Macrothink Institute™

Global Journal of Educational Studies
ISSN 2377-3936
2016, Vol. 2, No. 1

Module Development in Home and Family Living for College Students of a State University in the Philippines

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Received: May 2, 2016 Accepted: May 17, 2016 Published: May 27, 2016

doi:10.5296/gjes.v2i1.9539 URL: http://dx.doi.org/10.5296/gjes.v2i1.9539

Abstract

This paper generated a module in Home and Family Living along the six units in Technology and Livelihood Education (TLE): The Filipino Family; The Teenager; Making and Keeping Friends; Looking towards Marriage; Towards Responsible Parenthood; and Home Care Nursing. This instructional material was prepared on the assumption that given adequate and meaningful instruction in the different units, the module can enhance the teaching-learning process, and help students master the content and skills required of a TLE teacher. In the development of the module in HFL, the researchers followed the research and development cycle called research-based development technology, using the ADDIE Model's stages. The major steps in developing the module included analysis, design, development, implementation, and evaluation; each stage is composed of different phases. After the construction of the module, it was examined and content-validated with regard to objectives, content, instructional characteristics, and practice test items, using a rating scale by seven experts from the different fields in Home Economics. The module was found highly valid in all its aspects, and revisions were made based on the suggestions given. Subsequently, 25 TLE students and seven teachers assessed the usefulness of the module. The evaluators adjudged the material useful as revealed by their testimonials; therefore, it was concluded that

the material was more effective than traditional, lecture-based classroom teaching strategy. It was recommended that this validated module be published, reproduced, and utilized to supplement the existing materials employed by the students and the teachers to help them develop the required competencies, and further master the content and skills required of a TLE teacher.

Keywords: Module development, Technology and livelihood education, Home and family living, ADDIE model

1. Introduction

In the Philippines, the education sector encounters major criticisms, especially in the area of instruction, which is held liable for producing low quality teacher education graduates. Nevertheless, instead of engaging in a blame game, it would be more productive if measures to redirect the focal point of education towards innovative means of pedagogical delivery are accomplished. And since pre-service education institutions are mandated by law as the training ground in preparing future teachers, they are expected to harness the potentials of prospective educators and equip them with modern instructional methods and strategies, as well as new ideas to satisfy the educational needs of the learners.

Within the context of this study, the College Educational Committee of the State University located at the northern part of the Philippines maintained that it is imperative to strengthen its Bachelor in Secondary Education (BSE)-TLE curriculum through the introduction of courses that will help students achieve competence in their field, practice creativity and resourcefulness in the development and use of instructional materials, and become adaptive to paradigm shift in the teaching-learning process.

In 2001, Salandanan opined that the ability to organize and develop self-instructional materials, such as modules that match the degree of preparedness and cognition of students is an essential skill that effective and efficient teachers have. A self-instructional material (SIM) can yield several benefits to the students and to the teachers as well. This type of educational source is typified by small-step, sequential, and concept-and/or skill-oriented framework of a certain unit learning. The use of SIMs is an effective strategy to introduce fundamental knowledge to the class, allowing for more time allotted to meaningful discussions than teacher-centered lectures. It can also be a useful strategy for remediation sessions, especially for low performing students, and in carrying out enrichment activities intended for the talented, intellectually gifted ones. The integration of modules in the pedagogy, according to Engles (2006), enables the students to comprehend challenging concepts and provides the teacher an opportunity to address the individual learning needs of the students. Certainly, being able to maximize the various functions of SIMs in the different dimensions of the education process can eventually boost learning not only on the part of the learners but on the teachers' as well.

With the Philippine educational curriculum placing its favors on discovery learning, individualized programs in all levels of classroom instruction have become the trend in the academe. SIMs have been applied in a wide range of learning environments—school, trade and industry, and ICT—and tasks, such as performance-based, product-based, or process-based, in order to bring about satisfactory learning among the diverse strata of learners; therefore, it becomes imperative for teachers to have the foundational knowledge and adequate skills in the creation of such instructional material. The teacher-developer should ensure that the material should be designed in a manner that accommodates the different needs, motivations, and expectations of the learners, should be contextualized and localized, and should not exhibit prejudices in relation to gender, culture, and race.

