



# Student Preferences in Choosing Social Media as a Learning Medium in Work Degree Courses: A Conjoin Analysis

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**Abstract.** The work degree is a compulsory course that must be taken by students of the Fashion Education study program, Faculty of Engineering, Semarang State University. Students are required to make a fashion design which is then demonstrated by the female model at the performance activity, so students need learning media that can provide ideas in designing or making clothes. This study aims to analyze students' preferences in choosing social media in choosing learning media in work degree courses. This research is a survey study. The population in this study was students of the Fashion Education study program Class of 2018 who took part in the Work Degree course as many as 56 students divided into 2 study groups (rombel). The sampling technique used total sampling, so that all members of the population were sampled in this study. Data analysis was performed using conjoin analysis. The results of this study, the majority of students liked youtube social media, video features, ease of access and the number of followers 501–750; the relative importance value that is most considered by students is the number of followers (37.938%), followed by the type of media (22.754%), features (19.978%), and finally convenience (19.331%); and the results of the sig using Pearson R and Kendall tau showed  $<0.05$ , so it can be said that the accuracy of the respondents' predictions as a whole was significant.

**Keywords:** Conjoin Analysis · social media · Learning Media

## 1 Introduction

A work degree is a course that must be taken by students in the Department of Family Welfare Education (PKK). The performance of the work of students of the PKK Department was held at the end of the semester, which was attended by students of the PKK study program, Fashion Education, and Beauty Education who took part in the Work Degree course. This student's work performance attracted everyone to watch it because the works displayed have their own uniqueness.

The Work Degree course in the Pndidikan Tata Busana study program, examines the skills of organizing fashion shows and fashion displays including: planning, implementing and evaluating the implementation of fashion shows and displays both indoors

and outdoors by paying attention to conservation insights [1]. A work title is an activity packaged through a show or parade organized to showcase/demonstrate the clothes worn by female models/showmen with a specific purpose [2].

Students are required to be able to design and realize the results of their clothing designs with the agreed theme at the beginning of the even semester lecture. When going to make designs, patterns, and techniques for sewing clothes and complementary clothing, students often face various obstacles.

The main obstacle faced by students is in designing according to the specified theme. To anticipate this, students often use social media to get sources of ideas in designing and other obstacles.

Social media has an important influence in human life and helps a lot in areas of life such as politics, economics, and education [3]. The benefits of social media in education include improving communication between students and teachers, promoting student engagement, expressing creativity, and encouraging collaboration [4]. Social media is also increasingly being used by students in promoting virtual learning communities and environments [5].

Social media is a group of internet-based applications that build on the ideological and technological basis of Web 2.0, and that enable the creation and exchange of user-generated content [6]. The characteristics of social media are: messages delivered not only to one but many people, messages conveyed freely without having to go through gatekeepers, messages delivered tend to be faster, and message recipients are free to choose the time to interact. Social media is a communication medium that facilitates relationships between people and has different and similar interests [7].

The use of social media among students of the Fashion Education study program FT UNNES in the last 2 years has also increased. This is because the learning policy at UNNES must be carried out online to suppress the spread of the COVID-19 virus. So that learning is carried out online, by utilizing the internet network.

Social media is used by students in finding information, looking for sources of ideas, and as a forum for the promotion of fashion products that have been produced. With social media, it allows students to learn independently and increase creativity in creating fashion products.

Social media has the potential to bridge formal and informal learning through participatory digital cultures [8]. Social media used in online learning include Facebook, YouTube, wikispaces, Blogger, Twitter, Slideshare [9], Tiktok [10], Instagram, Whatsapp, Line, Google [11], Pinterest can increase creativity [12].

Students as millennials, it is certain that they are very familiar with social media which can be used as a reference as a learning medium. From several social media used by students, it is interesting to examine what attributes are the basis for students in choosing social media as a learning medium in the Work Degree course. There is no research on social media preferences as a learning medium in the Work Degree course, so it is not yet known, as long as students take part in the Work Degree learning, the learning media used by students in creating ideas and making fashion products in the Work Degree course.

