

Original citation:

Onah, D. F. O. and Sinclair, Jane (2016) An empirical investigation of students' perceptions of self-regulated learning in Online Blended Learning : a case study of a novel E-learning platform. In: 8th International Conference on Education and New Learning Technologies (EDULEARN16), Barcelona, Spain, 4-6 Jul 2016. Published in: EDULEARN16 Proceedings

Permanent WRAP URL:

<http://wrap.warwick.ac.uk/80453>

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions. Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher statement:

A note on versions:

The version presented here is a working paper or pre-print that may be later published elsewhere. If a published version is known of, the above WRAP URL will contain details on finding it.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk

AN EMPIRICAL INVESTIGATION OF STUDENTS' PERCEPTIONS OF SELF-REGULATED LEARNING IN ONLINE BLENDED LEARNING: A CASE STUDY OF A NOVEL E-LEARNING PLATFORM

D.F.O. Onah, J.E. Sinclair

The University of Warwick (UNITED KINGDOM)

Abstract

Emerging online learning technology such as massive open online courses (MOOCs) is a new trend in learning technology. With the propagation of MOOC as a vast learning platform, very little has been known nowadays about the online blended learning systems and how it improves students' performance. The blended classroom was conducted using traditional teaching method in a brick-and-mortar classroom arrangement and online. The research focuses on the usefulness of blended classroom teaching for a single sample of first year undergraduate students (n = 27) in a computer security module. The sample students participated in this study in an online blended classroom incorporating the orthodox (traditional) class teaching methods. This research investigates the various techniques students used to motivate their studying habit. The computer security module was created in a novel e-learning platform known as eLDa. This is an online platform developed for the delivery of computing concepts, and python programming. This investigation aims at revealing students' perceptions on self-regulated learning (SRL) skills. Multi-dimensional questionnaires were designed to collate sufficient data on the learning skills and the motivation of the students to study. These surveys analyse the following: (i) the various students' patterns of motivation (ii) the manner of learning suitable to individual student (iii) the level of improvement attained. The research compared the new introduction of blended class seminar with an initial run of a previous cohort of a traditional class seminar on computer security module. The research approach expanded on an existing Online Self-regulated Learning Questionnaire (OSLQ) as the instrument for measuring the self-regulated learning skills. In order to collect the research data, hard copy questionnaires were distributed during the data collection process in two of the traditional face-to-face learning to obtain the students' response. Descriptive statistical method was applied for the data analysis and evaluation using a statistical package for the social sciences (SPSS) tool. The results indicated the support received from the orthodox methods of teaching and the feedback received help in informing a better blended classroom delivery. The study analysis has provided insights to good practice with respect to the future direction of the online blended course embedded in the eLDaMOOC-learning platform. In summary, the blended learning used in this context was to introduce learners to the 21st century skills in learning, such as critical thinking skills, and self-regulated learning skills. Self-directed learning skills, we presume can lead and encourage learners to the era of autonomous e-learning in education.

Keywords: self-regulated learning skills, blended learning, MOOC, a novel eLDaMOOC, self-directed motivation.

1 INTRODUCTION

Online blended learning has emerged into a new paradigm of modern educational system. However, similar to the other online learning approaches, there exist some failures [1]. The exploration of such failures in this study is observed in the area of ineffective perceptions of self-regulatory behaviours in learning. The main objective of this study is to describe a web-based blended learning environment. The study is conducted with both face-to-face interaction and a web based student learning approaches were utilised in a manner that would be of compliment to each other. The blended learning environment was embedded in a novel MOOC platform called 'eLDa' learning tool. Exploring the perceptions of self-regulatory learning behaviours have been associated to better academic attainment and imperative to achieving better learning outcomes. In the current study we investigate whether self-regulatory learning patterns could be seen as mediation in the relationship to attaining better grades and distinguish the different levels of self-regulated learning dimensions [2]. The results indicated that students' dimensions of online self-regulatory learning patterns, although not totally conclusive on the education achievement in themselves, do shows the relationship of the perceptions of online blended learning course to academic improvement.

