

Students' Learning Difficulties at the Open University Webinar Tutorial

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ARTICLE INFO

Article history:

Received July 08, 2022

Revised July 11, 2022

Accepted August 30, 2022

Available online September 25, 2022

Kata Kunci:

Universitas Terbuka, Kesulitan belajar mahasiswa, Tutorial Webinar

Keywords:

Open University, Students' Learning Difficulties, Webinar Tutorial



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ABSTRAK

Universitas Terbuka (UT) merupakan salah satu universitas pionir yang menerapkan pembelajaran jarak jauh. Namun, siswa masih mengalami kesulitan belajar yang menjadi kendala dalam pembelajaran jarak jauh. Penelitian ini bertujuan untuk menganalisis konstruk kesulitan belajar mahasiswa Universitas Terbuka dan membandingkan kontribusi variabel indikator terhadap konstruk. Penelitian ini menggunakan metode kombinasi model Concurrent Embed, metode utama yang digunakan adalah metode analisis faktor (EFA dan CFA) dan metode deskriptif kualitatif sebagai metode sekunder. Responden penelitian adalah 126 mahasiswa yang pernah mengikuti webinar tutorial (Tuweb) minimal dua kali dan secara sukarela mengisi angket. Data primer dikumpulkan melalui kuesioner online dan wawancara. Data kuantitatif dianalisis menggunakan EFA dan CFA, sedangkan data kuantitatif dianalisis secara deskriptif kualitatif. Hasil penelitian menunjukkan bahwa terdapat enam faktor kesulitan belajar yang masing-masing terdiri dari 4-9 variabel indikator. Variabel indikator yang paling berkontribusi terhadap kesulitan belajar di Tuweb menurut persepsi siswa antara lain: (1) tidak adanya pedoman yang jelas mengenai tata cara pembelajaran online yang dilaksanakan; (2) materi/konten pembelajaran yang disampaikan tutor online sulit dipahami; (3) sinyal internet tidak stabil/baik dari lokasi siswa; (4) keluarga siswa terkendala dalam menyediakan fasilitas pembelajaran online/webinar tutorial karena pendapatan yang rendah; (5) siswa belum memahami cara belajar online; (6) Perangkat yang digunakan tutor terkendala selama proses pembelajaran Tuweb.

ABSTRACT

The Open University (UT) is one of the pioneer universities that implement distance learning. However, students still encounter learning difficulties which become obstacles in distance learning. The purpose of this research is to analyses the construct of learning difficulties of students' learning at Open University and to compare the contribution of indicator variables to the construct. This research uses a combination method of Concurrent Embed model, the primary method used is factor analysis method (EFA and CFA) and qualitative descriptive method as a secondary method. The research respondents were 126 students who had attended the webinar tutorial (Tuweb) at least twice and voluntarily filled out the questionnaire. Primary data were collected through online questionnaires and interviews. Quantitative data were analyzed using EFA and CFA, while quantitative data were analyzed descriptively qualitatively. The results showed that there are six factors of learning difficulties, each of which consisted of 4-9 indicator variables. The indicator variables that contribute the most to learning difficulties in Tuweb according to student perceptions include: (1) there are no clear guidelines regarding the online learning procedures that are carried out; (2) learning materials/content delivered by online tutors are difficult to understand; (3) the internet signal is not stable/good from students' location; (4) students' families are constrained in providing facilities for online learning/webinar tutorials due to low income; (5) students do not understand how to study online; (6) The device used by the tutor is constrained during the Tuweb learning process.

1. INTRODUCTION

The Open University (UT) is one of the pioneer universities that implement distance learning in Indonesia (PJJ) (Arifin, 2018; Rahardjo et al., 2016; Zuhairi et al., 2019). There are two PJJ models at UT,

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namely online tutorials (*tuton*) and face-to-face tutorials (*TTM*) (Santoso et al., 2022; Suprpto & Mursid, 2017; Tama, 2015). *TTM* is a model of learning assistance and guidance facilitated by tutors through face-to-face in class. Meanwhile, *Tuton* is an internet-based tutorial service model or web-based tutorial (WBT). The *PJJ UT* focuses on module-based independent learning facilitated by tutors (Budiarso et al., 2022; Luschei et al., 2008).

The transformation of *TTM UT* at the beginning of the 2020 pandemic into a synchronous webinar tutorial (*Tuweb*) using *Microsoft Teams*, then 2021 until now into a synchronous and asynchronous integrated *Tuweb* (Elshami et al., 2021; Fabriz et al., 2021; Pratiwi et al., 2021). Synchronous using *Microsoft Teams* and asynchronous using *lms.ut.ac.id* with coordination between tutors and students through *WhatsApp (WA)* groups. This is a step forward for *UT* in implementing online learning. Distance learning universities try to find the best approach (Armstrong-Mensah et al., 2020; McCulloch et al., 2022). However, there has not been an analysis of learning difficulties in the tutoring process and efforts to overcome them.

Student learning difficulties are obstacles for students in achieving optimal results in learning (Afnibar et al., 2020; Luck & Norton, 2004; Silalahi & Hutaauruk, 2020). Analysis of learning difficulties can be used as the basis for developing, providing solutions, and implementing the next integrated *Tuweb*. Learning difficulties are obstacles in the learning process. In this research, learning difficulties are obstacles in online learning according to students' perceptions. Previous relevant research showed that, the main factor in online learning difficulties for Physics Education Undergraduate students in Ganesha University of Education (*UNDIKSHA*) in the COVID-19 Pandemic were supporting factors, which are consist of device, geographic, and financial variables (Indrawan & Arjana, 2021), unfortunately this research has not analyzed in detail each item indicator variable with EFA.

Furthermore, a research on student learning difficulties in Bali and Flores regions shows that there are different types of student difficulties experienced by students depending on the supporting situation and conditions (Indrawan et al., 2022), this research only discussed quantitatively the dimensions of learning difficulties. The findings of other study show the percentage of student learning problems before online learning is 50.4%; during online learning 56%, and after/post learning 36%, all are still in the high category (Solihah et al., 2020), this research used a quantitative descriptive method without explaining in detail the indicators of learning difficulties. The weaknesses of online learning include lack of discipline, lack of internet access, and lack of social interaction (Cahyani et al., 2021; Hermanto & Srimulyani, 2021; Nieto-Escamez & Roldán-Tapia, 2021).