Research on social media preferences has been done by previous researchers such as research conducted by [13] which gave the result that Facebook ranks the highest

as the platform of choice with a comprehensive scope of information. Research on preferences towards social media was also conducted by [7, 14–16]. Research on social media preferences in education has also been widely carried out before such as [8, 10, 17–19]. The research has used social media as a preference in product selection and as a medium in learning, but no one has used social media as a preference as a learning medium in the Work Degree course.

Based on the study of theories and problems that have been revealed above, the objectives of this study are: 1) identifying social media attributes that influence students in choosing learning media in the Work Degree course; 2) determine the utility value and relative importance value of each product attribute; and 3) analyze the correlation of the accuracy of students' predictions in choosing social media as a learning medium for the Work Degree course. The findings of this study are expected to be able to be used by lecturers who teach the Work Degree course, especially to find out student preferences in choosing social media as a learning medium in the Work Degree Course.

## 2 Methods

This research is a survey research used to determine students' preferences in choosing social media as a learning medium in the Work Degree course. The population in this study is students of the Fashion Education study program Class of 2018 who have taken work degree courses in the even semester of 2020/2021, as many as 56 students divided into 2 study groups (rombel). The sampling technique uses simple random sampling, by drawing the rombel and obtaining samples from rombel 1 as many as 29 students.

The data collection technique uses a questionnaire consisting of 25 points of statements with 5 scales, namely:

- 1: not important;
- 2: less important
- 3: quite important
- 4: noteworthy
- 5: very important

The indicators studied are the type of media used (Facebook, YouTube, Pinterest, TikTok, Instagram), features (videos, photos, chats, messages), access (difficult, easy), and the number of followers (<250, 250–500, 501–750, 751–1000, > 1000). The instrument is given to students with the help of a google form, with a filling time of 40 min.

The data analysis technique used is conjoint analysis. Conjoint analysis is a dependence technique that offers new sophistication to the evaluation of related objects, products, services, or new ideas that allow for complex product evaluation [20]. Conjoint analysis allows respondents to make choices by swapping features, with each other [21]. In conjoint analysis, the usability value becomes the basis for measuring the subjective preferences of each individual.

The stages in the conjoint analysis [22] are:

1. formulating the problem
2. forming stimuli

3. respondent rating
4. selecting the conjoint analysis procedure
5. interpretation of results
6. assess reliability and validity

Forming stimuli is carried out in several steps, namely: 1) determining important attributes or factors to be studied; 2) Arrange levels and combinations between attributes of each level; and 3) constructing mathematical models for preformed stimuli [23].

Selecting the conjoint analysis procedure by calculating the usability value with the formula [22].

$$U(X) = \sum_{i=1}^m \sum_{j=1}^{k_i} \alpha_{ij} x_{ij} \tag{1}$$

where

$U(X)$  = all utilities/uses of an alternative

$\alpha_{ij}$  = donation the part worth or utility level j-th attribute i

$k_i$  = number of attribute levels to – i

$m$  = number of attributes.

$\alpha_{ij}$  = dummy variable, the attribute to – i level to – j is worth 1 if the attribute to –i level to – j occurs and the value of 0 if it does not occur.

The importance value of an attribute e.g.  $I_i$ , is expressed in the range of part-wort [22], namely:

$$I_j = \{ \max(\alpha_{ij}) - \min(\alpha_{ij}) \} \tag{2}$$

Attribute interests are normalized to be able to ascertain relative importance to other attributes ( $W_i$ ) [22].

$$W_i = \frac{I_i}{\sum_{i=1}^m I_i} \tag{3}$$

so that

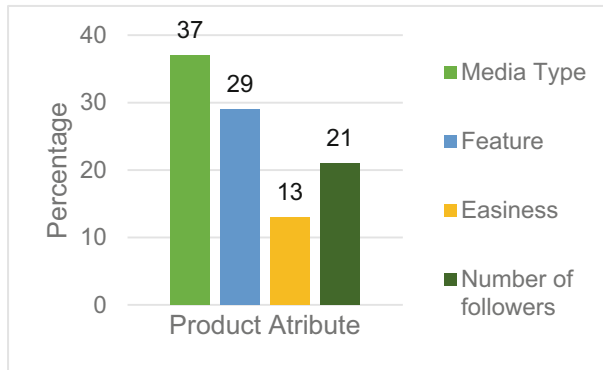
$$\sum_{i=1}^m W_i = 1 \tag{4}$$

$W_i$  = importance attribute to i.

