

The Development of Reflective Undergraduate Students: Assessing the Educational Benefits of Reflective Learning Logs in Entrepreneurship Module

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Abstract

The objective of this paper is to analyze written reflections on learning log of among the third and final year students undertaking an entrepreneurship module. Data was collected in the form of written reflection taken from the learning log of 140 students from 3 classes. At the end of the collection only 136 students' responses were managed to be collected given 4 students failed to hand in the learning log. A thematic approach was utilized to present the reflections of the students and all data was recorded in a verbatim format. Findings show that most students have never written a reflective log or essay in the formative assessment. As a consequence, they had difficulty in writing the reflection when being requested to do so. This has resulted in their reflection being written descriptively which lacks in critical analysis and deep thinking. The results of this investigation have strongly suggested the need to urgently develop among the students the skills in writing reflectively as they go through the process of higher education which be useful in molding their future professional and entrepreneurial behavior as when they entered the job market which requires a critical reasoning ability. The limitation and future were discussed.

Keywords: reflective learning, undergraduate student, entrepreneurship, learning log, education

1. Introduction

Entrepreneurship has always been conceptualized as a process of discovering an opportunity, sourcing and manipulate resources, planning, and execution intelligence. But the term "process" inherently assumes all the inputs such as land, manpower, infrastructure, and materials are readily available at the disposal of an entrepreneur. An entrepreneur knows all the parts and knows how to match and fit all those resources together. The above narration signifies that a process is quite predictable, but in reality, the nature of entrepreneurial activities (to undertake) is not predictable at all. Greene (2014) proposed a portfolio of four complementary techniques for teaching entrepreneurship as a method, not as a process.

They are:

- 1) Commencing businesses
- 2) Reality-grounded simulations and gamification
- 3) Design-oriented learning
- 4) Reflective practice

Each method requires learners to extend beyond the process-based paradigm of knowing; analyzing, and talking, instead positioning the learners to create, apply, and act (Greene, 2014). In this study, the author adopts the reflective practice as a method for teaching entrepreneurship and the toolkit used is the reflective learning log. Given its importance, reflective skills have now been recognized as an important proficiency among the professionals and being treated as a good source for critical thinking development, enhancing self-monitoring as well as leading to one having developed good reasoning skills. Furthermore, reflective exercise has also become

a vital component of most professional degree programs, namely nursing, teaching as well as many business capstone courses that require final year students to recap and reflect before the end of their university's tenure (Chalk & Hardbattle, 2007).

In this study, a research was carried out among the undergraduate students in the third and final year, majoring in entrepreneurial and business administration. The students were requested to hand in a log book which contain their reflection that will be used as part of the coursework assessment for the entrepreneurship module. This form of writing a reflective journal has definitely been regarded as new to the students given that the norm in the coursework assessment of this module usually comprised of quizzes, mid-semester test, business plan and final exam. This research was carried out with the aim to investigate whether students at the tertiary level who are undergoing an entrepreneurship module is able to engage in a reflective thinking ability in the process of learning.

2. Literature Review

It is not easy to write our thinking process in a form of reflection, but should it be practiced in learning, it helps to encapsulate learning in a much more meaningful manner. The use of reflection journals can assist to document the thinking process which in turns helps the teacher to draw conclusions on the learning progress of the students. The entire process of writing per se may have somehow encouraged students to reflect on what they have been taught in class and thus facilitate learning further. According to Cowan (1998, p. 16), a student is said to be doing reflection when... "she notes that there is something different about the case that she is considering, in comparison with the examples she has encountered in class; and when she also identifies what the difference is, and what she should do about it." According to Dewey (1993) as cited by Andrusyszyn and Davie (1997), reflective thought can be defined as an "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends". In other words, Dewey (1993) suggested that reflection allow one to be engaging in deep thinking in order to get an in-depth meaning of something, converting uncertainty to understanding which leads to action. This is in accordance to what Moon (1999) in which reflection entail mental activity that occurs in relation to the processing of complex ideas which are commonly found in the process of learning. Thus, so as to realize the benefits of reflection, students should be required to reflect and to write a reflective log or journal so that they can easily see the importance of the learning activities that have been carried out. As a result, reflection journal will reveal the thinking since the entire process of writing is actually a display of thinking (Luidens, 1997). Furthermore, idea clarifications and modifications happen due to the need to present knowledge in different forms during the reflection writing process. As such, it is expected that during this process, the learner will be able to develop new understanding and view the information in a different perspective (Yinger & Clark, 1981).