Lecturers should take advantage of various online learning support applications so that the learning process is more effective and understands the learning difficulties experienced by students holistically and in detail (Herliandry et al., 2020; Solihah et al., 2020; Vagg et al., 2020). Based on these various studies, this research conducted an analysis of learning difficulties through EFA to categorize indicator variables into the dimensions/factor/construct, then CFA to compare the contribution of each indicator variable to the construct. The EFA and CFA tests will provide a holistic and detailed understanding of various indicator variables of learning difficulties and their constructs.

Based on this background, the purposes of this research are to analyses the factors of learning difficulties in the *UT* Denpasar student webinar tutorial; and to analyses the indicator variables that contribute the most to the difficulty factor in learning the *UT* Denpasar student webinar tutorial.

2. METHOD

This research is a combination of Concurrent Embed model, the primary method used is factor analysis method (EFA and CFA) and qualitative descriptive method as secondary method. The participants of this research were 126 *UT* Denpasar students whose data were taken through the incidental sampling method (Ames et al., 2019; Sugiyono, 2015), the respondents selected were *UT* Denpasar students who had attended webinar tutorials (*Tuweb*) at least twice and voluntarily filled out questionnaires.

Primary data was collected through an online questionnaire with 35 statement items with a *Likert* scale of 1-5 which had been validated by two experts in the field of educational research and evaluation (Indrawan et al., 2022; Indrawan & Arjana, 2021; Sudirgayasa et al., 2020). Data were analyzed using Exploratory Factor Analysis (EFA) with *IBM SPSS 26* to identify manifest variables/indicator variables in building a construct because the researcher did not yet have a comprehensive initial hypothesis regarding student learning difficulties.

Then, after the construct was built through the EFA, a Confirmatory Factor analysis (CFA) was carried out using *AMOS 26* to test the consistency of grouping indicators based on their latent variables (constructs) or to clarify whether the indicators were in the construct or not (Ghozali, 2017; Taylor et al., 2018). Meanwhile, qualitative data will be discussed in a qualitative descriptive manner.

3. RESULT AND DISCUSSION

Result

The results of the validity test are $0.449-0.770 > r(0.05; 126) 0.176$, which means that all instrument items are valid, with *Cronbach's Alpha* value of 0.960 in the very reliable category. Factor analysis with a minimum of three prominent pattern/construct coefficients, a minimum of 0.70 internal consistency reliability (Taber, 2018; Watkins, 2018).

Exploratory Factor Analysis

The result of KMO and Bartlett's Test is show in Table 1.

Table 1. KMO and Bartlett's Test

Statistics		Values
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.878
Bartlett's Test of Sphericity	Approx. Chi-Square	4358.386
	df	595
	Sig.	0.000

Table 1 shows that KMO value of 0.878 means the adequacy of the sample meets the requirements for factor analysis. The results of *Bartlett's Test of Sphericity* showed a significant result of 0.000. Meaning, the correlation matrix has a significant correlation with a number of indicator variables. Factor analysis can be performed when the KMO value is greater than 0.5. Measures of Sampling Adequacy is show in Table 2.

Table 2. Measures of Sampling Adequacy (MSA)

Item	MSA	Decision	Item	MSA	Decision
V1	0.925	Yes	V19	0.927	Yes
V2	0.854	Yes	V20	0.899	Yes
V3	0.887	Yes	V21	0.924	Yes
V4	0.878	Yes	V22	0.877	Yes
V5	0.913	Yes	V23	0.857	Yes
V6	0.807	Yes	V24	0.930	Yes
V7	0.831	Yes	V25	0.943	Yes
V8	0.914	Yes	V26	0.906	Yes
V9	0.830	Yes	V27	0.818	Yes
V10	0.734	Yes	V28	0.819	Yes
V11	0.895	Yes	V29	0.909	Yes
V12	0.829	Yes	V30	0.910	Yes
V13	0.734	Yes	V31	0.924	Yes
V14	0.835	Yes	V32	0.864	Yes
V15	0.862	Yes	V33	0.930	Yes
V16	0.906	Yes	V34	0.918	Yes
V17	0.920	Yes	V35	0.914	Yes
V18	0.911	Yes			

Table 2 shows that all indicator variables are part of the factors that affect *UT* students' *Tuweb* learning difficulties because the MSA value is > 0.5 .

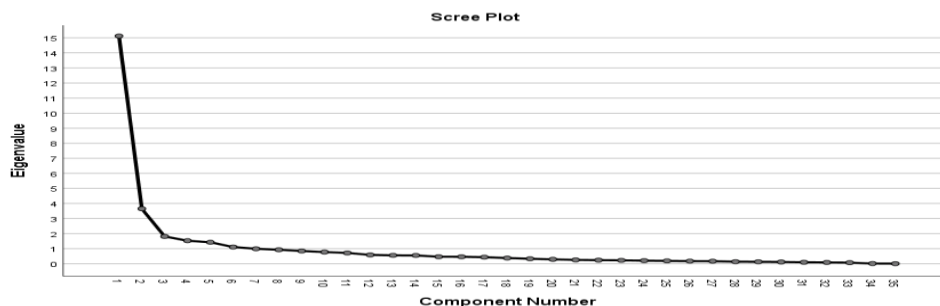


Figure 1. Scree Plot

Figure 1 shows the *Eigen Value* > 1, which is 6. Meaning that in this research the indicator variables will be grouped into 6 components/dimensions or factors. Furthermore, the results of the *Rotated Component Matrix*, *Eigen Values*, and *Variance Explain* are shown in Table 3.