Research in the long run has proven that students need more personal self-regulatory discipline to be able to succeed in online blended learning [3, p. 13]. Self-regulation was said to be the desired outcomes of the learners in the process of attaining their learning goals whether in an online blended face-to-face learning or purely online courses. The students developed thoughts and behaviours to help them achieve the desired learning objectives or goals [4, p. 125]. The significance of self-regulated learning to academic success cannot be overemphasised. Several studies have shown that students who were able to regulate their learning perform better academically as compared to those who less regulate the learning patterns [4, 5]. Popular example of self-regulatory dimensions applied in this study are, goal setting, task strategies, environment structuring, help seeking, and self-evaluation. Some of these self-regulatory dimensions are more explicit for instance goal setting, while others appear more implicit for instance environment structuring (for example choosing a quiet place to study). However, whether these dimensions are explicit or implicit, it is imperative to mention that it does have effect on the attainment and improvement of the learners.

Self-regulation of learning in online blended and face-to-face learning environment is different as the students are autonomous and proactive in their learning. The students set goals, avoid distractions and engage more with peers and the instructor in order to obtain support in their learning [6]. Students in blended learning should engage more with self-regulated learning patterns regularly [2]. In the light of this development, self-regulated learning behaviours form the cognitive perspective of the learners. This is greatly influenced by environmental factors rather than personal or behavioural factors according to Schunk [7]. The perceptions of the students in the blended class flow across time management and the goal set aside for achieving individual personal learning routes rather than the influence from the environment. In this case, the perceptions of self-regulation are undoubtedly influenced by the students' personal behavioural patterns in learning. The learners and their ability to develop individual self-regulated learning skills suitable to their chosen learning patterns influence academic success. Every student in this study is unique in his or her learning which is the primary factor to academic attainment, followed by the factors of learning introduced in the blended learning such as new concepts, learning resources, peer support and tutor's help. In a general note, the initiator at the first instance is certainly the student, which is equally imperative to attaining set goals, task strategies and achieving expected objectives. In addition, Schunk pointed that these self-regulated behaviours are mostly context dependent which on the other hand cut across all domains according to the situation.

Hence, this study hopes to further analyse self-regulated learning strategies for a blended classroom instruction. As well as to support instructors and students to find avenues of improving and enhancing efficient knowledge acquisition. This process is assisted by blended learning methods in the context of education [8]. This research presents preliminary results from a blended class seminar designed for first year students. The results were captured based on students' response to survey questions designed from the initial Online Self-regulated Learning Questionnaire (OSLQ) instrument, which was designed to measure self-regulated learning dimensions.

This paper briefly reviews related studies on blended learning perceptions, measuring self-regulation and instrument used in this study. Secondly, it present results from the analysis and findings of the students' self-regulated learning dimensions. Finally, we discuss issues arising and future research directions.

2 RELATED REVIEW

At present, technology used in the university amongst students and lecturers in a blended learning has advanced into opening new era of teaching and learning. The modern blended learning environments allows educators to create in-house content to deliver courses to traditional face-to-face student learners using free open online sources 'learning management system' or franchising with other existing commercial learning platforms. An example of such open learning management systems commonly used nowadays in the universities is the "Modular Object Oriented Dynamic Learning Environment" (Moodle), which could allow educators to upload and manage their online blended course and lesson content [8]. Bonk [9], mentioned some very interesting facts about open learning sources. Firstly, the sources allow universities and other institutions to offer high tuition fee courses. Secondly, they produce more linguistic and cultural sources available to individuals with limited access to them. Thirdly, they created like-minded communities in order to share ideas and knowledge amongst educators so as to improve other sectors.

The traditional educational system has been the foundation of education, however the popularity of e-learning systems has led to several opportunities in directing self-learning. Thus more and more institutions and universities employ blended learning instruction to manage the conventional way of teaching. Blended learning environment is the combination of two different ways of teaching; one is the traditional face-to-face with the bricks and mortar setting, and the second is based on online learning approach. The online blended learning environment is an extension of the face-to-face teaching, which provide an opportunity for the students to continue their studies after school hours, reading through related or thought materials and assessment exercises in a self-directed manner [10]. MacDonald [11] argued that blended learning approach has become imperative in a second language classroom as this approach of teaching and learning combines both traditional methods and online applications in delivery course content to students. In addition, blended learning provides wider benefits and scope of learning, enhancing learning effectiveness amongst students, and lastly reducing the cost and time in obtaining quicker information and knowledge. Students in blended classroom learning have to motivate and encourage themselves in order to attain their learning objectives. On the other hand, many factors encourage learning, but it has been noted that self-regulated learning dimensions or strategies influences and plays a vital role in students' academic attainment [12].