Constructivists like Dewey (1938), Vygotsky (1962) and Piaget (1969) concurs learning occurs in all phases of life and knowledge is obtained with much adaptation. Bit and pieces of knowledge are assembled and arrange according to a person's cognitive terrain (Entwistle & Walker, 2002). Due to the exponential growth of technology, the equilibrium state of society keeps on fluctuates and to keep up with the changes, individuals in the society have to keep abreast with new knowledge especially in the work of professionals. In this context, reflection plays an important role in individual's lifelong learning and transforms the academic practice (Schon, 1973). As a method, reflective learning has been embedded in a number various learning theories of the constructivism notably experiential learning theory (Kolb, 1984), multiple intelligences (Gardner, 1983) and emotional intelligence (Salovey & Mayer, 1990; Goleman, 1995). In line with many higher education institutions' aspiration to promote deep learning, reflection has been able to provide a meaningful linkage between theory and practice; and therefore promote deep learning among its students (Biggs, 1999; Hinett, 2002). Today, in higher institutions of learning, various methods are adopted to promote reflective learning, including logbooks, journals, diaries, analysis of critical incidents, action learning and etc. (Moon, 1999).

3. Methodology

This is a descriptive case study carried out among the students of Universiti Utara Malaysia who are taking an entrepreneurship module. At the beginning of the academic session of 2014/2015, all students taking the BPME 3073 Entrepreneurship module had been introduced to the concept of reflective writing through the learning log that will be assessed as part of their coursework. The idea of including the reflective log as part of the coursework mark contribution is to entice students to participate in the exercise given that naturally students tend to behave strategically when come to their class participations. Such behavior commonly leads to the occurrence of a phenomenon known as "Strategic Students" (Kneale, 1997). In this phenomenon, students would normally resist to participate in learning beyond formal assessment requirements; point to the necessity to link assessment

and learning together. Moreover, excluding the reflective learning log from formal assessment can send a negative signal to the students about the significance of reflection within the module. Nevertheless, on the hindsight, it is important to note that it can be quite impossible to know as to how the effect would take place on the comments of the students given the allocation of marks associating to the learning log.

In this research, data were collected using the learning log from 140 students of three classes in which these students were requested to carry out written reflections which are assessed for final grades (contributing a maximum of 10% of the total coursework marks). However, students have also been informed that they will only be rewarded a maximum of 5% should they write their reflection in a very descriptive or reporting manner. As such, the researcher considered those students who were able to obtain a score of more than 5% for the reflective log exercise, would be considered as those who were able to achieve the learning outcome of the formative assessment (see Appendix 2). Hence, in this study, students were required to keep a record of the lessons that they have learned for duration of 10 weeks and then write a reflection on the particular issues of the entrepreneurship taught in each lesson based on the syllabus. At the end of the study, 4 students failed to hand in the learning log resulted in only 136 learning logs were used for further analysis.

Given that the learning log is a graded assessment, the benefits of doing reflection in the academia and at work, as well as the various types of reflective writing techniques had been informed to the students. For the purpose of grading, the author adopts the reflection framework as suggested by Hatton and Smith (1995) for the purpose of grading and subjectivity reduction. The framework contained four levels of reflections (Hatton & Smiths, 1995) (which was made known to the students) as depicted below:

- (1) Descriptive writing (contains no evidence of reflection)–Level 1;
- (2) Descriptive reflection (a description of events with reflection from one perspective)–Level 2;
- (3) Dialogic reflection (some “stepping back” from events and recognition of alternative viewpoints)–Level 3;
- (4) Critical reflection (awareness that the same actions and events are viewed in a different way by different individuals)–Level 4.

In executing the study, the researcher gave an assurance to the students that their grades will not be penalized when they provide constructive criticism on the Entrepreneurship module or on the taught concepts or even in the style of the lecture. In the same light, the students were also being reminded that their grades will not be affected positively should it contain purely praises for the said module. The students were told that evaluation will solely be based on the quality of reflection shown based on the Hatton and Smith’s (1995) framework.

4. Findings and Discussions

Based on the mark sheets for reflective learning log (see Appendix 2), the following Table 1 tabulates the frequency of score percentage for a graded reflective learning log.

