

The CSPOFL: Assessing College Students' Perception of Flexible Learning Using the Multimodal Model of Online Education

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ABSTRAK

Pembelajaran daring atau fleksibel telah meningkat drastis bahkan sebelum perubahan mendadak dalam modalitas pendidikan yang terkait dengan COVID-19. Penelitian ini bertujuan untuk merancang dan memvalidasi Persepsi Mahasiswa tentang Pembelajaran Fleksibel (CSPOFL) melalui instrumen yang didasarkan pada Model Multimodal Pendidikan Daring yang terdiri dari tujuh konstruk. Penelitian terapan ini menggunakan desain pengembangan instrumen dan desain validasi. Setelah pengujian validitas dan reliabilitas oleh delapan pakar konten dan 164 mahasiswa di sebuah universitas negeri. Metode pengumpulan data menggunakan kuesioner. Instrumen pengumpulan data dengan lembar kuesioner. teknik analisis data menggunakan analisis kuantitatif dan kualitatif. Hasil penelitian yaitu dari 55 item awal, versi akhir instrumen terdiri dari 29 item. Ditemukan bahwa modifikasi yang disebutkan di atas dalam konstruk dan item menghasilkan konsistensi koefisien reliabilitas instrumen keseluruhan sebesar 0,955, yang menyiratkan penerimaan instrumen untuk digunakan. CSPOFL direkomendasikan untuk guru, sekolah, administrator, dan pembuat kebijakan yang bertujuan untuk menilai bagaimana siswa memandang pembelajaran fleksibel sehingga intervensi yang diperlukan dapat dirumuskan untuk meningkatkan proses belajar mengajar.

ABSTRACT

Online or flexible learning has increased drastically even before the sudden change in educational modalities related to COVID-19. This study aims to design and validate the student perception of flexible learning (CSPOFL) through an instrument based on the multimodal online education model, which consists of seven constructs. This applied research uses an instrument development design and validation design after testing the validity and reliability of eight content experts and 164 students at a state university. The data collection method uses a questionnaire. The data collection instrument was used with a questionnaire sheet. The data analysis technique uses quantitative and qualitative analysis. The results of the study are from 55 initial items; the final version of the instrument consists of 29 items. It was found that the modifications mentioned above in the constructs and items resulted in the consistency of the overall instrument reliability coefficient of 0.955, which implies the acceptability of the instrument for use. CSPOFL is recommended for teachers, schools, administrators, and policymakers who aim to assess how students perceive flexible learning so that necessary interventions can be formulated to improve the teaching and learning process.

1. INTRODUCTION

The COVID-19 pandemic has caused rippling effects in our daily lives, ranging from economic impacts to changes in our activities of daily living. One such apparent adjustment is the shift to online or flexible modes of education. In the Philippines, higher education institutions (HEIs) are left to identify their preferred platforms. Intending to provide an improved student experience, it is critical to investigate the current situations and issues in the online or flexible setup in higher education (Dumford & Miller, 2018; Martoredjo, 2020). The remarkable increase in the quantity of online courses and programs available, as well as the number of students desiring to enrol, has posed considerable problems to educational stakeholders. Even before the pandemic, online education had tremendous growth, and the spread of online education will almost certainly result in a large percentage of course offerings in higher education being

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offered through such one day (Cardoso et al., 2023; Nash, 2015). The hegemony of physical "brick and mortar" as the principal conduit of teaching-learning is beginning to disappear (Nguyen, 2015). It is crucial to investigate how teachers and students perceive the new educational normal. Exploring existing problems and issues with higher education online learning is critical to provide a better framework for approaches to improve the student experience (Dumford & Miller, 2018; Fadillah et al., 2020). Owing to the fast pace of technology, teachers need to introduce new methods to enhance learning motivation (Funke, 2022; Gusteti & Neviyarni, 2022; Yani et al., 2023). This can be effectively based on students' perception of the educational process.

