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# Exploring Self-Regulation in Small Private Online Courses: Its Influence in Academic Performance

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**A B S T R A C T**

The rapid growth of online learning environments has led to a better understanding of student self-regulated learning (SRL) and how it influences academic performance. This study aims to determine the complex connections between SPOC, self-regulation, and academic performance. The researchers seek to investigate the levels of self-regulation among students in an SPOC setting as well as how self-regulation influences a student's academic performance. This research focuses on Bachelor of Technology and Livelihood Education (BTLEd) and Bachelor of Technical-Vocational Teacher Education (BTVTEd) students in their third and fourth years who have completed SPOC, which is guidance and counseling. The study's sample size included 117 students from the BTLEd and BTVTEd programs. This quantitative research strategy included a survey questionnaire and used multiple regression analysis. The findings showed that self-regulation learning in SPOC influenced students' academic performance in terms of external and internal regulations.

Keywords: Small Private Online Course, Self-Regulation, Academic Performance, External Regulation, Introjected Regulation, Identified Regulation, Intrinsic Motivation

## 1. Introduction

In recent years, educational paradigms have witnessed a transformative shift with the advent of the small private online courses (SPOC) model. What used to be teacher-centered learning is now a student-driven experience based on the premise that students learn by finding content on their own before class. In-person sessions are what make it interactive. Some of the researchers, such as Lage et al. (2020) have argued that flipped learning methodology can bring in benefits such as an increase in student engagement and a better understanding of the subject matter.

On the other hand, SPOCs (Small, Private Online Courses) were designed to be quite flexible and easily available to learners as a form of education where they interact with the content in a digital learning environment that adjusts to their requirements. SPOCs give students time to get through the subject matter on their own, choosing which to start with, and at what speed they will proceed and regulate their learning better. Self-regulation, self-choosing, self-cognizing, self-motivating, and self-behaving – are the core of the SPOC; learners utilize it to reach their academic goals (Boekaerts & Corno, 2019; as cited in Setyaningrum, 2019). Knowing the essence of self-direction of SPOCs is imperative as it could affect learning, and the hosted educational experiences greatly. Just like SPOCs operate in a group of a smaller number of students, the university instructors may take advantage of the community feel created and offer individualized support to the students. Despujol et al. (2020).

Self-determination theory, written by Ryan and Deci in 2000, is a principle explaining autonomous and competent independent parts of a person. This presupposition is based on the statement that a person's most profound motivator targets a person's needs instead of external factors and is the most productive form of motivation. Since the SPOC classroom allows them to be the performers of their learning, through the use of SDT, intrinsic motivation helps to achieve superior learning results. The article shows how the flipped classroom and maximal self-regulated learning are connected to SDT principles. It was found that students who developed a strong sense of belonging to their classmates and teachers exhibited a higher level of self-control, self-direction, and academic performance. First, it was established that students who cultivated a good sense of belonging to their classmates and teachers were more self-controlled, and self-directive, and performed better academically. This observation supports the argument for using these concepts in areas where the Basic Psychological Needs are relevant for autonomy, competence, and relatedness. This discussion can therefore be summarized by observing the analysis, which shows that the flipped classroom model is learner-oriented, motivating the learners, and helping them fulfill their psychological needs before actualizing their efficacy and academic performance.

In conclusion, the examination of the relationship between self-regulation and academic performance in SPOCs undoubtedly adds to understanding the aspects of student success and failure in online educational environments. According to prior, students characterized by a high level of self-regulation and that regulate more, rather than lower levels of their academic achievement, are more engaged with academic work and more persistent. By outlining

what is happening in SPOCs, learners' self-regulated learning educators find how to develop interventions and styles of learning for the students to find the best outcomes they can obtain from the course they are undertaking. Over the years, the most recent studies proved that self-regulation became a factor of the contribution in the determination of academic achievement that can be useful in different education contexts.

Also, Quesada-Pallarès et al. (2019), point out the challenge of maintaining focus and ticket-tape when studying online because the student can quickly be sidetracked and unnecessary breaks do not exist, as there is no physical classroom structure they can rely on to control attention. Moreover, Morfaki and Skotis (2023) added the separation of social interaction to the other issues that undermine self-regulation that can take place in the SPOC model and that tend to decrease the chances of recreating workgroups and peers, since they cannot easily replicate using face to face communication that would lead to group work improvement and student capability to ask for help with peers. Moreover Collins et al. (2022) found that aside from freedom and driving your performance, autonomy reduction may confuse and put off some SPOC students who do not get high grades. Similar results also emphasize the importance of self-discipline as a primary contributing factor to the success of SPOC students. In addition, reducing autonomy and freedom of self-regulation may be diverting for some SPOC students who will not be high performers. These findings equally stress the case of self-management as a key success factor for students taking SPOCs.

While there may be advancements made in SPOC effects realization, still there remain many unanswered questions. This research aims to fill the void by not only looking at the general effects of SPOCs on test scores but also analyzing a more detailed relationship between SPOCs and self-regulation. In addition, we meet a gap in the research concerning the long-term consequences of self-regulation on performance in SPOCs, therefore, we cannot identify the proximal causes of the effect and efficient methods of treatment (Park & Kim, 2022). Connecting these dots is very fundamental for developing the effective strategies of SPOCs, focused on students' self-regulated learning.

The aim of the study is twofold: analysis of the subtle double-edged relationships between SPOC and self-regulation as well as academic performance. Taking a more precise look into students' self-regulation in an SPOC environment and the weight of self-regulation in academic performance, especially in the context of an SPOC, constitutes the main purpose of this research. In addition to identifying what contributes to SPOC students' self-regulation and subsequent academic achievement, the researchers explore other parameters associated with the learning platform. Furthermore, this study aims to contribute useful content for practicing educators, researchers, and policymakers who cooperatively search for best practices in the flipped classroom setting to generate self-regulated learners and maximize students' learning.