Table 3. Rotated Component Matrix, Eigen Values, and Varians Exsplain

Item	Component					
	1	2	3	4	5	6
V1	0.078	0.237	0.314	0.213	0.094	0.653
V2	0.210	0.261	0.180	0.131	0.199	0.567
V3	0.251	0.067	0.390	-0.018	0.301	0.552
V4	0.017	0.124	0.796	0.096	0.145	0.316
V5	0.223	0.042	0.514	0.291	0.196	0.597
V6	0.042	0.072	0.889	0.116	0.116	0.195
V7	0.017	0.095	0.815	0.287	0.056	0.067
V8	0.252	0.090	0.591	0.336	0.334	0.085
V9	0.268	0.131	0.247	0.374	0.625	0.353
V10	0.125	0.385	0.122	0.056	0.813	0.140
V11	0.275	0.074	0.186	0.335	0.574	0.065
V12	0.280	0.122	0.250	0.371	0.624	0.353
V13	0.146	0.388	0.120	0.038	0.806	0.124
V14	0.740	0.131	0.096	-0.020	0.039	0.059
V15	0.650	0.057	0.115	0.248	0.245	0.086
V16	-0.079	0.527	0.226	0.363	0.232	0.313
V17	0.107	0.486	0.352	0.478	0.189	0.140
V18	0.590	0.259	-0.016	0.119	0.124	0.480
V19	0.684	0.308	0.210	0.116	0.056	0.152
V20	0.561	0.459	0.166	0.234	0.124	0.283
V21	0.645	0.391	0.064	0.055	0.119	0.394
V22	0.061	0.164	0.404	0.747	0.013	0.123
V23	0.058	0.221	0.219	0.621	0.095	0.464
V24	0.243	0.270	0.194	0.700	0.221	0.183
V25	0.469	0.053	0.080	0.463	0.321	0.258
V26	0.294	0.267	0.101	0.660	0.279	-0.035
V27	0.794	0.112	-0.039	0.143	0.159	-0.010
V28	0.770	0.156	0.019	0.160	0.148	0.073
V29	0.470	0.612	0.225	0.334	0.126	0.013
V30	0.473	0.712	0.263	0.162	0.141	-0.016
V31	0.452	0.613	0.107	0.145	0.185	0.096
V32	0.616	0.530	-0.166	-0.089	0.131	0.199
V33	0.262	0.802	0.081	0.134	0.154	0.186
V34	0.259	0.564	-0.038	0.295	0.231	0.311
V35	0.176	0.611	-0.006	0.183	0.372	0.174
Eigen Values	15.120	3.649	1.809	1.527	1.423	1.110
Varians exsplain (%)	43.200	10.427	5.168	4.362	4.066	3.171
Total Varians Explain (%)	70.393					

Table 3 shows that the overall variance is able to explain 70.39%, meaning that the results of this research are able to explain the diversity of factors that influence learning difficulties for *Tuweb UT* Denpasar students by 70.39% and the remaining 29.61% is explained by other factors that are not included in the model. The total constructs formed are 6 (six) factors with *Initial Eigen values* >1, which are then coded as F1, F2, F3, F4, F5, and F6. The percentage distribution of the factors influence the learning difficulties of *Tuweb* students at *UT* Denpasar is F1 (43.20%); F2 (10.43%); F3 (5.17%); F4 (4.36%); F5 (4.07%); and F6 (3.17%) so that the total is 70.39%. The grouping of indicator variables is based on the highest value of the *Rotated Component Matrix* shows the location of the indicator variable constructs. The results are then mapped in Table 4.

Table 4. The Result of Grouping Indicator Variables

Code	Indicator Variables
	Factor 1 (43.20%) <i>Tuweb</i> socialization and health problems
V14	Tutors who facilitate online learning/webinar tutorials have not socialized the steps for online learning activities and how to use the supporting tools.
V15	Students do not follow the socialization of the webinar tutorial so they do not understand the online learning procedures that are applied.
V18	Tutors/institutions do not clearly explain how to use online learning (there has been no prior socialization)
V19	There is no clear tutorial regarding how to learn online
V20	There are no clear guidelines regarding the procedures for online learning
V21	There is no socialization on how to learn online in my <i>Pokjar</i> /Class
V25	Students learn to use one device with classmates, because students do not have online learning support devices yet.
V27	Students have visual/hearing impairments, making it difficult to study independently
V28	Students are constrained by physical limitations and/or health in online learning.
	Factor 2 (10.43%) Sources and Learning Materials
V16	Students find it difficult to understand the material when studying online, preferring face-to-face offline
V17	Students find it difficult to study independently, especially online
V29	Learning materials/content delivered by online tutors is difficult to understand.
V30	The material/content delivered by the tutor online is not systematic so it is difficult to understand
V31	Learning materials/content cannot be downloaded so they cannot be studied repeatedly
V32	There is no discussion or discussion related to material that students do not understand
V33	The material/content presented is too complex and a lot so it is difficult to learn online
V34	Learning resources and display of material used is monotonous and boring.
V35	Online learning materials are only theoretical, do not support practical/practical learning
	Factor 3 (5.17%) Geographic
V4	The ability to obtain a signal for student devices is not good
V6	Poor internet connection in students' area
V7	Bad signals often occur when learning takes place in the area where students live
V8	Students live in areas where internet signal is difficult to access.
	Factor 4 (4.36%) Financial
V22	Students don't have adequate income to buy internet packages to study online
V23	Students can't afford to buy tools for online learning
V24	Students' families are constrained in providing facilities for online learning/webinar tutorials due to low income.
V26	Students are constrained in downloading study materials because the internet package is limited.
	Factor 5 (4.07%) Human Resources
V9	Students do not understand how to study online.
V10	Students do not understand how online learning support software is used.
V11	Students find it difficult to master the use of information technology, especially for online learning.
V12	Tutors are constrained in the utilization of the software used.
V13	Tutors looks confused about using information technology to support the online learning process.
	Factor 6 (3.17%) Hardware/software supporting <i>Tuweb</i>
V1	Students have problems related to devices in online learning/webinar tutorials.
V2	The device used by the tutor is constrained during the <i>Tuweb</i> learning process.
V3	Students are constrained in installing online learning support software/webinar tutorials.
V5	The student's device screen have problems making it difficult to study online

According to Table 4, it can be concluded that: (1) Factor 1 influences 43.20% hereinafter referred to as the *Tuweb* Socialization dimension and the Health constraint consists of 9 (nine) indicator variables V14, V15, V18, V19, V20, V21, V25, V27, and V28; (2) Factor 2 has an effect of 10.43% hereinafter referred to as the Source and Learning Material dimension consisting of 9 indicator variables, namely V16, V17, V29, V30, V31, V32, V33, V34, and V35; (3) Factor 3 influences 5.17% hereinafter referred to as Geographical

dimension consisting of 4 indicator variables, namely V4, V6, V7, and V8; (4) Factor 4 has an effect of 4.36% hereinafter referred to as the Financial dimension consisting of 4 indicator variables, namely V22, V23, 24, and V26; (5) Factor 5 influences 4.07% hereinafter referred to as the Human Resources dimension consisting of 5 indicator variables, namely V9, V10, V11, V12, and V13; (6) Factor 6 has an effect of 3.17%, hereinafter referred to as the *Tuweb* Supporting Hardware and Software dimension consisting of 4 indicator variables, namely V1, V2, V3, and V5.