$k_i$  = range of importance values for each attribute.

The procedures that can be used to assess the validity and reliability of the results of conjoint analysis [22] are:

1. The suitability of the estimated model should be evaluated
2. The reliability of the retest test can be assessed by obtaining several assessments that are replications in the collection data.
3. Evaluation for disagreement or validation of stimuli can be predicted by the approximate value of part of the function.
4. If an aggregate level analysis has been performed, the sample estimates can be divided in several ways and conjoint analysis carried out in each subsample.



**Fig. 1.** Percentage of Product's Attribute

## 2.1 Preliminary Research

Preliminary research was conducted by distributing questionnaires to determine the levels of social media attributes that students considered important. Preliminary research was conducted by asking 35 students to fill out a questionnaire hammering the google form. The results of preliminary research show that the attributes that are considered important by students in choosing social media as a learning medium in the Work Degree course are the type of media, features, ease of access, and number of followers.

From Fig. 1, it can be seen that the media type attribute has the highest percentage, namely 37%, features 29%, Number of followers 21% and the lowest ease of access with a percentage of 13%.

## 2.2 Validity and Reliability

Research instruments before being used to take data, must be proven the validity of the instrument and must be used to estimate the consistency and stability of the assessment results. Validity refers to the degree to which evidence and theory support the interpretation of test scores required by the proposed use of the test [24]. The validity of the questionnaire instrument in this study was proven through the validity of the contents using the formula Aiken's V. The Aiken formula is used to calculate the content validity coefficient which is based on the results of the assessment from the expert panel of n people on an item in terms of the extent that the item represents the measured constituency [25]. Aiken's V formula is

$$V = \frac{\sum S}{[n(c - 1)]} \quad (5)$$

Information:

V = validity index of Aiken

S = r - lo

lo = lowest validity assessment number (missal 1)

C = highest validity assessment number (missal 5)

n = number of raters

**Table 1.** Calculation Results with V Aiken

No Grain	V Aiken
1	0.972
2	0.917
3	0.806
4	0.806
5	0.861
6	0.806
7	0.861
8	0.889
9	0.889
10	0.778
11	0.889
12	0.833
13	0.889
14	0.889
15	0.833
16	0.861
17	0.833
18	0.861
19	0.833
20	0.806
21	0.778
22	0.833
23	0.778
24	0.806
25	0.917

$r$  = the number given by the rater

The results of the item analysis can be said to be valid if they meet the V Aiken limit. Proof of validity in this research instrument using 9 raters with 5 rater scales. Based on table V Aiken, it can be seen that the limit requirement of the rater coefficient of each item is 0.72 with a probability of 0.38 [26]. The results of the calculation for proving validity using V Aiken, it can be known that the 25 items of the instrument used are declared feasible/valid because they have a V Aiken value of  $>0.72$ . The calculation score of V Aiken is presented in Table 1.

The reliability of the instrument is estimated using Cronbach's alpha formula. The instrument of student preference in choosing social media as a learning medium in work

**Table 2.** Reliability calculation results

Reliability Statistics	
Cronbach's Alpha	N of Items
.855	25

degree courses uses the Alpha Cronbach formula because the instrument used has a polytomous scale (1–5) [27]. Cronbach's alpha formula as follows [28]

$$\alpha = \frac{n}{n-1} \left( 1 - \frac{\sum S_i^2}{S_x^2} \right) \quad (6)$$

Di where,

$\alpha$  = coefficient of reliability of the instrument;

$n$  = number of instrument items

$\sum S_i^2$  = number of grain variances

$S_x^2$  = variance of the total score

Estimation of instrument reliability in this study using the help of the SPSS 22 program. An instrument is said to be reliable if it has a  $\alpha > 0.70$  [29]. The results of the reliability analysis with Alpha Cronbach in Table 2, it can be seen that the value of alpha Cronbach is  $0.855 > 0.70$ , so it can be concluded that the instrument is reliable.