The State University in the northern part of the Philippines, the context from which the

sample for this study was drawn, encourages its faculty members to plan, and develop their own instructional materials, and eventually subject these to expert validation for refinement of essential elements. However, there remains a dearth of self-instructional materials in some of its colleges' departments, and the Technology and Livelihood Education (TLE) department is one of those that fall short of teacher-made modules and other learning resources. This is a pressing concern because the field of TLE demands that students engage themselves in activities, which promote independent study, critical thinking, resourcefulness, and research-based learning—all of which can possibly be successfully acquired and learned through SIMs.

Home and Family Living (HFL) is a three-unit course under TLE which is a required course for those enrolled in the BSE-TLE program. HFL course could be delivered to the optimum if the instructional materials adaptable to the special requirements of these kinds of students are available; however, there are no official textbooks, reading materials or modules used by the students. Instead, the teachers are left to their choices of textbooks, which are mostly under American authorships—at certain degrees, culturally distant. Likewise, the non-uniformity of syllabi is a prevalent problem. Other teachers choose hand-over texts which if replicated would cost quite a sum, and others are contented with assigning many topics and letting the students read books available online and in the library, and afterwards, report their readings to the class. This is the daily experience for both the teachers and students in the department, which needs reform. A common recommendation had been finally raised during the faculty development annual meeting and that is, to provide modules that will suit the comprehension level of the BSE-TLE students; it was unanimously accepted. Its acceptance recognizes the importance of SIMs, particularly the role it plays in improving the quality of education.

This research paper, specifically sought answers to the following questions: what topics in Home Economics, as suggested by the respondents, need to be included in the module to create a meaningful teaching-learning process; what is the content validity of the module in relation to objectives, content, instructional characteristics, and evaluative activities; how useful is the module to the target user; and, what modifications do teachers and students propose to improve the module?

2. Methodology

2.1 Research Design

The development and validation of the module focused on the ADDIE Model. It involved five stages: Stage I-Analysis; Stage II- Design; Stage III- Development; Stage IV-Implementation; and Stage V-Evaluation. The researchers utilized the descriptive method in determining the characteristics of the developed module. Documentary analysis was also used since the module evaluated has been previously developed by a faculty researcher.

2.2 Research Design

The study took place in a State University in the northern part of the Philippines. Two groups of samples that were purposively selected were used in this study. The first group is composed of 25 second year students in the BSE-TLE program who had taken the course

HFL. The group identified the topic that needs to be included in the module, and assessed the usefulness of the module. The second sample was composed of seven technical experts who assessed the content validity of the module. They were purposively selected based on their basic qualifications. These experts were: TLE professors/instructors who are majors in one or more components of Home Economics, and who have been teaching the component/s for at least five years. The characteristics of the group are shown in Table 1.

The majority (3 or 43%) of the experts have a master's degree with doctoral units; and four (57%) are doctorate degree holders. These show that the teacher experts possess the educational qualification to pass judgment with regard to the usefulness of the module. These teachers also handle Technology and Livelihood Education courses, hence, they possess the knowledge and skills required to identify whether the content and activities and the other components of the module can satisfactorily attain the objectives. The length of service of the experts ranges from 6 to 25 years, with a mean of 19.27 years, which indicates that they have sufficient experience in teaching TLE to be able to determine whether a course module is content valid or not. The ages of the experts range from 31-50 with a mean of 40.08, which indicates that the ages signify a maturity level credible enough to pass justifiable criticisms on the proposed module.

2.3 Research Instruments

Three instruments were used in the study. These are: survey questionnaire to determine what topics must be included in the development of module in HFL with regard to TLE. Part I is a consent letter requesting their full participation in the research study, and stating that their identity would remain confidential throughout the entirety of the research undertaking, and that precautions would be taken to ensure that no information would be given that would lead to their identification. Part II is focused on the topics or lessons to be included in the module. In scoring the responses relating to the needs to be developed, the researchers were guided by the following mode of scoring: 5-very greatly needed; 4- greatly needed; 3- needed; 2-somewhat needed; and 1-not needed.

To supplement the data collected, interviews were conducted at random to ask respondents what topics/components they feel should be included in the module. The willingness of the respondents to be interviewed was the primary criterion for respondents to be included in the interview.