Confirmatory Factor Analysis

Based on the construct that was built from the EFA analysis, a Confirmatory Factor analysis (CFA) was then carried out to clarify whether the indicators were in the construct that was formed in the EFA or not. Based on the results of the modification by eliminating 12 of the 35 indicator variables referring to the M.I. in *Modification Indices*, the optimal construct in [Figure 1](#) is obtained with the *Goodness of fit Index* value that has met the requirements in [Table 6](#).

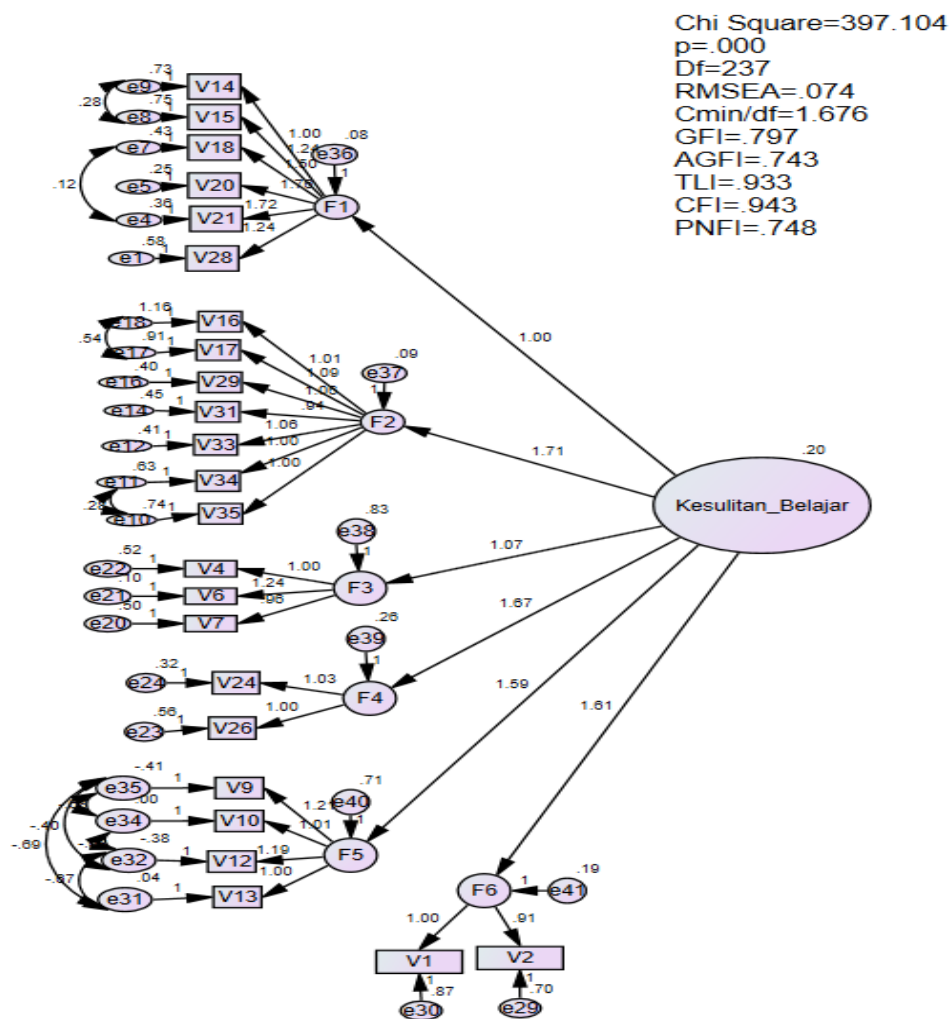


Figure 1. Final Construct Modification

Based on the CFA analysis show in [Figure 1](#) obtained: (1) confirmation of the indicator variables which are the constructs of Factor 1 only V14, V15, V18, V20, V21, and V28; (2) confirmation of indicator variables which are constructs of Factor 2 only V16, V17, V29, V31, V33, V34, and V35; (3) confirmation of indicator variables which are constructs of Factor 3 only V6, V7, and V8; (4) confirmation of indicator variables which are the constructs of Factor 4 only V24 and V26; (5) confirmation of indicator variables which are Factor 5 constructs only V9, V10, V11, and V12; (6) confirmation of the indicator variable which is the construct of Factor 6 is only V1 and V2. The detailed information can be seen in [Table 5](#).

Table 5. The Confirmation Result of Indicator Variables Constructor

Code	Indicator Variables
	Factor 1 (43.20%) <i>Tuweb</i> socialization and health problems
V14	Tutors who facilitate online learning/webinar tutorials have not socialized the steps for online learning activities and how to use the supporting tools.
V15	Students do not follow the socialization of the webinar tutorial so they do not understand the online learning procedures that are applied.
V18	Tutors/institutions do not clearly explain how to use online learning (there has been no prior socialization)
V20	There are no clear guidelines regarding the procedures for online learning
V21	There is no socialization on how to learn online in my <i>Pokjar</i> /Class
V25	Students learn to use one device with classmates, because students do not have online learning support devices yet.
V28	Students are constrained by physical limitations and/or health in online learning.
	Factor 2 (10.43%) Sources and Learning Materials
V16	Students find it difficult to understand the material when studying online, preferring face-to-face offline
V17	Students find it difficult to study independently, especially online
V29	Learning materials/content delivered by online tutors is difficult to understand.
V31	Learning materials/content cannot be downloaded so they cannot be studied repeatedly
V33	The material/content presented is too complex and a lot so it is difficult to learn online
V34	Learning resources and display of material used is monotonous and boring.
V35	Online learning materials are only theoretical, do not support practical/practical learning
	Factor 3 (5.17%) Geographic
V4	The ability to obtain a signal for student devices is not good
V6	Poor internet connection in students' area
V7	Bad signals often occur when learning takes place in the area where students live
	Factor 4 (4.36%) Financial
V24	Students' families are constrained in providing facilities for online learning/webinar tutorials due to low income.
V26	Students are constrained in downloading study materials because the internet package is limited.
	Factor 5 (4.07%) Human Resources
V9	Students do not understand how to study online.
V10	Students do not understand how online learning support software is used.
V11	Students find it difficult to master the use of information technology, especially for online learning.
V12	Tutors are constrained in the utilization of the software used.
	Factor 6 (3.17%) Hardware/software supporting <i>Tuweb</i>
V1	Students have problems related to devices in online learning/webinar tutorials.
V2	The device used by the tutor is constrained during the <i>Tuweb</i> learning process.

