Acceptability and Effectiveness of Developed Learning Modules for Elementary Pre-Service Teachers

Ritchelee B. Alugar

Elementary Education Department, Bukidnon State University
Malaybalay City, Bukidnon, Philippines, 8700

Abstract *- This Quality in Preservice teacher education, especially in the abrupt shift to flexible learning, entails the use of instructional materials such as learning modules. This study is primarily aimed in evaluating the level of acceptability and the effectiveness of these developed modules, as assessed by student users. A mix-method case study design was employed and participated by One-hundred eighty-nine Bachelor of Elementary Education Students. The Professional and Elementary Education Modules for the 1st semester of academic year 2020-2021 were assessed along with the acceptability and effectiveness as they experienced using them. It was found that the modules, generally, are highly acceptable in all components namely; Outcomes, Contents, Learning Activities, Assessment Tasks and Language, Organization and Design Characteristics Moreover, its was revealed that the developed modules were effective in developing independent learning and metacognitive thinking and other thinking skills such as creativity and critical thinking. The importance of supplementary discussions and elaborations from the course instructors, together w/ the provision of timely feedback also emerged. The utilization of some methodologies which require collaborative/group, field/community-based and technology driven activities were revealed to be less effective in their context. Lastly, the external factors that each student has to deal w/ in accomplishing these modules, greatly influences their total module experience and their assessment of the effectiveness of the modules.*

Keywords (Size 10 & Bold) — *Learning Modules, acceptability, effectiveness,*

I. INTRODUCTION

Developing instructional materials are given premium importance in higher education institutions. Instructional materials (IMs) contain text and diagrammatic representations of ideas and practices that frame classroom activities and assist teachers in reaching goals that they presumably could not or would not achieve on their own (Brown, 2009). Anderson (2003), highlighted that many students prefer the use of instructional materials because it allows them to work actively and directly with a material at hand.

According to Kenobi Krukru, IMs help facilitate effective teaching and learning. It supports students in increasing their knowledge and better understanding of the content. It constitutes tangible content, thus making the teaching and learning process easier and comfortable. Ezekoka (2008) added that IMs are considered an important component of the T-L process as a delivery modality since they carry important messages, data and information from a transmitting source(teachers) to the receiver (learner). Further, the use of IMs are found to enhance academic achievements as they help visualize the concepts learned and its relationship to others. Similarly, Gray (2007) concluded that using workbooks/worktexts is advantageous, resulting in not just greater standardized test results but also increased in student's self-direction, retention, fundamental process skill, reasoning capacity, and problem-solving ability. They help teachers convey knowledge in a very natural way leading to good teaching and learning processes (Koko, 2015).

In the case of higher education, not all subjects have commercially available books and learning materials. The highly-disciplinal nature of subjects in tertiary education necessitate teachers to develop instructional materials that adequately supports the kind of learning experiences, and potentially achieves the expected learning outcomes. The shift towards highly individualized programs of instructions stressed the need to develop instructional materials (Gibbon, 2004).

The instantaneous shift of schools towards flexible learning modalities, as a result of the spill-over effect of the COVID-19 pandemic to the education system, necessitated the teachers to develop instructional materials to cater to the learning needs of students who are into emergency remote education. Bukidnon State University, with its quest for learning continuity and to deliver continued educational services, shifted towards flexible learning and offered 3 modalities as approved by the Board, namely; e-module via Google Classroom and Google-meet; PDF module via email and facebook Chat; and, Printed Module and SMS/Phone call. Regardless of which modality as student prefers, each requires the development of instructional materials. Hence, BukSU initiated various mechanisms to capacitate the faculty and to develop policies and procedures to enable the developments of IMs. Resultantly, BukSU faculty, particularly the faculty members of the Elementary Education Program develop learning modules in Professional and Elementary Education for its Elementary Pre-service teachers.