Content Validation Scale. The developed module was reproduced and distributed, and is subject for content validation. This scale, which was constructed by the researchers, was used by the panel of experts who content-validated the module. Part I asked for the expert's age, length of experience in teaching TLE, and seminars, workshop and trainings attended. Part II contained a list of characteristics of a valid review material to which the experts indicated their agreement or disagreement using a four-point Likert scale, with 1 indicating strong disagreement and 4, strong agreement. Computed mean score per item were interpreted as follows: 3.26-4.00-strongly agree (highly valid); 2.51-3.25-agree (valid); 1.76-2.50-disagree (moderately valid); 1.00-1.75-strongly disagree (not valid). A "why" question followed every perceptual statement, to justify and to validate the respondents' perceptions. This technique

also provided a more comprehensive data for deeper analysis.

Table 1. Educational qualifications, length of service and ages of the panel of experts

Educational Qualification	Panel of Experts	
	No.	%
Ph. D/ Ed. D.	4	57.00
MA with Ed. D/Ph. D units	3	43.00
MA/MS/MAT/MTE	0	00.00
BS with MA units	0	00.00
BS	0	00.00
Total	**7**	**100.00**
Length of Service		
1 – 5	0	00.00
6 – 10	0	09.09
11 – 15	1	14.00
16 – 20	1	14.00
21 – 25	5	00.00
26 – 30	0	72.00
Total	**7**	**100.00**
Mean	**19.27 years**	
Age		
21 – 25	0	00.00
26 – 30	0	00.00
31 – 35	1	14.00
36 – 40	1	14.00
41 – 45	4	58.00
46 – 50	1	14.00
51 – 55	0	00.00
56 – 60	0	00.00
61 – 65	0	00.00
Total	**7**	**100.00**
Mean	**40.08 years old**	**100**

Interview Schedule. The usefulness of the module was determined using an interview schedule asking about its sound features and what needs to be improved. The instruments used in this study were subjected to face validation by experts in the State University. 15 copies of the first and second mentioned instruments were administered to respondents who were not part of the sample to further assess whether these could successfully gauge what they are intended to measure.

2.4 Data Gathering Procedure

The processes of the module's development and validation strictly adhered to the stages presented in the ADDIE Model (Dick & Carey, 1996; Leshin, Pollock, & Reigeluth, 1992).

Stage I-Analysis; Stage II- Design; Stage III- Development; Stage IV- Implementation; and Stage V-Evaluation. Each stage is composed of different phases.

The analysis involved administering instrument on the topics to be included in the module. The identified contents and components of the module were based on the result of the survey instrument. An analysis of all suitable and pertinent materials was conducted to find out what has been undertaken in the problem of the study and to acquire ideas regarding the format, technical details, techniques and modes of presentation of concepts, and skills to be developed in the module. The questionnaires were administered on-the-spot and collected immediately after respondents finished answering. This style was chosen to ensure 100% receipt of the questionnaires. The design involved the following phases; deciding on the format of the module, the process of writing the module and the initial revisions needed to improve the first draft of the module. The researchers carried out intensive and extensive surveys of books, magazines, journals, and brochures on TLE. Existing instructional materials on TLE were also carefully examined. The development is the stage where the module was then written considering the formats, design and components, and was patterned after the following features: objectives, content update and practice test items. In the implementation part, pilot testing of the module was conducted to the BSE –TLE students who were asked to determine the usefulness of the module, and who provided observations and comments about it. In the evaluation, TLE teachers were asked to assess the content-validity and appropriateness of the material.

The module was submitted for evaluation to experts and TLE teachers, who were requested by the researchers to: (1) go over the objectives of each component; (2) identify content which are not related to objectives and which are vague and/or need to be improved and/or changed; and (3) answer the items in the practice test and determine the items' appropriateness to the content.