### *1.2 Statement of the Problem*

The general problem of this study is: "How does self-regulated learning influence academic performance in a SPOC class?"

1. How may the self-regulated learning of the students be described in terms of:

    1.1 External Regulation

    1.2 Introjected Regulation

    1.3 Identified Regulation

    1.4 Intrinsic Motivation

2. How may the academic performance of the students in a SPOC classroom be described?

3.Does self-regulated learning influence the academic performance of the students in a SPOC classroom?

## 2. Methodology

### *2.1 Research Design*

The purpose of this quantitative study in a SPOC class using a descriptive survey method examine self-regulated learning and how it leads to self-regulation. Quantitative, it is understood as a methodological orientation that concentrates on obtaining and analysis of numerical data to find the solutions to questions or to test scientific hypotheses. As Creswell and Creswell (2017) point out, it is the surveying method that involves gathering data from the sample population to describe certain attitudes, behaviors, opinions, or other characteristics of the subject of study.

The self-regulation questionnaire as a tool for the assessment of the types of individual differences is self-explanatory. These questionnaires were initially presented by Ryan and Connell (1989) and later adopted by Halsnøy (1999) and Emmerick and Korff (2003). Academic Self-Regulation Questionnaire (SRQ-A) (modified version) will be used, the questions of which revolve around a "very true of me, true of me, not true of me, very untrue of me", to identify the learning process of students with regards to academic-related behaviors. Questions have four answers, which reflect four regulatory processes, namely external, introjected, identified, and intrinsic motivation, present in this scale.

To know if the self-regulated learning influenced the academic performance of the students in a SPOC classroom, the data collected using survey questionnaires answered by teachers will be compared with the results of the SRQ-A survey questionnaire answered by students with the use of multiple linear regression analysis.

### *2.2 Population and Sample of the Study*

The target participants for this research are members of the third and fourth year in the programs of Bachelor of Technical Vocation and Education (BTLEd) and Bachelor of Technical Vocation Teacher Education (BTVTEd) at the Bulacan State University (BulSU) who took Guidance and Counselling SPOCs (Self-Paced Online Courses) during their previous semester. To take 117 samples from the pool of 166 BTLEd and BTVTEd third-year and fourth-year students who enrolled in the 2023-2024 academic year in the College of Education at Bulacan State University located in Malolos, Bulacan, the researchers will be selected. This number of the sample size was calculated using the Raosoft software, sample size calculator with the 0.05 standard error in mind. The study will use a sample drawing by a simple random sampling method. Thomas (2020) says that this is the simplest of all probability sampling techniques. It does not take into consideration any existing data or population knowledge. Hence every student has the equal possibility of being randomly selected for the study. The researchers are planning to begin with an authorized list of all eligible students received from the College of Education. Thus, each pupil will be allocated a personal identification number. An example is that after that, a random number generator will pick up 117 persons from the population. The 117 chosen students will take part in the study.

### *2.3 Respondents of the Study*

**Table 1-Distribution of the Respondent According to Course**

| BTLED and BTVTED | Population | Sample | Percentage |
|---|---|---|---|
| BTLEd 3c- Home Economic | 47 | 33 | 28% |
| BTLEd 4B-Information Communication Technology | 22 | 19 | 16% |
| BTVTED 4A-Food and Service Management | 39 | 23 | 20% |
| BTVTED 4B-Food and Service Management | 40 | 24 | 21% |
| BTVTED 4C-Garments, fashion, and Design | 18 | 18 | 15% |
| **TOTAL** | **166** | **117** | 100% |

Table 1 shows that there are 33 students of BTLEd 3c- Home Economics interviewed, accounting for 28% of the total sample; 19 students of BTLEd 4B-Information Communication Technology interviewed, accounting for 16% of the total sample; 23 students of BTVTED 4A-Food and Service Management interviewed, accounting for 20% of the total sample; 24 students of BTVTED 4B-Food and Service Management interviewed, accounting for 21% of the total sample; 18 students of BTVTED 4C-Garments, fashion, and Design interviewed, accounting for 15% of the total sample.

**Table 2- Distribution of the Respondent According to Age**

| **Age** | **Frequency** | **Percentage** |
|---|---|---|
| 18-19 | 0 | 0% |
| 20-22 | 95 | 81% |
| 23-25 | 22 | 19% |
| 25 Above | 0 | 0 |
| **TOTAL** | **117** | **100%** |

Table 2 shows that there are 95 respondents ages ranging from 20-22 have been interviewed, accounting for 81% of the total sample; there are 22 respondents aged ranging to 23-25 have been interviewed, accounting for 19% of the total sample.

**Table 3-Distribution of the Respondent According to Gender**

| **Gender** | **Frequency** | **Percentage** |
|---|---|---|
| Male | 38 | 32% |
| Female | 79 | 68% |
| **TOTAL** | **117** | **100%** |

Table 3. The survey results show that there are 79 male students interviewed, accounting for 32% of the total sample; there are 79 female students, accounting for 68% of the total sample.

### *2.4 Research Instrument*

A survey questionnaire will be used as a data collection tool to attain the information needed for the study. This research employs a survey given to learners who have experience studying in Small Private Online Courses (SPOC).

The respondents will be asked to fill out the structured survey in the form of a four-part questionnaire. Primarily, the demographic description of the involved person. Besides, regulation external items encompass 7 questions regarding the external factors, influences, incentives, or reinforcements directing and motivating a learner's behavior. Next, item of identified regulations also includes 7 questions focusing on the demanding internal expectations and pressures that you place on yourself. Besides, the 8 introjected regulations concern one's core values. Finally, the intrinsic motivation parameters questionnaire which contains 10 items that is assesses the learners's internal motivation and pleasure that they obtain when learning a course.

