

THE USE OF WEB 2.0 TOOLS AS AN ONLINE PLATFORM FOR LEARNING DRESSMAKING COMPETENCIES AMONG BTLED STUDENTS IN A STATE UNIVERSITY IN NORTHERN MINDANAO: A UTAUT INVESTIGATION

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ABSTRACT- Dressmaking is one of the courses in the Bachelor of Technology and Livelihood Education (BLTED) that requires highly manipulative skills and competencies to be acquired by the teacher education students. This makes the course challenging in the flexible learning modality during the Covid-19 pandemic. To address the learning competencies required of the course, Web 2.0 tools such as Facebook (FB), YouTube (YT), and Google Meet (GM) are used in the delivery of lessons. This study aimed to investigate the factors that influence the behavior of the BTLED students to use FB, YT, and GM in acquiring knowledge and skills in Dressmaking. This quantitative study utilized a cross-sectional research design to determine the influence of the UTAUT model determinants, namely: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) on the use behavior (UB) of the BTLED students in a State University in Northern Mindanao, Philippines to use the afore-mentioned Web 2.0 tools. Results of data analysis revealed that FC is a significant determinant on the behavior of the students to learn Dressmaking knowledge and skills across FB, YT, and GM; SI is a significant determinant to use YT and GM; EE is a significant determinant towards the use of FB; and PE towards YT. Looking at the explained variance of the four determinants towards UB, FB explained 56.1%, YT is 83.4%, and GM is 82.4%. Recommendations for future studies are also discussed in this paper.

Keywords: BTLED students, Dressmaking competencies, UTAUT model, Web 2.0 tools, Philippines

INTRODUCTION

Educational systems across countries worldwide have adopted Web 2.0 tools as educational platforms [1]. The sudden Covid-19 outbreak made the adoption of Web 2.0 tools the best option for a safe and conducive learning environment despite a global crisis. Web 2.0 tools in classrooms provide teachers and students with a more engaging and meaningful learning experience that is highly relevant to their needs [2]. Learning and acquiring required competencies for technical courses, like Dressmaking, is challenging during the Covid-19 pandemic [3]. Technical courses refer to learning units that yield skills, knowledge, and application essential to the specific occupation for which the program was designed [4]. Dressmaking is a course that is primarily designed to enhance the knowledge, skills, and attitudes in skills necessary for the course. These skills include drafting and cutting patterns, preparing and cutting materials, sewing casual apparel, and applying finishing touches for casual apparel [5]

The UTAUT Model

This study is anchored on the Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT was formulated by Venkatesh et al. (2003) [6] to explain user intentions to use an information system and subsequent usage behavior. The theory holds that there are four fundamental constructs: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). This study identified the usage behavior of the BTLED students under the dressmaking course. The UTAUT model was proven to give a high explained variance of the intention to use technologies than the other previous models [7]

Use of Web 2.0 tools in Learning Dressmaking Skills and Competencies

Facebook (FB), YouTube (YT), and Google Meet (GM) are just a few of the Web 2.0 applications that are commonly used during distance learning. According to Statista Research Department [8], FB is the most used online social network worldwide. Students use FB for various purposes, including

communication and collaboration with their peers. As a result, teachers can send instructions to their students via Messenger [9]. YT is considered

to be the most popular video-sharing site [10]. Khan (2017) transformed watching and interacting with online videos into a popular application [11]. On the other hand, many students are satisfied because they receive interaction in online classrooms, direct inspiration from the teacher, a well-structured course, and enough facilities. When they use online learning resources via Google Meet, they receive all of this [12].

The Problem of the Study

Dressmaking is one of the Bachelor of Technology and Livelihood Education (BLTED) courses that require highly manipulative skills and competencies to be acquired by teacher education students. The nature of the Dressmaking course makes the course challenging in the flexible learning modality during the Covid-19 pandemic. With little gadgets, internet connectivity, and knowledge on technology tools used in education, the Web 2.0 tools platforms were used by Dressmaking instructors to deliver Dressmaking lessons. To better understand what factors influence the student to use Web 2.0 tools in learning Dressmaking knowledge and skills, the UTAUT model was scrutinized. This study aims to investigate the level of acceptance of the Web 2.0 tools such as FB, YT, and GM used in teaching and learning Dressmaking skills and competencies. Specifically, this study seeks to determine the influence of PE, EE, SI, and FC towards the behavior to use FB, YT and GM in learning Dressmaking skills and competencies.