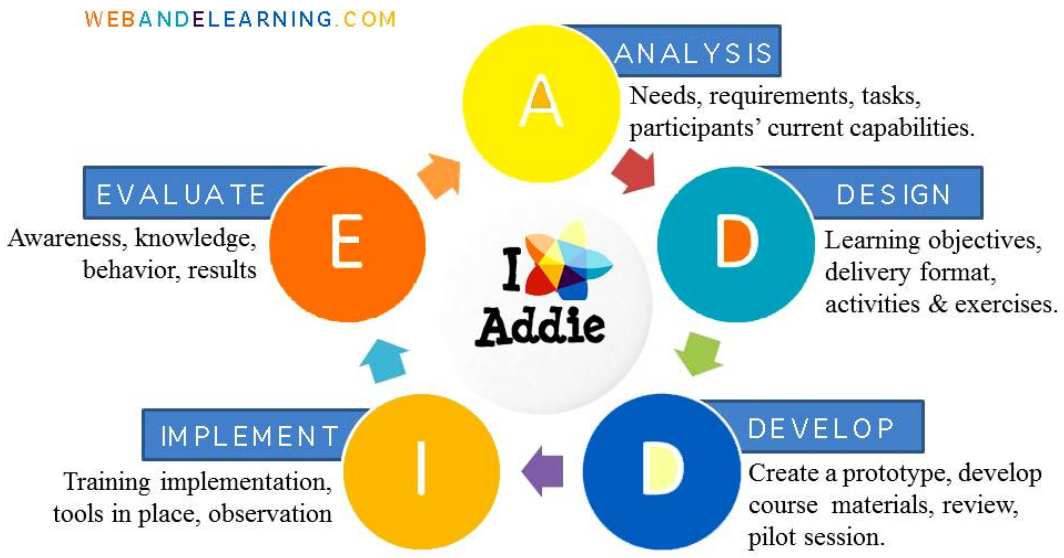

Figure 3. Stages of the ADDIE model

The researchers made improvements on the module based on the comments and suggestions of the panel. Final revisions made by peers and experts were incorporated in the printing of the final copy of the module.

2.5 Data Analysis Approach

The data obtained from the survey were analyzed by utilizing descriptive data analysis procedure. The following statistical tools were used: Frequency counts were used to tabulate data, and were, eventually, converted to percentages in order to better interpret data. Weighted mean was computed to determine the pooled evaluation of students and of faculty members as to characteristics of the module.

3. Results and Discussions

The discussions are arranged according to the major concerns of the study: (1) the results of the needs assessment survey; (2) the content validity of the module; (3) the usefulness of the module; (4) teachers' and students' suggestions to improve the module.

3.1 Topics Suggested by the Respondents to be intensified in the Module

Wegge (2004) and Newstrom (2002) opined that there is really a need to construct a module so that students can synthesize the knowledge they accumulated during their subject major, and so that the gaps in the learning process can be addressed accordingly, in effect, students will learn to independently manipulate content knowledge in their own pace. Because of this essential role that modules play in the process of teaching and learning, it becomes imperative to examine the multidimensional subjects that it will contain.

Table 2 provides the results of the assessment survey on the module to be developed as assessed by the college students. As perceived by the respondents, Home Management and Technology is the component that was rated as "Needed" only due to the fact that this unit is very practical. However, this unit should still be included based on the result of the interviews.

Table 2. Results of the assessment survey on the module to be developed in Technology and Livelihood Education

Unit	Mean	Descriptive Interpretation
The Filipino Family	5.00	Very Greatly Needed
The Teenager	4.97	Very Greatly Needed
Making & Keeping Friends	4.97	Very Greatly Needed
Looking Towards Marriage	4.93	Very Greatly Needed
Towards Responsible Parenthood	4.93	Very Greatly Needed
Home Management & Technology	3.49	Needed

Legend: *n=25*

Range of Means	Descriptive Interpretation
4.50-5.00	Very Greatly Needed
3.50-4.49	Greatly Needed

2.50-3.49	Needed
1.50-2.49	Somewhat Needed
1.00-1.49	Not Needed

The Filipino Family is rated "Very Greatly Needed" with the mean rating of 5.00 while The Teenager, Making and Keeping Friends, Looking towards Marriage, and Towards Responsible Parenthood are rated "Very Greatly Needed" with mean rating 4.97, 4.97, 4.93, and 4.93, respectively.

3.2 Content Validity of the Module in HFL

After the module was developed, it was shown to a panel of experts composed of seven professors/teachers teaching Home Economics. The results of the assessment are presented in Tables 3 and 4. The experts' suggestions on how to improve the modules were also sought. They evaluated each component in terms of objectives, content, instructional characteristics, and practice test items. Table 3 presents the overall means of the six units that make up the module in Home and Family Living. The grand mean of 3.96 indicates High Validity. Overall means of the nine components range from 3.59 to 3.93, all of which have the same descriptive interpretations, which is Highly Valid. This shows that the module as a whole has competencies, which are relevant, clear and attainable; content, which is comprehensive, interesting and related to objectives; instructional characteristics, which make contributes to high readability and convenience; and practice tests, which adequately measure mastery of content. The result of content validation of the module supports Fraenkel and Wallen (2006) that the content must be consistent with the definitions of the variables and the sample of subjects to be measured. That is, content validation is partly a matter of determining the content adequacy of the instrument as it is supposed to represent, and that the developed instructional strategy was found to be significantly superior to traditional method (Arya, 1999).

