Difficulties of Non-Arabic Study Program Students in Arabic Teaching and Learning Process at ITB AAS Indonesia

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This study investigates the difficulties of Non-Arabic study program students in Arabic learning at ITB AAS Indonesia. This research uses descriptive qualitative. This study involves 60 students of the Economy Sharia study program. The analysis shows internal and external factors of students' difficulties in Arabic learning. The internal factors are 1) difficulty in writing Hijaiyah letters at the beginning of, in the middle, and at the end of the sentence. 2) difficulty in writing Hijaiyah letters in computer typing because it must have an Arabic Typesetting font. 3) belief that writing Arabic letters is more difficult than writing Latin letters, 4) difficulty in reading recitation (Tajwid). 5) belief that learning Arabic is more difficult than Indonesian and English. 6) belief that many Mufrodat includes Isim, Fi'il, and Harf. 7) many rules for changing words and writing an Arabic sentence. Besides, external factors are 1) many foreign expressions or Arabic terms that are different from Indonesia. 2) lack of learning media of Arabic textbooks. 3) lack of facilities in the language laboratory. 4) lack of environment, association, social, and culture in learning Arabic. 5) lack of self-support and motivation in learning Arabic. 6) influence of the first language (regional) and the second language (Indonesian). 7) Arabic learning time is short to 1 week. 8) a lot of Arabic material in one semester. 9) too many students in a class. 10) situation in the Arabic class is not conducive.

Keywords: *Arabic, Non-Arabic, Students*

INTRODUCTION

Arabic is one of the most frequently used international languages in the Islamic world and is the language of the Quran. Consequently, mastering Arabic is essential. In Indonesia, informal or non-formal educational institutions are initiating Arabic classes for the Muslim community. The development of the Arabic language is increasingly

visible with the inclusion of Arabic lessons informal subjects and courses at schools or universities (Ekawati 2019). Arabic is one of the main parts of the traditions of the Islamic world, difficulties after difficulties learning Arabic always arise (Wekke 2016). Many Arabic language textbooks have also been written, both in Arabic versions. Arabic and Indonesian versions, However, actually there is a special difficulty when teaching Arabic to non-Arabic communities, both in terms of grammar, pronunciation, communication, and writing. In general, the existing Arabic language books emphasize and prioritize grammatical aspects of grammar), while the aspects of communication and writing received less attention and priority. This is a problem that may be common that many non-Arab communities face when learning Arabic.

Usually, students who have studied Arabic in previous faith-based schools will not have much difficulty attending lectures. Meanwhile, students who have never studied Arabic in school have difficulty learning Arabic. Arabic is a foreign language that most students believe is difficult to learn, even though learning Arabic is easy (Khansa 2016). Learning requires the use of learning strategies so that students do not find it difficult. Arabic learning strategies are carried out so that students can receive material more effectively and efficiently.

There are several problems in learning Arabic, both linguistically and non-linguistically. The problem of difficulties learning Arabic is a problem with specific parts of the process of preventing learning Arabic. The problem of learning Arabic is comprised of the following components: linguistic problems, phonetic problems/sound, vocabulary, writing, morphology, syntax, and semantics. And problems that aren't caused by the language itself, such as differences in sociocultural norms between Indonesian and Arabic, as well as differences in teaching materials, students, media, and infrastructure, and of course the fact that the two languages have different social conditions that can become a barrier to learning Arabic (Amirudin 2017).

According to Tahir (2008), people often struggle with learning Arabic for several reasons, including the following: 1) lack of knowledge of the form of the Arabic alphabet, and the letters at the time of writing Arabic Hijaiyah at the beginning, middle, or end of words, 2) inability to read Arabic letters, 3) lack of mastery of vocabulary, which is the key to learning a language, 4) less active in practice and fear of making mistakes, 5) lack of knowledge of sentence forms in the language Arabic, 6) lack of translating Indonesian into Arabic, and 7) not accustomed to hearing firsthand the Arabic language.