In like manner as students decide their approach of learning the resource materials, they developed the required skills to self-study and regulate their learning behaviours. This process of students planning and regulating their studies is called self-regulated learning strategies [13,14,15]. According to Zimmerman [16], self-regulation in learning encompasses the students' actions, thoughts, reflections and feelings towards achieving individual goals. In a related study Zimmerman [17], argued that self-regulated learning (SRL) is imperative to the three popular aspects of academic learning such as motivation, cognition and behaviour. Zimmerman [18], classified these three characteristics of SRL as follows: Firstly, the study mentioned that self-regulation of behaviour encompasses the full control of the learning resources for the students use, which in this case encompasses learning time, environment of study, and support from tutors and peers [19]. It has been noted that if perceptions of self-regulation in regards to good behaviour is manage effectively, this will enable learners to improve in their patterns of learning so as to attain better academic performance. Secondly, self-regulation of motivation is said to comprise the process of controlling and changing motivational beliefs, for example learners changing their self-efficacy and goal orientation in order to fit into the requirement of the course to achieve optimum academic success. In addition to this, students could improve in the skills of controlling their emotions and anxiety in order to promote self-regulated learning skills. Lastly, self-regulation of cognition involves the autonomous control of several cognitive strategies used for learning, such as the application of deep processing strategies which enhances effective academic performance and learning [20].

According to Cleary and Zimmerman [21], they mentioned that the ability of the students to regulate their learning approaches is the key to succeeding academically and beyond. Several studies have been done on successful learning and the design of new learning environment for which attributes such as learning skills, knowledge and behaviours associated with self-regulated learning could be attained [22]. SRL depends on the learners' ability and readiness to engage in a learning process by stimulating new motivational strategies to maintain their emotions, thoughts, actions and beliefs in order to achieve their set goals [23]. In this case, learners set specific learning goals in relations to the task that should be completed, taking into consideration the characteristics and requirements of the task. Kreber et al. [24] argued that in order to attain success in a given task, learners should take full control, monitor and regulate their cognition abilities, emotions and actions.

2.1 Measuring Self-Regulation

Several studies have measured self-regulation using different types of instruments. This section illustrates the various divisions of the process of measuring self-regulation. Winne and Perry [25], classified measures of self-regulation into two; aptitude measures and event measures. In the "aptitude measures", a student's inclination towards self-regulation is said to be relatively stable and in conformity with ones behaviours and characteristics. In "event measures" on the contrary, self-regulation is observed to be a dynamic construct, which varies as the student progresses from one context to another and also as the learning situation or patterns changes. While aptitude measures define how compulsory and relevant for the student to engage in self-regulation, event measures on the other hand expresses or quantify student's self-regulation activities during a particular learning tasks [26]. In the same fashion, aptitude measures are identified as self-reporting scales that the students response to retrospectively. For example, some students give up on study when the subjects

are difficult and only study the easier parts [27], another example demonstrates students showing good use of their study in a particular course [28]. Pintrich [29] presents a conceptual framework of students' learning in a motivational and self-regulated learning paradigm. The study argued that individual attributes of SRL are most described in relation to motivational beliefs and the proper use of cognitive, metacognitive and action control strategies. Motivational beliefs have been defined as the learners' inspirations, the learning strategies and learning choices [30, 31]. The components of motivational beliefs and self-regulated learning are said to influence students' academic performance [32]. The cognitive components are thus described as regulatory strategies to assist students in monitoring and controlling their self-directed study patterns. Thus, this make the students or learners more cognitively engaged and help in obtaining better understanding [33]. Metacognitive strategy is said to be the ability of the learner to monitor and adjust cognitive process of learning, and understanding how to be solution oriented [8]. Action control strategy according to Kuhl [34] is the ability of the learners to protect their aims from other interfering behaviours.

This study applied six dimensions or strategies to measure the SRL skills: goal setting, time management, help seeking, task strategies, environment structuring, and self-evaluation. *Goal setting* is described as the process of the students setting specific goal that will help in identifying the expected outcomes to attain in the task [35]. The learners set specific goals for which they want to achieve and work towards attainment.

