Printed Self-Learning Module Distribution and Completion Preferences of Grade 7-12 Students of Tagugpo National High School in Davao Oriental, Philippines: A Conjoint Analysis

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ABSTRACT. This study was conducted to determine the printed self-learning module distribution and completion preferences of the students of Tagugpo National High School, Tagugpo, Lupon, Davao Oriental, Philippines. It is descriptive survey research wherein one-hundred eighty-four randomly selected student respondents are shown various choices or hypothetical profiles and asked to evaluate these profiles based on their preferences. To determine the overall preference of these students on printed self-learning module distribution and completion, conjoint analysis was done. The analysis revealed that students from Tagugpo National High School expressed a preference for their modules to be printed in booklet form, distributed within their respective barangays on Mondays, and collected at the conclusion of each quarter. They also preferred to be given only four subjects per week with a two-hour duration each and accomplish only the activities found in the modules with no summative tests. This study recommends that students may be given three options on how they want their modules to be distributed and accomplished. It also suggests that further study on self-learning module preferences may be done on a wider scale, including assessment revision and a link between module preferences and student learning outcomes and dropout intentions.

Keywords: Conjoint analysis, math education, modular distance learning, self-learning modules

INTRODUCTION

The Covid-19 pandemic has significantly disrupted the education sector in the Philippines, resulting in the suspension of face-to-face classes to ensure the safety and well-being of students and teachers. The Department of Education came up with a Learning Continuity Plan (LCP) and adopted alternative learning modalities (DepEd Order No. 018, s. 2020), such as Modular Distance Learning (Department of Education, 2020) which aims to maintain the continuity of education amidst the crisis.

In response to some concerns like the lack of available gadgets and equipment, the Department of Education adopted the widespread use of offline modular distance learning. It involves individualized instruction that allows students to use printed Self Learning Modules (SLM) with the teacher monitoring to a limited extent (Department of Education, 2020). These Self-Learning Modules comprised content and activities that students could engage with independently, enabling them to continue their studies without relying on consistent internet connectivity or electronic devices (Department of Education, 2020).

Self-learning modules are designed to promote independent learning among students, requiring clear, understandable, and updated content (Uyangor et al., 2013). They aim to create an interest in students towards learning by allowing them to proceed at their own pace and cater to their learning styles (Priya, 2015). This modality offers flexibility as students can save money, study anytime and anywhere (Sadeghi, 2018), and access diverse knowledge. It is found to affect learning outcomes positively (Rahmawati et al., 2019). However, a study by Kaur et al. (2010) found a significant difference in academic performance between students taught through self-learning modules and those following a constructivist approach, suggesting that interactions with teachers and peers may enhance learning outcomes.

While previous studies have explored various aspects of modules, such as effectiveness (Matanluk et al., 2013; Rahmawati et al., 2019) and effects on academic performance (Malik, 2012; Kaur et al., 2017), it also presents shortcomings, including limited interaction and feedback for students (Vlasenko and ozhok, 2014). As modular distance learning is relatively new to students in the country, understanding their preferences becomes vital. There is a lack of investigation into student preferences toward self-learning modules in the Philippine context.

In Tagugpo National High School, the first printed self-learning module was distributed on October 5, 2020. The following distribution and retrieval were done every week. However, challenges appeared concerning the completion of modules, such as the decrease in module output submissions, incorrect answers, and difficulty for parents and guardians to retrieve the modules on the indicated schedule. In this context, the authors are interested in identifying the preferences of Tagugpo National High School students regarding printed self-learning module distribution and completion.

This study aimed to identify students' preferences regarding distributing and completing printed self-learning modules. The research addressed questions such as the attributes that affect the students' preferences and their preferred module distribution and completion. It also identified the most and the least important attribute that contributes to the overall preference of the students. In addition, the study explored the groups (or segments) of students for whom different attributes are more important.