Fahrurrozi (2014) states that several elements influence the teaching and learning of foreign languages, particularly Arabic, including linguistic aspects such as phonology, grammar, morphology, and vocabulary. Additionally, non-linguistic factors impact the teaching and learning of Arabic. Apart from instructional tools, the teaching approach, the student's age, and the surroundings all have a role. The method of instruction used in an Arabic classroom is important. (Zakiatunnisa, Sukma, and Faidah 2020) state that the student's problems to be faced are linguistic problems (internal factors originating from the linguistic aspect) and non-linguistic problems (external

factors originating from non-linguistics). Linguistic problems such as sound system (Ashwât 'Arabiyyah), vocabulary (mufrodat), sentence structure (qowaid and i'rab) and writing (kitabah), grammatical (tarkib), while non-linguistic problems are problems related to socio-cultural differences between Arabs and non-Arab society in the form of socio-cultural in the form of expressions and terms that are not found in Indonesian, textbooks, social environment, age, first language (mother tongue), learning methods, media and learning infrastructure, curriculum, study time, social politics, motivation, and interest in learning. It is supported by Hidayat (2012) that the problem of learning the Arabic language consists of linguistic governance issues, which include sounds/phonetics, vocabulary, writing, morphology, syntax, and semantics; and non-linguistic governance issues, which include sociocultural issues, materials, facilities, instructional media, teacher competence, and student interests. The problem of learning the Arabic language is the problem of certain elements that inhibit the process of learning the Arabic language.

Several previous studies have been conducted related to the student's difficulty in Arabic learning. First, Hizbullah and Mardiah (2015) state that the issue of teaching Arabic at the Islamic Madrasah Aliyah in Jakarta is connected to the availability of resources for learning and utilizing Arabic. Additionally, teacher competency criteria vary and are not a limitation in the instructional process. A shortage of time for learning in school makes it difficult to expand the teaching of the Arabic language in general, as do the difficulties of building a language-rich atmosphere in the school. Second, Vadhillah, Alimin, and Suharmon (2017) state that the students' problems arise because there are no learning media for ijtima', students come from a variety of educational backgrounds, teachers are less motivated to speak Arabic, language labor to support Arabic learning does not exist, the methods that are used do not vary, the environment is less supportive for the achievement of a good learning process, and the allotted learning time is not enough, MAN Batu Mandi Tilatang Kamang is having difficulty mastering the Arabic language. Third, Fuadi (2019) states that the students of MTsN 1 Bandar Lampung lack of desire and willingness to learn Arabic. Second, the students have difficulties reading and comprehending the meaning of each Arabic vocabulary word. Thirdly, parents pay less attention to their children's Arabic learning outcomes. Fourth, the manner of imparting knowledge remains boring; professors mostly employed the lecture approach. Finally, the use of educational media is more limited. Fourth, Efflamengo and Asyrofi (2019) state that The factors causing Arabic language learning difficulties for blind students in MAN 2 Sleman are linguistic issues including difficulties with sound (phonological), meaning (semantic), sentence structure (syntax), and writing Arabic in braille characters. Then, Non-Linguistic Challenges: A lack of enthusiasm, a teacher's lack of comprehension of braille, a lack of creativity in learning techniques, and difficulties resulting from inadequate facilities. Fifth, Pamessangi (2019) states the factors of Difficulty in Learning Arabic for Students of the Arabic Language Education Study Program at IAIN Palopo, among others: 1) Curriculum influences the way students learn. 2) Arabic vocabulary background, 3) lecturers or

teachers are not yet professional, and provide good teaching. In addition, there are methods, media, factors, social or environmental factors, physiology, and psychology. Sixth, Ruhana (2020) states that Factors that affect the learning difficulties of class XI students at SMA Muhammadiyah 1 UNISMUH Makassar are internal factors, namely: 1) Lack of student learning motivation, 2) Lack of students' ability to understand the material, and 3) Lack of student interest in learning. The external factors are 1) Lack of motivation to learn from teachers and monotonous learning media, 2) School facilities and infrastructure, and 3) Lack of support for student learning and activities related to Arabic outside class hours. Seventh, Corinna, Rembulan, and Hendra (2020) state that students of Arabic Language and Culture Studies, Al Azhar University Indonesia (UAI) are faced with the problems of learning Arabic. Obstacles in learning are divided into four parts, namely obstacles in learning speaking skills, listening skills, writing skills, and reading skills. Eight, Nurhuda (2022) states that Islamic Boarding School of Nurul Huda Kartasura's students had difficulty studying Arabic. Language-related issues include pronunciation, sentence structure, vocabulary, morphology, and syntax. While other factors such as lack of interest, personality variations, and time restrictions were not linguistic in nature. These two restricting elements frequently surround Arabic students posing hurdles to language acquisition and necessitating more effort to overcome them.

Some of the studies above show that this research is different from previous studies, but also has a similarity. All previous studies and this research focus on the students' problems/difficulties in Arabic learning. But the difference is the subject of the study (school or institution). The first, second, fourth, and sixth, study focus on Madrasah Aliyah (MA), and the third study focus on Madrasah Tswanawitah (MTs). The fifth and seventh studies focus on Islamic universities. While the eighth study focuses on Islamic Boarding Schools. This study intends to find out the learning problems faced by non-Arabic students majoring in Arabic, especially Islamic Economics majors ITB AAS Indonesia students who have different educational backgrounds. Therefore, the objective of this study is to investigate the difficulties of Non-Arabic study program students in the Arabic teaching and Learning Process at ITB AAS Indonesia.