Student views of teaching-learning are crucial, and should be of interest to classroom teachers, and can be measured reasonably readily with classroom environment perception instruments. Given how dynamic technology is and the varying levels of students' prior knowledge, it is necessary to assess students' readiness (Krisdiana et al., 2018; Martin et al., 2020; Washington, 2019), especially for online or flexible learning. Understanding how students perceive the educational mode will be a good basis to enable students to participate in learning activities that promote the development of their own knowledge, behaviour, and abilities, as well as assess the consequences. Owing to being relatively new, educators and students are adopting to effectively adjust (Mahajan & Kalpana, 2020; Shishigu et al., 2018). Therefore, it is beneficial to investigate their perceptions. Both teachers and students are significantly adapting to the new educational modes. With students at the other end of the teaching-learning spectrum, there is a need to assess their perception of online or flexible learning modes as such are essential indicators of learning. Studies have looked into students' perceptions of online learning, primarily focused on the students and teachers' experiences, difficulties and barriers (Agormedah et al., 2020; Rohati et al., 2023). The instrument proposed intended to provide valuable information by highlighting how students' perceive flexible learning through the seven constructs of the Multimodal Model of Online Education. It is vital to investigate how students perceive online or flexible learning whether users decide to adopt and use a technology depends on the users' acceptance (Karma et al., 2021; Sulthonah et al., 2022).

The development of the CSPOFL instrument is guided by the Multimodal Model of Online Education. Based on pedagogical purpose, the model attempts to integrate several other significant theorists and model builders (Harasim, 2017; Picciano, 2017). As an integrative model, the Multimodal Model of Online Education is anchored on learning theories and existing theories on online learning such as the Online Collaborative Learning (OCL) by (Harasim, 2017). Online Learning Model, Blending with Pedagogical Purpose Model by (Bosch, 2016). The Community of Inquiry (COI) model for online learning environments encourages instructors and students to build online, hybrid or flexible courses as active learning environments or communities where ideas, facts, and views are shared (Cooper et al., 2020; Garrison et al., 1999). Linda Harasim suggested the online collaborative learning (OCL) hypothesis that focuses on the internet's capabilities to provide learning settings that stimulate cooperation and knowledge building (Cifuentes, 2021; Kim & Gurvitch, 2020). The COI entails that, in computer-mediated learning, social presence together with teaching and cognitive presence is vital.

The goal of distance education, of which online learning is a subset, has always been to provide access to educational experiences that are, at the very least, more flexible in time and location than campus-based education. Learning in the 21st century is fundamentally digital (Anderson & Rivera-Vargas, 2020). Hence, the use of computers and the internet as a platform for learning is vital for students and teachers. The Blending with Pedagogical Purpose paradigm stated that instruction is more than just about teaching knowledge or skills; it also helps students socially and emotionally (Bosch, 2016). At all levels of schooling, social and emotional development must be recognized as critical. The concepts and ideas of these models gave rise to the constructs of the integrated model comprises the Multimodal Modal of Online Education. Because there are several theories on online education, the Multimodal Model of Online Education attempts to integrate all the theories into a single theory. This is to address elements needed for an integrated or unified theory or model for online education (Picciano, 2017). More significantly, the model reviewed and unified major theories related to technology and technology for learning. Therefore, the Multimodal Model for Online education was utilized as anchor of the instrument because it is an integrative model of major technological theories ultimately for a pedagogical purpose.

One of the key drivers of education is Content, which can be provided and presented in various ways (Picciano, 2017; Tan, 2021). In providing and presenting content, multiple technologies and media be utilized. A review of literature, identified that among the issues and challenges of online education is related to content development (Kebritchi et al., 2017; Khadka et al., 2023). It is not possible to simply copy content from a face-to-face context to an online one. When creating online courses, instructors must consider content, pedagogy, and technology (Havidz & Mujakiah, 2023; Loseñara & Jugar, 2023). Students' view of how content is delivered is essential. Thus, the study intended to assess students' perception to probe on ways how content can be best delivered, through the flexible or online educational modes.

While entirely online courses and programs have progressed to the point where teachers can provide Social and Emotional Support when available and appropriate, this is more typically provided in a face-to-face setting in blended courses and programs (Candrasa & Cen, 2023; Picciano, 2017). The literature on the world condition during the epidemic describes a decline in faculty and student mental health and wellness (Hartshorne et al., 2020). Teachers might need to reassess or even change their focus. They should concentrate more emphasis on offering additional emotional support during times of crisis rather than just aiming for efficiency (Kaplan-Rakowski, 2021). Thus, the instrument intended to assess whether students perceived to have social and emotional support.