METHODOLOGY

A descriptive survey research design, with the aid of conjoint analysis, was used to identify students' preferences for printed self-learning module distribution and completion. The theoretical bases of conjoint analysis can be found in the theory of simultaneous conjoint measurement (Luce and Tukey, 1964) and the random utility theory (Thurstone, 1927). The theory of simultaneous conjoint measurement is consistent with Lancaster's characteristics approach to consumer demand (Lancaster, 1966), which states that individuals derive utility from the different characteristics or attributes that a product possesses rather than directly from the product itself. Accordingly, a change in one of the attributes can cause a student to switch their decision from one preference to another that provides a superior combination of attributes. Based on the characteristics theory of value proposed by Lancaster, the probability of choosing a specific preference is a function of the associated utility. Moreover, it is assumed that the utility derived from each combination is determined by the preferences over the levels of the characteristics provided by that module. On the other hand, random utility theory states that individual choice is an outcome of a process in which a random variable is associated with each alternative, and the alternative with the highest recognition is the one selected.

Participants

Before the surveys were conducted, a letter of permission was sent to Mr. Reynaldo B. Mellorida, the Schools Division Superintendent of Davao Oriental, with the recommendation of the Graduate School Head of Davao Oriental State University. The approved permission letter was then given to Mr. Edgar H. Barrete, school head of Tagugpo National High School, for approval to conduct the study. After securing the school head's permission, consent from parents and guardians through letters was collected prior to their students' involvement as respondents in the study.

The respondents of this study were randomly selected through stratified random sampling, and it comprised the 184 Grade 7–12 students of Tagugpo National High School, Lupon, Davao Oriental, enrolled in the school year 2020-2021. Among the six grade levels, Grade 9 had the largest number of participants, with 50 students, while Grade 11 had the smallest number, with 20 students. Grades 7, 8, and 9 had 31 participants each, while Grade 12 had 21 participants.

Questionnaire

A pre-survey was conducted before constructing the research instrument to solicit attributes that they think can affect the preferences for printed self-learning module distribution and completion. A total number of 18 respondents were included in the pre-survey, which is based on the 10%-from-the-sample-size rule by Connelly (2008), which also qualifies the suggestion of Hill (1998) of 10 to 30 participants for pilots in survey research. The pre-survey participants, which were excluded from being respondents in the final survey, were selected from the Senior High School through simple random sampling and with the permission of their parents and guardians. Aside from the selected students, the school head and the teachers also participated in the pre-survey through a Learning Action Cell (LAC), a collaborative learning session anchored on Department of Education Order No. 35, series of 2016. This order states that the Department of Education supports the professional development of teachers through the conduct of school-based LACs. Suggested resolutions to the issues and concerns being discussed during the LAC were anchored on Department of Education Order No. 31, series of 2020, which is entitled "Interim Guidelines for Assessment and Grading in Light of

the Basic Education Learning Continuity Plan."

After the pre-survey, responses from the students and teachers were organized to look for common answers and themes. These led to identifying the attributes and attribute levels that were important factors in generating hypothetical profiles for module distribution and completion preferences. Responses deemed irrelevant to the study were disregarded to be part of the attributes and levels.

The questionnaire was then developed and divided into two sections: (1) the respondent's basic demographic profile and the ten hypothetical profiles for them to rate. These questionnaires were reproduced and distributed to the respondents, attached to their home learning plans during the printed module distribution schedule. A week after, the accomplished survey questionnaires were collected from the parents or guardians during the scheduled submission of students' outputs.

Supposedly, there were 32 (or 2^5 – five attributes with two levels each) hypothetical profiles that need to be evaluated by the respondents. Due to the difficulty for respondents to evaluate a large number of profiles (Sohn, 2010; Kuzmanovic et al., 2013), it was necessary to select a smaller subset. Therefore, this study utilized the fractional factorial experimental design, which is a reduced version of a full factorial design (Natoli, 2018). Through this, a total of ten hypothetical profiles, with two holdout cases included, were generated. The respondents rated each of these ten hypothetical profiles using a scale of 1 to 10, indicating their preference, with 1 as the lowest preference and 10 as the highest.

