

ATTITUDES AND PRACTICES TOWARDS THE CREDIT-MODULE SYSTEM AMONG UNDERGRADUATE STUDENTS

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ABSTRACT

Background: The Credit-Module System (CMS) has been applied in various countries in order to increase students' independence and all-round competence. Based on CMS, students can take courses of their choice, learn at their own pace, and take additional courses. Students are the center of this educational system. Thus, undergraduate students' attitudes and practices towards this system are critical in determining their academic achievement and quality of education. **Objectives:** to investigate the attitudes and practices of undergraduate students towards CMS. **Materials and methods:** A cross-sectional descriptive correlational design was used. The sample size comprised 242 undergraduate students at Can Tho University of Medicine and Pharmacy, including nursing, midwifery, medical laboratory technology, and medical imaging technology, who have experienced CMS for at least 1 year. Students' attitudes and practices regarding CMS were examined using a 5-likert questionnaire including 20 items for attitudes and 37 for practices. **Results:** 222 (91.7%) students had positive attitudes towards CMS, with the mean score of the attitude was $79.4 \pm 13.5/100$. 91.7% of students had positive attitudes towards the advantages of the CMS, and 89.7% of students were willing to participate in learning activities of the CMS. In practice, students also showed a good level (mean = $147.4 \pm 17.6/185$). 81.8% and 18.2% of students were at a good and moderate level of practice, respectively. Among subscales of practice, students' practices with examination and practicum activities had the highest scores. Meanwhile, practices with theory classes were the lowest. There was a significantly positive association between students' attitudes and practices of CMS. **Conclusions:** Most undergraduate students had positive attitudes towards CMS. Despite showcasing a generally good level of practice among student respondents, practices with theory classes should be enhanced. Support and counseling services are recommended to improve students' positive attitudes and good practices towards CMS.

Keywords: Credit-Module System-CMS, Educational system, Attitude, Practice.

I. INTRODUCTION

Education is considered as the backbone of the nation. It plays a vital role in national development. Quality of education essentially contributes to the quality of the future workforce. Therefore, the application of a new educational system is a significant innovation. The success of the applied educational system is how the system enhances students' knowledge, attitude, skills, competence, and independence to meet the requirements of the labor markets [1]. In recent years, the educational system has been moving to the CMS because of many advantages. The CMS is aimed at independent education, and based on individuality, it determines the creative mastering of knowledge, the choice of the educational path with a strict definition of the educational process, and the volume of knowledge in the case of credit [2]. It allows students to make decisions on their study schedules and learning process, learn at their own pace, and take additional courses. For evaluation, CMS emphasizes continuous and comprehensive evaluation. It gives 30-50% weightage to the internal assessment and the remaining 50-70% to the final exam. It means that this system evaluates students based on their efforts and learning process. In addition, this educational system is flexible for mobility across educational institutions within the nation and worldwide [3].

The advantages of CMS could be understood by previous studies [4]. However, there is a lack of understanding of students' perception, attitude, and practices towards the CMS. Levels of attitudes and practices with CMS among undergraduate students vary through studies and literature. The CMS has been applied in Can Tho University of Medicine and Pharmacy since 2013. However, no evaluation or study examined students' attitudes and practices regarding which might significantly affect the effectiveness of the educational process and quality of education. Therefore, it is important to investigate undergraduate students' attitudes and practices towards the CMS.

II. METHODS

2.1. Study population and setting

The study sample has been drawn from all undergraduate students of the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy including nursing, midwifery, medical laboratory technology, and medical imaging technology who have experienced learning with CMS at least one year and are willing to participate in the study. Following the inclusion criteria, students who were on leave during the period of the study were excluded from the study.

The sample size n was calculated by the following formula:

$$n = Z^2 \frac{p \times (1-p)}{d^2}$$

+ n : minimum sample size

+ $Z^2 \frac{1-\alpha}{2} = 1.96$: Z statistic for a level of confidence at $\alpha=0.05$

+ $p= 0.17$: results from a research of Deuri [5]

+ $d= 0.05$ precision

From the formula, the research sample was at least 217. Using simple random sampling, there were 242 student respondents involved in this study.

2.2. Study design

A cross-sectional descriptive design has been used in the present study.

2.3. Study contents

(1) Demographic data of undergraduate students, including age, gender, major, and year in university, were examined by using a questionnaire with 4 items; (2) Attitudes towards CMS among undergraduate students were determined by using a 5-Likert scale with 20 items developed by Tran (2020). On this scale, there were 8 items regarding advantages and 12 items relating to students' willingness to participate in learning activities of the CMS. A total score was calculated by summing all item scores. The higher scores indicated a positive attitude towards CMS [6]. A 37-item scale was used to examine students' practices regarding learning activities in CMS, including theory class, practicum activities, discussion, self-study, examination, and evaluation. Higher scores indicated better practices among students.

A pilot survey was undertaken to ensure that the questionnaires were as meaningful to the average respondent as they were to the researcher. The questionnaire was distributed to 30 nursing students for the pilot study. The internal consistency reliability of attitude and practice questionnaires were 0.87 and 0.89, respectively.