Dialectics, or Questioning, is a crucial activity that allows professors to investigate what pupils know and help them refine it (Picciano, 2017). Instead of focusing on providing definitive answers, the modern Socratic method stresses teachers posing thoughtful questions and encouraging students to carry out further research. Thus, questioning or dialectics should also be given importance in online education. Dialectics or questioning should contain discipline-specific questions, developing a community where learners respond to the teacher and one another through facilitation and modelling, as well as the promotion of the instructor's method of stimulating critical thought, which should take place even in online education (Liu, 2019). The fourth construct is Reflection which is described as a powerful pedagogical strategy (Candrasa & Cen, 2023; Picciano, 2017). The use of reflection in online instruction is crucial and advantageous for enhancing learning outcomes (Liu, 2019). Online written self-reflections are a crucial approach of enhancing learning and learning strategies via sharing thoughts, experiences, opinions, and feelings (Furqon et al., 2023; Gummesson & Nordmark, 2012). While reflection can be a highly personal experience, having the option to share one's thoughts with others can be beneficial. Extending and enriching reflection are pedagogical activities that require students to reflect on what they learn and share their reflections with their professors and peers (Picciano, 2017).

Collaborative Learning, described to have evolved with time, entails a problem-solving strategy for groups. Online platforms that allow collaborative editing have encouraged papers and projects that can easily be passed from one group to the next and from one class to the next (Picciano, 2017). Although there are new collaborative tools that can break down traditional educational barriers, many higher education institutions are still having trouble encouraging student collaboration and reducing feelings of social isolation (Wieser & Seeler, 2018). The model's most important component is probably the learning Evaluation. Online technology allows for more seamless sharing of evaluation and assessment activities and provides students and teachers with a permanent, accessible record (Furqon et al., 2023; Picciano, 2017). In a study found that students perceive to have received more assessment and evaluation activities in the online or flexible modes than the traditional face-to-face setup (Maqableh & Alia, 2021; Sombria et al., 2023). Evaluation and assessment activities engage students. A well-designed classroom that encourages student engagement with the teachers, peers, and course material is essential for effective online teaching and learning (Tanis, 2020).

Lastly, the addition of a Self-Study/independent learning module is the most significant modification of the model. Self-study/independent learning can be used in conjunction with other modules or as the primary form of instruction in this approach (Adda & Buntuang, 2022; Lavrentieva et al., 2019; Picciano, 2017). The study sought to design and validate an instrument to ascertain students' perception of flexible learning modes to provide vital information to teachers and academic institutions, to provide relevant improvements in the delivery of instruction. The developed instrument entitled "College Students' Perception of Flexible Learning" (CSPOFL) intends to explore how college students, as the target users, perceive online or flexible learning. Because it is a two-way undertaking, the teaching-learning process is represented by teachers and academic institutions. Students are at the other end of the process. As a two-way process considering feedback and inputs from both ends are essential for effective learning to occur. Thus, the CSPOFL instrument aims to provide valuable information to teachers and academic institutions by assessing how the students at the other end of the teaching-learning spectrum perceive flexible learning. Further, appropriate measures and improvements reflected in the findings using the developed instrument may be elucidated for learning to be maximized in the new normal of education.

2. METHOD

An applied research, this study employed the instrument development design and the validation design. In designing the instrument, a Table of Specification (TOS) was initially created using the Multimodal Model of Online Education. This was followed by validity testing through content expert validation and construct validation. Reliability testing was then conducted. After each step in designing and validating of the instrument, appropriate and necessary revisions were made prior to proceeding to the next step. All

statistical processes employed in the study was conducted in the Statistical Package for the Social Sciences (SPSS) software.