Data Analysis

Conjoint analysis was used to estimate parameters that indicate the relative importance of attributes and attribute levels based on these preferences. It is a popular statistical technique in consumer research to examine people's preferences for products (Poortinga et al., 2001). This analysis identified the overall preference for module distribution and completion among students.

In conjoint analysis, a particular profile is judged based on the independent contributions of different attributes, each with a limited number of attribute levels. First, the analysis estimates the contribution of attribute levels to the overall evaluation for each respondent, called part-worth utilities or scores. Second, the relative importance of an attribute can be calculated from the part-worth scores. Both are estimated using the ordinary least squares regression, which is considered appropriate for analyzing rating-based conjoint analysis data (Jaeger et al., 2013; Shan et al., 2017). The range of part-worth scores of a characteristic indicates the importance of the characteristic: the higher the range, the more important an attribute is for overall acceptability. In addition to determining the part-worth scores, Pearson's R and Kendall correlation coefficients were also computed to show that the observed and predicted preferences are correlated. Kendall's tau statistics for holdout cards were also determined to serve as a cross-validity test about the model's ability to predict the score of the holdout profiles.

The measure of the relative importance of each attribute or factor was computed to determine the most and least important attributes based on the student's preferences. These values were computed by taking the utility range for each factor separately and dividing it by the sum of the utility ranges for all factors (Oyatoye et al., 2016). Cluster analysis was performed to identify groups (or segments) of students for whom different attributes were more important. Cluster analysis aimed to determine heterogeneity in student preferences utilizing the generated

part-worth scores as input. This analysis determined segments based on distinct preference profiles (Kuzmanovic et al., 2013; Kosasih et al., 2017). The formed clusters have high internal homogeneity and high external heterogeneity. The purpose was to create clusters in which the objects within the group were similar or related with greater similarity within a group and greater differences between groups indicating better clustering. This study used non-hierarchical clustering or usually referred to as k-means clustering. The process involved determining k random objects, and each initially described as a mean cluster or cluster center. Then, the new mean value for each cluster was calculated repeatedly until the criterion function was found. This method can only be applied when the number of clusters has been defined (Kosasih et al., 2017). In this study, three clusters were defined. After the three clusters were formed, conjoint analysis was conducted for each cluster to determine the value of part worth and the level of interest of the attributes within each cluster.

Reliability and Validity

To generate valid and reliable data, experimental designs must possess orthogonality and balance (Chrzan and Orme, 2000). It is orthogonal if all main effects and interactions can be calculated as independent variables, that is, without correlation between them. On the other hand, it is balanced when each level of each factor is repeated the same number of times in the overall experiment. This study qualifies to the statement of Huertas-Gracia (2015) that it would be easier to make fractions of profiles that are both orthogonal and balanced when the experimental design is formed by factors or attributes with an equal number of levels and such an experimental design is optimal. Harpman (2008) also stated that conjoint experiments are typically constructed to ensure the level of their attributes across profiles are orthogonal and balanced. Since this study

used an orthogonal design in generating profiles with the aid of statistical software and qualifies orthogonality and balance, the data gathered through the questionnaire were considered valid and reliable.

RESULTS AND DISCUSSION

Attributes and Attribute Levels

The first stage in the design of conjoint analysis was the selection of the attributes and attribute levels done through a preliminary survey. Aside from the responses of the student respondents in the pre-survey, some of the attributes generated for use in this study were the results obtained from the Learning Action Cell (LAC) conducted by the school where issues and concerns encountered on the distribution and retrieval of outputs for the first quarter of the school year 2020-2021 were being discussed.

Five attributes and their corresponding attribute levels were determined and shortlisted to be relevant to the responses of the teachers and students, as shown in Table 1. Responses that the researcher identified to have no relevance for the completion of this study were not included in the list of attributes and attribute levels. Various studies have found that there is an effect in the responses when there are differences in the number of attribute levels across attributes. The main result is that attributes with more levels systematically achieved higher importance than those with fewer levels. One way to deal with this problem is to design studies with almost the same number of attribute levels for each attribute (Rao, 2014).