2.4. Statistical Analysis

Data were collected, encoded, and inputted by using SPSS 26.0. Descriptive statistics in frequency, percent, mean, standard deviation, and range were used to examine demographic characteristics, attitudes, and practices of the CMS among student respondents. The chi-square test was used to determine relationships between attitudes and practices. Statistical significance was considered at lower than 0.05.

2.5. Ethics Approval

The study was approved by the Ethical Review Board of Can Tho University of Medicine and Pharmacy (Ethical Approval No: 22.114.SV/PCT-HĐĐĐ, May 10, 2022).

III. RESULTS

The mean age among respondents was 20.9 ± 1.0 . More than half of the participants were female ($n=192$, 79.3%). In terms of the year in university, the most common group was 2nd year students (61 respondents, 43.6%). 33.5%, 30.2%, 26.4%, and 9.9% of students were in medical laboratory technology, midwifery, nursing, and medical imaging technology, respectively.

3.1. Attitudes towards CMS among undergraduate students

Table 1. Attitudes towards CMS among students

	Number of items	Mean	S.D.	Range
Attitudes towards the CMS	20	79.4	13.5	20-100
<i>Subscales</i>				
Attitudes towards advantages of the CMS	8	31.6	5.8	8-40
Willingness to participate in learning activities of the CMS	12	47.9	8.2	12-60

Undergraduate students had high mean scores of attitudes towards CMS ($79.4 \pm 13.5/100$).

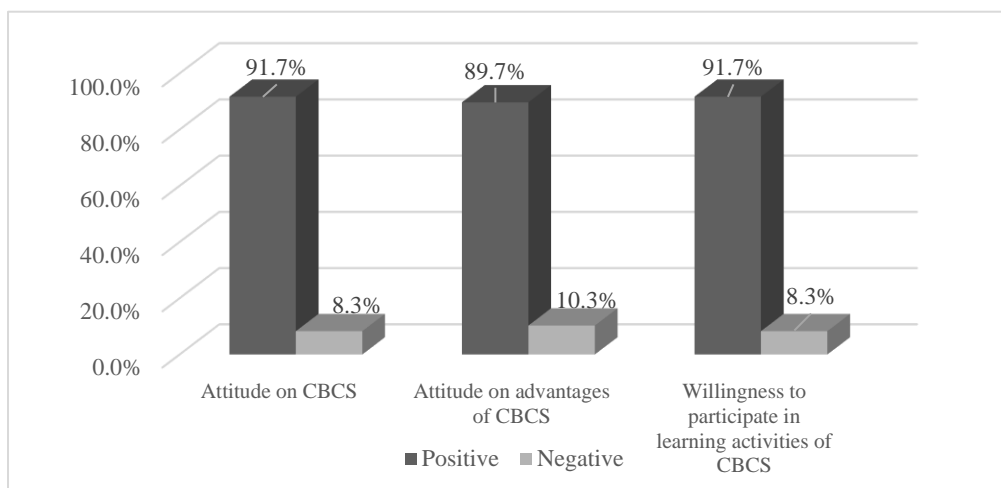


Figure 1. Classification of attitudes towards CMS among students

Most undergraduate students had positive attitudes towards CMS and were willing to involve themselves in CMS learning activities.

3.2. Practices towards CMS among undergraduate students

Table 2. Practices towards CMS among students

	Number of items	Mean	S.D.	Range
Practices towards the CMS	37	147.4	17.6	87-185
<i>Subscales</i>				
Practices with theory class	8	31.5	4.7	10-40
Practices with practicum activities	8	31.8	4.2	12-40
Practices with discussion time	9	35.5	4.6	25-45
Practices with self-study	7	27.8	3.9	7-35
Practices with examination and evaluation	5	20.9	3.1	5-25

The students' mean score of practices towards CMS was 147.4 ± 17.6 .

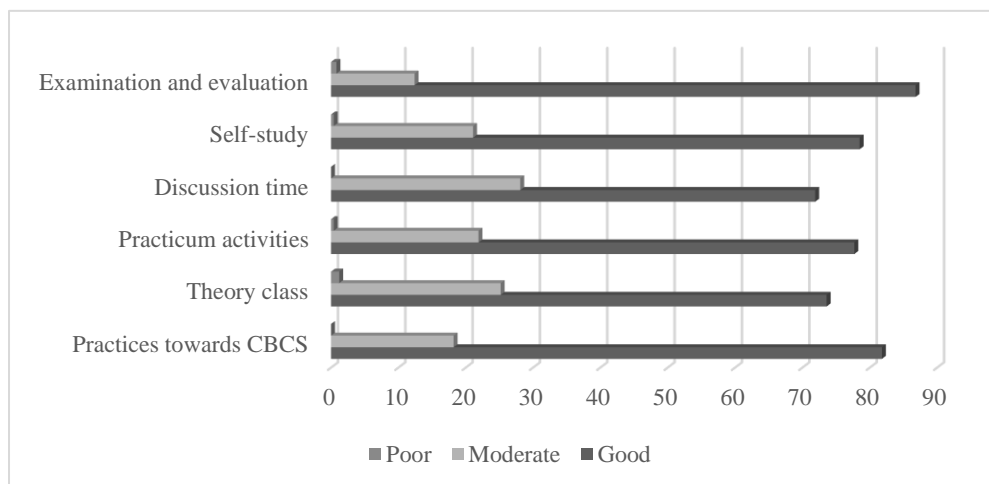


Figure 2. Classification of practices towards CMS among students

Most student respondents practiced well with activities in CMS, especially examination and evaluation as well as practicum activities.