### 3 Results

#### 3.1 Designing Stimuli

The attributes/factors that will be used are media type, features, convenience, and number of followers. The level for each factor can be seen in Table 3.

Based on Table 3, if combined manually, it will form  $5 \times 4 \times 2 \times 5 = 200$ . After the reduction of stimuli using the help of the SPSS 22 program, 25 stimuli were formed. The combination of attributes and levels that have been formed, then used as a reference in collecting student opinions on each stimulus (Table 4).

#### 3.2 Usability Value at Each Attribute Level Based on Student Preferences

The usability value is the assessment of students of each attribute level. Students' preference in choosing social media as a learning medium in the Work Degree course, produces a usability value that describes the student's assessment of the level of attributes in numbers positive and negative which indicates the level of preference in the selection of social media as a learning medium (Table 5).

Based on the usability value table, the usability value at each attribute level based on student preferences can be seen in the type of media that is most preferred is YouTube media with a usability value is 0.243 and the least liked media by college students is TikTok with a usability value of  $-0.323$ . Students prefer and like social media that has

**Table 3.** Attributes and Levels in Social Media Selection

Attribute	Extent	Information
Media Type	1	YouTube
	2	Pinterest
	3	Facebook
	4	Instagram
	5	TikTok
Feature	1	Photograph
	2	Video
	3	Commentary
	4	Message
Ease	1	Easy
	2	Difficult
Number of followers	1	> 1000
	2	751–1000
	3	501–750
	4	250–500
	5	<250

**Table 4.** Stimuli

Media Type	Feature	Access	Number of Followers	Card
Pinterest	Video	Difficult	751–1000	1
TikTok	Photograph	Difficult	751–1000	2
Instagram	Photograph	Easy	501–750	3
YouTube	Video	Easy	501–750	4
Facebook	Photograph	Difficult	250–500	5
Pinterest	Chat	Easy	250–500	6
Instagram	Video	Difficult	<250	7
TikTok	Video	Easy	250–500	8
TikTok	Message	Difficult	501–750	9
Instagram	Message	Easy	250–500	10
Facebook	Message	Easy	<250	11
Pinterest	Message	Difficult	> 1000	12
Pinterest	Photograph	Easy	<250	13
Instagram	Chat	Easy	751–1000	14

*(continued)*



**Table 4.** (continued)

Media Type	Feature	Access	Number of Followers	Card
YouTube	Chat	Difficult	<250	15
YouTube	Photograph	Easy	> 1000	16
Facebook	Video	Easy	> 1000	17
TikTok	Photograph	Easy	<250	18
YouTube	Message	Easy	751–1000	19
Facebook	Photograph	Easy	751–1000	20
Pinterest	Photograph	Easy	501–750	21
Instagram	Photograph	Difficult	> 1000	22
TikTok	Chat	Easy	> 1000	23
YouTube	Photograph	Difficult	250–500	24
Facebook	Chat	Difficult	501–750	25

**Table 5.** Usability Value

		Utility Estimate	Std. Error
<b>Type of Media</b>	YouTube	.243	.205
	Pinterest	-.226	.205
	Facebook	.070	.205
	Instagram	.236	.205
	TikTok	-.323	.205
<b>Feature</b>	Photograph	.114	.157
	Video	.348	.195
	Chat	-.114	.195
	Message	-.348	.195
<b>Ease</b>	Easy	.456	.105
	Difficult	-.456	.105
<b>Number of Follower</b>	> 1000	.270	.205
	751–1000	.346	.205
	501–750	.408	.205
	250–500	.050	.205
	<250	-1.074	.205
<b>(Constant)</b>		3.016	.109

**Table 6.** Attribute Importance value

<b>Importance Values</b>	
Type of Media	22.754
Feature	19.978
Ease	19.331
Number of Follower	37.938
Averaged Importance Score	

a video feature and do not like media that has a message feature. This is indicated by the usability value in the video feature of 0.348 and in the message feature of - 0.348.