RESEARCH METHODOLOGY

This research is descriptive qualitative. According to (Boeije 2009), in qualitative research, numbers or percentages can be employed to provide readers with a concrete indication of the occurrence of certain phenomena or to assist in reporting. The method of collecting data is by using a questionnaire. A questionnaire is a written form used to collect data from individuals. It may be created on paper, on a device such as a tablet, by text message, or online (Kara 2018). This result of the questionnaire results in frequencies or frequency distributions (numbers and percentages). It provides simple summaries of the sample and the responses to some or all questions. The type of questionnaire used in this research by using online (Google Form). The subject of the

study involves 60 students from Economics Sharia f ITB AAS Indonesia in the academic year 2021/2022.

The method of analyzing data uses three steps of qualitative analysis, they are data reduction, data display, and conclusion (Miles, Huberman, and Saldana 2018; Miles and Huberman 1994). In this research, after the necessary data is collected, and reduced, then is classified according to the stated purpose. The result is displayed in a table or graphs. Qualitative data is described in words or sentences according to the categories that have been determined to conclude. Conclusions of this data analysis or research results are made in the form of sentences and described qualitatively.

Findings and Discussion

Findings

The objective of this study is to investigate the difficulties of Non-Arabic study program students in the Arabic teaching and Learning Process at ITB AAS Indonesia.

Table 1. Students' Education Background in Elementary School

Education Degree	Educational Background		
	Sekolah Dasar (SD)	Madrasah Ibtidaiyah (MI)	Sekolah Dasar Islam Terpadu (SDIT)
Elementary School	49 (81.7 %)	8 (13.5 %)	3 (5 %)

Table 1 above shows the students' educational background in Elementary School. These 49 students (81.7 %) graduated from *Sekolah Dasar* (SD), 8 students (13.5 %) graduated from *Madrasah Ibtidaiyah* (MI), and 3 students (5 %) graduated from Sekolah Dasar Islam Terpadu (SDIT). It shows that most dominant students (81.7 %) graduated from *Sekolah Dasar* (SD).

Table 2. Students' Education Background in Junior High School

Education Degree	Educational Background		
	Sekolah Menengah Pertama (SMP)	Madrasah Tsanawiyah (MTs)	Sekolah Menengah Pertama Islam Terpadu (SMPIT)
Junior High School	46 (76.7 %)	13 (21.7 %)	1 (1.7 %)

Table 2 above shows the students' educational background in Junior High School. These 46 students (76.7 %) graduated from *Sekolah Menengah Pertama* (SMP), 13 students (21.7 %) graduated from *Madrasah Tsanawiyah* (MTs), and 1 student (1.7 %) graduated from Sekolah Menengah Pertama Islam Terpadu (SMPIT). It shows that the most dominant students (76.7 %) graduated from *Sekolah Menengah Pertama* (SMP).

Table 3. Students' Education Background in Senior High School

Education Degree	Educational Background			
	Sekolah Menengah Atas (SMA)	Madrasah Aliyah Negeri (MAN)	Sekolah Menengah Kejuruan (SMK)	Sekolah Menengah Atas Islam Terpadu (SMAIT)
Senior High School	34 (56.7 %)	3 (5 %)	22 (36.7 %)	1 (1.7 %)

Table 3 above shows the students' educational background in Senior High School. These 34 students (56.7 %) graduated from *Sekolah Menengah Atas* (SMA), 3 students (5 %) graduated from *Madrasah Aliyah Negeri* (MAN), 22 students (36.7 %) graduated from *Sekolah Menengah Kejuruan* (SMK), and 1 student (1.7 %) is graduated from

Sekolah Menengah Atas Islam Terpadu (SMAIT). It shows that most dominant students (56.7 %) graduated from *Sekolah Menengah Atas* (SMA).