However, the challenge is not just the development of these materials but also assessing how acceptable and effective they are to the users. There are various parameters to be considered in evaluating the acceptability of IMS. Contents, readability, and references are some factors commonly considered. In evaluating modules, different criteria should be considered. Moreover, Auditor and Naval (2014) highlighted that in their study criteria on objectives, content, design characteristics, learning activities, adaptability, clarity, and evaluation were rated as acceptable to strongly acceptable in evaluating developed instructional materials

It is in this context that this research would like to determine the student-users level of acceptability and effectiveness evaluation to the learning modules developed by the Elementary Education faculty along determined components. It is aimed to provide evidence-based recommendations towards improving how learning modules may be developed in the semesters to come.

The study aimed to determine the acceptability and effectiveness of the developed learning modules by the Elementary Education faculty of BukSU. Specifically, the study aimed to:

1. Determine the students level of acceptability of the developed learning modules in Professional and Elementary Education courses along the determined areas namely:
   a. Outcomes;
   b. Contents;
   c. Learning Activities;
   d. Assessment Tasks; and,
   e. Language, Organization and Design
2. Describe the effectiveness of the developed Modules based on the students' comments.
3. Propose an enhancement plan to help improve module development.

II. METHODOLOGY

A. Research Design

To achieve the objectives of this study, a descriptive Case-Study design was utilized, with the combination of quantitative and qualitative approaches taken together, to gather sufficient data and provide more valid results. A mixed methods case study design is a type of mixed methods study in which the quantitative and qualitative data collection, results, and integration are used to provide in-depth evidence for a case(s) or develop cases for comparative analysis' ' (Creswell & Plano Clarke, 2018, p.116).

B. Research Locale and Participants

The study was conducted in Bukidnon State University, a state university in Northern Mindanao. Particularly it is administered to the Bachelor of Elementary Education, College of Education. Elementary Pre-service teachers are the participants of this study. A total of 303 students were enrolled in the first semester of academic year 2020-2021, the first semester of the implementation of flexible learning. 189 students returned the online questionnaire; 141 of them are 3rd year, 17 are 2nd year and 31 are 1st year elementary PSTs. At the

semester of study, the college does not have 4th year students; hence, the respondents are from 1st year to 3rd year only.

C. Instruments

To facilitate the gathering of data, a researcher-made rating scale instrument was utilized. The instrument was validated before administration. It consists of 3 parts: (1) Demographic Information, (2) Acceptability Rating Scale for both the professional and elementary education developed modules, (3) Open-ended questions of students assessments of the modules' effectiveness.

D. Data Analysis

The data gathered from the questionnaire were analyzed using basic descriptive statistics of mean, to describe their level of acceptability of the developed modules. For the open-ended questions, generated themes from the qualitative data are used to describe their perceptions about the effectiveness of these modules after a semester of utilization. The interpretation of the five-point acceptability Likert Scale was based on the following mean interval and qualitative description.

Scale	Qualitative Description	
4.21 - 5.00	Highly Acceptable	HA
3.41 – 4. 20	Very Acceptable	VA
2.61 – 3.40	Acceptable	A
1.81 – 2.60	Slightly Acceptable	SA
1.00 - 1.80	Not Acceptable	NA

E. Ethical Considerations

Since there is human participation required in this study, all ethical guidelines on the data privacy act were followed. The online research instrument indicated the consent and disclosure information. The instrument specified that the respondent's participation is completely voluntary and that they can withdraw at any point in the study. Moreover, names of the participants are not revealed to provide anonymity and confidentiality.

III. RESULTS & DISCUSSION

Description of parameters used in testing acceptability of the developed modules are in terms of components namely; outcomes, contents, learning activities, assessment tasks and language, Organization and Design Characteristics. The discussion of results below are presented in such order.