Table 6. The Goodness of fit Index Summary

Goodness-Of-Fit (GOF)	Hasil Analisis	Cut Off Value (Ghozali, 2017)	Evaluasi Model
<i>Chi-square/df</i>	=397,104/237 = 1,676	<5	Fit
<i>TLI</i>	0,933	> 0,90	Fit
<i>GFI</i>	0,797	> 0,90	Marginal Fit
<i>AGFI</i>	0,743	> 0,90	Marginal Fit
<i>CFI</i>	0,943	> 0,90	Fit
<i>RMSEA</i>	0,074	0,05 - 0,08	Fit
<i>CMIN/DF</i>	1,676	<2	Fit
<i>PNFI</i>	0,748	0,60-0,90	Fit

The summary of the Goodness of fit index in Table 6 shows the values of *Chi-square/df*, *TLI*, *CFI*, *RMSEA*, *CMIN/DF*, and *PNFI* in the fit category. *GFI* and *AGFI* have been accepted in the marginal Fit category. Then it is necessary to test the loading factor generated on the *Standardized Regression Weights* as show in Table 7.

Table 7. Standardized Regression Weights

	Correlation		Estimate Loading Factor
V7	<---	F3	0.815
V6	<---	F3	0.970
V4	<---	F3	0.819
V26	<---	F4	0.774
V24	<---	F4	0.856
V2	<---	F6	0.678
V1	<---	F6	0.671
V13	<---	F5	0.986
V12	<---	F5	1.134
V10	<---	F5	0.999
V9	<---	F5	1.138
V21	<---	F1	0.836
V20	<---	F1	0.884
V18	<---	F1	0.771
V15	<---	F1	0.606
V14	<---	F1	0.527
V33	<---	F2	0.809
V31	<---	F2	0.757
V29	<---	F2	0.810
V17	<---	F2	0.690
V16	<---	F2	0.617
V34	<---	F2	0.723
V28	<---	F1	0.655
V35	<---	F2	0.693

Based on the estimated loading factor value, Table 7 is shown in F1, namely the dimensions of Socialization and Physical Constraints, the highest contribution of learning difficulties for webinar tutorials according to the perception of *UT* students is at V20 (0.884), i.e. there are no clear guidelines regarding online learning procedures. In F2, namely the dimensions of Sources and Learning Materials, the highest contribution to learning difficulties in webinar tutorials according to the perception of *UT* students is V29 (0.810) which means that the learning materials/content delivered by online tutors are difficult to understand. In F3, which is the Geographical dimension, the highest contribution to learning difficulties in webinar tutorials according to the perception of *UT* students is V6 (0.970) which is where students live the internet signal is poor. In F4, which is the Financial dimension, the highest contribution to learning difficulties in webinar tutorials according to the perception of *UT* students is V24 (0.856), namely students do not understand how to learn online. In F5, namely the Human Resources dimension, the highest contribution to learning difficulties in webinar tutorials according to the perception of *UT* students is V9 (1,138), namely student families are constrained in providing facilities for online learning/webinar tutorials due to low income. In F6, namely the dimensions of *Tuweb* Supporting Hardware/Software, the highest contribution to learning difficulties for webinar tutorials according to the perception of *UT* students is V9 (0.678), which is the device used by tutors is constrained during the *Tuweb* learning process.

Discussion

Factor 1, namely the *Tuweb* socialization dimension and health problems, had an effect of 43.20% related to the socialization process of the *Tuweb* carried out by the institution/tutor, student participation during socialization, learning process tutorials, tutorial guidelines, and health disorders. Lack of socialization can be a variable causing student learning difficulties (Adnan & Anwar, 2020; Indrawan et al., 2022). Socialization related to the web is very important, for example related to the learning process, the

use of *lms.ut.id* (asynchronous tutorials), and *Microsoft Teams* (synchronous tutorials). The highest contribution to the difficulty of learning webinar tutorials on this dimension according to the perception of *UT* students is that there are no clear guidelines related to online learning procedures that are carried out by students. Regarding the *Tuweb* guideline, *UT* has provided it at <https://mahasiswa.ut.ac.id/en/node/448> but it has not been used optimally by students. Health problems that are part of the learning difficulties of *Tuweb* are visual/hearing disorders (Sudirgayasa et al., 2020; Wu & Shah, 2004). Other studies mention the existence of psychological factors that become obstacles to online learning (Aeni & Arifin, 2022).

Factor 2, namely the dimensions of sources and learning materials has an effect of 10.43% related to the difficulty of students in understanding the material when learning online, students' perceptions that the delivery of material by tutors is difficult to understand and less systematic, obstacles in downloading learning materials, lack of discussion related to learning materials that are lacking understood by students, the material delivered by the tutor is too complex and plentiful, the material is monotonous and boring, the material is only theoretical. Student perceptions related to difficulties in understanding learning materials are a type of academic difficulty factor (AL-Qadria et al., 2021; Ramadoni et al., 2019). The highest contribution of learning difficulties in webinar tutorials on this dimension according to the perception of *UT* students is that the learning materials/content delivered by online tutors is difficult to understand. Material is not systematic, difficult, practical, and complex can be a factor in students' online learning difficulties (Aeni & Arifin, 2022; Indrawan & Arjana, 2021). Complex materials and high levels of difficulty can lead to student misconceptions. One of the challenges of online learning for teachers/lecturers/tutors is to prepare online lecture materials and a way to stimulate student interest in learning to explore further information through assignments (Fauza et al., 2020; Ratnawati & Utama, 2021). Some students stated that there was a *Tuweb* module material that was very disparate with what they faced in the field, especially curriculum subjects, thus reducing their motivation to learn. Good tutors adapt the material according to the times through enrichment, but there are also tutors who only provide module material.

Factor 3, namely the geographical dimension, affects 5.17% related to the situation and condition of the student's residence that causes obstacles in the webinar tutorial, for example signal problems due to isolated areas. The highest contribution to the difficulty of learning webinar tutorials according to the perception of *UT* students is the student's residence where the internet signal is poor. For students who live in rural areas, mountains, or near forests, the internet signal is isolated. Geographical factors become a barrier that hinders internet signals from reaching the area, so that it becomes an obstacle to online learning. Most students in online learning use mobile internet, a small part with *wifi*, mobile internet is very dependent on the signal in their respective regions (Ratnawati & Utama, 2021; Suartama et al., 2019). An unstable signal will certainly interfere with the *Tuweb* process, especially in synchronous online learning using *Microsoft Teams*. An unstable signal causes unclear voices to be received by students or causes students to bounce out during learning (Indrawan & Arjana, 2021; Nieto-Escamez & Roldán-Tapia, 2021). Other data by previous research states that 54.32% of more than 7,500 respondents complained of internet connection problems and 32.35% complained of intermittent internet connections (Afnibar et al., 2020). This is supported by data that 15 thousand villages have poor internet access, even becoming blank spots (Hamid et al., 2020; Lubis & Dasopang, 2021). The supporting factors for online learning are network access and the ability of devices to access the internet. Unstable signals, unfavorable weather, and power outages are technical obstacles related to the condition of an area where students live (Andanawarih et al., 2022; Apriyanti, 2020).