Table 1. Frequency of score percentage for graded reflective learning log & four level reflections

Score Percentage	Frequency
1%–5%	75 (Level 1)
6%	35 (Level 2)
7%	17 (Level 3)
8%	7 (Level 4)
9%	2 (Level 4)
10%	0

All of the reflections in the findings section were taken from the students that have achieved the score of 6 percentage points to 9 percentage points from the total score of 10 percentage points based on Appendix 2. A total 75 (approximately 55%) of the reflective logs were identified as level 1 (from 1% to 5%) in which reflections were simply written in a descriptive manner in the absence of reflections on the weekly lessons. Consequently, these learning logs were removed from analysis resulted in a balance of 61 learning logs being utilized for further analysis. Given that the numbers of learning logs (75 logs altogether) that has been discarded for further analysis were large (approximately 55%), it may provide a significant indicator that the task of doing

reflection can be challenging due to the lack of ability in reflective thinking or it could also be an indication that the students were simply not interested in pursuing the assessment completely.

Notwithstanding the importance of reflective exercise to undergraduate students, the author found out that most of the 140 students had taken subject ranging from 18 subjects to 30 subjects (refer to the Appendix 1), yet this is the first time they were required in this Entrepreneurship module to write reflective learning log in their formative assessment. A thematic approach was utilized to present the reflections of the students (in anonymity) and all data was recorded in a verbatim format. Hence, all the reflections were clustered into five different reflection themes comprised of module specific, entrepreneurial characteristics, opportunity recognition, creativity & innovation and business plan. Each of these themes is described by student reflections that are found to be fulfilling the criteria of reflective learning log (all of these reflections were taken from the students that has achieved the score of 6% points to 9% points from the total score of 10% points). Last but not least, the final sub-section of the results highlights the descriptive nature of reflective learning log (of those which do not fulfill the reflective log criteria as according to the Level 1 of the Hatton and Smith's (1995) framework with the score percentage point was from 1% - 5%). Many of the samples did not achieve the learning outcome of the reflective learning log objectives (see Appendix 2). All of the 140 students in this module had taken more than 18 subjects prior to this module. Some of the students had at the time of this study being carried out had even registered/taken 30 subjects prior to this Entrepreneurship module (see Appendix 1) and yet it was the first time they were being asked to write reflective learning log in their formative assessment. Absence of such experience had led to the students not being able to do reflection effectively, which in turns having many of them merely able to engage in Level 1 of writing that is descriptive writing while others only able to reach the Level 2 of writing known as the descriptive reflection which normally look at events from a single point of view.

4.1 Module Specific Comments

This theme looks at whether students were able to do reflection which is related to the module. This study found there were 45 samples contained reflections that were related specifically to the module from a total of 61 learning logs. In addition, there were 30 students who found the module interesting even though some of the students (6 students) felt the module is not benefitting them given the viewpoint that the module contains topics that does not relate to one being an entrepreneur.

Student 1: *What is entrepreneurship? In my own opinion, entrepreneurship is a subject that not needs study in university. It is because, entrepreneurship is the person who dislike study and lazy to work and my friend tell me that, nowadays, if u got degree, your salary also no enough to cover your life. So, she decide to stop hers study and go to find hers own goal. To make sure she can has a good future. That time, I can't understand. Why she wants to stop hers study? If she wants to venture, she also can start after she graduate. So, I dislike this subject and it also no useful for me [sic].*

Student 2: *This is my first class lesson. Same as before, I felt this subject "Entrepreneurship" was an unnecessary subject for me. From my last experienced, I felt bored and totally didn't have the interesting to study this subject. I'm taking this subject because I'm just wants to finish up my syllabus! For my perspectives, I think we totally don't have to take this course. It is just wasting my time. For me, to become a successful entrepreneur is not just study all these theories only. Even though we have memories and study all the theories, but it is still not guarantee us to become a successful entrepreneur. Instead for those entrepreneurs, even though they are not taking this subject but they will also become a successful entrepreneur. I don't think so this subject can cultivate the entrepreneur, maybe can but I think is just a few only! Who doesn't want to become a successful entrepreneur! I hope also can become a successful entrepreneur in one day! [sic].*

Student 3: *My first impression on this class is that it is actually quite interesting as I am uninterested on this class at first as I thought that this class will be a very hard one and involve a lot of reading. Indeed it does involved a lot of reading but it is interesting that I sometimes imagine myself in the situation or topic that I read. For example, franchising is a very famous topic related to entrepreneurship. So, it makes me imagine that someday I will have my own franchise and how I will manage it. There is a blog post in the "nextupasia.com" that gives a list of successful Malay entrepreneurs. As a Malay myself, of course I would really like to be just like these successful entrepreneurs below and I would really want to see myself to be as good as them in the future [sic].*

Despite an initial lukewarm interest in the module, a change in behavior can be seen among the students when they started to view how the module content can be useful for them. Most of the reflection of the students has similar comments as the one depicted by student 3 in which, the expression of relishing certain topics of the entrepreneurship module are prevalent and how the module as a whole had changed their worldview of entrepreneurship forever.