The initial version of the CSPOFL instrument, identified instrument parts (Colton, 2007). Presented first is the title, followed by a brief yet concise introduction. Likewise, this section includes a short statement that signifies the respondents' agreement to accomplish the survey. The section that follows is the demographic section to allow identification of the respondents. This section is followed by the instructions/directions section, which guides the respondents in accomplishing the instrument. Anchored on the Multimodal Model of Online Education, items of the CSPOFL were developed based on the definition of the seven constructs comprising the model. A table of specifications (Table 1) was created to guide and ensure all seven constructs are addressed and, in general, guide the development of the instrument.

Table 1. Specification for Instrument Creation and Sample Questions per Construct

Construct	Operational Definition of Constructs and Indicators	Item Number and Sample Questions
Content (Items 1 – 8)	This construct refers to students' perception of how subject matter is delivered and presented through the online or flexible mode of education. Specifically, this construct refers to how the delivery of lessons is designed and carried out that would best deliver subject matter to students.	5. Learning materials (notes, slides, e-books) provided help me to learn the lesson better. 6. Learning materials are incorporated with visual aids such as graphics and animations that help me better understand the lesson.
Questioning/ Didactics (Items 9 – 16)	This refers to opportunities provided by teachers wherein students are probed on to know what they know, to be able to refine such knowledge.	10. When students share their idea of the lesson, the teacher sees to it that misconceptions are cleared. 12. The teacher establishes an inviting atmosphere for students to formulate questions.
Reflection (Items 17 – 23)	As a powerful pedagogical strategy, this construct refers to students' opportunity to make insights through deep or reflective thinking of learning as well as the chance to share their insights to extend and enrich the class' learning and insights.	19. Aside from a reflection paper, I can choose other forms of reflection such as vlogging, blogging, and any other creative way to express my reflection. 22. I am able to share my reflection to others in the class.
Collaborative Learning (Items 24 – 30)	This construct refers to avenues that allow students to work together cooperatively, perform brainstorming and work as a group/team effectively to enhance learning and get a task done.	27. In choosing the online platform for group works, the preference of each member is considered. 30. Because group or mass gathering is not allowed, the teacher encourages us to use online editing applications such as Google Docs.
Social/Emotional (Items 31 – 37)	This construct refers to the availability of avenues for students to vent concerns and frustrations relative to the challenges of accomplishing class tasks or constraints of online or flexible education in general. Likewise, this construct refers to teachers' availability of support (emotional or social) to students by opening lines of communication or online consultation.	33. The teacher provides for a consultation schedule, especially concerning the challenges and restraints of online education. 35. When most students encounter difficulty with a task, the teacher replaces the task's challenging aspect with a less challenging one.
Assessment/ Evaluation (Items 38 – 47)	This construct refers to students' perceptions of measuring or assessing learning and learning progress; the appropriateness of the assessment type/mechanism, its reliability, and integrity.	38. The choice of assessment (quiz, exam, test) measures my learning. 42. The directions or instructions on how to answer the assessment are clear.

Construct	Operational Definition of Constructs and Indicators	Item Number and Sample Questions
Independent Study (Items 48 – 55)	This construct refers to students' ability to study and work autonomously and self-sufficiently at their own pace.	52. Learning materials for the subjects provided are readily accessible. 53. Supplementary online learning materials to enrich learning are provided.

As a self-report instrument to be reported by the college students as the target users, a four-point scale was identified for the CSPOFL. The response set, comprised of Never (N), Hardly Ever (HE), Some of the Time (ST), and Most of the Time (MT) to allow students to express their perception of flexible learning through the frequency set (Colton, 2007). The response set is identified based on the assumption that since students' will assess their perception of flexible learning in general, it is quite impossible that "always" is applicable since teachers vary in their pedagogy.

The content validation of the CSPOFL was conducted by content experts who were experts related to education, research instrumentation, online or flexible teaching, and ICT. In total, there were eight content experts wherein five are Ph.D., and three are full-fledged master's degree holders. For the construct validation of the CSPOFL, pilot testing was conducted. After the revisions were made based on the results of the content expert validation, the revised instrument was administered to college students. The instrument was pilot tested to 164 Bachelor of Science in Information Technology (BSIT) students of a SUC in Cebu. Graduating or fourth year BSIT students were not included in the pilot testing since they are in their on-the-job (OJT) or practicum and have comparatively lesser experience with the flexible learning mode. Seventy-seven (77) or 47% of the participants were third years, 58 (35.4%) were first years, and 29 (17.7%) are from the second-year level. Regarding the participants' gender, 114 (69.5%) were female, and 50 (30.5%) were male. In terms of age, most participants, specifically 138 (84.1%), belong to the age range 19-22.