The 4-point Likert scale is rated based on the provided options: "Very true for me, very true for me, not true for me, not true for me at all". This survey was adapted and modified from Ryan and Connell (1989) which has a Cronbach value of 0.92.

### *2.5 Data Gathering Procedure*

To gather relevant data, researchers will conduct online surveys among a selected sample of participants from the Bachelor of Technology and Livelihood Education (BTLEd) and Bachelor of Technical Vocational Teacher Education (BTVTEd) programs. Before beginning the survey, researchers will formally seek permission from the College of Education's dean by submitting a formal request letter to conduct the research to the BTLEd and BTVTEd students. Upon obtaining the necessary approval, the researchers will reach out to the respective class mayors, informing them of their participation in the study and specifying the required number of participants. Furthermore, respondents will receive a unique survey link for completion at their convenience. Although some students requested to have a paper survey questionnaire the researcher gave the paper at convenience. Once, the survey administration is complete, the collected data will be thoroughly analyzed and presented in a structured tabular format.

### *2.6 Data Processing and Statistical Treatment*

The collected data will go through a thorough compilation, which will be done by the researchers by applying a multivariate analysis using multiple linear regression techniques. A multiple linear regression is a strong statistics method that is used to predict the results of the variable as a function of cooperative indicators none of the contributing factors. This regression analytic, nicknamed multiple regression as well, represents the development of a traditional simple linear regression framework.

Considering the specific study, the variable, which is the one that can predict the outcome, is the dimension that is known as the dependent variable, namely, academic performance. On the other hand, independent variables are the variables that affect the predicted values of the dependent variable directly and are therefore called the independent variables. The made up of training cues from the outside, self-determined cues, and intrinsic regulation.

The regression analysis will be conducted using multiple linear regression models. In this research, we aim to seek the degree of influence and relationship between the variables and academic performance. This conception of regression on many levels, linear, provides the possibility of better comprehension of how the connection between the outward and internal motivational factors can lead to the improvement of the academic achievements of the student.

The survey questionnaire intends to measure the level of students' self -regulation that will be analyzed using the scale below:

**Table 4-Self- Regulation**

| Scale | Mean Range | Verbal Interpretation |
|---|---|---|
| 4 | 3.50-4.00 | Strongly Agree/ Highly Regulated |
| 3 | 2.50-3.49 | Agree/ Moderately Regulated |
| 2 | 1.50-2.49 | Disagree/ Fairly Regulated |
| 1 | 1.00-1.49 | Strongly Disagree/ Poorly Regulated |

### *2.7 Hypotheses of the Study*

This study will determine if self-regulated learning has a significant influence on differentiated learning in a SPOC classroom, the study will test the hypotheses at a 0.05 level of significance:

**$H_o$.** Self-regulated learning does not significantly influence academic performance among Bulacan State University students in an SPOC classroom.

**$H_1$**. Self-regulated learning significantly influences academic performance among Bulacan State University students in an SPOC classroom.

## 3. Results

### *3.1 Level of self-regulated learning of the students*

This part shows the level of self-regulated learning of the students who experience SPOC class in terms of external regulation, introjected regulation, identified regulation, and intrinsic motivation.

Table 5 below shows how students vary in their opinion towards self-regulation or external regulation. After all, the given mean score of 3.35 might portray a general agreement, but the range of 0.75 seems to depict the departure from that line. Along with this statement which is considered as an average rating of 3.54, "The instructor pulls the list of students from College record which looks for students with SPOC", the lowest standard deviation is measured as 0.61. This implication emphasizes the degree of agreement that the teachers can get hold of the student's records, which is legally prevented looting. While the statistics on the instructors' online presence showed a mean of 3.07 "Instructor meets student at online anytime students ask for," only a standard deviation of 0.87, shows that the students have different opinions on the question. From a study by Pachón-Basallo et al. (2022), the connecting of environmental systems to external regulation provides highlights of the links between context and automation, especially regarding the dependence of behavior and environment. The statement "The instructor secures the list of students from the record of the College who are enrolled in SPOC." has the highest mean because instructors are required by the colleges to secure a list of students to their SPOC and add them to the course for the student able to participate to the course and access to materials given by the instructor. The statement " The instructor meets students online if the student requested it." has the lowest meaning it indicates that the student did not request the instructor to have an online meeting if needed, also the instructor is required to agree to have a meeting if the student has a concern about the course. This implies that the instructor's responsibility to cater to the student's needs is sufficient but the instructors need to motivate them more because according to Adun and Magallanes (2018), independence can be accomplished when people believe they are participating in an activity because they want to, rather than because they are being forced by others parents, instructors, or other external forces.

**Table 5- Descriptive Measure of External Regulation**

| Indicators | Mean | Standard Deviation | Description | Interpretation |
|---|---|---|---|---|
| 1. The instructor secures the list of students from the record of the College who are enrolled in SPOC. | 3.54 | 0.61 | Strongly Agree | Highly Regulated |
| 2. The instructor created MS Teams for SPOC students. | 3.32 | 0.81 | Agree | Moderately Regulated |
| 3. The instructor uploads the learning material according to the schedule in the syllabus. | 3.45 | 0.66 | Agree | Moderately Regulated |
| 4. The instructor set reasonable deadlines for the students to submit their tasks. | 3.44 | 0.66 | Agree | Moderately Regulated |
| 5. The instructor has an open line of communication with the students through the MS Teams. | 3.09 | 0.88 | Agree | Moderately Regulated |
| 6. The instructor meets students online if the student requests it. | 3.07 | 0.87 | Agree | Moderately Regulated |
| 7. The instructor schedules face-to-face midterm and final examinations on the campus. | 3.52 | 0.76 | Strongly Agree | Highly Regulated |
| **Overall** | **3.35** | **0.75** | **Agree** | **Moderately Regulated** |