4.2 Entrepreneurial Profile Comments

All 61 reflections contained comments that related to the entrepreneurial profile/ characteristics. This is one of the key topics as it discusses in detail the makeup of an entrepreneur, the internal and external factors that contribute to the making of a successful entrepreneur in any society. In a nutshell, this topic uncovers what makes a successful entrepreneur like Tony Fernandez “thick”.

Student 4: *From the lesson of this week, I could understand that entrepreneur is a person who is taking a calculated risk. This is meant that entrepreneur is not a gambler who is just trying luck without any effort. To become an entrepreneur, firstly we have to identify the opportunity that we see and use the opportunity wisely to enhance our life and also the community's life. As example, Tony Fernandez who is the owner of Air Asia starts his business by making a loan to government. His idea is brilliant. And he manages to pay back the loan in an expected time. His effort and his desire to pursue his own idea should be an example to young people especially to those who are interested to become an entrepreneur [sic].*

Student 5: *I found out that even women also have a big potential to become a successful entrepreneur. The entrepreneur not only belongs to man. This video proves that women also have the entrepreneur characteristics that the men had. The women also have the strong passion and interest to become a entrepreneur and this passion doesn't less than men had. In my opinion, everyone also can become a successful entrepreneur no matter the gender, age, and nation. It is only depends on the person themselves that they really want to be[sic].*

Student6: *But the most interesting thing in this first chapter is that it makes me think more whether I should be an entrepreneur or not, and if I want to be an entrepreneur why? As I think all over again, I think that being an entrepreneur might be a good thing for me because I really want to have a full control of my own life, and give something to my family especially my parents, and lives like how I have dream before. But then when think about the challenges to be an entrepreneur nowadays, it kind of breaking me apart as I picture myself in a very difficult situation if I become an entrepreneur. Just thinking about the competition that I will faced makes me wondering how tough the life it is for those successful entrepreneur when they first started [sic].*

A reflective learning log normally contains a record of one's experiences, thoughts, feelings and reflections (Miller, Tomlinson & Jones, 1994). Reflection by student 5 and 6 depicts the thought and feeling of student engaging in this topic. The reflection by student 6 shows that the course makes students think more whether they should be an entrepreneur or not, and why they want to be an entrepreneur. This shows the students are learning new skills in contemplating and decision making. In addition, it unveils the feelings of insecurity when they visualize the difficult road ahead of a budding entrepreneur. All these reflections showed that the students were immersed themselves in the world of entrepreneurship and thus; engaging in deep learning.

4.3 Opportunity Recognition Comments

All 61 reflections contained comments that related to the topic of opportunity recognition. This is the essence of entrepreneurship as an entrepreneur is all about spotting and acting on opportunity. Reflection by student 7 below depicts the student engaging in asking self-critical question about what is “opportunity”. That made he/she thinks very hard about this magic word and then; synchronize the meaning of “opportunity” to his/her own cognitive map.

Student 7: *But I wonder how opportunity can be recognized by entrepreneurs? How we define opportunities? What if, when opportunities come, and we don't know anything about it? After the class I try to search on the internet about the definition of opportunity. Then only I realize that, there's no any clear definition about. It is very difficult to define this term. Let's say in one situation, there's very less people selling fried banana at the area, then a person start a fried banana business without realizing these factors. Does it mean that the person didn't recognize the chance and grab it? In my understanding, I don't think the person grab the opportunity although he done a great job. To me, opportunity recognition more towards the person keep thinking about what kind of food has not been selling at his area, then he figure out that it's fried banana! [sic].*

Student 8: *In conducting business we must always aware about opportunity. No matter what opportunity, we should grab as much as we can. When talking about opportunity, here is a company that using opportunity wisely - Khan Academy. When I visit his website www.khanacademy.com there are thousands of education resources which provide variety of subject such Mathematic, History, Healthcare, Medicine, Finance, Physics, Chemistry, Astronomy, Art History, Music, and a lot more. Its website also including a personalized learning dashboard, over 100000 practice problem. When I heard that Khan Academy is a nonprofit organization, I truly curious about how he makes his money and get the financial resources. Then after make a research actually his revenue come from donation from Bill Gates and Google and also from advertising. Finally, I found out that Khan Academy becoming*

a powerful brand name in education it is because “they delivered value to people” [sic].