Factor 4, namely the financial dimension has an effect of 4.36% on the financial support of students or their families in supporting online learning, for example the ability to facilitate devices or buy internet quota. The highest contribution to the difficulty of learning webinar tutorials according to the perception of *UT* students is that students' families are constrained in providing facilities for online learning/webinar tutorials due to low income. The COVID-19 pandemic has caused a decrease in income or even losing a job which has an impact on family finances, especially for parents/families of students/students themselves (Atiqoh, 2020; Indrawan & Arjana, 2021). The economic recovery after the COVID-19 pandemic also experienced obstacles due to global problems, such as the war between Russia and Ukraine which had an impact on slowing down economic recovery, especially tourism in Bali, which had an impact on the finances of *UT* Denpasar students and their families. This is supported by BPS data, the number of foreign tourists to Bali Province in February 2021 decreased by 99.997 percent (almost 100%) compared to February 2020, which of course has an impact on the income of people in Bali, especially those who depend on tourism. Students who do not have *Smartphone* borrow from their parents or relatives so that when used by the owner, students cannot participate in learning process (Afnibar et al., 2020; Patrikakou, 2016).

Factor 5, namely the human resources dimension has an effect of 4.07% related to the limitations of personal skills in the online learning process. The highest contribution to this dimension that causes student learning difficulties is that students do not understand how to study online. The students'

difficulties in *Tuweb* learning can be caused by the low skills of students and/or tutors in utilizing technology in online learning, in addition to the ability to self-regulate in learning (Harahap, 2020; Indrawan & Arjana, 2021). Learning disability refers to symptoms where students are unable to learn or avoid learning so that learning outcomes are below their intellectual potential. Students with low skills in using technology to support online learning are constrained in learning *Tuweb*. Social support can be provided to overcome student learning difficulties through peer learning activities (Bavel et al., 2020; Warshawki, 2022). In addition, according to students' perceptions, the limited ability of tutors in using applications such as *Microsoft Teams* and *lms.ut.ac.id* is also an obstacle in the online learning process, for example materials that have not been uploaded to the *LMS*, discussion forums that are rarely filled, and sometimes even a few *LMS* used in learning. Another finding from the interviews showed that students who study while working, serving at school, and/or having families have difficulty managing time/schedules. Students find it difficult to manage time to do college assignments, school, household, ceremony/holiday activities, *ngayah* in *banjar*, and take care of children. One of the obstacles from studying while working is labor-intensive time management (Auliya, 2020).

Factor 6, namely the dimensions of hardware/software supporting *Tuweb*, has an effect of 3.17%, consisting of 4 related to hardware constraints that do not support software installation, software that is constrained when used in the learning process and layer/audio devices that do not support. Devices are an important factor in the difficulty of online learning for students because without devices that support students, they cannot participate in online learning well or cannot participate at all (Indrawan & Arjana, 2021; Sudirgayasa et al., 2020). The limitations of the device are part of the technical difficulties of students in online learning. The highest contribution to the difficulty of learning webinar tutorials on this dimension according to students' perceptions is that the devices used by tutors are constrained when used on student devices, for example, during video conferencing, the *Microsoft Teams* application used by the tutor has an error, cannot share layers, and or the tutor's voice is not clear/interrupted.

According to the result, it can be suggested that: (1) students need to be given clear guidelines regarding the tutoring carried out by tutors, both in terms of procedures, sources, and the assessment process; (2) tutors need to compile material systematically and give students independence in finding sources of enrichment learning outside of modules and tutors; (3) before the *Tuweb* activity is carried out, students and tutors should ensure that the area where they live has a stable internet connection, or look for other alternatives to ensure the smooth running of the *Tuweb* process; (4) students with low-income families need to be facilitated or given scholarships that can help their learning process; (5) it is necessary to develop student skills using technology, especially those that support *Tuweb* learning; (6) the tutor before implementing the tutoring must ensure that the hardware, software, and signals are ready to carry out online learning.

4. CONCLUSION

Based on the results and discussion, it can be concluded that there are six dimensions consisting of: (1) Factor 1, namely the dimensions of *Tuweb* socialization and health problems having an effect of because there are no guidelines which is clearly related to the procedures for online learning that are carried out; (2) Factor 2, namely the dimensions of sources and learning Materials which have an effect consisting of 9 indicator variables, the highest contribution to student learning difficulties is because the learning materials/content delivered by online tutors are difficult to understand; (3) Factor 3, namely the geographical dimension consisting of 4 indicator variables, the highest contribution of student learning difficulties is because the student's residence has an unstable/poor internet signal; (4) Factor 4, namely the financial dimension consisting of 4 indicator variables, the highest contribution of student learning difficulties is because students' families are constrained in providing facilities for online learning/webinar tutorials due to low income; (5) Factor 5, namely the human resources dimension consisting of 5 indicator variables, the highest contribution of student learning difficulties is because students do not understand how to learn online; (6) Factor 6, namely the dimensions of hardware and software supporting *Tuweb* consisting of 4 indicator variables, the highest contribution of student learning difficulties in *Tuweb* because the device used by the tutor is constrained during the *Tuweb* learning process.

5. ACKNOWLEDGE

Huge thank you to LPPM UT for financing of this research by DIPA UT with a letter of agreement on the implementation of research / community service NUMBER: B/224/UN31.LPPM/PT.01.03/2022.