Table 3. Content validity of the module in home and family living

Components	**Overall Mean**	**Descriptive Interpretation**
Objectives	3.98	Highly Valid
Content	3.98	Highly Valid
Instructional Materials	3.90	Highly Valid
Practice Test Items	3.98	Highly Valid
Grand Mean	**3.96**	**Highly Valid**

Legend:

Range of Weighted Means	***Descriptive Interpretation***
3.26-4.00	Highly Valid
2.51-3.25	Valid
1.76-2.49	Moderately Valid
1.00-1.75	Not Valid

3.3 Usefulness of the Module in HFL as Assessed by the Target Users

The usefulness of the module on TLE was determined by twenty-five (25) BSE-TLE second year students using their background experiences in the subject as bases. Thus, students were given three weeks to carefully go over the module to determine whether it would be useful to TLE majors, what the desirable features are and what areas need improvement. All of the interviewees said that the module is very good, and the output which the research purports to achieve – module, is highly recommendable. The module was considered very useful by all the respondents because it includes basic knowledge and skills embedded in all six units of HFL in TLE. Through the module, the potential of students can definitely develop and improve. Winkel (1987) asserted that through a module, "students can follow the learning program in accordance with the rate of progress on their own and can appreciate the learning activities, either by getting learning assistance from lecturers and without guidance from the lecturers" (p. 275). The result of the content and face validation of the module conforms to the result of Puri (2009), and Aggabao (2001) who found out that the students achieved well in individualized classes and that a module promotes independent learning, and facilitates the acquisition and assimilation of concepts.

3.4 Teachers' and Students' Suggestions to Improve the Module

Through the interviews conducted to the teacher- and student-respondents, it was learned that they were in agreement that the module as a whole is useful and can be utilized for classroom purposes. They, however, suggested the inclusion of comprehensive/objective pretest and posttest in the module. These would guide both the users and the teachers in determining whether learning has taken place after using the module. These tests could be written in a separate manual for teachers that would explain how these would be used and administered. The students suggested that in using the module, they should not be left alone; that teachers still have to guide them on what they are supposed to do, since they are not so familiar with some terminologies used. Both the teachers and students proposed to indicate the maximum time allotted for the use of each lesson in the modules. This would enable student users to gauge their pace of independent study and compare their own pace of learning with others. Still another teacher commented that if there seems to be unfamiliar terms, their meaning could be given as a footnote at the page where the term/s appear/s. This comment seems valid for in addition to the content learned, the students could also widen their vocabulary in the particular field. The head of a professional subject in one school suggested that a chart could be included at the end of the module, which both the teachers and students may use to record the student's performance in each module. The inclusion of the general objectives of the course was suggested as well. This is because the module covers the whole course in Home and Family Living.

On the whole, the comments, suggestions and recommendations of the teacher-evaluators and the students were helpful insights in the assimilation of concepts that would somehow perfect the module.

4. Conclusion

This research developed a module in HFL for BSE students majoring in TLE. The discussion

of the results of this study concluded the following: (1) As assessed by experts, the designed module is Highly Valid from the objectives, content, instructional characteristics, and practice test items; (2) The HFL module can be used by students/lecturers without any significant difficulties – in other words, its pragmatic functions can be easily attained by any user; and (3) HFL module is effective in terms of learning motivation and activities, and it can promote high learning achievement after following the learning-teaching process stipulated in the module. The module generated in this study may also aid teacher education institutions (TEIs) offering TLE as one their majors in enabling faculty members to be fully familiar with the competencies in HFL that their students should acquire and develop.

5. Recommendations

Based on the conclusions generated from the findings, the following recommendations are herewith: (1) the developed and validated module must be tried-out on a larger scale that will involve an extensive sample to further determine its validity and usefulness; (2) faculty members in teacher education institutions should be encouraged to develop instructional materials, specifically SIMs in other major subjects; (3) State Universities and Colleges (SUCs), and the Commission on Higher Education (CHED) should support research activities and programs involving preparation and utilization of SIMs as a strategy in improving students' performance; (4) stakeholders in the academe should explore many strategies to increase the effectiveness of the TLE course; (5) regular review of evaluation instruments based on institutional needs and goals and in relation to current research findings should be performed by curriculum developers; and (6) future research on effectiveness of SIMs should consider ample exposure and practice of students on the use of such materials before any actual measurement of outcomes.

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