Table 4. Students' Education Background in Islamic Boarding School

Education Degree	Students' Response	
	Yes	**No**
I have studied at an Islamic boarding school	2 (3.3 %)	58 (96.7 %)

Table 4 above shows the students' educational background in Islamic Boarding Schools. There are 2 students (3.3 %) are do not study at an Islamic boarding school, while 58 students (96.7 %) study at an Islamic boarding school. It shows that most students have studied at an Islamic boarding school.s

Table 5. Students' Experience in Al-Qur'an Learning Center

Education Degree	Students' Response	
	Yes	**No**
I have studied at Al-Qur'an Learning Center (TPA/TPQ)	4 (6.7 %)	56 (93.3 %)

Table 5 above shows the students' educational background at Al-Qur'an Learning Center (TPA/TPQ). There are 4 students (6.7 %) who do not study at an Al-Qur'an Learning Center, while 56 students (93.3 %) study at an Al-Qur'an Learning Center. It shows that most students do not have studied at an Al-Qur'an Learning Center.

Table 6. The Last Level of Reading the Qur'an

Education Degree	Students' Response	
	Iqro'	**Al-Qur'an**
The last level of reading the Qur'an: Iqro & Al-Qur'an	3 (5 %)	57 (95 %)

Table 6 above shows the students' last level of reading the Qur'an. There are 3 students (5 %) who have the last level of reading in Iqro', while 57 students (95 %) have the last level of reading in Al-Quran. It shows that most students have the last level of reading in the Al-Quran.

Table 7. Internal Factors of Students' Difficulties in Arabic Learning

No	Statement	Students' Response			
		Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1.	Difficulty in writing *Hijaiyah* letters in Arabic both at the beginning of the sentence, in the middle of the sentence, and at the end of the sentence in Latin writing	1 (1.7 %)	15 (25 %)	16 (26.7 %)	28 (46.7 %)
2.	Difficulty in writing *Hijaiyah* letters in Arabic in computer typing because it must have an Arabic Typesetting font	2 (3.3 %)	4 (6.7 %)	20 (33.3 %)	34 (56.7 %)
3.	Writing Arabic script is more difficult than writing Latin letters (Indonesian)	0 (0 %)	6 (10 %)	30 (50 %)	24 (40 %)
4.	Difficulty memorizing *Hijaiyah* letters in Arabic	12 (20 %)	39 (65 %)	7 (11.7 %)	2 (3.3 %)
5.	Difficulty identifying Arabic	5 (8.3 %)	40 (66.7 %)	15 (25 %)	0 (0 %)

No.	Statement				
	diacritics *(Harakat)*				
6.	Difficulty reading and writing in Arabic	7 (11.7 %)	44 (73.3 %)	9 (15 %)	0 (0 %)
7.	Difficulty understanding reading recitation in Arabic	4 (6.7 %)	25 (41.7 %)	28 (46.7 %)	3 (5 %)
8.	Learning Arabic is more difficult than Indonesian	0 (0 %)	15 (25 %)	37 (61.7 %)	8 (13.3 %)
9.	Learning Arabic is more difficult than English	0 (0 %)	4 (6.7 %)	34 (56.7 %)	22 (36.7 %)
10.	Many Arabic vocabularies (*mufrodat*) that must be memorized include *isim* (noun), *fi'il* (verb), and *harf* (letters)	3 (5 %)	0 (0 %)	13 (21.7 %)	44 (73.3 %)
11.	There are many rules for changing words in Arabic to be learned	3 (5 %)	0 (0 %)	14 (23.3 %)	43 (71.7 %)
12.	There are many rules for writing sentences in Arabic to be learned	1 (1.7 %)	0 (0 %)	17 (28.3 %)	42 (70 %)

Table 7 above shows several internal factors of students' difficulties in Arabic learning. In the 1st statement, there is 1 student (1.7 %) stated "strongly disagree", 15 students (25 %) stated "disagree", 16 students (26.7 %) stated "agree", and 28 students (46.7 %) stated, "strongly agree". It shows that most of the students (46.7 %) have difficulty in writing *Hijaiyah* letters in Arabic both at the beginning of the sentence, in the middle of the sentence, and at the end of the sentence in Latin writing. In the 2nd statement, there are 2 students (3.3 %) who state "strongly disagree", 4 students (6.7 %) state "disagree", 20 students (33.3 %) state "agree", and 34 students (56.7 %) state "strongly agree". It shows that most students (56.7 %) have difficulty in writing Hijaiyah letters in Arabic by using computer typing because it must have an Arabic Typesetting font. In the 3rd statement, there are no students (0 %) who state "strongly disagree", 6 students (10 %) state "disagree", 30 students (50 %) state "agree", and 24 students (40 %) state "strongly agree". It shows that most students (50 %) agree that writing Arabic letters is more difficult than writing Latin letters (Indonesian).

