and been in since then. laid out platforms of opportunities for me to venture and grow. Eventually, the realization of my presence and my purpose in life became more obvious. I saw my priorities and my focus changing.

Students spend more time with the teachers in class than their parents at home. We play an important role model. They watch what we do, they see who we are, they can choose to ignore what we say or we can make a mark in their lives. That is the power that has been given to all teachers by the students. I teach with love and I take my role very seriously in nurturing and molding the students. I try my level best to make the learning interesting and exciting for them which is not confined to a classroom setting.

I teach them about life and that is something that they can take with them for the rest of their lives. Something that I say today will come as a reminder to them in their path of life. Hope to comfort them and save them from trouble later in life.

My students are adolescents and that is the age they search for an identity for themselves. They come across all sort of problems and in that process parents might be their last resort to open up. Some friends might understand but some might not know how to cope with it too. But the teachers have the answers to most of their problems because been there and done that. Even if there is no solution for the time being but to know that I care and I am there for them, to sail together in facing this challenge made a great impact on them.

They are lost in choosing their career path and what do they do after this. How sure that this is what they want to do for the rest of their lives. Teachers can roughly know their nature and their ability can help them choose their path smartly and assure them that they should be happy in whatever they choose to do. It is a joy to help them achieve their dream.

To me this is a profession that lays out a stage for us to perform many meaningful and heartfelt roles choreographed by the students. Therefore whatever role I play, giving them more than what they deserve is my utmost purpose in life. Hopefully, my portfolio will speak for itself as I regard it as my students' testimony for who I am. Putting these points together would not been possible without the students in the picture. May this be a channel to reach out to more students and teachers. May what I do inspires others in their noble work and touch as many lives as possible in and beyond the classroom. A Teacher is a teacher, a mother, a friend, a counsellor, a career advisor and a well-wisher and deep inside I know I am one.

Appendix 3: Lesson Plan (extract)

Course	Mathematics Method	
Topic	Differentiation Rules	
Prerequisite knowledge	Nil	
Subject Learning Outcomes	1. Understand the concepts and techniques in calculus. 2. Solve problems in calculus. 3. Apply reasoning skills in calculus	
Activity	Description	Material Required
Set Induction/Recap Duration: 4 minutes	Revision on product and quotient rule	
Introduction of objectives Duration : 1 minute	Objectives of the lesson shown on board	
Activity 1 Duration: 55 minutes	1. Investigation sheet to students to explore in pairs. 2. Students called to present their findings.	Investigation sheet
Activity 2 Duration: 5 minutes	Lecturer summarises the findings.	
Summary Duration : 5 minutes	Lecturer summarises today's lesson.	
Assessing learning Duration : minutes	Homework assigned	Exercise handout