A. Level of Acceptability of the Developed Learning Modules

1. In terms of Outcomes

In an outcomes based education, the significance of outcomes couldn't be underestimated. Table 1 shows that all the indicators in the Outcomes component are rated highly acceptable. Among these indicators, the relevance of the competencies needed as elementary teachers is rated the highest for the elementary education modules, while the development of critical thinking, creativity and graduate attributes of an elementary pre-service teachers ranked the highest for the indicators under the professional education modules.

Table 1: Level of Acceptability in Terms of Outcomes of the developed Modules

Indicators	Elementary Education		Professional Education	
	Mean	QD	Mean	QD
a.1. The learning module specified the course Outcomes (Cos) intended.	4.52	HA	4.59	HA
a.2. The Specific learning outcomes (SLOs) in the modules are aligned to the course outcomes.	4.57	HA	4.60	HA
a.3. The Cos and SLOs indicated in the modules are attainable.	4.51	HA	4.53	HA
a.4. The Cos and SLOs develop critical thinking, creativity and graduate attributes of an elementary pre-service teacher.	4.53	HA	4.62	HA
a.5. The Cos and SLOs are relevant to the competencies needed as an elementary teacher.	4.59	HA	4.60	HA
Over-all Average	4.54	HA	4.59	HA

It can further be gleaned that the difference between the scores of each indicator do not significantly differ from each other. This shows that the attainment, alignment and level of complexity of the outcomes intended for the modules were rated highly acceptable. The students believe that the developed modules were able to specify its intended outcomes, and are even further cascaded in alignment towards its more specific statements of specific learning outcomes. Though all indicator were rated highly acceptability, the indicator on attainability of the outcomes was statistically the lowest in both the elementary and professional education.

2. In terms of Contents

Table 2 presents students ratings pertaining to the acceptability of the contents of the developed modules. Like the results gathered from the previous component, contents also had a highly acceptable rating of 4.48. The relevance of contents to its corresponding course outcomes ranked highest in the elementary education modules while the logical arrangement of contents in professional education ranked the highest.

The high level of acceptability of the developed modules in terms of content may potentially be attributed to the orientation of the instructors who developed the modules regarding the nature of the course, which is a board course. For such reason, PSTs must be properly equipped with pedagogical-content and research-based knowledge. Hence, an adequate amount of content is included in the modules. The modules had integrated important information from reference materials. This would ensure that the students would have a better grasp of the subject matter contents pertaining the specialization courses and professional studies.

Table 2: Level of Acceptability in Terms of Contents of the developed Modules

Indicators	Elementary Education		Professional Education	
	Mean	QD	Mean	QD
b.1. The contents included are clear and easy to follow	4.40	HA	4.56	HA
b.2. The information is presented in the students' level of comprehension	4.45	HA	4.55	HA
b.3. The contents and information were arranged logically	4.45	HA	4.58	HA
b.4. The contents are presented coherently and with continuity	4.5	HA	4.55	HA
b.5. The contents are relevant to the course outcomes	4.60	HA	4.57	HA
Over-all Average	4.48	HA	4.56	HA

3. In terms of Learning Activities

The data on Table 3 provides information on the level of acceptability of the module's learning activities as assessed by the student users. As the table reveals, the constructive alignment of LAs to outcomes and contents; the utilization of varied strategies; the provision of opportunities of active involvement; the integration of innovative digital tools and the adequate development of concepts through the LAs in the module attained a mean score of 4.53 or "highly acceptable."

Table 3: Level of Acceptability in Terms of the Learning Activities of the developed Modules

Indicators	Elementary Education		Professional Education	
	Mean	QD	Mean	QD
c.1. The LAs are constructively aligned to the outcomes and contents.	4.56	HA	4.61	HA
c.2. There are varied strategies and learning modes employed in the provision of LAs.	4.52	HA	4.53	HA
c.3. The Las provide opportunities for active involvement of the students.	4.50	HA	4.53	HA
c.4. Innovative digital learning tools, and various media are encouraged in performing the LAs in the module.	4.54	HA	4.55	HA
c.5. The LAs appropriately and adequately develop the concepts intended.	4.52	HA	4.55	HA
Over-all Average	4.53	HA	4.57	HA