METHODOLOGY

To address the problem identified in this study, a cross-sectional survey research design. Empirical researchers use a cross-sectional design at one point in time to describe a population of interest. In cross-sectional designs, researchers record information but do not manipulate variables [13]. In

this study, a cross-sectional design was used to identify the use behavior of students under the Dressmaking course.

Respondents of the study, sampling procedure and sample size

The respondents of this study, as presented in Table 1, were the 3rd and 4th year Bachelor of Technology and Livelihood Education (BTLED) students who are currently enrolled in the Dressmaking course in a State University located in Northern Mindanao, Philippines.

Table 1. Demographic profile of the respondents

Profile		Frequency	Percentage
Age	20 & below	25	14.4
	21	59	34.1
	22	51	29.5
	23	13	7.5
	24	4	2.3
	25	21	12.1
	Total	173	100.0
Sex	Male	37	21.0
	Female	136	79.0
	Total	173	100.0

Based on the list gathered from the office of the Dean of the College of Science and Education of the university under

Table 2. Research instrument used in this study

Constructs	Questions Items
<i>Performance Expectancy</i>	Facebook, YouTube, and Google Meet are useful to use in learning dressmaking competencies.
	Using Facebook, YouTube, and Google Meet enable me to learn skills and accomplish more tasks quickly in dressmaking competencies.
	Using Facebook, YouTube, and Google Meet, increases my productivity when doing dressmaking competencies.
	If I use Facebook, YouTube, and Google Meet increases my chances of getting high grades.
<i>Effort Expectancy</i>	My purpose to use Facebook, YouTube, and Google Meet to gain knowledge and skills about Dressmaking is clear and
	It would be very easy for me to become proficient at using Facebook, YouTube, and Google Meet in learning
	I would find Facebook, YouTube, and Google Meet very easy to use in learning dressmaking competencies.
<i>Social Influence</i>	Using Facebook, YouTube, and Google Meet, school activities would be easier for me.
	My instructors think that I should use Facebook, YouTube, and Google Meet in learning dressmaking competencies.
	My family, classmates, and friends, think that I should use Facebook, YouTube, and Google Meet in learning dressmaking
	I will use Facebook, YouTube, and Google Meet if my classmates use them in learning dressmaking competencies.
<i>Facilitating Conditions</i>	In general, the University encourages the students to use Facebook, YouTube, and Google Meet in the school activities
	I have the resources needed to use Facebook, YouTube, and Google Meet in learning dressmaking competencies
	I have the ability necessary to use Facebook, YouTube, and Google Meet in learning dressmaking competencies.
	Facebook, YouTube, and Google Meet are appropriate with other technology that I use, like handphones, tablets, laptops, and desktops.
<i>Use Behavior</i>	I have instructors/classmates who are available to help me with any technical problem that I may encounter in using Facebook, YouTube, and Google Meet .
	I use Facebook, YouTube, and Google Meet in my school activities because it is available and relevant.
	I use Facebook, YouTube, and Google Meet with other people.
	I use Facebook, YouTube, and Google Meet by myself, but I face constant difficulty in using them.
	I use Facebook, YouTube, and Google Meet by myself and I have never had difficulty in using them.

Pre-Testing of the research instrument

Prior to the actual dissemination of the online survey questionnaire, a pre-testing was done to ensure the validity of the questionnaire. According to Sekaran [16] pre-testing, a survey questionnaire is therefore essential to ensure that there is no doubtfulness in the questions and that respondents can comprehend them in the way they were planned and intended. In contrast to this research, 10% of the sample population was identified as the respondents for the pre-testing

study, there were 244 registered 3rd year and 4th-year BTLED program who are enrolled in the Dressmaking course during the first semester of the School Year 2021-2022, 1st semester. Of the 244 students, 173 were randomly selected as respondents of this study. The sample size was composed of 136 females and 37 males. This number of respondents satisfied the minimum required sample size based on the population size as calculated by Krejci and Morgan (1970) [14]

Research Instrument

The research instrument is composed of three main parts. The first part covered the respondents' socio-demographic and academic profiles. The second part consisted of questions about the respondents' knowledge and level of use of Web 2.0 tools in their learning activities. Finally, the third part included empirical measurements of the UTAUT constructs such as the Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions. and Use behavior. Table 2 presents the research instrument used in this study. Each item is measured using 5 points Likert Scale [15], with 1 being strongly disagree and 5 being strongly agree. During the actual survey, separate questions were used for evaluating the UB of the students to use FB, YT, and GM.

questionnaire. After the pre-testing, the research consolidated further to finalize the questionnaire.