Student 9: I once worked at a supermarket that sells goods worth RM2. I found many buyers purchase goods in our store because the price is cheaper than other stores. This condition indicates that the store owner had the strategy in attracting customers. In uncertain economic conditions, high prices can tempt customers to switch to a store that can offer low prices for them. This shows that the entrepreneur can use creative pricing strategy in uncertain economic condition as an opportunity to sell their product. In this element, students 8 and 9 linked their writing to the global organization like Khan Academy and local company that sell all goods worth 2 Malaysian Ringgit (MYR). On the other hand student 8 did a lot of research in order to complete her reflection. This is out of curiosity on Khan Academy. This is one of the benefits of reflective learning log as students reflect and engage actively in certain topics/themes, they tend to search and research extensively in order to close their “knowledge gap”. This type of active and deep learning hopefully will be embedded in the learning behavior of the students and continue to prevail in their chosen professions [sic].

4.4 Creativity & Innovation Comments

Only 45 reflections contained comments that related to the topic creativity and innovation. Many reflections cite that there are vast differences between creativity and innovation. For many business students and the budding entrepreneur, innovation becomes the focal point of the reflections.

Student 10: I realize that creativity and innovation is different. Creativity refers to generating new and novel ideas. There are three level of creativity which is discovery, invention and creation. Innovation refers to the application of an idea and, in many cases, is a collaborative enterprise. So in other words, innovation is applied creativity. Or if I put my creative speaker hat on, I might say, “Creativity is a bioelectrical thunderstorm that precipitates an inescapable notion” [sic].

Student 11: Entrepreneurs need to create new ideas in business to produce new products not yet available in the market and that cannot be imitated by competitors. For example, Cirque de Soleil, which uses ‘Blue Ocean Strategy’, in a business where no entrepreneurs who are able to provide competition in the business. Cirque de Soleil has been doing business unique circus where it has employees who have high expertise and exceptional in doing interesting acrobatic actions. This business received overwhelming response from customers because it is different from the normal circus [sic].

Student 12: Today lecturer let us watch a video about woman entrepreneurs in Uganda. The video is from Aljazeera. From this video I can see it is a very poor country. Yet, people did not give up their life; they are doing hard work for success, especially for woman entrepreneurs. A woman entrepreneur collects used straw from rubbish site, recycle the used straw and transform product like into lady handbag, shoes, and woman accessories. From here I see the woman entrepreneurs are very creative. When the machine used to flatten the straw breakdown, she even used her own teeth and knife to flatten the straw. She won the award of cares for environment because she recycle the so called rubbish (straw) into something useful and have commercial value [sic].

The reflection given by the student 10 defines creativity succinctly as “Creativity is a bioelectrical thunderstorm that precipitates an inescapable notion.” This is evidence on how a well-researched definition by an undergraduate can be produced by a student engaging in deep learning. As for the reflections by student 11, on the Cirque du Soleil, which uses the ‘Blue Ocean Strategy’, has indeed come to the fore of his/her reflection. He/she was able to connect creativity and innovation with a world class company like Cirque du Soleil; further prove that reflective learning log is able to take the young mind to the next greater height. As for student 12, it touched on the heart-wrenching video showcased true-grit creative women entrepreneurs in a poverty stricken country called Uganda.

4.5 Business Plan Comments

All 61 reflections contained comments that related to the topic of business plan. This is the cornerstone of the module as it requires the students to prepare a business plan as a main requirement in formative assessment. Most of the reflections came from their business plan discussion group as they prepare a final business plan for presentation in week 12 and week 13.

Student 13: As to my experience, after I starting to write our group business plan which is Belut (Eels) Frozen Enterprise, I know a little bit about the importance of business plan. Even a small business also needs their business plan. For me, to write a business plan we need to consider many things such as about the product. Isn't necessary, already exist in market, how high it's demanding? That's why our group chooses Belut Frozen as our business plan. This is because after we make a research, we found that very high demand for eels (belut) in the market, and there are not enough suppliers in this business [sic].