Table 6 reveals students' perspectives on self-regulation can be found in the regulations they have identified. While an overall average of 3.48 suggests a moderate view with a standard deviation of 0.72, it is a distinct unusual trend in value response consistency. 3. posit the ranking that is surely getting the highest average rate of 3.68 and which has also the lowest standard deviation of 0.57, realizing stability of response among the students on accessing all the posted materials. However, the statement "I want to meet with an instructor, if required" has the lowest average score of 2.74 but with a high standard deviation of 1.00 indicating different ways being suggested; students employed to deal with their instructor. In the text by Abun and Magallanes (2018), self-regulation is when one behaves because of the utmost importance placed on that behavior. This is why the statement "I access all the materials posted on the platform" points to the fact that the student finds it necessary to follow the module to be able to answer the exams or quizzes. On the other hand, He means that somehow will force the learner to complete the assigned tasks even if that could involve particular negative aspects of that task.

***Table 6- Descriptive Measure of Identified Regulation***

| Indicators | Mean | Standard Deviation | Description | Interpretation |
|---|---|---|---|---|
| 1. I attend online meetings twice a month | 3.56 | 0.75 | Strongly Agree | Highly Regulated |
| 2. I enroll in the MS teams created by the instructor | 3.55 | 0.80 | Strongly Agree | Highly Regulated |
| 3. I take the midterm and final examinations face-to-face on campus. | 3.56 | 0.79 | Strongly Agree | Highly Regulated |
| 4. I access all the materials posted on the platform | 3.68 | 0.57 | Strongly Agree | Highly Regulated |
| 5. I request a meeting with the instructor, if necessary. | 2.74 | 1.00 | Agree | Moderately Regulated |
| 6. I take responsibility for my learning | 3.64 | 0.55 | Strongly Agree | Highly Regulated |
| 7. I ensure that SPOC materials will not be shared with others since they are copyrighted by the University | 3.66 | 0.57 | Strongly Agree | Highly Regulated |
| **Overall** | **3.48** | **0.72** | **Agree** | **Moderately Regulated** |

***Table 7- Descriptive Measure of Introjected Regulation Online***

| Indicators | Mean | Standard Deviation | Description | Interpretation |
|---|---|---|---|---|
| 1. I pursue my chosen academic path because I believe it will lead to a fulfilling career. | 3.51 | 0.70 | Strongly Agree | Highly Regulated |
| 2. I embrace challenging SPOC coursework because I am intrinsically motivated to expand my knowledge and skills | 3.31 | 0.72 | Agree | Moderately Regulated |
| 3. I will complete my SPOC coursework because I believe it is important to have a strong foundation of knowledge. | 3.51 | 0.62 | Strongly Agree | Highly Regulated |
| 4. I participate in class consultation because I am interested in the intellectual stimulation and exchange of ideas. | 3.37 | 0.70 | Agree | Moderately Regulated |
| 5. I complete my assignments because I am genuinely interested in the material and want to learn more. | 3.53 | 0.60 | Strongly Agree | Highly Regulated |
| 6. I study for exams because I challenge myself and test my understanding of the material. | 3.57 | 0.58 | Strongly Agree | Highly Regulated |
| 7. I complete my SPOC coursework because I find the learning process to be personally rewarding and fulfilling. | 3.50 | 0.65 | Strongly Agree | Highly Regulated |
| 8. I push myself to succeed academically because I am driven by a desire to make a positive impact on the world. | 3.56 | 0.61 | Strongly Agree | Highly Regulated |
| **Overall** | **3.48** | **0.65** | **Agree** | **Moderately Regulated** |

Table 7 illustrates the relationships of the students regarding self-regulation with introjected regulation. A variability of 3.48 can be linked to the mean alongside 0.65 standard deviation while some positions display some degree of diversity. The consensus of the students builds around the statement "I study for exams since I challenge myself and test my understanding of the material." with a relatively small standard deviation (0.58), is demonstrative of this statistical fact. However, placing the “I take a hard course SPOC enthusiastically because I am driven internally to expand my knowledge and skills” in the middle with an average of 3.31 rating and a higher standard deviation of 0.62 is communicating that students are not driven in the same way to accomplish this. In the words of Abun and Magallanes (2018), introjected regulation expresses the reason someone does a task as they think they are supposed to do it, and if they do not, they feel guilty. The phrase "I study for exams because I push myself to the limits and to make sure that I understand everything" demonstrates that the students will read course materials to test how much they understand the material before taking the exams and quizzes. Further, the statement "I embrace challenging course work because I am intrinsically motivated to expand my knowledge of skills" shows that the student will fear failure but when faced with this bring to them is that the students will strive to not feel shame and guilt if they fail to satisfy their parents’ or self’s expectation as Proudfoot (2020) indicates that motivation for achievement as well as the goal of saving themselves from anxiety, embarrassment, or guilt will affect the behavior.

***Table 8- Descriptive Measure of Intrinsic Motivation***

| Indicators | Mean | Standard Deviation | Description | Interpretation |
|---|---|---|---|---|
| 1. I find the intellectual stimulation of my SPOC lesson to be inherently enjoyable and satisfying. | 3.08 | 0.77 | Agree | Moderately Regulated |
| 2. I am driven by the desire to delve into complex concepts and solve intricate problems. | 3.09 | 0.67 | Agree | Moderately Regulated |
| 3 I experience a sense of accomplishment and fulfillment when I complete a challenging academic task. | 3.59 | 0.62 | Strongly Agree | Highly Regulated |
| 4. I enjoy the process of learning and expanding my knowledge, even when it is difficult. | 3.38 | 0.68 | Agree | Moderately Regulated |
| 5. I find the satisfaction of mastering a new skill to be intrinsically motivating. | 3.44 | 0.63 | Agree | Moderately Regulated |
| 6. I am driven by a curiosity about the world and a desire to understand its workings. | 3.42 | 0.62 | Agree | Moderately Regulated |
| 7. I enjoy the challenge of learning new concepts and applying them to real-world problems. | 3.41 | 0.57 | Agree | Moderately Regulated |
| 8. I find the process of critical thinking and problem-solving to be intellectually stimulating and rewarding. | 3.44 | 0.59 | Agree | Moderately Regulated |
| 9. I am motivated by the desire to make a contribution to my field of study and advance human knowledge. | 3.47 | 0.57 | Agree | Moderately Regulated |
| 10. I find the pursuit of higher education through SPOC to be a lifelong journey of learning and personal growth. | 3.21 | 0.77 | Agree | Moderately Regulated |
| **Overall** | 3.35 | 0.65 | **Agree** | **Moderately Regulated** |