Reliability and validity test result

The reliability and validity of the research instrument used in this study were measured using the Cronbach Alpha and Fornell and Larker respectively through the SmartPLS 3.3.6 version [17]. As presented in Table 2, the internal consistency of the UTAUT constructs across FB, YT, and GM through the Composite reliability analysis has the highest value of

0.90, which is within the acceptable value [18]. Hence, the constructs BI, EE, FC, PE, and UB have satisfactorily met the requirements to establish the internal consistency of the as indicated in 3.

Table 3. Internal consistency of UTAUT constructs across FB, GM & YT

UTAUT Constructs	Cronbach
Effort Expectancy	0.88
Facilitating Condition	0.83
Performance Expectancy	0.90
Social Influence	0.84
UseBehavior	0.87

Data Collection

After the questionnaire was pre-tested and revised according to suggestions made by the respondents during the pre-testing phase, the items were encoded in Google Form. This study employed an online survey to gather the data from the respondents. Before the actual data collection, the researcher sent a letter to the chairman of the Department of Technical and Technology Education (DTED) to seek permission to disseminate the survey questionnaire. The researcher also coordinated with a moderator of the 3rd and 4th year BTLED students. After permissions were granted, the main researcher disseminated the Google Form link to all the respondents via FB messenger from November 29 until December 17, 2021.

Data Analysis

The frequency and percentage were used to profile the respondents. Meanwhile, the multiple regression analysis was used to determine whether the constructs of UTAUT model which are the PE, EE, SI, and FC, significantly influence the actual behavior of the students to use FB, YT, and GM. Values that are of interest in assessing the multiple regression are the *t*-value and *p*-value. A *t* value is significant if the absolute *t* value is higher or equal to 1.96 [20]. Alternately, a *p*-value is significant if the value is equal or lower than 0.05 [21]. This study also evaluates the effect size (*f*²) and explained variance (*R*²) that the PE, EE, SI and FC towards the UB of FB, GM and YT in learning Dressmaking skills. Moreover, the *F*² measures the strength of the impact or

For the validity of the research instrument, Table 4 shows that all constructs evince sufficient discriminant validity where the square root of AVE which are shown in diagonals and in bold numbers is larger than the correlations (indicated in off-diagonal figures) for all reflective constructs [19].

Table 4. Validity of test items analysis (Fornell and Larker criteria)

UTAUT Constructs	(EE)	(FC)	(PE)	(SI)	(UB)
Effort Expectancy	0.93				
Facilitating Condition	0.84	0.89			
Performance	0.88	0.83	0.93		
Social Influence	0.84	0.86	0.80	0.87	
Use Behavior	0.79	0.87	0.79	0.85	0.90

contribution of an exogenous construct towards a certain endogenous construct in terms of *R*². The effect of *f*² is evaluated using Cohen's (1988) [22] values. According to Cohen [23], values of 0.35, 0.15 and 0.02 indicate a large, medium and small effect sizes, respectively. Finally, *R*² values should be high enough for the model to achieve a minimum explanatory power. As such, *R*² values should be equal to or greater than 0.10 in order for the variance explained of a particular endogenous construct to be regarded as adequate [24].

RESULTS AND DISCUSSION

Determinants to use FB, YT and GM

As shown in Tables 5, 6, and 7, a multiple linear regression was used to test if EE, FC, PE, and SI significantly influenced the behavior of the students to use GM, FB, and YT in learning Dressmaking skills. Table 5 that only SI (*t*=6.554, *p*>0.001) and FC (*t*=4.697, *p*>0.001) has significant influence on the actual behavior of the student to use Google Meet in learning Dressmaking skills and competencies. Meanwhile, As presented in Table 6, EE(*t*=2.062, *p*>0.041) and FC (*t*=4.362, *p*>0.001) have significant influence towards the actual behavior of the student to use Google Meet in learning Dressmaking skills and competencies. Finally, as shown in Table 7, only SI (*t*=6.312, *p*>0.001) and FC (*t*=4.397, *p*>0.001) has significant influence on the actual behavior of the student to use Google Meet in learning Dressmaking skills and competencies.