Student14: *Today I have share my idea about the business plan with my group members. My idea is to produce a food cover that set up with solar energy that can keep warm and cooling to maintain its freshness. I take advantage of the trend that normal food cover just for keep out flies, bugs, and mosquitoes. My product can solve the problem for housewife so that she does not need to recook the food when she served it earlier and the leftover food do not need to put in the refrigerator. She just needs to click the button on the food cover to choose warm or cool. I think this product is convenience, save time and save energy. In addition the food cover is foldable. But my group members feel that how should we to insert a solar energy and maintain its energy. They think the food is easily spoiled because of the different temperature. So we need to further discuss in next class. I will search more about the information solar system and temperature problem [sic].*

Student 15: *For this entrepreneur subject, my friend and I got and assignment about business plan. It not easy that you think is hard and difficult to do it. You should list the entire thing that your company need first like the materials, inventory, machine and so on and what is your budgeting. For me, the most important part on business plan is marketing plan, financial and industry analysis [sic].*

All the above reflections depict the real process of business idea—be it a product, services or a hybrid of both. Most of the reflection dwells on opportunity gap through the mechanism of trend, problem/solution and market gap. A lot of idea discovery, brainstorming and research are being reflected in this part of the learning log.

4.6 Descriptive Reflections (Non-Existence Of Reflection) Comments

In this theme, there were 75 samples of reflective learning logs that scored 5% and below 5% point (see Appendix 2). All of them achieved Level 1 in the reflective framework proposed by Hatton and Smith (1995). The followings are some of the samples:

Student 16: *Franchise is a semi-independent business that individual pay the fees and royalty for the trademark that will be use to sell the product and their service. This business is easier compare to the individual that want to open their own business. For example like McDonald which has franchise for all over the whole that many franchisees pay the fees to run their business. Besides that, there are a lot of benefit of franchising such as management training and support which is it can guide from the start to the end. They also have their own truthful customer that will buy their product and service [sic]*

Student 17: *An entrepreneur is someone who organizes, manages, and assumes the risks of a business or enterprise. An entrepreneur is an agent of change. Also, an entrepreneur who is makes a profit. The profit-and-loss system of capitalism helps to quickly sort through the many new resource combinations entrepreneurs discover. An identifying successes is making sure that failures are quickly extinguished, freeing poorly used resources to go elsewhere. This is the positive side of business failure [sic].*

Student 18: *During the week, I study the new chapter about related to business networking. In my opinion, in this kind of business network should be established and it is important to keep the business continue business gaining strength and develop. There are several types of networking. In the class as well, lecturer explains the strategy to build a network that is, build, consolidation and retention. What I understand, relationship or business network is divided into many concepts such as family, friends, and others. My comment about this thing is my very interest to know more about this topic [sic].*

Student 19: *Lecturer continue new chapter that getting funding or financing. In this chapter lecturer explains why most new ventures need financing or funding. In addition there is also help to find alternative financial sources such as personal fund, equity capital, debt financing and creative sources. Lecturers are also explains about bootstrapping, other word is thrifty and there are 9 example of bootstrapping methods [sic].*

Student 20: *In this chapter I study the definition of SME. SME apply for the following sectors which are primary agriculture, manufacturing (including agro-based), manufacturing-Related Services (MRS) and Services (including information and communication technology). My comment for this chapter is, I can find out about the importance of SME entrepreneurs in Malaysia [sic].*

The reflection by student 16 to 20 highlights poor reflective learning log. The writings were a mere regurgitation from the PowerPoint slides given in lectures throughout the 14 week class. They were written in reporting style and more like registering everything happen in those weeks. The reflective learning log failed to address things like thoughts, feelings, how well (or bad) it went, what the students had learnt, what he/she will do differently next time (Miller, Tomlinson, & Jones, 1994). Based on the frequency of scores for graded reflective learning log, 75 students merely self-reported the contents of the lectures throughout the semester that have no reflection at all (some of their reflections were highlighted in the reflections of student 16-20). Another 35 students produce the works that contain descriptive reflection from one perspective. Only 26 students were able to reflect critically at

level four (Hatton & Smith, 1995) in certain themes in entrepreneurship module.