6. REFERENCES

- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(1), 45–51. <https://doi.org/10.33902/JPSP.2020261309>.
- Aeni, K., & Arifin, Z. (2022). Problematika Pembelajaran Daring Pada Masa Pandemi Covid-19 Pada Peserta Didik di Kelurahan Mangallekana Kecamatan Labakkang Kabupaten Pangkep. *Jurnal Hasil Pemikiran, Penelitian, Dan Pengembangan*, 9(1), 31–38. <https://doi.org/10.26858/sosialisasi.v1i1.32439>.
- Afnibar, D., Fajhriani., & Putra, A. (2020). Analisis Kesulitan Belajar Mahasiswa dalam (Studi pada Mahasiswa Bimbingan Konseling Islam UIN Imam Bonjol Padang). *Al Irsya Jurnal Bimbingan Konseling Islam*, 11(2), 187–196. <https://ejournal.uinib.ac.id/jurnal/index.php/alirsyad/article/view/2091>.
- AL-Qadria, A. H., Zhaob, W., Li, M., Al-khreshehd, M. H., & Boudouaia, A. (2021). The prevalence of the academic learning difficulties: An observation tool. *Heliyon*, 7, 1–12. <https://doi.org/10.1016/j.heliyon.2021.e08164>.
- Ames, H., Glenton, C., & Lewin, S. (2019). Purposive sampling in a qualitative evidence synthesis: A worked example from a synthesis on parental perceptions of vaccination communication. *BMC Medical Research Methodology*, 19(1), 1–10. <https://doi.org/10.1186/s12874-019-0665-4>.
- Andanawarih, N. A., Pratiwi, I. A., & Ahsin, M. N. (2022). Analisis Kesulitan Pembelajaran Daring Pada Mahasiswa Universitas Muria Kudus. *WASIS: Jurnal Ilmiah Pendidikan*, 3(1), 60–67. <https://doi.org/10.24176/wasis.v3i1.7503>.
- Apriyanti, C. (2020). Distance Learning and Obstacles During Covid-19 Outbreak. *Jurnal Ilmiah Pendidikan Dasar*, 7(2), 68. <https://doi.org/10.30659/pendas.7.2.68-83>.
- Arifin, M. H. (2018). Role of student support services in enhancing student persistence in the open university context: Lesson from Indonesia Open University. *Turkish Online Journal of Distance Education*, 19(3), 156–168. <https://doi.org/10.17718/tojde.445116>.
- Armstrong-Mensah, E., Ramsey-White, K., Yankey, B., & Self-Brown, S. (2020). COVID-19 and Distance Learning: Effects on Georgia State University School of Public Health Students. *Frontiers in Public Health*, 8(September), 1–10. <https://doi.org/10.3389/fpubh.2020.576227>.
- Atiqoh, L. N. (2020). Respon Orang Tua Terhadap Pembelajaran Daring Pada Masa Pandemi Covid-19. *Thufuli: Jurnal Ilmiah Pendidikan Islam Anak Usia Dini*, 2(1), 45. <https://doi.org/10.33474/thufuli.v2i1.6925>.
- Auliya, M. (2020). Pengaruh Aktivitas Kerja Sambil Kuliah Terhadap Prestasi Akademik Mahasiswa Fakultas Ilmu Sosial Universitas Negeri Makassar. *Social Landscape Journal*, 1(2), 49–55. <https://doi.org/10.56680/slj.v1i1.12926>.
- Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Haslam, S. A., Jetten, J., ... Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471. <https://doi.org/10.1038/s41562-020-0884-z>.
- Budiarso, I., Muchtar, H. S., Soro, S. H., & Mardiana, D. (2022). Online Tutorial And Webinar Tutorial Management On Distnce Learning Process At Indonesia Open University. *International Journal of Educational Research & Social Sciences*, 3(4), 1708–1714. <https://doi.org/10.51601/ijersc.v3i4.470>.
- Cahyani, N. M. W. S., Suwastini, N. K. A., Dantes, G. R., Jayantini, I. G. A. S. R., & Susanthi, I. G. A. A. D. (2021). Blended Online Learning: Combining the Strengths of Synchronous and Asynchronous Online Learning in Efl Context. *Jurnal Pendidikan Teknologi Dan Kejuruan*, 18(2), 174. <https://doi.org/10.23887/jptk-undiksha.v18i2.34659>.
- Elshami, W., Taha, M. H., Abuzaid, M., Saravanan, C., Al Kawas, S., & Abdalla, M. E. (2021). Satisfaction with online learning in the new normal: perspective of students and faculty at medical and health sciences colleges. *Medical Education Online*, 26(1). <https://doi.org/10.1080/10872981.2021.1920090>.
- Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of Synchronous and Asynchronous Settings of Online Teaching and Learning in Higher Education on Students' Learning Experience During COVID-19. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.733554>.
- Fauza, N., Ernidawati, & Syaflita, D. (2020). Analysis of Student Physics Learning Difficulties in Networking During the COVID-19 Pandemic. *Geliga Journal of Science (JGS): Journal of Physics Education*, 8(1), 49–54. <https://doi.org/10.31258/jgs.8.1.49-54>.
- Ghozali, I. (2017). *Model Persamaan Struktural (Konsep dan Aplikasi dengan Program Amos 24)*. Badan

Penerbit UNDIP.