In the 4th statement, there are 12 students (20 %) stated "strongly disagree", 39 students (65 %) stated "disagree", 7 students (11.7 %) stated "agree", and 2 students (3.3 %) stated, "strongly agree". It shows that most of the students (56.7 %) disagree that they have difficulty memorizing *Hijaiyah* letters in Arabic. In the 5th statement, there were 5 students (8.3 %) who stated "strongly disagree", 40 students (66.7 %) stated "disagree", 15 students (25 %) stated "agree", and 0 students (0 %) stated, "strongly agree". It shows that most of the students (66.7 %) disagree that they have difficulty in identifying Arabic diacritics (*Harakat*). In the 6th statement, there are 7 students (11.7 %) stated "strongly disagree", 44 students (73.3 %) stated "disagree", 9 students (15 %) stated "agree", and 0 students (0 %) stated, "strongly agree". It shows that most of the students (73.3 %) disagree that they have difficulty reading and writing in Arabic. In the 7th statement, there are 4 students (6.7 %) stated "strongly disagree", 25 students (41.7 %) stated "disagree", 28 students (46.7 %) stated "agree", and 3

students (5 %) stated, "strongly agree". It shows that most students (46.7 %) agree that they have difficulty understanding reading recitation (*Tajwid*) in Arabic.

In the 8th statement, there are no students (0 %) who stated "strongly disagree", 15 students (25 %) stated "disagree", 37 students (61.7 %) stated "agree", and 8 students (13.3 %) stated, "strongly agree". It shows that most of the students (61.7 %) agree that learning Arabic is more difficult than Indonesian. In the 9th statement, there are no students (0 %) who stated "strongly disagree", 4 students (6.7 %) stated "disagree", 34 students (56.7 %) stated "agree", and 22 students (36.7 %) stated, "strongly agree". It shows that most students (56.7 %) agree that learning Arabic is more difficult than English.

In the 10th statement, there are 3 students (5 %) stated "strongly disagree", 0 students (0 %) stated "disagree", 13 students (21.7 %) stated "agree", and 44 students (73.3 %) stated, "strongly agree". It shows that most of the students (73.3 %) strongly agree that many Arabic vocabularies (*Mufrodat*) that must be memorized include *Isim* (noun), *Fi'il* (verb), and *Harf* (letters). In the 11th statement, there are 3 students (5 %) who stated "strongly disagree", 0 students (0 %) stated "disagree", 14 students (23.3 %) stated "agree", and 43 students (71.7 %) stated, "strongly agree". It shows that most students (71.7 %) strongly agree that there are many rules for changing words in Arabic to be learned. In the 12th statement, there is 1 student (1.7 %) stated "strongly disagree", 0 students (0 %) stated "disagree", 17 students (28.3 %) stated "agree", and 42 students (70 %) stated, "strongly agree". It shows that most students (70 %) strongly agree that there are many rules for writing sentences in Arabic to be learned.

Table 8. External Factors of Students' Difficulties in Arabic Learning

No	Statement	Students' Response			
		Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1.	Many foreign expressions or terms in Arabic are different from the regional or national language (Indonesia)	0 (0 %)	8 (13.3 %)	7 (11.7 %)	45 (75 %)
2.	Lack of learning media, especially Arabic language textbooks that are taught	0 (0 %)	9 (15 %)	39 (65 %)	12 (20 %)
3.	Lack of facilities in the language laboratory for learning Arabic	0 (0 %)	10 (16.7 %)	39 (65 %)	11 (18.3 %)
4.	Lack of environment, association, social, and culture in learning Arabic	0 (0 %)	13 (21.7 %)	37 (61.7 %)	10 (16.7 %)
5.	Lack of self-support and motivation in learning Arabic	0 (0 %)	34 (56.7 %)	21 (35 %)	5 (8.3 %)
6.	Lack of support and motivation from teachers/lecturers in learning Arabic	2 (3.3 %)	49 (81.7 %)	7 (11.7 %)	2 (3.3 %)
7.	Age factor affects students in learning Arabic	43 (71.7 %)	2 (3.3 %)	10 (16.7 %)	5 (8.7 %)

8.	The first language (regional) and the second language (Indonesian) affect the process of mastering Arabic	0 (0 %)	5 (8.3 %)	28 (46.7 %)	27 (45 %)
9.	Arabic learning time is short, only 2 credits (SKS) in 1 week	0 (0 %)	11 (18.3 %)	48 (80 %)	1 (1.7 %)
10.	A lot of Arabic material must be studied in 1 semester	0 (0 %)	4 (6.7 %)	41 (68.3 %)	15 (25 %)
11.	Too many students in one Arabic class	0 (0 %)	1 (1.7 %)	31 (51.7 %)	28 (46.7 %)
12.	The situation in the Arabic class is not even conducive to learning Arabic	1 (1.7 %)	3 (5 %)	43 (71.7 %)	13 (21.7 %)