5. Implications and Limitations of Study

The results of this study have strongly suggested an urgent need for the development of reflective writing skills among the students during their higher education studies so as to assist in the professional and entrepreneurial behavior development as they entered the job market. In addition, there is a necessity to equip the undergraduate with basic building blocks needed to mold them as reflective practitioners. The reflective framework provided by Hatton and Smith's (1995) proved to be useful in categorizing the written reflections and making the grading of the reflective learning log as less subjective. The weightage given to this graded assessment was 10% and it is considered substantial in grade. While the result of the study may not provide strong evidence on the ability of the students in reflective writing, it will be strange should inability exist as the outcome of attitudinal problem of willingly forgo a set of marks by not writing reflectively in which may warrant further investigation.

Based on the result of the 61 students who had demonstrated an ability in reflective writing, it is suggested that perhaps the university should consider offering coursework that contain a component of reflective writing as part of the assessment. As such, if this is implemented, students of such ability like the one in this sample group, would have been benefitted from such assessment which look at reflective ability (Green, 2014) and which they were allowed to form a broader perspective in relation to the module undertaken. This in turns will foster the growth of reflective ability which is recognized as a learned behavior (Gustafson & Bennett, 1999).

In this study, though the researcher found that more than half of the students were only able to reach Level 1 of reflection as suggested by Hatton and Smith (1995), the idea of giving additional specific guidelines will lead the students to certain stereotypes of writing reflection log (Stamper, 1996) and that may prove counterproductive. As such Holland (2013) suggested that it is only necessary for reflective writing skills being developed with the reflective thinking skills so as to assist in the ability of the students to write a good reflection.

Results which show the mark sheets for reflective learning log (see Appendix 2) indicate that most of the students need to be given greater opportunities for reflective writing skills development throughout their tertiary learning. This study suggested the importance of having a blend of reflective writing exercise in most of the subjects at the undergraduate degree so as to facilitate not only dispersing knowledge on their module professional aspects but also create of pools of reflective practitioners in the future.

As for the limitation of the study, it is important not to underestimate the challenges of introducing a graded class assessment among students using approaches that they are not familiar with in their university academic journey. Student needs guidance, assurance and confidence in writing something that requires personal opinion, own thinking and sensitive in nature which demand for the personal nature of narration. For most students as found out in this study, self-confessional writing is hard to come by (they dare not attempt it in the first place), only a handful appreciating the writing start with "I", "me" as first person. More research in this study should be conducted across the university to gauge the response from the students to see if the result of this study is only applicable to this group of students or to this discipline of studies. The researchers would also like to recommend for future studies which takes the form of a longitudinal study of similar kind to examine the problems and challenges with regards to promoting learning reflection at the undergraduate level.

6. Conclusions

By maintaining a learning log for the past 14 weeks in this Entrepreneurship module, students can record and comment their every week entrepreneurship lesson in a profound manner. They can self-track their perspectives in their first class in this module and monitor their evolved entrepreneurship knowledge and perspectives as the lecture progress until the end of the semester. In the process, they immerse in self-discovery in the world of entrepreneurship and self-tracking personal growth and cognitive development. Reflective learning logs enable students to clearly identify their own thinking in entrepreneurship, the risks involved, the myths of becoming an entrepreneur, opportunity and execution intelligence—a method that promotes deep learning as depicted in the students' comments on the findings section in this study. Research has identified that reflection can help people to change. Although most of the students registering for this module are young undergraduate, and have limited experience to draw from to reflect upon certain issues (this is the findings from this study). But despite these barriers, reflective learning log make entrepreneurship learning congruent with the suggestion to teach entrepreneurship as a method rather than as a process. Reflective learning log provides students with a profound insight into their own world of academic and; hopefully in the future, their professional growth as reflection become a habit for my student.

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Appendix A

Records on the Total Subjects Taken and Total Subjects with Reflective Learning Log (N=140 students)