Another important strategy used in this study is the *time management*, the learner at this point need to increase their skills in order to manage learning times. Another strategy used in this study is the *help seeking* strategy to support learners in order to obtain assistance from peers and the tutor so as to understand and master areas of interest in their studies. In addition, this self-regulated strategy supports learners with low confidence to get assistance from friends (or peers) and also from the instructor. It is however essential to mention that *task specific strategies* planned by the learners help to support learning reflection, self-direct their studies and reflecting during the learning process [26]. *Environment structuring* is said to follow implicit behaviour by eliminating all elements of distractions from the learning environment [2, 36]. *Self-evaluation* strategy is similar to component of self-judgement. In this case, learners at some point individually assess their performance based the specific criteria which were in collaboration with their individual set goals [26]. In some cases, student reflects on how typical these patterns of behaviour are related to them in relation to the different strategies. The study of self-regulated learning in this 21st century is especially relevant to the academic success of learners [37].

3 METHODS

The rationale behind this study was to investigate and analyse a conventional university students' perceptions of self-regulated learning in a blended instruction class. In like manner the study explores whether there is presence of self-regulated learning dimensions amongst the students. Also if there exist any differences related to academic attainment in the self-regulated learning strategies among the students. A structure questionnaire was used as the main instrument in this study [8].

Instruments: The conceptualisation of SRL as captured in the OSLQ instrument has compared the effectiveness of this approach to measuring SRL skills. Barnard et al., provides the reason why this instrument was successful in previous studies [2, 36]. We applied this OSLQ as an instrument to collect our data because it has been validated in the past as a good instrument for measuring SRL. There have been existing online versions of this instrument which have been applied to measure SRL skills and also it can be customise to suit any research objective.

3.1 Participants

The research consists of a sampling of 27 students who enrolled in a course at a top University in the United Kingdom. The registered students taking this optional module were selected using a purposive sampling to participate in the survey questions which were distributed during a blended classroom session. The participants were informed that their response to these survey questions was voluntary and were assured of the confidentiality and anonymity of their responses. Approximately 92.59% of the participants were identified as male (n=25) and about 7.41% were identified as female (n=2).

3.2 Measures

The outcome of this study reveals the responses obtained from the survey questions developed from a sample instrument as discussed in section 2.1. As this sample consist of first year undergraduate students, the data was collected over small sample who participated in a blended class seminar. The result measures the students' perceptions of self-regulation in learning using 19-item scale with 5-point likert-type response format with the values ranging from 1 – 5, where strongly agree is 5 and strongly disagree is 1 [38]. The higher scale scores indicate more positive perceptions towards the self-regulated learning dimensions and the lower scale scores indicate negative (less positive) perceptions towards self-regulated learning. The positive perceptions reveal the willingness to developed or show presence of self-regulated learning strategies in this study. The 19-items reveal reasonable acceptance from the scale result in the study. In order to measure this self-regulation in the blended class, a structured Online Self-regulated Learning Questionnaire (OSLQ) was applied as an instrument to analyse these survey responses. Higher scores in the scale indicate high self-regulated learning by students, while the lower scores in the scale indicate low self-regulated learning. This demonstrates the students' ability to study effectively. The OSLQ was developed by several studies to reflect a multidimensional conception of self-regulated learning [17, 37, 36]. This study used six dimensions of self-regulated learning as follows: (i) goal setting (ii) Task strategies (iii) time management (iv) environment structuring (v) help seeking and (vi) self-evaluation. We presented few selected samples of four items from our SRL dimensions in this study. These dimensions are: goal setting, task strategies and environment structuring respectively in the result section.

3.3 Procedure

The questionnaires were administered in a face-to-face blended classroom setting along with brief demographic questions. The data was entered manually into Microsoft Excel and then further imported to SPSS (v. 22.0) for analysis. The data analysis considered all the possible points extracted from the research findings.

3.4 Analysis

In order to examine whether self-regulation perceptions is seen amongst blended classroom students in a face-to-face setting and also to be considered as mediation to improving students' academic attainment [2]. We applied descriptive statistics to analysis the data and present the results of students' responses to the self-regulated learning questionnaire.

4 RESULTS

The results present the students' self-regulation in a blended class context. In addition, the research explores the students' perceptions of these self-regulated learning dimensions and how it could be applied to achieve better academic attainment. The relationship between students' perceptions of self-regulation in a blended class learning is seen in the individual patterns of learning which lead to achieving personal success. The results further indicate that student progression is measured in the blended class. The perceptions of self-regulation increases and the individual students agreed they set up personal goals to attain better academic success. This was further observed in the class collaboration, the confidence demonstrated in the group discussions and the individual presentations appear to be excellent amongst the students. Additionally, it has been observed that as student perceptions of blended class learning increases, the self-regulation as measured using the OSLQ construct appears to increase as well [2]. In another instance, as students' level of self-regulation improved during the blended class sessions, there exist better grades in the weekly assessment. This also shows effective participation in the online blended class sessions. This study illustrates that students' perceptions of self-regulation revealed positive attitude, as each pattern of learning is unique to individual personal learning habit which enhances their weekly participation and improve weekly assignment grades. In this result, we selected a few self-regulated learning dimensions and present the analysis to illustrate some of our findings.

