

Acceptability of Learning Package in Electronically-Controlled Domestic Appliances: From Traditional to Competency-Based Pedagogy For Diverse Learners

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Abstract

This study aims to develop and evaluate the acceptability of competency-based learning package (CBLP) in electronically-controlled domestic appliances (ECDA) for Electronics shop laboratory Students and teaching Electronics under the Technology and Livelihood Education subject or offering Electronics related programs focusing on consumer electronics servicing in the chosen technical training institutions in Zamboanga City and the developed learning package-ECDA were evaluated by experts and trainers in electronics utilizing the Trainers Methodology 1 standards for module making and development. This study also employed descriptive survey research and focused on the development of the CBLP in electronically controlled domestic appliances evaluated and to test the acceptability from the TESDA experts with a Trainer's Methodology holder level 1 in electronics. Hence, the study also sought to answer the research problems on the standard (i) components of CBLP-ECDA based on TMC1 (ii) the level of acceptability by the experts, and (iii) the recommendations from the experts to enhance the developed CBLP-ECDA. The data gathering procedure for the study was conducted in the chosen institution by utilizing a self-administered survey questionnaire checklist presented and distributed the developed CBLP-ECDA or learning module to the respondents for evaluation. The results were then tabulated based on the rating found on the survey questionnaire checklist.

As a result, the findings revealed that the developed competency-based learning package in electronically controlled domestic appliances is "Highly Acceptable" among the electronic experts, electronic trainers, and Instructors and is being followed and has met the standard stipulated in trainers' methodology level 1. Moreover, this will also state that the developed CBLP in Electronically Controlled Domestic Appliances is for training and pre-assessment purposes for the students. Therefore, the developed CBLP in Electronically Controlled Domestic Appliances is appropriate, effective, and suits the training needs of the Learners/Trainees. Moreover, this module was helpful in the electronics shop laboratory based on the evaluation among the electronic experts and trainers.

Keywords: *competency-based learning package, development, electronically-controlled, diverse learners*

INTRODUCTION

Competency-Based Training (E.Melvin 2018, eLearning Industry) is a model that determines the concept of competencies that refers to individual performance and defines from any of the set of characteristics of the learners such as knowledge, skills, and attitudes. Thus, this characteristic allows to understand the importance of identifying the competencies and performances of the learners and determining the teaching and learning has achieved.

The delivery of training using the Competency based training approach is more effective when competency-based learning package (CBLP) is used together with Competency based training (CBT). Competency Based Learning Materials is simply a well-designed detailed instruction to guide the trainee in the learning process and help them accomplish the expected task. Indeed, the CBLP is advantageous and important to the trainers because it will give them time to supervise the performance of the learners, as the objectives, information and discussion are defined on the competency learning materials.

At present competency-based Learning package in Electronically Controlled Domestic Appliances is insufficient and it is not available in the electronics shop laboratory because it is difficult to develop. Nonetheless, developing a learning module could be beneficial to the learners and to the trainers/teachers as this make teaching and learning more personal. Thus, adopting the CBL modular approach is proven and verified in strengthening the theoretical and technical knowledge, getting the learners strong involvement in the advancement of technology and produced competitive and skillful individual based on National Standard Competency and learning outcomes by the learners.

The Development of Electronically-Controlled Domestic Appliances is essential in Electronic Shop Laboratory as it will help attain the competency level in troubleshooting domestic appliances. Hence, this modular approach will enhance the knowledge and skills of the learners to repair Electronically-Controlled Domestic Appliances. Therefore, the application of competency based learning package in Domestic appliances is vital in helping the students acquire the needed knowledge and skills which provides a wide avenue for the improvement of the learners' performance in the class dealing with Electronically Controlled Domestic Appliances.

The purpose of the study is to Develop Competency Based Learning Package in Electronically Controlled Domestic Appliances in the shop laboratory, as this will help in defining the role of the trainers and the trainee. It will also help in achieving the level of competencies through knowledge, skills and technical ability in troubleshooting.