Module Preferences of Students

After the attributes and attribute levels were determined, they were then combined to form hypothetical profiles or choices that were assessed by the respondents through rating each with a

Table 1. Attributes and attribute levels of the self-learning module preferences of the students of Tagugpo National High School.

Atttribute	Attribute Levels
Distribution	By barangay every Monday
	In school every Monday and Tuesday
Module Size	Booklet printing
	Whole page printing
Duration	4 subjects per week; two-hour lesson each
	8 subjects per week; one-hour lesson each
Assessment	Purely module activities
	50% Module activities and 15-item test
Returning of Modules	Every week
	Every quarter

Table 2. Hypothetical profiles of self-learning module distribution and completion.

Profile	Distribution	Duration	Assessment	Return of Module	Module Size
1	School-Monday and Tuesday	4 subjects/wk-2 hours/subject	Purely module activities	Every quarter	Booklet printing
2	School - Monday and Tuesday	8 subjects/wk - 1 hour/subject	50% Module activities and 15-item test	Every week	Booklet printing
3	Barangay – Monday	4 subjects/wk-2 hours/subject	50% Module activities and 15-item test	Every week	Whole page printing
4	School-Monday and Tuesday	8 subjects/wk - 1 hour/subject	Purely module activities	Every week	Whole page printing
5	Barangay– Monday	4 subjects/wk-2 hours/subject	Purely module activities	Every week	Booklet printing
6	Barangay – Monday	8 subjects/wk - 1 hour/subject	50% Module activities and 15-item test	Every quarter	Booklet printing
7	Barangay – Monday	8 subjects/wk - 1 hour/subject	Purely module activities	Every quarter	Whole page printing
8	School-Monday and Tuesday	4 subjects/wk-2 hours/subject	50% Module activities and 15-item test	Every quarter	Whole page printing
9	Barangay – Monday	4 subjects/wk-2 hours/subject	Purely module activities	Every quarter	Whole page printing
10	Barangay –	8 subjects/wk -	Purely module	Every	Booklet

number from 1 to 10, with 1 as the least preferred choice and 10 as the most. The attributes and attribute levels shown in Table 1 produced 32 hypothetical profiles. Since it is difficult for the students to assess and rate these many profiles, the number is reduced to eight profiles with two holdout cases through an orthogonal design – a total of 10 hypothetical profiles assessed by the learner respondents. These profiles are shown in Table 2 that follows.

Furthermore, the data obtained were processed to determine each attribute's level of interest (relative importance) and the part-worth utilities of each attribute level. Table 3 below shows the part-worth utilities of each level of attributes. These will determine the preferences of the students within the attributes.

Table 3. Part-worth utilities of each attribute level.

Attributes	Attribute Levels	Part-worth Utilities
Distribution	by Barangay every Monday	0.145
	in school every Monday and Tuesday	-0.145
Module Size	Booklet printing	0.107
	Whole page printing	-0.107
Duration	4 subjects per week; two-hour lesson each	-0.399
	8 subjects per week; one-hour lesson each	-0.798
Assessment	Purely module activities	-0.431
	50% Module activities and 15-item summative test	-0.862
Returning of Modules	Every week	0.460
	Every quarter	0.920

	Value	Significance
Pearson's R	0.982	.000
Kendall's tau	0.929	0.001
Kendall's tau for holdouts	1.000	< 0.001

As discussed earlier in this paper, the attribute level with the higher utility value would mean a greater preference for that attribute. The utility scores presented in Table 3 show that the students preferred a module distribution to be held in their respective barangays on Mondays rather than school distribution scheduled on Mondays and Tuesdays, which is evident in the utility estimates of 0.145 and -0.145, respectively. Booklet printing is also preferred by the students over its whole-page printing counterpart with utilities of 0.107 and -0.107, respectively, coincidentally, what is being adopted by the school. For the attribute level Duration, we can say that a larger negative value for utility means lower utility; therefore, we can say that students preferred four subjects per week with a duration of two-hour lessons each (utility = -0.399) rather than being given all the eight subjects (utility = -0.798). This result supports the finding of Meginnis and Campbell (2017) that students prefer modules being given in half a number with the lesson duration doubled rather than being given all the modules