Table 8 above shows several external factors of students' difficulties in Arabic learning. In the 1st statement, there are no students (0 %) who state "strongly disagree", 8 students (13.3 %) state "disagree", 7 students (11.7 %) state "agree", and 45 students (75 %) state "strongly agree". It shows that most students (75 %) strongly agree that many foreign expressions or terms in Arabic that are different from the regional or national language (Indonesia). In the 2nd statement, there are no students (0 %) who state "strongly disagree", 9 students (15%) state "disagree", 39 students (65 %) state "agree", and 12 students (20 %) state "strongly agree". It shows that most of the students (55 %) agree that they lack learning media, especially Arabic language textbooks that are taught. In the 3rd statement, there are no students (0 %) who state "strongly disagree", 10 students (16.7 %) stated "disagree", 39 students (65 %) stated "agree", and 11 students (18.3 %) stated, "strongly agree". It shows that most of the students (65 %) agree that they lack facilities in the language laboratory for learning Arabic. In the 4th statement, there are no students (0 %) who state "strongly disagree", 13 students (21.7 %) state "disagree", 37 students (61.7 %) state "agree", and 10 students (16.7 %) state "strongly agree". It shows that most of the students (61.7 %) agree that they lack environment, association, social, and culture in learning Arabic. In the 5th statement, there are no students (0 %) who stated "strongly disagree", 34 students (56.7 %) stated "disagree", 21 students (35 %) stated "agree", and 5 students (8.3 %) stated, "strongly agree". It shows that most students (56.7 %) agree that they lack self-support and motivation in learning Arabic. In the 6th statement, there are 2 students (3.3 %) who state "strongly disagree", 49 students (81.7 %) state "disagree", 7 students (11.7 %) state "agree", and 2 students (3.3 %) state "strongly agree". It shows that most students (81.7 %) disagree that they lack support and motivation from teachers/lecturers in learning Arabic. In the 7th statement, there are 43 students (71.7 %) stated "strongly disagree", 2 students (3.3 %) stated "disagree", 10 students (16.7 %) stated "agree", and 5 students (8.7 %) stated, "strongly agree". It shows that most students (71.7 %) strongly agree that the age factor affects students in learning Arabic.

In the 8th statement, there are 0 students (0 %) who state "strongly disagree", 5 students (8.3 %) state "disagree", 28 students (46.7 %) state "agree", and 27 students (45 %) state "strongly agree". It shows that most of the students (46.7 %) agree that the

first language (regional) and the second language (Indonesian) affect the process of mastering Arabic. In the 9th statement, there are 0 students (0 %) who state "strongly disagree", 11 students (18.3 %) state "disagree", 48 students (80 %) state "agree", and 1 student (1.7 %) state "strongly agree". It shows that most of the students (80 %) agree that Arabic learning time is short, with only 2 credits (SKS) in 1 week. In the 10th statement, there are 0 students (0 %) who stated "strongly disagree", 4 students (6.7 %) stated "disagree", 41 students (68.3 %) stated "agree", and 15 students (25 %) who stated, "strongly agree". It shows that most students (68.3 %) agree that a lot of Arabic material must be studied in 1 semester. In the 11th statement, there are 0 students (0 %) who stated "strongly disagree", 1 student (1.7 %) stated "disagree", 31 students (51.7 %) stated "agree", and 28 students (46.7 %) stated, "strongly agree". It shows that most of the students (51.7 %) agree that too many students in one Arabic class. In the 12th statement, there is 1 student (1.7 %) stated "strongly disagree", 3 students (5 %) stated "disagree", 43 students (71.7 %) stated "agree", and 13 students (21.7 %) stated, "strongly agree". It shows that most of the students (71.7 %) agree that the situation in the Arabic class is not even conducive to learning Arabic.

Discussion

The various educational backgrounds of students make the quality levels of their knowledge vary. As happened to students of the Islamic Economics Department for the 2021/2022 academic year. Few of them have learned Arabic, some of them have never studied Arabic and some have never studied it at all. Some of them have difficulty attending lectures because they have never received material at the previous level of education, while those who have studied feel bored if the material that has been studied is continuously repeated without any significant additional material. Thus a problem arises in learning related to the educational background of students which must be solved. This is a job that is not easy for the study program and department because it must be able to create an academic atmosphere, especially learning programs that can embrace all levels of students with various qualities or knowledge so that students can learn Arabic together well and finally have the same competence according to their abilities with those formulated in the objectives of learning Arabic at ITB AAS Indonesia.