Figure 1 below shows the demographic of the number of students in this study. The figure shows that greater percentage of the students in this study were male (approximately 93%) and also about approximately 7% were female. The demographic indicates that since this is a technical course out rightly more male students registered in the course and participate in the module. According to Ting

[8], their data results revealed that male students had more confidence in cognitive and action control within the sub-categories than female students.

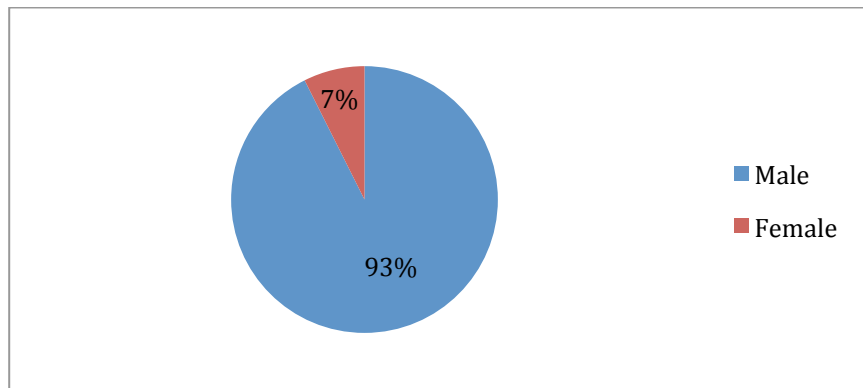


Figure 1. Gender demographic.

Goal setting (GSQ1)

Figure 2 reveals a survey item “I set goals to help me manage studying time for my blended classroom lecture seminar”, this statement was reconstructed from the OSLQ to suit our research objectives. The results indicate 52.94% of students agreed to the survey, while 5.88% strongly agreed and 23.53% disagreed. Our result indicates that majority of the students in the blended seminar class applied goal setting dimension in their daily studies.

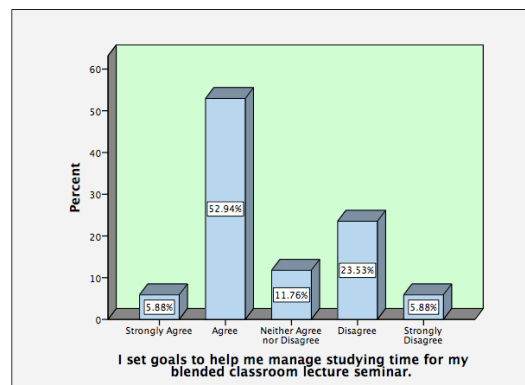


Figure 2. I set goals to help me manage studying time for my blended classroom lecture seminar.

Goal setting (GSQ2)

In another instance, when students were asked about contribution to the course using the following item: “I don’t compromise the quality of my contribution because it is a blended class seminar,” 58.82% agreed and 11.76% strongly agreed that they take their contribution in the blended class learning very seriously in order to benefit from the course content (as seen in Figure 3).

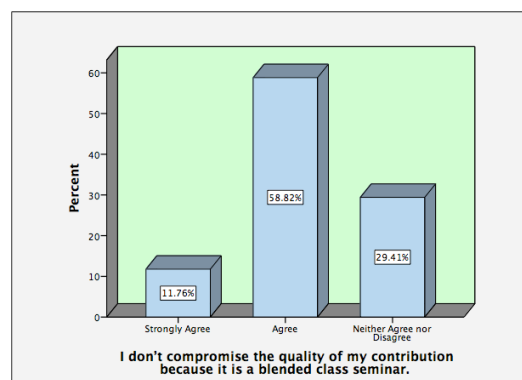


Figure 3. I don't compromise the quality of my contribution because it is a blended class seminar.

Task Strategies (TSQ3)

In a similar survey item on "I keep a high standard for my studying in the blended online classroom seminar", this result indicates that 58.82% agreed to the statement that their standard are maintained in the study in order to attain the full knowledge of the blended class.