even with a one-hour lesson each. They also preferred doing purely module activities rather than a 50% module activity with a 15-item summative test. This shows that students would choose an arrangement where there is no summative test or examination, which still supports the finding of Meginnis and Campbell (2017), wherein students would choose the assessment scheme with higher consideration for module activities to contribute to overall module grade. It can also be seen in the table that the part-worth utilities of both Duration and Assessment are all negative, which can be due to the idea that the students are looking for better options to be included in the attribute levels. And lastly, Returning the Modules at the end of each quarter is preferred by the students rather than doing that every week, which can be understood because previous modules can still be used as reference or review materials for the activities of the present ones. Also, some of the modules consist of lessons that will cover several weeks of students' outputs.

The Pearson's R correlation and Kendall correlation coefficient results show that the observed and predicted preferences are correlated positively with values of 0.982 and 0.929, respectively.

Kendall's tau statistics for holdout cards is used as a cross-validity test about the model's ability to predict the score of the holdout profiles. This implies that there is a very strong relationship between observed and predicted preferences for holdouts.

Most and Least Preferred Attributes

The importance values of each attribute will determine which attribute is the most important and which one is the least. The attribute with the highest importance value is considered the most important, and the one with the lowest importance value is considered the least important. It can be seen in Figure 1 that the most important attribute of the learner respondents is the Returning of Modules, with an importance value of 25.65%. It means that most of the students care most about when their modules should be returned. This may be because the lessons presented in each module are a continuation of the previous ones, and they could need the earlier modules for future reference.

Despite the negative part-worth utility scores of its attribute levels, assessment has shown to be second by importance (24.04%). This may be due to
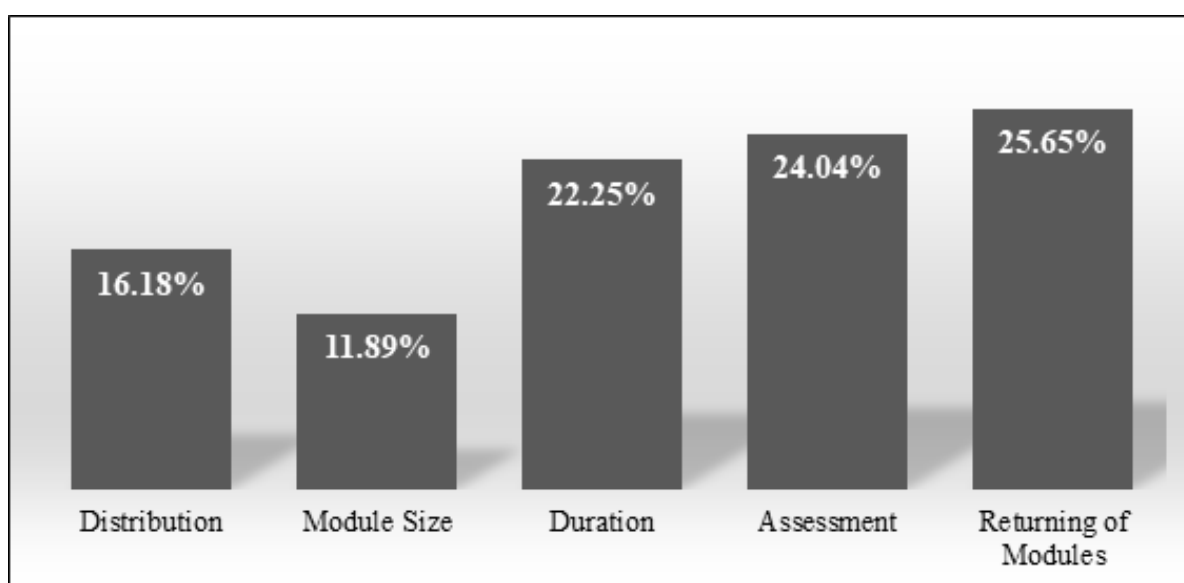

Figure 1. Averaged importance values of each attribute.

the reason that students are very concerned with answering their modules given the limitation of teacher-learner interaction. That assessment is critical in accomplishing the self-learning modules. The least important attribute for the students is Module Size having the lowest relative importance value of 11.89%. This may be because the students do not care much about how small or big their modules are, provided that the contents are readable and comprehensible, as it may not directly affect their grades for each subject.