It can be gleaned from the data that the module developers for both elementary and professional education courses performed a successful work in assuring constructive alignment of the activities to the intended outcomes and content. This rating is specially significant in alignment to the Outcomes-based curriculum design that is being implemented by the school. Constructive alignment is an outcomes-based approach to teaching in which the learning outcomes that students are intended to achieve are defined before teaching takes place. Teaching and assessment methods are then designed to best achieve those outcomes and to assess the standard at which they have been achieved (Biggs, 2014)." Assuring the constructive alignment of the elements of the curriculum helps achieve a high quality curriculum.

It can be further deduced that the high acceptable rating in terms of the provision for students active involvement may be attributed to the significant inclusion of varied strategies and modes and even the integration of innovative digital tools that invites students involvement. This has to be given notice specially that in a pre-service preparation program, these PSTs must adequately be exposed with active and varied learning activities that engage them to meaningful learning experiences, and would potentially help them in possessing the graduate attributes and competencies required of an elementary teacher.

4. In terms of Assessment Tasks

Teaching and Learning process isn't complete without assessment. In the same way, developed modules aren't complete without appropriate and accurate assessment tasks. Assessments are inherent in every learning experience. It determines what and how much knowledge, principles, and other pieces of information have been acquired. This explains the important role of evaluative exercises in instructional materials like a module (Salcedo, 2016)

Table 4 illustrates the level of acceptability of the assessment tasks or evaluative activities included in the modules, as gauged by the student users. The provision of varied types of assessment, with a rating of 4.75, highly acceptable and which is the highest rated indicator in this component is deemed a commendable action

performed by the developers. The finding validates Zulueta (2006) contention on the concept that evaluation must utilize a variety of measurement instruments and techniques to be more effective.

Table 4: Level of Acceptability in Terms of Assessment Tasks of the developed Modules

Indicators	Elementary Education		Professional Education	
	Mean	QD	Mean	QD
d.1. Assessment Tasks are constructively aligned to the intended outcomes and Learning Activities.	4.53	HA	4.57	HA
d.2. Varied types of Assessments are employed in the modules.	4.75	HA	4.55	HA
d.3. Assessment tasks are worded and presented within the students' level of comprehension.	4.51	HA	4.53	HA
d.4. Assessment tasks requires critical thinking, creativity, collaboration and communication skills.	4.56	HA	4.54	HA
d.5. Assessment tasks are doable and has an appropriate level of complexity.	4.51	HA	4.58	HA
Over-all Average	4.67	HA	4.55	HA

Though a high acceptability rating was sought for the indicators 3 and 5 (level of comprehensibility and complexity of how the assessment tasks were worded), it still received the statistically lowest rating compared to the rest of indicators. This implies something on how the teacher-developers may write, draft and present the module assessments. Though the contents of what is being assessed may be aligned; the manner of how they are presented may also contribute on students perception of comprehensibility and complexity of the module's assessment tasks. Improving this aspect of assessment formulation confirms to the argument of Zulueta (2006) who said that evaluative exercises should be easy for students to understand and appropriate in the degree of difficulty.

5. In terms of Language, Organization and Design Characteristics

The design of the module is very important in attracting the reader's attention (Salcedo, 2016). Like the previously presented components; the language, organization and design characteristics were also rated as Highly Acceptable, with 4.59 and 4.61 mean average for elementary education and professional education, respectively. The data presented in Table 5 showed that the use of illustrations, graphics, pictures and visuals received the highest statistical rating for Elementary education. To provide a more meaningful module experience, the inclusion of necessary illustrations and graphics is of an advantage. It doesn't just improve the aesthetic sense of the modules, but also can potentially facilitate and transfer of learning. This corroborates the idea that instructional materials must be attractive, inviting, and a pleasure to look at and be readable.