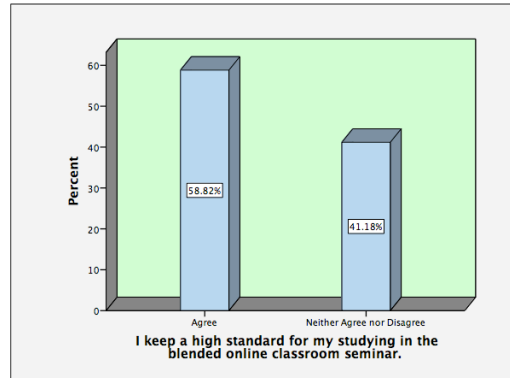


Figure 4. I keep a high standard for my studying in the blended online classroom seminar.

Task Strategies (TSQ4)

In another instance, in response to the survey item "I try to take in more notes during the blended classroom seminar to improve my ability to study", 29.41% of the students agreed to the statement, 11.76% strongly agreed while 41.18% of the respondents neither agreed nor disagreed to the statement. The results revealed that most of the learners shows less positive self-regulation dimension in this case (as seen in Figure 5).

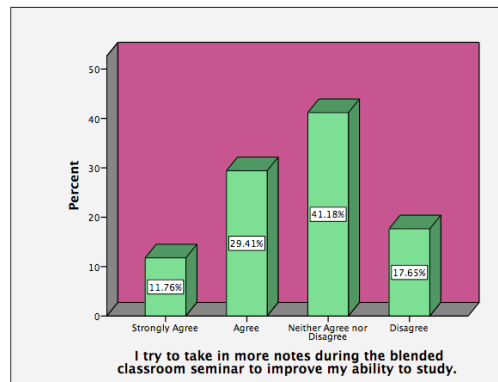


Figure 5. I try to take in more notes during the blended classroom seminar to improve my ability.

Environment structuring (ESQ5)

This dimension is related to the explicit nature of the surrounding for which the students learn in order to avoid distractions. In the survey item "I decide on a comfortable place to do my studying", this result reveals 70.59% of students agreed to this and 17.65% strongly agreed that they choose suitable place to study in order to avoid any distractions (as illustrated in Figure 6).

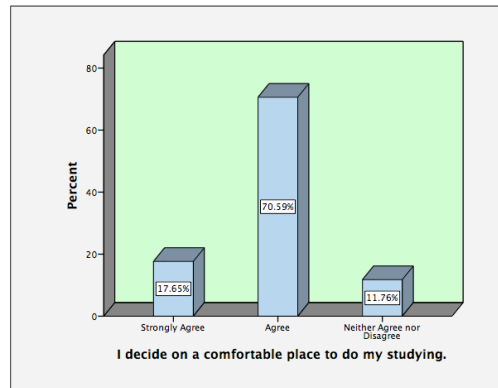


Figure 6. I decide on a comfortable place to do my studying.

5 DISCUSSION AND FURTHER WORK

Self-regulatory learning of behaviours has shown positive mediation in the relationship between students' perceptions of a blended classroom learning incorporating online study and face-to-face study. These perceptions have also revealed the relationship to academic attainment in this study. According to Barnard et al. [36], students who lack the ability to self-regulate their studies are limiting their opportunity of enhancing their self-directed learning paths and reduce their chances of benefiting from the course resources effectively in order to achieve a better academic performance. Self-regulatory learning in brief has been seen to be the ability of exercising autonomous control over one's learning behaviour and environment [6, 39]. Our results indicated that the students' perceptions of self-regulated learning are unique to individual students. At the same time there are some similarities in their learning habits. Although, as we observe the various pattern of learning shown by this students sample, we undoubtedly observed similar learning patterns exhibited by the students in this study. In other words, self-regulatory learning behaviours do mediate positive relationship between student perceptions of self-regulated learning dimensions in the blended class context and strengthens better academic attainment [2, 4, 23]. According to Barnard et al. [2], students who score high level of self-regulation appears to have much better perceptions as compare to students who score low level self-regulation with less positive perceptions. However, the study further explains that student self-regulation is not in most cases directly related to academic attainment as measure using GPA. They affirm that the findings do not negate the importance of self-regulatory learning behaviours, but rather to inform online course instructions and course designs.