The validation process and reliability testing of the proposed instrument comprise the following stages: Content Expert Validation, Construct Validation through Factor Analysis, Reliability Testing, and Face Validity. After the first draft or the proposed instrument had been initially completed, the proposed CSPOFL instrument was subjected to content expert validation to fine-tune the instrument by seeking feedback from content experts. Content expert validation is used to determine whether the items make sense and are unambiguous and whether the information obtained from the items will provide the desired information (Colton, 2007). This feedback can also assist in identifying problems with instrument administration. For the content expert validation (Lawshe, 1975). The initial (first) version of the CSPOFL was sent to content expert validators comprised of eight (8) validators. Content experts' voluntary participation was first sought, and upon their agreement, the content validation form was sent to them through Google Form. Next, the content expert validators rated the item as to their relevance and importance, specifically (1) Not Relevant, (2) Relevant but Not Essential, and (3) Relevant and Essential.

When all the content expert validation forms were returned to the instrument designer, the ratings were tallied. After consolidating and tabulating the validators' ratings, Lawshe's Content Validity Ratio (CVR) was determined for each item. Used to estimate an assessment instrument's or tool's validity as determined by a panel of experts, the CVR is an item statistic useful in rejecting or retaining individual items. It is internationally recognized as the method for establishing content validity that items with a CVR of 0.78 or higher with three or more experts could be used as an indication of good content validity (Gilbert, 2016; Polit et al., 2007; Tiwari et al., 2024). Thus, in this study, 0.8 was considered the CVR threshold. Items that did not reach this threshold were deleted from the instrument. Following the revision of the initial CSPOFL, version 2 of the instrument was pilot tested to conduct a construct validation process. After seeking approval and coordinating with core faculty members of the BSIT department, the instrument was pilot tested in a Google form. The link to the instrument was sent through the department's LMS. A week was allowed to lapse before consolidating the results. After data was tallied, statistical processes were performed using Statistical Package for the Social Sciences (SPSS) software to conduct factor analysis. Factor Analysis uses correlations to identify common factors that influence a set of measures and individual factors unique to each item (Colton, 2007).

Cronbach's alpha (α) was determined to check for internal consistency and the effect of specific items on overall scale reliability. Using the principal components factor analysis, internal consistency was assessed for the whole CSPOFL and individual factors (Ole, 2020). To determine the reliability of the CSPOFL, a reliability coefficient of .70 or higher was used, as it is deemed acceptable in most education studies (Cortina, 1993). In principle, face validity is not regarded as a measure of validity because it is concerned with the appeal and appearance of an instrument. However, the cspofl's face validity was explored from the judgment, through their comments and suggestions, of the content expert validators.

After the content expert validators rated each item for the cvr, they were tasked to provide comments and suggestions for improving each item and the instrument. Likewise, the content expert validators were also asked to provide their critique and inputs for the other parts of the instrument. After all the validators examined the initial form of the cspofl, validators' inputs through their comments and suggestion were considered and compiled.

3. RESULT AND DISCUSSION

Result

Based on Lawshe's Content Validity Ratio (CVR) for each item, a total of 40 out of 55 items were retained. Therefore, per construct, the following are the decision based on the item's CVR: Content, 3 of 8 items; Questioning, 7 of 8 items; Reflection, all items (7 of 7); Collaborative Learning, 5 of 7 items; Social/Emotional Support, all items (7 of 7); Assessment/Evaluation, 6 of 10 items; and, Independent Study, 5 of 8 items. Through Principal Axis Factoring, data from the pilot testing was analyzed. Findings show an adequate sampling size with a Kaiser-Meyer-Olkin (KMO) value of 0.918. Likewise, Bartlett's Test of Sphericity showed that there were significant correlations among the variables. The KMO and Bartlett's Test of Sphericity are measures of sampling adequacy. Factor Matrix of the CSPOFL showed in [Table 2](#).