Students like social media that has ease of access, with a usability value of 0.456. And like social media that has a following of 501–750, which is indicated by a usability value of 0.408.

**3.3 Value of Interest**

The importance value obtained from the results of the analysis is a combination of all student opinions. The importance value of this attribute is used to find out which attributes are considered important by students in choosing social media as a learning medium in the Work Degree course. The results of the conjoint analysis for the value of importance can be seen in Table 6.

The relative importance value can explain that of the four attributes, the most concerned by respondents is the number of followers (37.938%), followed by the type of media (22.754%), features (19.978%), and finally convenience (19.331%).

**3.4 Assessing the Reliability and Validity of Conjoin Analysis**

The validity of the bag and the reliability of conjoint analysis can be seen from the value of the correlation coefficient between the observed preferences and the estimated preferences of students in choosing social media as a learning medium on the Degree of Works course. The results of the correlation analysis using SPSS 22 can be seen in Table 7.

The results of the analysis using Pearson’s R showed a sig. value of  $0.000 < 0.05$  and a value of 0.911. The sig value in the Kendall’s Tau correlation is  $0.000 < 0.05$  with a value of 0.801. From the two correlation results using the two formulas, it can be said that the accuracy of students’ predictions in choosing social media as a learning medium for the Work Degree course is significant.

**Table 7.** Correlation

<b>Correlations<sup>a</sup></b>		
	Value	Sig.
Pearson's R	.911	.000
Kendall's know	.801	.000

<sup>a</sup>Correlations between observed and estimated preferences

## 4 Discussion

The most important factor for students in choosing the type of social media as a learning medium in the Work Degree course is YouTube. YouTube is one of the relatively easy-to-produce videos (e.g. voice over PowerPoint) with a ready-to-use service that can be accessed by tools, institutionally available recording studios, and streaming media platforms [30]. YouTube can provide a lot of information and also increase students' creativity in fashion designing. Research conducted earlier [31], showed that YouTube media (78%) is preferred by students in learning, compared to Facebook and other social media. This is also similar to the results of research conducted by Barry et al., which stated that social media, especially YouTube, became commonplace for students as a medium for learning. [32]. Al Hasimi et al. state that the general structure between Instagram, Pinterest, and YouTube is considered the most effective by students in generating creative ideas [12].

A feature that is considered important in choosing social media as a learning medium is the presence of videos. The video feature can provide an understanding in making clothes in detail. Video is becoming a key method of content delivery in online education [33] and can address issues associated with mixed evidence of the effects of video use on attendance, learning students, and academics as a whole [34]. Videos also allow students to be able to get complete information and can be repeated playback of the video. The video feature is widely found on YouTube social media which displays a lot of how to design, make patterns, sewing techniques, to make detailed clothing complements from the stage of early to finishing.

Students also prefer social media to search and consume news because of its low cost, easy access, and rapid dissemination of information [35]. The ease of accessing social media makes it easier for students to get the information they want without having to ask permission from the account owner. In addition, students also prefer social media accounts that have a large number of followers. This is due to the assumption that the more likes or followers, the better [36].

Social media is very beneficial for students of the Fashion Education study program in the Work Degree Course. Because with social media, students can learn independently, increase creativity and can promote. Social media technology enables user-generated content, and has more active audience members who create, edit, post, and contribute content [37]. Course Degree work not only requires students to design, make clothes,

but also to the point of promotion in the way that the clothes that have been created, demonstrated by a model in over the catwalk.

In addition, students must also be skilled in arranging the course of the performance which is carried out within 1 day. Collaboration between teams is needed, because in making fashion designs to be demonstrated, they get the same theme for several students. With social media, it can support virtual collaboration [38].

## 5 Conclusion

The results of research on student preferences in choosing social media as a learning medium in the Work Degree course in the Fashion Education study program FT UNNES, this, shows that the majority of the results are students love YouTube media, video features, ease of access and the number of followers 501–750. So that in the next Work Degree course learning, it is hoped that the lecturer can use the media of video tutorials that can be uploaded via social media, so that students can learn and practice outside of lecture hours without direct guidance by the lecturer.

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