Based on the questionnaire about the student's educational background, it shows that the students have different educational backgrounds from elementary school until senior high school The analysis shows that the most dominant students (81.7 %) graduated from *Sekolah Dasar* (SD), the most dominant students (76.7 %) are graduated from *Sekolah Menengah Pertama* (SMP), and most dominant students (56.7 %) are graduated from *Sekolah Menengah Atas* (SMA). It is also supported that most students do not study at an Islamic boarding school and they do not have studied at an Al-Qur'an Learning Center (TPA/TPQ). However, most students have the last level of reading in the Al-Quran.

Differences in the characteristics of each pupil based on their educational heritage are one of the challenges frequently encountered in learning (Setiyawan 2018). The

selection process for new student admissions is considered to be one of the causes of the varying quality of students in one class. The existing selection is less able to capture and get students who have the quality expected by the study program or department. This is because the selection tools used and the tests tested, especially those held by the government on a national scale, are still general. As a result, not a few prospective new students can enter a new study program for them and do not yet have sufficient basic knowledge about the study program they are entering. The majority of students studying in public schools have a very minimal foundation in Arabic (Nursobah 2019).

The factors of difficulty in learning Arabic are outlined as largely influenced by internal and external factors. To overcome the difficulties of learning Arabic on the factor internally, in determining and carrying out learning activities, students must balance their potential owned and ability to adapt to the education being done. As for efforts to overcome the difficulties of learning Arabic and external factors, then those involved in these factors must show or support the learning process of students, and students can accept so that there is reciprocity mutually beneficial (mutualism). The selection of strategies must be based on the language skills taught to students. In designing learning strategies several components must be considered, namely preliminary learning activities, delivery of information, student participation, tests, and follow-up activities. According to Amrullah (2021), problems in learning Arabic, of course, there are ways to handle or solutions so that students' problems can be solved immediately.

Several things become problematic in learning Arabic for students majoring in Islamic Economics at ITB AAS Indonesia, both from the internal (linguistic) and external (non-linguistic) aspects. There are several internal factors of students' difficulties in Arabic learning. 1) most students (46.7 %) have difficulty in writing *Hijaiyah* letters in Arabic both at the beginning of the sentence, in the middle of the sentence, and at the end of the sentence in Latin writing. 2) most of the students (56.7 %) have difficulty in writing *Hijaiyah* letters in Arabic using computer typing because it must have an Arabic Typesetting font. 3) most of the students (50 %) agree that writing Arabic letters is more difficult than writing Latin letters (Indonesian). 4) most of the students (56.7 %) disagree that they have difficulty memorizing *Hijaiyah* letters in Arabic. 5) most of the students (66.7 %) disagree that they have difficulty identifying Arabic diacritics (*Harakat*). 6) most of the students (73.3 %) disagree that they have difficulty reading and writing in Arabic. 7) most of the students (46.7 %) agree that they have difficulty understanding reading recitation (*Tajwid*) in Arabic. 8) most of the students (61.7 %) agree that learning Arabic is more difficult than Indonesian. 9) most of the students (56.7 %) agree that learning Arabic is more difficult than English. 10) most of the students (73.3 %) strongly agree that many Arabic vocabularies (*Mufrodat*) that must be memorized include *Isim* (noun), *Fi'il* (verb), and *Harf* (letters). 11) most of the students (71.7 %) strongly agree that there are many rules for changing words in Arabic to be learned. 12) most of the students (70 %) strongly agree that there are many rules for writing sentences in Arabic to be learned.

In the aspect internal (linguistics) namely; sound system, vocabulary, sentences, and writing. The problems from the linguistic aspect are:

Sound System

The problem experienced by students in learning a foreign language (Arabic) is in terms of the pronunciation of letters and intonation of language (Sanwil et al., 2021). The foreign language learner (Arabic) as a second language will face a lot of deeply connected difficulties in foreign language pronunciation (Arabic) is mentioned. Rusdianto (2016) states that learning Arabic is certainly not enough just to memorize vocabulary, because Arabic cannot be separated from other aspects. In Arabic, learning the pronunciation of the letter sounds is adjusted to the position of the letters being trained, namely the pronunciation of letters, words, and sentences (Khuluq 2019).

First, pronunciation of letters and words. The pronunciation of the letters is considered difficult to pronounce in general by non-Arabs. The difficulty is because many Arabic letters that have no equivalent to the letters which is commonly used in Indonesian both written and sound symbols. In addition, some letters which have almost the same sound as the other letters are also a factor in the difficulty of pronunciation. Pronunciation of letters needs to be practiced regularly and repeated because it is the basis of whether or not the pronunciation of words. Therefore, the repetition of the pronunciation of the letters must be continued with the application of words that are also done repeatedly. Giving examples of pronunciation of letters and words will be conducive if done with the help of audio and native speakers in addition to audio examples from the teachers themselves.