Equally important, students should develop positive perceptions of self-regulation before participating and engaging in an online course or blended classroom courses in order to benefit from self-regulated learning to a sufficient level which could positively improve academic achievement [6, 40]. In spite of the fact that blended class learning complements the traditional teaching approach and extend the advantages of these courses after school. In general, blended learning employs a wider variety of learning resources and introduced different teaching methods and assessment tools [41]. This approach of a blended classroom teaching provides more choices and benefits the learners in enhancing their learning scopes [42].

Nowadays, with the development of modern digital learning platforms, learners have the opportunities to interact with the design and their studies at a self-pace. However, these designs of learning platforms required adequate attention in order to ensure students are developing the necessary skills to enhance self-regulatory skills so as to optimise self-directed learning habits [8]. We recommend that blended learning instructional course designers, should develop learning environments where positive perceptions could be formed and fostered in order to encourage self-regulated learning amongst students [2, 40].

Future research will investigate and evaluate in full the six self-regulated learning dimensions and explore whether similar patterns of learning could be observed amongst the participants. In addition, we will be investigating the perceptions of self-regulated learning in an online course developed in a novel platform known as 'eLDa' in order to compare the various dimensions or strategies with the blended classroom course in this study.

ACKNOWLEDGMENT

The first author wishes to acknowledge Mr. Adakole S. Onah's financial support in his research, family members and friends for their moral support.

REFERENCES

- [1] Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What Drives a Successful E-Learning? An empirical Investigation of the Critical Factors Influencing Learner Satisfaction. *Computers & Education, 50*(4), 1183-1202.
- [2] Barnard, L., Paton, V., & Lan, W. (2008). Online Self-Regulatory Learning Behaviors as a Mediator in the Relationship Between Online Course Perceptions with Achievement. *The International Review of Research in Open and Distributed Learning, 9*(2).
- [3] Allen, I. E., & Seaman, J. (2007). *Making the grade: Online Education in the United States, 2006*. Sloan Consortium. PO Box 1238, Newburyport, MA 01950.
- [4] Zimmerman, B. J., & Schunk, D. H. (Eds.). (2001). *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives*. Routledge.
- [5] Schunk, D. H., & Zimmerman, B. J. (Eds.). (1998). *Self-Regulated Learning: From Teaching to Self-Reflective Practice*. Guilford Press.
- [6] Ally, M. (2004). Foundations of Educational Theory for Online Learning. *Theory and Practice of Online Learning, 2*, 15-44.
- [7] Schunk, D. H. (2001). Social Cognitive Theory and Self-Regulated Learning. *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives, 119*.
- [8] Ting, K. Y., & Chao, M. S. (2013). The Application of Self-Regulated Strategies to Blended Learning. *English Language Teaching, 6*(7), 26.
- [9] Bonk, C. J. (2009). *The World is Open: How Web Technology is Revolutionizing Education*. John Wiley & Sons.
- [10] Sharma, Pete, and Barney Barrett. *Blended Learning: Using Technology in and beyond the Language Classroom*. Macmillan, 2011.
- [11] MacDonald, J. (2008). *Blended learning and online tutoring: Planning learner support and activity design*. Gower Publishing, Ltd.
- [12] Ramdass, D., & Zimmerman, B. J. (2011). Developing Self-Regulation Skills: The Important Role of Homework. *Journal of Advanced Academics, 22*(2), 194-218.
- [13] Dweck, C. S., & Grant, H. (2008). Self-Theories, Goals, and Meaning. *Handbook of Motivation Science, 405-416*.
- [14] Perry, N. E. (1998). Young Children's Self-Regulated Learning and Contexts that Support it. *Journal of Educational Psychology, 90*(4), 715.
- [15] Boekaerts, M., & Corno, L. (2005). Self-Regulation in the Classroom: A Perspective on Assessment and Intervention. *Applied Psychology, 54*(2), 199-231.
- [16] Zimmerman, B. (2000). Attaining Self-Regulation: A Social Cognitive Perspective. *M. Bockacrts, PR Pintrich, & M. Zeidner (Eds), Handbook of Sch—Regulation, 13-39*.
- [17] Zimmerman, B. J. (1998). Academic Studing and the Development of Personal Skill: A Self-Regulatory Perspective. *Educational Psychologist, 33*(2-3), 73-86.
- [18] Zimmerman, B. J. (1989). A Social Cognitive View of Self-Regulated Academic Learning. *Journal of Educational Psychology, 81*(3), 329.
- [19] Pintrich, P. R. (2000). *The Role of Goal Orientation in Self-Regulated Learning*. Academic Press.
- [20] Garcia, T., & Pintrich, P. R. (1994). Regulating Motivation and Cognition in the Classroom: The Role of Self-Schemas and Self-Regulatory Strategies. *Self-Regulation of Learning and Performance: Issues and Educational Applications, 127-153*.