Table 8 in the following shows a student issues a type of self-regulation rule such as goal-directed regulation. Even though the whole average of 3.42 tells us about the common agreement the standard deviation of 0.63 indicates the dispersion. The highest average rating is 3.59, with the statement “I experience a sense of accomplishment and fulfillment when I complete a challenging academic task.” which has the lowest standard deviation of 0.62 showing the similarity of opinion among students. The sentence “I find the intellectual stimulation of my SPOC lesson to be inherently enjoyable and satisfying.”, which has a 3.08 mean average point and a slightly higher standard deviation of 0.77, could suggest that students holding different opinions on whether they enjoy the course or not, thus explaining their diverse motivations behind challenging themselves and doing difficult work. The statement “I experience a sense of accomplishment and fulfillment when I complete a challenging academic task.” shows that students felt self-satisfaction when completing a task for the coursework and the statement “I find the intellectual stimulation of my SPOC lesson to be inherently enjoyable and satisfying.” shows that the students least satisfied when partaking the SPOC class to gain intellectual stimulation.

This implies that the student is more satisfied when they nearing to complete the coursework due to their intrinsic motivation also according to Abun and Magallanes (2018) An individual's intrinsic motivation to pursue an activity that they believe would bring them joy is known as intrinsic motivation. Put differently, intrinsic motivation is what drives conduct. that originates from a person's own volition and enthusiasm for the task at hand.

## 3.2 Summary of Self-Regulated Learning

Table 9 shows the overall mean of self-regulation which is 3.42 and has a standard deviation of 0.69. Both introjected regulation 3.48 and identified regulation 3.48 have the highest means, but the standard deviations for each of the two regulations are different. External regulation and intrinsic motivation have the lowest mean, which is 3.35, and their standard deviations show the differentiation. Intrinsic motivation and introjected regulation have the lowest standard deviation 0.65, suggesting that participants generally maintain their motivational states relatively steadily. The Introjected Regulation has a standard deviation of 0.65 which indicates that many students agree that they are doing the SPOC coursework obligation for them to not feel shame and guilt of failure for themselves and their parents. Meanwhile, intrinsic motivation has a standard deviation of 0.65 indicating that many students are satisfied when completing the coursework for the SPOC rather than gaining new knowledge. Identified regulation is the motivation of the student to perform the obligated task assigned to them and it has a standard deviation of 0.72 which means that the student has mixed opinions when performing a task for the coursework. Lastly the external regulation, however, shows the highest standard deviation of 0.75 which indicates that the

student has a different opinion about their self-regulation when external forces are included, among all of the regulations, and thus, this implies that external regulation and intrinsic motivation influence self-regulation in a less predictable impact to self-regulation

***Table 9- Summary of Self- Regulated Learning***

| Indicators | Mean | Standard Deviation | Description | Interpretation |
|---|---|---|---|---|
| 1. External Regulation | 3.35 | 0.75 | Agree | Moderately Regulated |
| 2. Identified Regulation | 3.48 | 0.72 | Agree | Moderately Regulated |
| 3. Introjected Regulation | 3.48 | 0.65 | Agree | Moderately Regulated |
| 4. Intrinsic Motivation | 3.35 | 0.65 | Agree | Moderately Regulated |
| **OVERALL** | **3.42** | **0.69** | **Agree** | **Moderately Regulated** |

### *3.2 Student's Academic Performance in SPOC Classroom*

***Table 10-Distribution of the Respondent According to G.W.A***

| G.W.A. | Frequency | Percentage |
|---|---|---|
| 1.25 | 16 | 14% |
| 1.50 | 44 | 38% |
| 1.75 | | 28% |
| | 33 | |
| 2.00 | 12 | 10% |
| 2.25 | 4 | 3% |
| 2.50 | 6 | 5% |
| 2.75 | 2 | 2% |
| **Overall** | 117 | 100% |

The SPOC course students' G.W.A will be updated and guidance or counseling and the time and number they are delivered, be reviewed and ranked. According to Martin et al. (2021) Consistence of interest play prominent role making cognitive strategy being used, but were not directly associated with students' academic progress. Age and the students' self-regulation were also indicators of high GPAs it also implies to GWA. Table 11 is built on the subject of data which is going down below this sentence, with respondents that are already in GWA (General Weighted Average) categories, as shown in the table: In the case of the participants, the highest scores (0.50) occur, in 45 times and it has 38% of the total figure. The lowest possible effect (2.75) appears in only two events, and it is in 2% coverage of the given figure. With this GWA, the categories are eight single categories where each category is given the frequency and percentage index separately. As opposed to the current 1.50 GWA (Good Weighted Average) corresponding to the 91-93 grades percentile at the SPOC class section, the 1.50 GWA equivalent value will be maintained (44 students can make the grades between 91 to 93). At the same time, the GWA grade and percentage value of 2.75 comes to the same range of 76 to 78 percent in an SPOC class. The GWA computed is presented in the same scale of grading system of Bulacan State University, such as a scheme specified in the BulSu student handbook.