Table 5: Level of Acceptability in Terms of Language, Organization and Design Characteristics of the developed Modules

Indicators	ELEMENTARY Education		Professional Education	
	Mean	QD	Mean	QD
e.1. Appropriate structure, styles and format is followed and consistently maintained.	4.53	HA	4.57	HA
e.2. There is an observation of correct grammar.	4.56	HA	4.57	HA
e.3. Vocabulary used are familiar, and comprehensive.	4.56	HA	4.80	HA
e.4. There is an appropriate use of illustrations, graphics, pictures and visuals.	4.79	HA	4.52	HA
e.5. There is an appropriate use of font style, size, spacing and positing of characters.	4.49	HA	4.58	HA
Over-all Average	4.59	HA	4.61	HA

Talking about the mechanics and language used, the comprehensive nature of the vocabulary surely facilitates the concept of scaffolding and the logical progression from simple to complex. This indicators received the highest rating of 4.80 , highly acceptable for the professional education subjects. The comprehensiveness of vocabulary matters most in making sure that the language considers the student's level of understanding. When the level of vocabulary is appropriate, transfer of learning is easier and the guarantee for comprehension is higher.

B. Developed Module's Effectiveness based on Qualitative Comments

To reinforce the survey on acceptability, qualitative "open-ended question" were also asked from student users to examine their comments regarding the effectiveness of the developed learning modules. The themes generated reveal the common accounts of the student-users pertaining their perceptions and opinions of the modules developed during the 1st semester of 2020-2021.

1. The significance of supplementary discussions and reinforcements from the instruction

Though modules are developed to be independent, self-directed learning materials, the necessity of having a supplementary inputs, reinforcements and discussions from the course instruction was revealed as one of the common opinion of the student-users.

Responses from the students illustrate that through the materials itself are well-developed, the presence and availability of the instructor, in providing guidance and clarifications to some queries will make the module-learning experience more effective. Some responses which reflect this finding are the following:

"The materials are well prepared, but personally I a need the guidance of the teacher for more comprehension"

"I suggest that, instructors may give more time in discussion so that we students will become more motivated and feel that we are still in a classroom environment."

Since remote and distance learning is new to these students, transitioning and adjusting from the residential learning may take some time. It warrants the importance of the teacher's availability to respond to these students for queries. Different types of learners, may have different forms of assistance needed over the same learning module. Thus, it is important not to assume that since others can work without any reinforcement, then the entire class could also do so. This also is resonated in the next responses:

"The effectiveness of the LA and assessment task in modules is kinda hard some of the instructions needs a further explanations."

"The tasks and activities are inclined to the lesson. Some activities are easy to understand but there are a few that is hard to understand. But it is okay since the instructors are open for questions and clarifications."

2. The developed modules effectiveness in developing thinking skills such as metacognition, critical and creative thinking; as well as Independence.

One theme which emerged from the qualitative data revealed that the modules used by the students were able to help them develop critical thinking, creativity, and metacognition which are essential thinking skills in the 21st century. Further, the use of these module in a flexible learning set-up allowed them to gain life skills in managing time, setting priorities and even developed the important quality of independence.

This finding affirms to what Gray (2007) emphasized stating that, workbooks/worktexts is advantageous, resulting in not just greater standardized test results but also increased in student's self-

direction, retention, fundamental process skill, reasoning capacity, and problem-solving ability. Common responses include:

> *"It gives us the ability to be critical in thinking and become more resourceful."*
>
> *"There are things that I have learned from the tasks given and it really helped me to think creatively and critically"*
>
> *"I can say it was effective for me because most of the activities are self-questions on what I have learned independently, what I can share and tell, dig on my imaginations and creative thinking not to rely on what googles answer can give. I focus on learning even a little to my activities. There are essays, use of technology that I badly need to hone because this is what we need in 21st century."*

3. *The challenges in performing group-based, technology-driven and Field based learning activities and assessment tasks*

Certain methodologies which were tested to be effective in a face to face modality may or may not be effective to students of different learning styles, with different learning modalities and geographical background, in a flexible learning set-up.