Table 5. Regression analysis for the use of Google Meet

Model	Unstandardized Coefficients		Standardized Coefficients (Beta)	t-value	p-value	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
PE_GM	0.139	0.075	0.142	1.851	0.066	-0.009	0.287
EE_GM	0.057	0.083	0.061	0.691	0.490	-0.106	0.221
SI_GM	0.498	0.076	0.469	6.554	0.000	0.348	0.648
FC_GM	0.265	0.056	0.285	4.697	0.000	0.153	0.376

a. Dependent Variable: UB_GM

Table 6. Regression analysis for the use of Facebook.

Model	Unstandardized Coefficients		Standardized Coefficients (Beta)	t-value	p-value	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
PE_FB	-0.167	0.124	-0.141	-1.346	0.180	-0.412	0.078
EE_FB	0.309	0.150	0.258	2.062	0.041	0.013	0.605
SI_FB	0.224	0.131	0.192	1.709	0.089	-0.035	0.483
FC_FB	0.444	0.102	0.391	4.362	0.000	0.243	0.645

a. Dependent Variable: UB_FB

Table 7 Regression analysis for the use of YouTube

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	p-value	Students' Reasons for the use	
	B	Std. Error				Did not use of the Web 2.0 tools are not covered in this study.	depth understanding of the students' reasons for the use
PE_YT	0.184	0.076	0.194	2.415	0.017	0.034	0.335
EE_YT	0.026	0.082	0.028	0.311	0.756	-0.137	0.188
SI_YT	0.478	0.076	0.460	6.271	0.000	0.328	0.627
FC_YT	0.249	0.057	0.271	4.368	0.000	0.328	0.627

a. Dependent Variable: UB_YT

The results of data analysis show that when learning gadgets and internet connectivity are available, students will use the Web 2.0 tools in learning Dressmaking competencies. It is worthy to underscore that the state university where this study is conducted is using a learning management system called USTEP. It requires all faculty members to upload all learning materials into the system, and students access the learning materials from there. Since the delivery of learning is through virtual conferences using GM, students are compelled to use the platform.

Regarding the result of Si towards UB, it can be observed that SI is only significant towards the use of YT and GM. Since the Dressmaking course requires hands-on skills development, the lecturers use videos available on YT to teach students the *how-to-do* skills required of the course. Finally, FB is used as an avenue for communication between the lecturer and the students, either through personal messaging or group chatting as well as exchanging of learning materials between and among students. It is worthy to underscore, however, that PE and EE are the predictors that do not significantly influence the use of the Web 2.0 in learning Dressmaking skills. The findings disagree to the claim of the UTAUT model that PE posits the biggest influence towards the UB [25]. Looking at the profile of the respondents of this study, they are young adults, belonging to Gen Z. The Gen Z population are adept to the use of technology [26], hence whether the Web 2.0 tools under study enhance their academic performance expectancy, or whether the technology is easy or difficult to use, it really does not matter to them.

CONCLUSION

In the context of BTLED students taking up Dressmaking courses, it was identified that students give more importance to facilitating conditions that enable them to learn the competencies of the course. PE and EE had the least variance indicating that students do not consider performance and effort expectancies as a significant determining factor towards their usage behavior. Contrarily, the findings of this study validate the necessity of the availability of gadgets and internet technology for the students learning process in the distant learning setup.

SCOPE AND LIMITATION OF THE STUDY

This study focused on investigating the use behavior of the BTLED 3rd and 4th-year students in a state university in Northern Mindanao, Philippines as they used FB, YT, and GM as they are learning knowledge and skills in their Dressmaking course. Thus, the findings of this study cannot be generalized to other populations who may have different technological infrastructure or to other courses that do not require hands-on skills. This study is

investigating the phenomenon quantitatively, hence the in-depth understanding of the students' reasons for the use of the Web 2.0 tools are not covered in this study.

RECOMMENDATIONS

This study recommends two things. First, a similar study be conducted for non-hands-on courses so that a holistic picture may be gleaned as to the use of FB, YT, and GM in the students' academic journey in the context of flexible learning modalities. Second, it is recommended that a qualitative study be conducted to understand in-depth the experiences of the BTLED students when they use these Web 2.0 tools in learning Dressmaking knowledge and skills in the flexible learning program during the Covid-19 pandemic.

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