Segmentation in the Module Preferences

Cluster analysis was performed

to classify respondents into more homogeneous preference groups. This can be used in offering different module distribution and completion arrangements to different clusters of students. For this study, the K-means clustering method was used, and a three-cluster solution was chosen. Table 4 shows the total number of 184 respondents divided into three clusters with their corresponding importance scores and part-worth utilities. Cluster 3 is the largest segment, accounting for 41.03% (76 respondents) of the total number of respondents. This cluster prioritizes distribution and module size for having the largest importance score of 29.98%. Specifically, the respondents of this cluster preferred

Table 4. Cluster analysis results of part-worth utilities.

Attributes	Attribute Levels	All Respondents		Cluster 1 n=49 (26.63%)		Cluster 2 n=59 (32.07%)		Cluster 3 n= 76 (41.30%)	
		Part worth Utilities	Importance Level	Part worth Utilities	Importance Level	Part worth Utilities	Importance Level	Part worth Utilities	Importance Level
Distribution	Barangay-Monday	0.145	16.18%	0.542	39.25%	0.2	9.80%	-0.194	29.98%
	School-Monday and Tuesday	-0.145		-0.542		-0.2		0.194	
Assessment	Purely Module Activities	-0.431	24.04%	-0.13	9.43%	0.725	35.54%	0.061	9.48%
	50% Module Activities and 15-Item test	-0.862		0.13		-0.725		-0.061	
Return of Module	Every Week	0.46	25.65%	0.146	10.57%	-0.465	22.79%	-0.129	19.92%
	Every Quarter	0.92		-0.146		0.465		0.129	
Module Size	Booklet Printing	0.107	11.89%	0.349	25.28%	0.23	11.28%	-0.194	29.98%
	Whole Page printing	-0.107		-0.349		-0.23		0.194	
Duration	4 subjects/ week - 2 hours/subject	-0.399	22.25%	-0.427	15.47%	-0.84	20.59%	0.138	10.64%

a whole-page printed module distributed in the school every Monday and Tuesday, which may be due to the reason that these students are residing near the school or in the area where the school is situated and whose parents or guardians are willing to visit the school once every week. Its least priority is the assessment, with only a 9.48% importance score and positive (utility score = +0.061) that accomplishing purely module activities is their preference given that some of the activities therein have answer keys at the end.

Cluster 2 is the second-largest segment (32.07%, 59 respondents). Opposite to Cluster 3, this cluster prioritizes assessment with an importance score of 24.04% and is also specified that doing purely module activities (+0.72) is preferred by the students (similar to Cluster 3).

The smallest segment among the three clusters is Cluster 1, which contains 49 respondents (26.63%). This cluster prioritized distribution, with most of the members preferring their modules to be distributed and returned at their respective barangays or areas. This may be because the members of this cluster live outside Tagugpo and may find it inconvenient for their parents or guardians to come to school every Monday or Tuesday. This cluster preferred to be given a 15-item summative test aside from the 50% module work, which can

be due to the idea that the students from this cluster do not rely on answer keys for them to be able to accomplish their module tasks. They may also be willing to be given a 15-item summative test aside from the 50% module activities. The main preferences of each cluster for the module distribution and completion can be seen in Table 5.