- [21] Cleary, T. J., & Zimmerman, B. J. (2004). Self-Regulation Empowerment Program: A School-Based Program to Enhance Self-Regulated and Self-Motivated Cycles of Student Learning. *Psychology in the Schools, 41*(5), 537-550.
- [22] Kaplan, A. (2008). Clarifying Metacognition, Self-Regulation, and Self-Regulated Learning: What's the Purpose?. *Educational Psychology Review, 20*(4), 477-484.
- [23] Nota, L., Soresi, S., & Zimmerman, B. J. (2004). Self-Regulation and Academic Achievement and Resilience: A Longitudinal Study. *International Journal of Educational Research, 41*(3), 198-215.
- [24] Kreber, C., Castleden, H., Erfani, N., & Wright, T. (2005). Self-Regulated Learning about University Teaching: An Exploratory Study. *Teaching in Higher Education, 10*(1), 75-97.
- [25] Winne, P. H., & Perry, N. E. (2000). Measuring Self-Regulated Learning. In *Handbook of Self-Regulation*, pages 531 – 566. Academic Press.
- [26] Auvinen, T. (2015). Educational Technologies for Supporting Self-Regulated Learning in Online Learning Environments.
- [27] Weinstein, C. E., Schulte, A. C., & Palmer, D. R. (1988). Learning and Study Strategies Inventory. *Journal of Reading.*
- [28] Pintrich, P. R., Smith, D. A., García, T., & McKeachie, W. J. (1993). Reliability and Predictive Validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement, 53*(3), 801-813.
- [29] Pintrich, P. R. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review, 16*(4), 385-407.
- [30] Lodewyk, K. R., Winne, P. H., & Jamieson-Noel, D. L. (2009). Implications of Task Structure on Self-Regulated Learning and Achievement. *Educational Psychology, 29*(1), 1-25.
- [31] Wolters, C. A., & Pintrich, P. R. (1998). Contextual Differences in Student Motivation and Self-Regulated Learning in Mathematics, English, and Social Studies Classrooms. *Instructional Science, 26*(1-2), 27-47.
- [32] Pintrich, P. R., & De Groot, E. V. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance. *Journal of Educational Psychology, 82*(1), 33.
- [33] Weinstein, C. E., & Mayer, R. E. (1986). The teaching of learning strategies in M, Wittrock (ED) hand book of research on teaching pp (315-327). *New York, Macmillan.*
- [34] Kuhl, J. (1987). Action Control: The Maintenance of Motivational States. In *Motivation, Intention, and Volition* (pp. 279-291). Springer Berlin Heidelberg.
- [35] Locke, E. A., & Latham, G. P. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey. *American Psychologist, 57*(9), 705.
- [36] Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S. L. (2009). Measuring Self-Regulation in Online and Blended Learning Environments. *The Internet and Higher Education, 12*(1), 1-6.
- [37] Barnard-Brak, L., Paton, V. O., & Lan, W. Y. (2010). Profiles in Self-Regulated Learning in the Online Learning Environment. *The International Review of Research in Open and Distributed Learning, 11*(1), 61-80.
- [38] Rose, K. (2006). Building Online Learner Communities: Survey Summary. *Unpublished Master's Thesis, Texas Tech University, Lubbock, Texas.*
- [39] Barnard-Brak, L., Paton, V. O., & Lan, W. Y. (2010). Self-Regulation Across Time of First-Generation Online Learners. *Research in Learning Technology, 18*(1).
- [40] Fisher, M., & Baird, D. E. (2005). Online Learning Design that Fosters Student Support, Self-Regulation, and Retention. *Campus-Wide Information Systems, 22*(2), 88-107.
- [41] Leakey, J., & Ranchoux, A. (2006). BILINGUA. A Blended Language Learning Approach for CALL. *Computer Assisted Language Learning, 19*(4-5), 357-372.
- [42] Stubbs, M., Martin, I., & Endlar, L. (2006). The Structuration of Blended Learning: Putting Holistic Design Principles into Practice. *British Journal of Educational Technology, 37*(2), 163-175.