RELATED LITERATURE AND STUDIES

Pedagogy for Diverse Learners

Celik (2019) explains in his study that teaching involves more than simply transferring knowledge from the sources to students through teachers; it also necessitates the interaction between teachers and learners. However, the teaching and learning process is often hindered by significant challenges and contradictions in today's classrooms. For instance, some students perform poorly while others excel, even when they have the same skilled teacher delivering the day's lesson. Moreover, there are students who have a desire to learn, while others lack motivation to even attend school. Some students willingly engage in extra work, while others show minimal effort. Some students actively participate in the learning process, while others exhibit indifference or boredom. These common challenges, arising from the inherent individual differences in every classroom, undeniably impact the outcomes of teaching, irrespective of the teacher's expertise in conveying the lesson content. To foster positive and inclusive classrooms, teachers should recognize the diversity of learners, which encompasses cultural factors such as ethnicity, language, abilities, and special needs, as defined by Groundwater-Smith (2009:54). However, numerous other factors come into play. Most students belong to multiple categories and may exhibit characteristics from several categories (Tomlinson, 2014). They differ in cognitive, affective, and physical aspects, as well as in terms of gender, ethnicity, learning style, language, and creative potential. They also vary based on exceptionalities, at-risk characteristics, and other factors. Consequently, an effective teacher must be aware of all these factors and strive to create an inclusive classroom environment.

Recognizing the diversity of students entails acknowledging their individual learning styles. Since learners vary in their preferences, it is important to consider these differences when attempting to engage them with the lesson, which is a challenging aspect of teaching. However, diversity can also be seen as a valuable asset in the classroom and should be embraced. By involving all students in classroom activities, an inclusive learning environment is created, where every learner actively participates in and contributes to the lesson. An inclusive educational setting, as described by Allen and Cowdery (2011), is one where everyone has a place and is encouraged to participate. In such a classroom, continuous learning takes place as it fosters a positive social learning atmosphere where students have designated roles and responsibilities. Within this supportive community, students not only meet academic requirements and learning outcomes but also develop important social skills, including conflict management, citizenship, and collaboration. They learn how to work and coexist harmoniously with others, acquiring a wide range of skills and knowledge related to learning.

Terrell and Lindsey (2008) highlight that inclusive education has a distinctive characteristic wherein schools and classrooms develop a unique identity that garners attention and elicits responsiveness. Inclusive classrooms not only foster a positive and conducive learning environment but also cultivate strong emotional connections, forming a sense of community and family among learners and teachers. To create such an atmosphere, it is essential to design a range of lesson plans that cater to the diverse needs of all learners and ensure positive outcomes for everyone involved.

METHODOLOGY

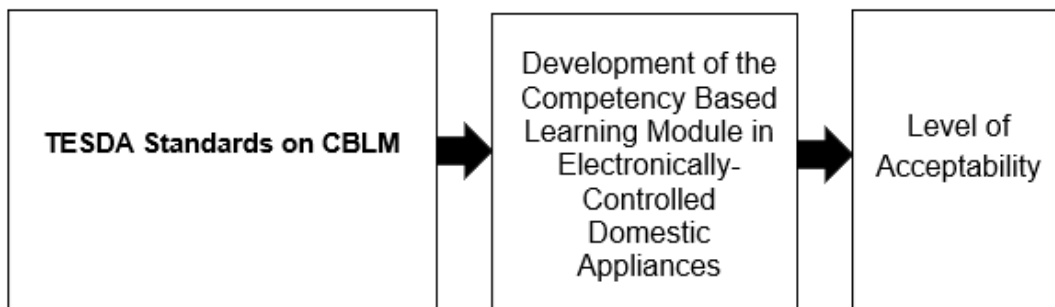
The study employed descriptive survey research and focused on the development of the CBLP in electronically controlled domestic appliances evaluated and to test the acceptability from the TESDA experts with a Trainer's Methodology holder level 1 in electronics. Hence, the study also sought to answer the research problems on the standard (i) components of CBLP-ECDA based on TMC1 (ii) the level of acceptability by the experts, and (iii) the recommendations from the experts to enhance the developed CBLP-ECDA.

The research subjects were conducted in two technical training institutions in Zamboanga Peninsula that offer related training courses in Electronics Technology programs such as TLE, Industrial Arts major in Electronics and other related electronic subjects, and consumer electronics servicing.

There were two groups of respondents in this study. The first group was composed of experts from the Technical Education and Skills Development Authority with TMC 1, while the second group comprised of Electronics trainers/Instructors in two training intuitions, and study adopted the purposive sampling technique to accurately solicit the accurate responses from the respondents and only those TMC1 were the ones who validated the CBLP. It adopted the descriptive survey with its equivalent rating as follows; 4 highly acceptable, 3 acceptable, 2 moderately acceptable, and 1 not accepted.