This study shows that the content of the self-learning modules is not the only factor that affects the students' success in their academic endeavor in modular distance learning, but also the schedule and location of distribution and return of modules, size of the module, duration, and assessment. In a time when students experience education through self-learning modules, it is only fitting that we ask their opinions on how they want their modules to be distributed and accomplished. Considering that, they will be more likely to provide positive feedback and score the modules more favorably if modules are designed with their preferences in mind (Meginnis and Campbell, 2016). This may also prevent the cases of students dropping out of school if the distribution and completion of modules are based on their preferences and accomplished at their own pace. Though this may be the case, module distribution and completion may still align with school and DepEd's regulations. A big part of the student's success in their module activities also comes from their

Table 5. Main preferences of each cluster.

| Clusters | Attributes | | | | |
	Distribution	Assessment	Return of Module	Module Size	Duration
Cluster 1	Barangay-Monday	50% Module Activities and 15-Item test	Every Week	Booklet Printing	4 subjects/week-2 hours/subject
Cluster 2	Barangay-Monday	Purely Module Activities	Every Quarter	Booklet Printing	5 subjects/ week-2 hours/subject
Cluster 3	School-Monday and Tuesday	Purely Module Activities	Every Quarter	Whole Page printing	8 subjects/week-1 hours/subject

parents and guardians, who are allowed to claim and return the modules and submit the outputs. For this reason, the mode of distribution and submission may also be tailored according to their convenience and availability.

Outside the scope of this study is the relationship between the module preferences of students and their grades, as well as the tendency of student dropouts. Therefore, a further extension of this research would be to examine the link between module preferences, student learning outcomes, and dropout intentions.

CONCLUSION

This study revealed the attributes that have affected the self-learning module preferences of the students, namely, distribution, duration, assessment, returning of the modules, and module size, each with two levels. Each of these attributes has two levels. The attribute distribution has the levels of Barangay distribution on Mondays and Tuesdays and School distribution every Monday. The attribute duration is represented by the levels of eight one-hour subjects per week and four two-hour subjects per week. The attribute assessment came in two levels, namely, purely module activities and 50% module activities with a 15-item summative test. The fourth attribute, Returning Modules, can be done weekly or at the end of every quarter. Lastly, attribute Module Size has levels of whole-page printing and booklet printing. After the conjoint analysis, it came out that the students of Tagugpo National High School prefer their self-learning module to be printed in booklet form, distributed in their respective barangays on Mondays, and returned at the end of every quarter. They also preferred to be given only four subjects per week with a two-hour duration each and accomplish only the activities found in the modules

with no summative tests.

The most important attribute to the students is Returning of Modules, and the last is Module Size. The three clusters that resulted from the importance level of the data attributes of each respondent resulted in three different preference combinations: Cluster 1 prioritizes Distribution, Cluster 2 prioritizes assessment, and Cluster 3 prioritizes both Distribution and Module Size.

This study is only limited to the printed self-learning module distribution and completion preferences of the students of TNHS. The contents of the modules and how they are being presented therein are not one of the concerns of this study. The characteristics of the respondents from each of the three clusters were not generated, which means it lacks the capability of determining which specific group of students will be catered with a specific module distribution and completion scheme.

The results of this study may not apply to a school of a larger population or even to a different school of the same size as that of TNHS. The five attributes used in this study were limited to those identified and shortlisted by the researcher based on the teachers' LAC results and the responses of the selected senior high school students of Tagugpo National High School. Thus, other factors that play a part in creating students' module preferences can be considered for future related studies.

It is recommended that self-learning modules may be distributed in the respective barangays of the students and then finish by the end of each quarter. Alternatively, since learner respondents are divided into three clusters regarding module distribution and accomplishment, they may also be given three options to choose how they want their modules to be distributed and accomplished.

Since the attribute Duration and

Assessment showed negative results for their attribute levels, it is suggested that the administrator and the teachers of Tagugpo National High School may reconsider the duration of the modules in terms of the quantity of modules and lessons studied by the students in a week. It is also suggested that an assessment scheme be reviewed to cater to the students' capabilities during this time of independent learning. It is recommended that the assessment part of the module be made to be attractive and effective for the students, given the fact that students will accomplish modules with little or no teacher intervention at all. Furthermore, this study suggests that varied module distribution and completion schemes may be considered to meet the different preferences of each group of students.

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