Table 2. Factor Matrix of the CSPOFL

ITEMS	Factor Loading
Content	
1. Learning materials are incorporated with visual aids such as graphics and animations that help me better understand the lesson.	0.452
2. Learning materials for the subjects provided are readily accessible.	0.544
Questioning	
3. When students share their idea of the lesson, the teacher asks questions to clarify misconceptions or alternative conceptions.	0.547
4. The teacher motivates students to raise questions about the topic.	0.565
5. Students are given opportunities to interact with each other through asking questions related to the lesson.	0.511
Reflection	
6. The reflection I make encourages me to develop insights of the lesson.	0.539
7. Aside from writing a reflection paper, I can choose other forms of reflection such as vlogging, blogging, and any other creative way to express my reflection.	0.528
8. I am able to share my reflection to others in the class.	0.579
9. Listening to my classmates' reflection enriches my learning.	0.465
Collaborative Learning	
10. In addition to group chats, we also use video-calling for our group meetings.	0.385
11. Group tasks can be done asynchronously.	0.540
Emotional/ Social Support	
12. The teacher deals with my reflections in a non-judgmental manner.	0.622
13. The teacher deals with my reflections in a constructive way.	0.605
14. For communication purposes, the teacher provides any of his/her contact information.	0.432
15. I am able to send a direct message to my teacher, especially with regards to the challenges and restraints of online education.	0.405
Assessment/ Evaluation	
16. The types of assessment (quiz, exam, test) can appropriately measure what I have learned.	0.435
17. The time given for me to answer an assessment is reasonable.	0.527
18. The directions or instructions on how to answer the assessment questions are provided.	0.610
19. The directions or instructions on how to answer the assessment are clear.	0.730
20. The assessment tasks meet the learning objectives and competencies.	0.634
21. The assessment tasks motivate me to complete it truthfully.	0.585
22. The teacher encourages us to use online editing applications such as Google Docs.	0.437

ITEMS	Factor Loading
23. When a task is quite difficult or challenging, we are able to discuss the issue with the teacher.	0.541
24. The teacher deals with students' concerns in a supportive manner.	0.554
25. The teacher sets requirement deadlines reasonably.	0.689
26. Reference materials for the subject have been provided at the start of the semester.	0.468
27. Supplementary online learning materials to enrich learning are provided.	0.481
Independent Study	
28. Grading rubrics are provided beforehand for each learning task. Reference materials for the subject have been provided at the start of the semester.	0.566
29. I am tasked to make reflections or any reflective activities for the lessons as part of the task in the lesson.	0.448

Discussion

The results of Rotated Component Matrix, shown in Table 2, which presents the coefficients or factor loadings measure the relationships of the variables to the factors (components), are as follows, per construct: In the Content construct, only 1 of 3 items was retained (Item 1). One item (Item 2) from the Independent Study construct was related to Content as is thus added to the construct. Likewise, a review of the item supported the decision to transfer the construct. Access to learning resources, such as through the use of technology, enhances content learning (Regmi & Jones, 2020; Tchamyu, 2020). After analysing empirical data and review, the Content construct comprises two items in the final version of the instrument. In terms of the Questioning construct, 3 of 7 items were retained following the factor analysis. In total, The construct has three items in the final version of the instrument. Questioning enhances student learning (Batlolona & Mahapoonyanont, 2019; Hidayat et al., 2018; Micari & Calkins, 2021). With a total of 7 items before the factor analysis, four items (Items 6, 7, 8, 9) were retained in the Reflection construct. In the final version of the CSPOFL instrument, the Reflection Construct has four items. Two items out of 5 were retained in the Collaborative Learning construct based on the factor analysis results. In total, the construct has two items in the final version of the instrument. Information flow, provision of support, and cooperation, can be enhanced by collaboration as collaboration fosters a sense of community (Chatterjee & Correia, 2020; Dyck et al., 2020; Gopinathan et al., 2022).