### *3.3 Self-regulated learning influences the academic performance of the students in SPOC classrooms.*

***Table 11-Regression Analysis Between Self-Regulation and Academic Performance***

| Independent Variable | B | Std. Error | Beta | t | Sig-value | Decision | Interpretation |
|---|---|---|---|---|---|---|---|
| External Regulation | -0.388138 | 0.845 | -0.047 | -0.460 | 0.64675 | do not reject Ho | External Regulation does not significantly influence academic performance |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Identified Regulation | -0.050564 | - 1.002 | -0.005 | -0.005 | 0.95983 | do not reject Ho | Introjected Regulation does not significantly influence academic performance |
| Introjected Regulation | -2.292764 | 0.976 | -0.309 | -2.348 | 0.02063 | reject Ho | Identified Regulation significantly influences academic performance |
| Intrinsic Motivation | 3.451139 | 0.447 | 0.447 | 3.386 | 0.00098 | reject Ho | Intrinsic Motivation significantly influences academic performance |

Dependent variable: Academic Performance

This part shows the coefficient of the model and the results of the multiple linear regression analysis, used to study the significance of the regression coefficient. P-values $\leqslant 0.05$ were considered statistically significant. The independent variables are external regulation, introjected regulation, identified regulation, and intrinsic motivation which are factors that may influence academic performance.

The table 11 shows that there are only two of the independent variables rejected the null hypothesis and they are intrinsic motivation and introjected regulation of the student. Intrinsic motivation has a positive coefficient of 0.438. This means that a higher score on intrinsic motivation is associated with a higher predicted academic performance. This is consistent with expectations; students who are intrinsically motivated are more likely to perform well academically. This indicates that the student is keeping self-regulated for their self-satisfaction according to Abun and Magallanes (2018) the definition of intrinsic motivation for achievement is doing something because it brings them joy to complete or create something. This shows that intrinsic motivation is one of the influences on the student's academic performance. The introjected regulation has a sig-value <0.05 This means that scores on the introjected regulation are influencing academic performance. This table suggests that to reject the hypothesis. The influence of the introjected regulation on performance is significant because the students do not want to feel shame for their lack of knowledge of the materials provided by the instructor for the coursework also according to Proudfoot (2020) involves ego involvement, in which success is closely linked to one's sense of self-worth or self-regard.

The two rejected independent variables were external regulation and identified regulation. Identification regulation no longer has statistical significance to academic achievement because the p-value> 0.05. This implies that the performance standards might not be equivalent to the academic performance of the students. The student does not refuse to do the job because there is no self-control in the whole process of finishing the assigned work. that of the student, the external regulation had no positive or negative effect on academic performance with a sig-value >0.05 statistical significance. Hence there is an argument that extrinsic regulation scores for the students are not necessarily the accurate indicators of success in school exams. As described by Pachón-Basallo et al. (2022), the lack of external signs or signs that could give one a hint to regulate personal abilities of regulation or to reach the goals on time during a lecture, the beginning, the middle, or the end of the lesson, unfortunately, no one can do. This indicates that it is the student approach to the instructor's responsibility to teach the materials and the guide that is being presented in the SPOC online course.

The analysis found that intrinsic motivation and introjected regulation are integral parts of student academic performance. Naturally motivated students find success due to the pleasure of mastery is their primary motivator. Rules that, besides being put in place by others, produce anxiety on account of the fear of having things done wrong or of self-judgment also play a part. Nevertheless, the presence of internal motivation, doing the task according to the inner drives, as well as learning activity and external motivation, doing the task for rewards and punishments by somebody else do not statistically characterize anything in academic performance. This suggests that students who are self-directed and intrinsically motivated, or even those driven by a fear of failure, are more likely to succeed academically than those who are solely dependent on external factors or social pressures.

## 5. Discussion

### *5.1 How may the self-regulated learning of the students be described in terms of:*

External Regulation. The findings show that students understood how instructors conveyed the external regulation in SPOC classes. The 3.35 average expresses the general regulation of external regulation however the 0.75 standard deviation shows the opposition of some opinions. The sentence with the largest mean is 3.54 and the lowest standard deviation is 0.61 which, in this case, is the instructor and their duty. Besides, there are different opinions than the average rating of 3.07 with a fairly high standard deviation of 0.87 on instructors meant to be available to meet students when online

demand arose. This implies that the students who prefer online synchronous meetings are those who find them all easily accessible. The first claim is that students should be admitted by instructors. Though, a meeting is a concrete action students propose a more loosely structured solution.

1.2 Identified Regulation. The findings suggest that students who possess a strong identified regulation; imply that the learning behaviors have been tightly controlled. Students own the learning process and possibly are to refer to the class materials, which are available on the course. These students also can contact the instructor without any problems by writing an email during working time. Students agreed that they are moderately regulating with an overall mean is 3.48 with the statements on identified regulation, the standard deviation is 0.72 which implies that there were some variations in responses. Students had the most consistent standard deviation of 0.57 in reporting that they accessed all online materials. This suggests they view accessing materials as essential and their obligation to open. Students were the least consistent standard deviation of 1.00 in requesting instructor meetings with a mean of 2.74.

1.3 Introjected Regulation. The results are interpreted as maybe students' study not only to be on the safe side and not to experience the shame of failure as well as to satisfy duty rather than real interest. This lines up with the idea that introjected regulation means experiencing the pressure of the inner voice and not having the motivation to act. The statistics related to internalized control showed that students mostly agreed with a mean of 3.48 among the statements with a standard deviation of 0.65. But there were still differences among reactions. Students generally gave the most consistent (standard deviation was 0.58) rating that they studied for exams to challenge themselves. Accordingly, this suggests a similar strain of achieving better results. Students not only had various reasons (standard deviation 0.62) for adopting more challenging classes (average rating 3.31), but they were also different (various) in embracing these classes. People tend to have two types of inner motivation: some of them value information itself, while others strive to get decent grades to avoid feelings of guilt or shame.