3.3. Association between attitudes and practices towards CMS among undergraduate students

Table 3. Association between attitudes and practices towards CMS among students

Variables		Practices towards CMS			Total	P χ^2
		Good (n, %)	Moderate (n, %)	Poor (n, %)		
Attitudes towards CMS	Positive	190 (85.6%)	32 (14.4%)	0 (0%)	222	<0.0001 25.5
	Negative	8 (40%)	12 (60%)	0 (0%)	20	

There is a significant association between attitudes and practices towards CMS among undergraduate students ($p < 0.0001$).

IV. DISCUSSIONS

4.1. Attitudes towards CMS among undergraduate students

The CMS is a modern and flexible educational system that has presented many benefits for students, teachers, and education managers. Students' competence and independence are enhanced by learning with CMS. Our study indicated a positive level of attitudes among undergraduate students. This finding is consistent with previous studies.

Sarkar investigated the attitudes of students towards the Credit System in 2019. The purpose of the study was to find out the attitudinal differences of students about various aspects of CMS. The study was conducted targeting students of size 200. Findings highlight the fact that, in students' opinion, CMS is essential for education as this system increases the sincerity among the students as they prefer to learn following their own schedules [4]. Similarly, a study by Mahakur et al. presented positive attitudes among students. This study was conducted to examine the perception and attitudes of teachers and students of undergraduate colleges toward implementing the Credit-Module System (CMS). The result indicated that both teachers and students had positive attitudes regarding CMS. Most agreed that this educational system provided many benefits for the teaching and learning process [7].

Considering subscales of attitudes towards CMS, the student respondents demonstrated high scores of both subscales, including perception of CMS advantages and willingness to participate in learning activities of the CMS. A study by undergraduate students at Hai Phong University revealed a similar finding. This study found that, among 65 students, more than half had positive attitudes relating to CMS. In addition, 78.1% of students agreed that CMS has many advantages in their knowledge and skill development [6]. However, student respondents showed low scores of attitudes towards CMS in terms of willingness to participate in group discussions and teamwork in self-study. This issue suggested that educators provide students with reasonable study assignments to stay productive.

4.2. Practices towards CMS among undergraduate students

In this present study, the findings revealed that students practice well with CMS, especially in practicum activities and evaluation. Besides, the practices of theory classes among students were the lowest. These study results were relevant to the related literature.

In a study conducted in China and India, Shahin and Zheng demonstrated that applying CMS was significantly associated with undergraduate students' academic achievements in both countries. The study's result also revealed a good practice of CMS, which correlated with a positive attitude among students. In detail, Indian and Chinese students worked well with discussion and practicum time; however, they reported that their practices with theory classes were not ideal [8]. Consistently, related literature indicated that undergraduate students had good practice with learning activities in CMS. Deuri involved 60 undergraduate students in a survey at Gauhati University, Indonesia. This study found that the student respondents had a high score of practices relating to the CMS in all aspects. In other words, students reported that the CMS learning activities were practiced well in their learning processes [5].

4.3. Association between attitudes and practices towards CMS among undergraduate students

The present study revealed a statistically significant association between students' attitudes and practices on CMS. In other words, undergraduate students who had a positive attitude towards CMS had better practices than others who had negative attitudes. These study results were relevant to previous studies. According to Tran, attitudes were strongly correlated with practices. Students who had higher scores of attitudes also frequently had higher scores of practices [6]. Consistent results were also indicated by Ismoilovna and Oripovna in 2020. This study indicated that CMS fully responded to the demands of society for the quality of education, and the use of a CMS allowed it to significantly increase the academic success of students. Moreover, student's attitudes were the essential factor that affected their practices and academic achievement [9]. In a study by Nguyen et al., students' attitudes and practices were also strongly associated [10].

Limitation: this study did not provide comprehensive coverage of all students enrolled at the university who are taking credit courses. All study respondents had a 4-year study duration. Thus, the study findings may not be appropriate for other groups of students.

V. CONCLUSIONS

In the present context, it could be said that most of the undergraduate students' attitudes toward CMS are positive. They have admitted that CMS has a great impact on the growth of knowledge and skill enhancement through its flexibility and benefits. However, due to the heavy workload, 8.3% of students have a negative reaction to this system. Students work well with CMS. Students differed from majors' practices differently with this system. Moreover, a positive association between attitudes and practices has been presented. Hopefully, support and counseling services will be provided more so that negative attitudes have been removed as well as poor practices.

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