Group and collaborative activities which are team processes where members support and rely on each other to achieve a set objective and is considered an active learning strategy (Hassanien, 2006) received a different remark and opinion from students in the flexible learning set-up. **It was gleaned that coordination costs** which pertains to the time, energy that groupwork consumes, including the time it takes to coordinate w/ schedules, arrange meetings, make decisions collectively, integrate the contributions of group members, etc. (Eberly Center, 2021) may serve a challenging task to do considering that some members may not be reached due to the zero to slow internet connectivity, and even the lack of device and/or ICT infrastructure in their locality that supports his/her needs to stay connected to groupmates. Hence, giving more work to the group leader. Some responses include:

> *"I encounter difficulties of some activities because there are activity which were done by group and its hard to always connect with other members.*
>
> *"Group activity used as a strategy on our modules may not be so effective since a lot of group members didn't reply to the person who stand as a leader. Most of the group activities, only one or two people were doing it. If you will ask me, I prefer individual tasks in every activities"*

Aside from group/collaborative activities, some types of learning activities, assessment tasks and methodologies are found to be challenging by the students, this include technology driven assessments like video- presentation and video conference/interview. This may be attributed to the lack of facilities/ resources such as a functional device that support this type of activity.

> "*Although the task are somehow adapted to the new normal some of it is quiet hard especially the video presentations kind because of the unstable internet connection as well as the background noises which we can't do anything about."*
>
> *"All the learning activities and assessment tasks are engaging ang meaningful. There are just some activities that require face to face interaction like interviews, surveys, and etc. It's very difficult to approach people online because some are busy, some does not have stable internet connection, and some not comfortable responding through online chats & video calls."*

The complexity of performing field-based activities such as conducting an interview w/ teachers and administrators, case studies, observations and surveys, as experienced, and as required activities in the learning module, were challenging for the students. The restrictions in mobility posed by the public health crisis, which disallowed physical gatherings and events, coupled with the lack of internet connectivity made field/community-based pedagogies challenging to administer.

4. The provision of timely feedback as a helpful strategy

Feedback is paramount to students' progression. Sutton Trust Education Endowment Foundation found that providing constructive and purposeful feedback can add up to eight months' learning onto a student's education at a low cost. But in order for feedback and grades to have the maximum impact in the classroom, they need to be provided promptly and with clear direction (Spencer, 2017). Feedback is an important part of the assessment process. It has a significant effect on student learning and has been described as "the most powerful single moderator that enhances achievement" (Hattie, 1999).

In flexible learning where residential/face to face set-up is not applicable, like in current situation caused by the COVID-19 pandemic, instructor's feedback to the answers and module outputs of the students is of high importance. This allows the student to also monitor their own progress and be able to reflect and develop their own strategy on how to approach the next activities, chapters, units and requirements in their learning modules.

The need for a timely feedback was also revealed in the qualitative response of the student-users, some common responses are the following:

> *"I would have been motivated to submit my answers in the google classroom if the activities are checked as soon as possible and if there is a feedback before the instructor will send another activity so that it will keep me in touch and focus in learning and not easily get distracted with my personal problems"*

> *"Learning Activities greatly help us to enhance our learning although feedback is necessary to administered our learning processes."*

The importance of proving timely feedback should be highlighted. Learning modules, to increase it's effectiveness and acceptability to users must be coupled with the appropriate teacher interventions and inputs, which may come in the form of feedback. Considering as well that feedback becomes effective and valuable when it is received, understood and acted on. How students analyse, discuss and act on feedback is as important as the quality of the feedback itself (Nicol, 2010). Through the interaction students have with feedback, they come to understand how to develop their learning. And this potentially increases the effectives of the learning modules.