1.4Intrinsic Motivation. The findings indicate that students become most satisfied when they achieve goals, and this satisfaction comes by themselves as the result of intrinsic motivation. But not everyone finds studying something interesting, therefore, there are more varied answers, when students are asked that question. The overall mean of intrinsic motivation is 3.42 with the statements of goal-directed regulation and a standard deviation of 0.63. Although there were also some variations in the answers. Student's consistency proves most gracious, having a mean of 0.62 for the feeling of completing a challenge, depicting a common value of reaching goals. Students' intellectual stimulation from coursework was diverse among them with a standard deviation of 0.77, but they showed a mean of 3.08. Some empowered themselves by the intellectual challenge while others would be less stimulated by this.

### *5.2. How may the academic performance of the students in a SPOC classroom be described?*

The findings indicate that the academic performance of the student in the applied course with SPOC found a few samples between GWAs 1.25 and 2.75. The most GWA was 1.50 is 38% of the total which is the grade range 91-93. Fewer students completed a GPA of 1.25 is 14% of the total. Only two of them reached the level of 2.75 is only 2% of the total. GWA of 1.25 gives grades of 94-96%, while that of GWA 2.75 is 76-78.

### *5.3. Does self-regulated learning influence the academic performance of the students in SPOC classrooms?*

The research reported that there was an intrinsic motivation with a t-score of 3.386 and introjected regulation with a t-score of -2.348, both hypotheses were rejected and had a positive impact on academic performance. In contrast to them, the students who adopt self-value and overcome the fear of failure, are more likely to succeed. According to the significance level, those two regulations identified regulation with the sig value of 0.95983 and the other external regulation with the sig value of 0.64675 both fulfill the null hypothesis (Ho). Therefore, it proves that these two regulations are not statistically significant in influencing performance. Students, who are compelled to imitate others and external rewards may not put any effort more than students, who are not so. According to this study, it is not important what supported you in your academic success—internal or external motivations; but internal motivations are more useful. Students who are ambitious by their deep interest in something or scared of falling are to work hard and achieve good academic success.

### *5.4 Conclusions*

The research is about the challenges of SPOCs' students' self-regulation and academic performance, students' self-edification, and regulative factors. In such a situation, a student has to face unique problems when it comes to choosing what to study and also when to do so, which are key elements in self-regulated learning. The inner drive is likened to the perpetual following of the outer stimulus or the inner reminder just like the inner voice. Declared regulated people are those for whom the accomplishments of their own goals serve as the driving force as compared to the intrinsically excited students who derive inner pleasure or satisfaction from studying. Similarly, at the same time as making a comprehensive learning plan, SPOC classrooms use a couple of measurements, specifically, letter grades, peer engagement, and levels of knowledge of depth to show the student learning process. The report, states that the studies presenting a positive relationship between the self-regulation process of learning and the SPOC environment had been identified. Therefore, students should be able to self-regulate and have motivation skills from within to make learning online a more efficient process.

The study results reflect that implementing self-regulated learning processes in small-scaled online private courses (SPOCS) leads to an enhancement of students' academic skills. Therefore, next researchers can work in this area by instituting intervention programs where regulation and intrinsic motivation of students are the key areas identified. The teachers will have addressed the issues if they will take part in the discussions in the Online learning process. In this way, students will be able to take ownership of their learning and succeed due to the improved learning environment.

### *5.5 Recommendations*

With the conclusions, the following are the recommendations for the future researchers:

1. The study focuses only on four factors of self-regulation that influence the academic performance of the students in SPOC classes. It is recommended to explore different factors of self-regulation such as cognition, behavior, and environment that may influence the academic performance of the student in SPOC classes.

2. The researchers recommend expanding the respondents of the study to multiple colleges and courses the study was only conducted in the students at the college of education especially the courses of BTLED and BTVTED who have taken a SPOC class.

3. Future research should expand its focus on multiple academic performances of a SPOC Class. The study focuses only on a single SPOC classroom.

4. Future research should broaden the scope beyond the academic aspects of self-regulated learning (SRL) such as self-efficacy, self-awareness, and possible self to explore the wider range of factors influencing student performance in SPOC classes.

**An example appendix**

**Research Instrument**

**DEMOGRAPHIC PROFILE**

**Name(optional):** **Course:**

**GWA of the SPOC subject/s:**

**Gender:** **MALE** **FEMALE**

**Age:**

☐ 18-19 ☐ 20-22 ☐ 23-25 ☐ 25-above

**Direction:**

Answer all the survey questionnaire honestly to determine the level of Self-Regulation, the items were measured using a 4-point Likert-scale ranging from “very true of me” to “very untrue of me”.

4 – very true of me

3 –true of me

2 – untrue of me

1 – very untrue of me

External regulation in self-regulated learning involves outside factors or influences, such as teachers, parents, or external rewards, guiding and motivating a learner's behavior.

| A. EXTERNAL REGULATION | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| The instructor secures the list of students from the record of the College who are enrolled in SPOC. | | | | |
| The instructor created MS Teams for SPOC students. | | | | |
| The instructor uploads the learning material according to the schedule in the syllabus. | | | | |
| The instructor set reasonable deadlines for the students to submit their tasks. | | | | |
| The instructor has an open line communication with the students through the MS Teams. | | | | |
| The instructor meets students online if the student requested it. | | | | |
| The instructor schedule face-to-face midterm and final examination on the campus. | | | | |

Identified regulation involves self-motivation based on a personal recognition of the value and importance of a specific task or goal. It occurs when individuals see a clear purpose in their learning activities.