Matric No.	Total Subjects Taken (Subject with learning log)	Matric No.	Total Subjects Taken (Subject with learning log)	Matric No.	Total Subjects Taken (Subject with learning log)	Matric No.	Total Subjects Taken (Subject with learning log)
219792	30(1)	227437	17(1)	225447	17(1)	227810	20(1)
219868	25(2)	227440	21(1)	225513	18(1)	227976	19(1)
220372	28(2)	227576	21(2)	225628	18(1)	228031	20(1)
220488	30(2)	227584	21(1)	225707	17(1)	228050	18(1)
220540	29(1)	227875	19(1)	225740	17(1)	228068	18(1)
221390	29(1)	228011	19(1)	225837	19(1)	228346	19(1)
221573	29(2)	228018	19(2)	225949	19(1)	228348	19(1)
221577	29(1)	228064	17(1)	225955	18(1)	228492	16(1)
221632	29(1)	228382	19(1)	225986	19(1)	228504	17(1)
221812	28(1)	228405	19(2)	226036	18(1)	229131	19(1)
221822	29(1)	228416	18(1)	226058	17(1)	229135	18(1)
221862	29(1)	228563	14(1)	226100	18(1)	216678	33(1)
222068	30(1)	228592	15(1)	226211	18(1)	222146	30(1)
222071	29(1)	229128	19(1)	226309	18(1)	223193	29(1)
222083	29(1)	230227	12(1)	226633	18(1)	223206	31(1)
222302	33(1)	230276	12(1)	226689	18(1)	223214	30(1)
222342	28(1)	219701	30(1)	226857	18(1)	223244	29(1)
224135	23(1)	220781	30(1)	227145	18(1)	223305	29(1)
225622	18(1)	220807	29(1)	227160	18(1)	225727	29(1)
225976	18(1)	221298	28(1)	227167	17(1)	225776	18(1)
226101	21(1)	221318	28(1)	227272	17(1)	225781	18(1)
226168	19(1)	221447	30(1)	227315	19(1)	226106	18(1)
226245	18(1)	222041	29(1)	227492	19(1)	226176	18(1)
226281	18(1)	222093	29(1)	227599	17(1)	226184	18(1)
226296	18(1)	223304	18(1)	227606	18(1)	226297	18(1)
226566	18(1)	225280	18(1)	227649	18(1)	226321	18(1)
226958	17(1)	225329	17(1)	227663	18(1)	226323	17(1)
227379	18(1)	225378	17(1)	227685	18(1)	226328	20(1)
226426	18(1)	226591	18(1)	226704	18(1)	227525	18(1)
226430	18(1)	226608	18(1)	226718	18(1)	227569	19(1)
226438	18(1)	226616	18(1)	226764	18(1)	227868	18(1)
226456	17(1)	226688	18(1)	227075	18(1)	227901	18(1)
227919	19(1)	228301	18(1)	227390	18(1)	229129	18(1)
227982	18(1)	228303	18(1)	227445	17(1)	230183	12(1)
227983	18(1)	228340	18(1)	228273	19(1)	228350	18(1)

Appendix B

Mark Sheets for Reflective Learning Log (10%) (N=136)

Matric No.	Learning Log (10%)	Matric No.	Learning Log (10%)	Matric No.	Learning Log (10%)	Matric No.	Learning Log (10%)	Matric No.	Learning Log (10%)
219792	6	227437	5	225447	5	227810	6	226426	5
219868	6	227440	5	225513	5	227976	6	226430	5
220372	6	227576	8	225628	5	228031	6	226438	5
220488	6	227584	6	225707	5	228050	5	226456	5
220540	5	227875	5	225740	5	228068	5	226591	5
221390	-	228011	6	225837	4	228346	4	226608	6
221573	6	228018	5	225949	5	228348	4	226616	5
221577	-	228064	5	225955	5	228492	5	226688	7
221632	-	228382	5	225986	4	228504	5	226704	5
221812	6	228405	5	226036	4	229131	5	226718	5
221822	6	228416	7	226058	5	229135	6	226764	-
221862	7	228563	5	226100	5	216678	1	227075	5
222068	6	228592	5	226211	6	222146	5	227390	5
222071	5	229128	6	226309	5	223193	7	227445	5
222083	6	230227	5	226633	6	223206	5	227525	6
222302	5	230276	8	226689	4	223214	5	227569	6
222342	6	219701	5	226857	6	223244	7	227868	5
224135	5	220781	6	227145	8	223305	6	227901	5
225622	3	220807	5	227160	4	225727	7	227919	6
225976	5	221298	5	227167	5	225776	6	227982	5
226101	5	221318	7	227272	8	225781	5	227983	6
226168	8	221447	6	227315	4	226106	7	228273	7
226245	7	222041	5	227492	5	226176	7	228301	6
226281	7	222093	6	227599	7	226184	5	228303	9
226296	6	223304	6	227606	6	226297	5	228340	9
226566	6	225280	5	227649	5	226321	7	228350	5
226958	6	225329	7	227663	5	226323	5	229129	5
227379	8	225378	8	227685	5	226328	7	230183	7

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