a. The influence of external factors in the total effectiveness of the modules

Effectiveness and acceptability of the modules is influenced significantly by the external factors. The quality of how the modules are written/developed will still be affected by the different factors that a user has to deal with upon the utilization of these modules. External factors include technology, physical environment, time, household set-up and other resources that isn't explicitly part of the developed modules, but have to be present for the module to be of used. This resonated to accounts such as,

> *"Sometimes modules make you hard to focus due to the setting of an environment where you live in, and most importantly, the concerns about the level of connectivity of technology which is very important in today's learning. It is sad to think that, if you have no stable internet connection and gadget to use, it will really take time to finish the module, even if you choose those printed modules, you still have to use an internet, in finding relevant sources for your lessons"*

> "The external factors are the great reasons why I struggle but with the modules, I am glad to say that I was able to face them."

"Some are easy and some are hard because there are activities that I have no equipment"

Time is also of the essence. The survey revealed on how time influences the experience of the students in using their learning modules. It was revealed that the students struggle in accomplishing their modules especially if they have a scant time to finish them. It usually happens when different instructors from different subjects set the same deadlines in the submission of their modules. This finding was gleaned from responses like:

"It's quite hard and some activities have the same due dates, so I hope different subjects will have different deadlines.

"The modules had served its purpose. But it was not easy to answer them especially when they come in bulk because we tend to get overwhelmed and confused on which to answer first. However, it still provided us with some knowledge that are surely useful for us."

"It is better to give the activities with allotted time of submission to encourage us to answer our modules on time."

IV. CONCLUSION

In view of the findings of the study, it can be concluded that since the modules were rated highly acceptable by the student users in all the components/criteria, continued utilization of these modules in the Bachelor of Elementary Education major and professional education courses with considerations for enhancements of some areas, may be pursued. Enhancements of these modules may increase user satisfaction and meaningful module utilization experience which further improves the acceptability and effectiveness of these modules.

Furthermore, the modules were successful in being able to develop essential thinking skills such as metacognition, creative and critical thinking together with attributes of independence and learning accountability. A through consideration to the geographical, economic and social background of the learners must be done in planning for the type of methodologies, learning activities and assessment tasks to be employed in the modules and the provision of timely feedback must be assured.

Other factors also play a significant part in the effectiveness of these modules. The type of methodologies employed in the specific learning activities and assessments tasks may become ineffective if not coordinated well to context and situation of the users. This includes the use of field/community-based, technology driven and collaborative activities.

Most significantly, the self-directed and independent learning nature of the developed modules did not totally abolish the need for the virtual presence of the course instructor. Necessary clarifications, elaborations and reinforcements would still come from the instructor. Hence, the effectiveness and acceptability of these modules is still influenced significantly by how it was administered and facilitated.

IV. RECOMMENDATIONS

The authors recommend that faculty IM developers strategize the group activities employed in the modules, such as assigning lesser number of group members and regulating the frequency of the provision of group activities. Profiling of student-users may be done as part of the module pre-development stage to ascertain the geographical, economic, social and even technological background of the learners. This will potentially help the IM developers to examine the feasibility of the different methodologies, activities and assessment tasks.

The author also recommend that monitoring mechanism may be developed to ensure that necessary discussions and reinforcements were provided to the student users. This mechanism must be able to monitor that the faculty are also providing timely feedback to help students understand their own learning progress, and to avoid the provision of feedbacks only at the end of the semester. This also implies that the school administration

may consider assessing the workload of the faculty to ascertain if the workload affects their presence and availability for the instructional needs of the students.

Lastly, the author recommends that research studies may be conducted to ascertain the effectiveness of the modules to the different teacher-users. Specific areas of module implementation, such as determining whether the different types of modules (e-module, PDF module and printed module) has significant different when tested along the academic performance of the students. A goal-based evaluation may also be endeavored to examine, in a much specific lens, how these modules develop the expected competencies for Elementary Education preservice teacher. And Development researches may be done to be able to develop prototypes and exemplar modules that are contextually effective and acceptable to elementary preservice teacher

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