RESULTS AND DISCUSSIONS

Framework



The research study had undergone two major stages. The first stage was focused on the development of the Competency-Based Learning package in Electronically-Controlled Domestic Appliances. The second stage was focused on the acceptability and evaluation of the Competency-based Learning package in Electronically-Controlled Domestic Appliances by the expert, trainers, and teachers/instructors.

Table 1. Level of Acceptability on the Preliminary Pages

a. Preliminary Pages	Mean	Descriptive Rating
a.1 The title, picture, and information of the Competency-Based Learning Material on the cover page.	3.9	Highly Acceptable
a.2 Instruction on how to use the CBLM are clearly stated	4.0	Highly Acceptable
a.3 List of Competencies highlighting the competency in the module are clear	3.9	Highly Acceptable
a. 4 The table of content is organized	3.9	Highly Acceptable
a.5 The enumerated Learning outcomes.	4.0	Highly Acceptable
Grand Mean	3.94	Highly Acceptable

The Grand Mean on the Level of Acceptability on the Preliminary Pages has a total mean of 3.94 which is clearly stated as “Highly Acceptable”. Thus, it revealed that the Preliminary Pages of the Developed CBLP in Electronically Controlled Domestic Appliances was being followed and met the TESDA Standard stipulated in the Plan Training Session in preparing a Learning Module. This also indicated that the Developed CBLP in Electronically Controlled Domestic Appliances is for training and pre-assessment purposes.

In connection to the Competency-Based Learning Material based from Trainers Methodology Level 1 particularly in Planning Training Sessions, the learning module should have preliminary pages that cover the standard parts and components which was composed of the Title, an Action Picture, Sector, Qualification, unit of Competency, Module Title, name of the school, list of competency, Table of Contents and Learning Outcomes. Thus, all these must be reflected in the TMC1 learning module development.

Table 2. Level of Acceptability on the Instruction Sheets

b. Instruction Sheets	Mean	Descriptive Rating
b.1 Title of the information sheets	3.8	Highly Acceptable
b.2 Documents contains information essential to the attainment of the learning outcomes are clear	3.9	Highly Acceptable
b.3 The learning objectives are well define and clear	3.8	Highly Acceptable
b.4 The content and presentation is appropriate to the interest and reading level of the learners/students.	3.9	Highly Acceptable
b.5 Attractive layouts, drawings and readable text.	3.8	Highly Acceptable
b.6 Self-checks that provides relevant contents based on the information sheet assessing student’s level of learning.	4.0	Highly Acceptable
b.7 The answer keys is relevant to the topic	4.0	Highly Acceptable
b.8 The task sheets	4.0	Highly Acceptable
b.9 The operation sheets	4.0	Highly Acceptable
b.10 The job sheets	4.0	Highly Acceptable
b.11 The performance criteria checklist.	3.9	Highly Acceptable
b.12 Reference for further readings	3.9	Highly Acceptable
Grand Mean	3.91	Highly Acceptable

In totality, on the level of acceptability on the Instruction Sheets with the total weighted grand mean of 3.91 was interpreted as “Highly Acceptable” when evaluated by the Electronic experts, Electronics Trainer and Instructor. This means that the developed CBLP in Electronically Controlled Domestic Appliances were being followed as stipulated in Plan Training Session.

Therefore, the developed CBLP in Electronically Controlled Domestic Appliances is appropriate and suits the training needs of the Learners/Trainees. Moreover, this module is very much useful in the Electronics Shop Laboratory as based from the evaluation among Electronic Experts and Trainer respectively. The results is highly acceptable in terms of preliminary Pages and Instruction Sheets.

Based on the suggestions and recommendations of the expert and instructors on the enhancement of the competency based learning materials, they cited the following: 1.Enhance the cover page and make it specific according to its title; 2.Verify Electronics Websites such as Wikipedia and WikiHow; 3.Modules for Verification through Certification as for use as points/output in the promotion/NBC.

CONCLUSION

Based on the findings of the this study, it is concluded that the Developed Competency Based Learning Package in Electronically Controlled Domestic Appliances is “Highly Acceptable” among Electronics Experts, Trainers and Instructors. On the other hand, it revealed that the item of CBLP in Electronically Controlled Domestic Appliances was appropriate in terms of Preliminary Pages and Instruction Sheet. Thus, module meets the standards as stipulated in the Plan Training Session of the Trainers Methodology Course 1.

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