- Hamid, R., SENTRYO, I., & HASAN, S. (2020). Online learning and its problems in the Covid-19 emergency period. *Jurnal Prima Edukasia*, 8(1), 86–95. <https://doi.org/10.21831/jpe.v8i1.32165>.
- Harahap, A. C. P. (2020). Covid 19: Self regulated learning mahasiswa. *Al-Irsyad*, 10(1), 36–42. <https://doi.org/10.24176/wasis.v3i1.7503>.
- Herliandry, L. D., Nurhasanah, N., Suban, M. E., & Kuswanto, H. (2020). Pembelajaran Pada Masa Pandemi Covid-19. *JTP - Jurnal Teknologi Pendidikan*, 22(1), 65–70. <https://doi.org/10.21009/jtp.v22i1.15286>.
- Hermanto, Y. B., & Srimulyani, V. A. (2021). The challenges of online learning during the covid-19 pandemic. *Jurnal Pendidikan Dan Pengajaran*, 54(1), 46–57. <https://doi.org/10.23887/jpp.v54i1.29703>.
- Indrawan, I. P. O., & Arjana, I. G. (2021). Kesulitan Belajar Daring Mahasiswa S1 Pendidikan Fisika Undiksha pada Masa Pandemi COVID-19. *Jurnal Pendidikan Dan Pembelajaran Sains (JPPSI)*, 4(2), 170–180. <https://doi.org/10.23887/jppsi.v4i2.33396>.
- Indrawan, I. P. O., Suwardika, G., Wijaya, I. K. W. B., Arjana, I. G., Sudirgayasa, I., Lawe, Y. U., & Harso, A. (2022). The difficulties of online learning in the COVID-19 pandemic reviewed from student's perception (Bali and Flores). In *Exploring New Horizons and Challenges for Social Studies in a New Normal*, 163–168. <https://doi.org/10.1201/9781003290865-30163>.
- Lubis, A. H., & Dasopang, M. D. (2021). Online Learning During the Covid-19 Pandemic: How is it Implemented in Elementary Schools? *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, 11(1), 120. <https://doi.org/10.25273/pe.v11i1.8618>.
- Luck, P., & Norton, B. (2004). Problem Based Management Learning-Better Online? *European Journal of Open, Distance and E-Learning*, 7(2). <https://old.eurodl.org/?p=archives&sp=full&year=2004&halfyear=2&article=156>.
- Luschei, T. F., Dimiyati, S., & Padmo, D. (2008). Maintaining e3-learning while transitioning to online instruction: The case of the Open University of Indonesia. *Distance Education*, 29(2), 165–174. <https://doi.org/10.1080/01587910802154962>.
- McCulloch, N., Allen, G., Boocock, E., Peart, D. J., & Hayman, R. (2022). Online learning in higher education in the UK: Exploring the experiences of sports students and staff. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 31, 2–10. <https://doi.org/10.1016/j.jhlste.2022.100398>.
- Nieto-Escamez, F. A., & Roldán-Tapia, M. D. (2021). Gamification as Online Teaching Strategy During COVID-19: A Mini-Review. *Frontiers in Psychology*, 12(May), 1–9. <https://doi.org/10.3389/fpsyg.2021.648552>.
- Patrikakou, E. N. (2016). Parent Involvement, Technology, and Media: Now What? *School Community Journal*, 26(2), 9–24. <https://eric.ed.gov/?id=EJ1123967>.
- Pratiwi, J. A., Rosalina, N., Rodiah, N., Ervina, W., & Info, A. (2021). The Performances of Synchronous and Asynchronous Method in Teaching and Learning English. *ETDC: Indonesian Journal of Research and Educational Review*, 1(1), 46–57. <https://doi.org/10.51574/ijrer.v1i1.53>.
- Rahardjo, D., Lubis, D. P., & Harijati, I. S. (2016). Internet Access And Usage In Improving Students' self-Directed Learning In Indonesia Open University. *Turkish Online Journal of Distance Education*, 17(2). <https://doi.org/10.17718/tojde.90196>.
- Ramadoni, A., Yulkifli, & Ratnawulan. (2019). Development of physics module SMA/MA integrated character values based on discovery learning models with approach science process skills. *Journal of Physics: Conference Series*, 1185(1). <https://doi.org/10.1088/1742-6596/1185/1/012068>.
- Ratnawati, E., & Utama, A. P. (2021). Kesulitan Mahasiswa dalam Pembelajaran Daring pada Masa Pandemi COVID-19. *Eduksos: Jurnal Pendidikan Sosial Dan Ekonomi*, 10(1), 96–113. <https://doi.org/10.24235/edueksos.v10i1.8085>.
- Santoso, H. B., Riyanti, R. D., Prastati, T., Susanty, A., & Yang, M. (2022). Learners' Online Self-Regulated Learning Skills in Indonesia Open University: Implications for Policies and Practice. *Education Sciences*, 17(7), 469. <https://www.mdpi.com/article/10.3390/educsci12070469>.
- Silalahi, T. F., & Hutauruk, A. F. (2020). The Application of Cooperative Learning Model during Online Learning in the Pandemic Period. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 3(3), 1683–1691. <https://doi.org/10.33258/birci.v3i3.1100>.
- Solihah, M., Mudjiran, M., & Ardi, Z. (2020). Problems faced by students in online learning and their implications for guidance and counseling services. *Jurnal Neo Konseling*, 2(3), 1–7. <https://doi.org/10.24036/00306kons2020>.
- Suartama, I. K., Setyosari, P., Sulthoni, & Ulfa, S. (2019). Development of an instructional design model for mobile blended learning in higher education. *International Journal of Emerging Technologies in Learning*, 14(16), 4–22. <https://doi.org/10.3991/ijet.v14i16.10633>.

- Sudirgayasa, I. G., Indrawan, I. P. O., Sudiana, I. M., Surata, I. K., & Maduriana, I. M. (2020). Analisis Kesulitan Penyebab Kesulitan Belajar Daring Saat Learning From Home (LFH). *Seminar Nasional Online Biologi Penyakit*, 66–71. <https://dspace.uc.ac.id/bitstream/handle/123456789/3657/Paper3657.pdf?sequence=4&isAllowed=y#page=81>.
- Sugiyono. (2015). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R & D*. Alfabeta.
- Suprpto, N., & Mursid, A. (2017). Pre-service teachers' attitudes toward teaching science and their science learning at Indonesia Open University. *Turkish Online Journal of Distance Education*, 18(4), 66–77. <https://doi.org/10.17718/tojde.340386>.
- Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>.
- Tama, B. A. (2015). Learning to prevent inactive student of Indonesia open university. *Journal of Information Processing Systems*, 11(2), 165–172. <https://www.koreascience.or.kr/article/JAKO201532434264296.page>.
- Taylor, S., Girdler, S., Parsons, R., McLean, B., Falkmer, T., Carey, L., Blair, E., & Elliott, C. (2018). Construct validity and responsiveness of the functional Tactile Object Recognition Test for children with cerebral palsy. *Australian Occupational Therapy Journal*, 65(5), 420–430. <https://doi.org/10.1111/1440-1630.12508>.
- Vagg, T., Balta, J. Y., Bolger, A., & Lone, M. (2020). Multimedia in Education: What do the Students Think? *Health Professions Education*, 6(3), 325–333. <https://doi.org/doi.org/10.1016/j.hpe.2020.04.011>.
- Warshawki, S. (2022). Academic self-efficacy, resilience and social support among first-year Israeli nursing students learning in online environments during COVID-19 pandemic. *Nurse Education Today*, 110, 1–6. <https://doi.org/10.1016/j.nedt.2022.105267>.
- Watkins, M. W. (2018). Exploratory factor Analysis: a guide to best practice. *Journal Black Psychol*, 44(3), 219–246. <https://doi.org/10.1177/0095798418771807>.
- Wu, H. K., & Shah, P. (2004). Exploring visuospatial thinking in chemistry learning. *Science Education*, 88(3), 465–492. <https://doi.org/10.1002/sce.10126>.
- Zuhairi, A., Karthikeyan, N., & Priyadarshana, S. T. (2019). Supporting students to succeed in open and distance learning in the Open University of Sri Lanka and Universitas Terbuka Indonesia. *Asian Association of Open Universities Journal*, 15(1), 13–35. <https://doi.org/10.1108/AAOUJ-09-2019-0038/full/html>.