The construct of social or emotional support in assessment instruments for students includes several important aspects that aim to understand how students interact with their social environment and how this affects their emotional and academic development (Denham et al., 2020; Maulida et al., 2020; Tusriyanto et al., 2019). The Social/Emotional Support construct is comprised of four items in the final version of the instrument. Based on the findings, two items that were from the Reflection construct were added. These are items 12 and 13. Upon review, these items were identified to align with the social/emotional construct as well. Items 14 and 15 from the social/emotional construct were revealed to be more correlated to the reflection construct. However, after a thorough review of the items and their respective construct, it was decided to retain the items in their original construct because these items do not, in any way, describe or relate to reflection instead, are more inclined to the social/emotional aspect. Thus, in the final version of the instrument, the social/emotional construct has a total of 4 items. In the Assessment/Evaluation construct, all six items are retained. Additionally, 1 item (item 22) from the Collaborative construct and 3 (Items 23, 24, 25) from the Social/Emotional Construct had been added to this construct. Upon reviewing the items, it was shown that the added items, based on the rotated component matrix, support students practice mastery in the assessment tasks provided for them. Likewise, two items (Items 26, 27) originally from the Independent Study construct had been added. Similarly, these items provide support to students with accomplishing assessment tasks. Further, appropriate revisions on the definition of the construct in the instrument have been made. In total, the construct is comprised of 12 items. The last construct, Independent Study, retained only 1 (Item 28) out of 5 items after factor analysis. However, an item from the Reflection construct (Item 29) had been added to the construct. Although the added item talks about reflection, it can also be associated with Independent Study. Hence, reflective activities require the student to make activities that require him/her to uncover and explore and make deep thinking skills independently. In total, the construct has two items.

Overall, based on the factor analysis results, the seven constructs were retained. However, some constructs were modified and redefined. In addition, from a total of 40 items, the final version of the CSPOFL is comprised of 29 items. While some of the items were removed, some items were likewise recategorized to other constructs based on the factor analysis. Further, these recategorizations are supported after items were reviewed concerning the constructs. While students view online or flexible learning as an adaptable

and effective tool, offering material access, promoting self-learning, and developing skills like time management and self-discipline, engagement (Agormedah et al., 2020; Arrosagaray et al., 2019; Huang et al., 2020). The CSPOFL can be utilized to further explore student perceptions and provide necessary support, thereby enhancing the learning experience.

The reliability test results showed high internal consistency with overall scale reliability of a Cronbach's Alpha value of 0.955. This result implies the reliability of the items in the proposed CSPOFL instrument. Likewise, even if an item was removed, the Cronbach's alpha values for the overall and per subscale indicated in the tables of total-item statistics using SPSS showed reliable values. The content expert validators' comments and suggestions on the items retained based on their CVR and the instrument, in general, were then considered. Appropriate revisions were done on the items accordingly, such as rephrasing and replacement of more content-appropriate terms. Likewise, validators' comments and inputs on the other aspect of the instrument were considered and complied accordingly. In the second version of the CSPOFL, one such suggestion is to include the construct's definition in the instrument to guide students to rate the items under each construct. Another suggestion was to clarify the response set choice "hardly ever." This was resolved by describing what the choice meant, especially with regards to frequency. Additionally, as commented in the introduction, the mention of the COVID-19 pandemic was removed owing to the probability that flexible learning will be the mode of education even after the pandemic has resolved, as implied by CHED.

4. CONCLUSION

Anchored on the Multimodal Model of Online Education, the CSPOFL measures college students' perception of flexible learning. Good instruments are characterized by validity and reliability. Considering that the CSPOFL has undergone a thorough validation process and reliability testing, its use is recommended. The final version of the CSPOFL is recommended for studies that aim to assess how students perceive flexible learning. Similarly, valuable inputs provided by the data gathered from the CSPOFL is beneficial to teachers and academic institutions to provide optimum learning. The developed instrument is likewise recommended to high schools and primary education levels that are implementing a flexible learning mode. Future studies may consider developing an instrument to measure teachers' perception of and competence in flexible learning using the constructs and items in the CSPOFL for a better perspective of flexible learning.

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