| B. IDENTIFIED REGULATION | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| I'm attending online meeting twice a month | | | | |
| I enroll in the MS teams created by the instructor | | | | |
| I take the midterm and final examinations face-to-face on the campus. | | | | |
| I access all the materials posted on the platform | | | | |
| I request meeting with the instructor, if necessary. | | | | |
| I take responsibility of my own learning | | | | |
| I ensure that SPOC materials will not be shared to others since they are copyrighted by the University | | | | |

Introjected regulation in self-regulated learning is a form of self- motivation where individuals are driven by internal pressures, such as a desire for approval or avoiding guilt, rather than external factors.

| C. INTROJECTED REGULATION | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| I pursue my chosen academic path because I believe it will lead to a fulfilling career. | | | | |
| I embrace challenging SPOC coursework because I am intrinsically motivated to expand my knowledge and skills. | | | | |
| I complete my SPOC coursework because I believe it is important to have a strong foundation of knowledge. | | | | |
| I participate in class consultation because I am interested in the intellectual stimulation and exchange of ideas. | | | | |
| I complete my assignments because I am genuinely interested in the material and want to learn more. | | | | |
| I study for exams because I challenge myself and test my understanding of the material. | | | | |
| I complete my SPOC coursework because I find the learning process to be personally rewarding and fulfilling. | | | | |
| I push myself to succeed academically because I am driven by a desire to make a positive impact on the world. | | | | |

Intrinsic motivation is the inherent desire or internal drive to engage in an activity for its own sake, without the need for external rewards or pressure. It often leads to a higher level of engagement and satisfaction in the learning process.

| D. INTRINSIC MOTIVATION | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| I find the intellectual stimulation of my SPOC lesson to be inherently enjoyable and satisfying. | | | | |
| I am driven by the desire to delve into complex concepts and solve intricate problems. | | | | |
| I experience a sense of accomplishment and fulfillment when I successfully complete a challenging academic task. | | | | |
| I enjoy the process of learning and expanding my knowledge, even when it is difficult. | | | | |
| I find the satisfaction of mastering a new skill to be intrinsically motivating. | | | | |
| I am driven by a curiosity about the world and a desire to understand its workings. | | | | |
| I enjoy the challenge of learning new concepts and applying them to real-world problems. | | | | |
| I find the process of critical thinking and problem- solving to be intellectually stimulating and rewarding. | | | | |
| I am motivated by the desire to make a contribution to my field of study and advance human knowledge. | | | | |
| I find the pursuit of higher education through SPOC to be a lifelong journey of learning and personal growth. | | | | |

**References**

Abun, D., & Magallanes, T. (2018). Academic Self-Regulation of STEM of senior high school students of Divine Word Colleges in Region I, Philippines and their academic performance. Texila International Journal of Academic Research, 5(1), 14–30. https://doi.org/10.21522/tijar.2014.05.01.art003

Collins, H. J., Glover, H., & Myers, F. (2020). Behind the digital curtain: a study of academic identities, liminalities and labour market adaptations for the 'Uber-isation' of HE. Teaching in Higher Education, 27(2), 201–216. https://doi.org/10.1080/13562517.2019.1706163

Creswell. J.W. and Creswell, J.D. (2017). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 4th Edition, Sage, Newbury Park.

Despujol, I., Castañeda, L., Turró, C., (2022). Understanding instructors' motivations to improve MOOC sustainability. Education in the Knowledge Society (EKS), 23, e29083-e29083.

Emmerick, R., & Korff, D. (2003). Investigating the relationship between self-concept and academic achievement using structural equation modeling. Zeitschrift für Differentielle und Diagnostische Psychologie, 24(2), 109-121.

Halsnøy, R. (1999). Regulation of academic performance according to self-efficacy and goal orientations. European Journal of Psychology of Education, 14(3), 269-287. https://journals.sagepub.com/doi/abs/10.1177/0013164487474017

Morfaki, C. and Skotis, A. (2023). Academic online learning experience during COVID-19 - a systematic literature review based on personality traits", Higher Education, Skills and Work-Based Learning, Vol. 13 No. 4, pp. 697-719. https://doi.org/10.1108/HESWBL-03-2022-0062Quesada-Pallarès, C., Sánchez-Martí, A., Ciraso-Calí, A., & Pineda-Herrero, P. (2019). Online vs. Classroom Learning: Examining Motivational and Self-Regulated Learning Strategies Among Vocational Education and Training Students. Frontiers in Psychology, 10. https://doi.org/10.3389/fpsyg.2019.02795

Pachón-Basallo, M., De La Fuente, J., González-Torres, M. C., Martínez-Vicente, J. M., Peralta-Sánchez, F. J., & Vera-Martínez, M. M. (2022). Effects of factors of self-regulation vs. factors of external regulation of learning in self-regulated study. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.968733Park, S. and Kim, N.H. (2022). University students' self-regulation, engagement and performance in flipped learning. European Journal of Training and Development, Vol. 46 No. 1/2, pp. 22-40. https://doi.org/10.1108/EJTD-08-2020-0129

Proudfoot, K. (2022). Introjected regulation in teachers' professional development motivations. Teachers and Teaching, 28(8), 1021–1034. https://doi.org/10.1080/13540602.2022.2144816

Ryan, R.M., & Connell, J.P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. Journal of Personality and Social Psychology, 57, 749-761.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist the American Psychologist, 55, 68–78. https://doi.org/10.1037/0003-066x.55.1.68

Setyaningrum, W. (2019). Self-regulated learning in blended learning approach. Journal of Physics. Conference Series, 1320(1), 012089.https://doi.org/10.1088/1742-6596/1320/1/012089

Thomas, L. (2023, December 18). Simple Random Sampling | Definition, Steps & Examples. Scribbr. Retrieved May 16, 2024, from https://www.scribbr.com/methodology/simple-random-sampling/