Second, pronunciation of sentences. After practicing the pronunciation of letters and words said repeatedly, now the learners are invited to practice pronouncing the complete sentence. Even though a complete sentence is a collection of similar words with separate words, complete sentences contain harmonization between words, both structure grammatical and intonation (tone) because training needs to be done as a follow-up mastery of pronouncing letters and words. To make it easier for students, especially at the senior level, complete sentences will be easier if it is taken and snippets of verses A1-Qur'an are relatively familiar to students.

Vocabulary

Currently, many Arabic words and terms have been absorbed and included in the Indonesian or regional language vocabulary. More and more words are derived from Arabic words which later become Indonesian vocabulary (mother tongue or Indonesian national language). The easier it is to develop vocabulary and understanding, and embed it into someone's memory. The absorption of new terms and new vocabulary is very benefited those who study Arabic in Indonesia because the students are faster and collect more new vocabulary. This step can be used as the basis for the procurement of new vocabulary selection and arrangement of presentation order Arabic materials.

Sentence

In reading Arabic texts, students must understand the means first. That way they will be able to read it properly. This cannot be separated from knowledge about the

science of Nahwu in Arabic, namely to give an understanding of how to read correctly according to the rules of the Arabic language that apply. So Arabic grammar is indeed not easily understood by non-Arabic language learners, as it is in Indonesia, even though he has mastered the grammar of the language Indonesia, he will not find the comparison in Indonesian.

Besides, several external factors of students' difficulties in Arabic learning. 1) most of the students (75 %) strongly agree that many foreign expressions or terms in Arabic are different from the regional or national language (Indonesia). 2) most of the students (55 %) agree that they lack learning media, especially Arabic language textbooks that are taught. 3) most of the students (65 %) agree that they lack facilities in the language laboratory for learning Arabic. 4) most students (61.7 %) agree that they lack environment, association, social, and culture in learning Arabic. 5) most of the students (56.7 %) agree that they lack self-support and motivation in learning Arabic. 6) most of the students (81.7 %) disagree that they lack support and motivation from teachers/lecturers in learning Arabic. 7) most of the students (71.7 %) strongly agree that the age factor affects students in learning Arabic. 8) most students (46.7 %) agree that the first language (regional) and the second language (Indonesian) affect the process of mastering Arabic. 9) most of the students (80 %) agree that Arabic learning time is short, only 2 credits (SKS) in 1 week. 10) most of the students (68.3 %) agree that a lot of Arabic material must be studied in 1 semester. 11) most students (51.7 %) agree that too many students in one Arabic class. 12) most of the students (71.7 %) agree that the situation in the Arabic class is not even conducive to learning Arabic.

The external aspect (non-linguistic) namely; sociocultural factors, textbook factors, environmental factors, social factors, student factors, age factors, first language factors, methods, curriculum, media and infrastructure, teachers, study time, and social politics.

Socio-Cultural Factors

The problem that may arise is that expressions, terms, and names of objects that are not contained in Indonesian are not easy and not quickly understood by students in Indonesia, which are not at all familiar with the social and cultural aspects of the nation Arab. The implication is that it is necessary to strive for the preparation of the subject matter. The Arabic language contains things that can give an overview of the socio-cultural environment of the Arabs. Of course, the material must relate to the practice of using the Arabic language problem. This is seen as very important because the insight and knowledge of the Arab peninsula socio-cultural can accelerate students' understanding of the Arabic language about the meaning and understanding of various expressions, terms, and the names of objects peculiar to the Arab knowledge. It can also help Arabic learners to use various expressions, terms, and names of objects above in the right situation.

Teaching Media (Textbook)

Textbooks should have principles that include: selection, gradation, and correlation. Selection means that the book teaching must show the selection of material

that is needed by students at a certain level or prioritized for the unit level of certain education. Therefore, a good textbook is a book that is based on a clear curriculum, while correlation means that each unit presented must have a mutually reinforcing relationship into a unified whole.

Giving an overview of Arab socio-cultural in textbooks is necessary because understanding this aspect will help students understand the use of expressions, sentences, words, or the names of objects that are related to the socio-cultural owner of this language. However, it does not mean that the presentation of the material must be the same as Arab socio-cultural. A good Arabic language for Indonesian students is the system one the presentation is following the character of the Indonesian nation.

Social Environmental Factors

It is generally a problem in learning Arabic in Indonesia. Arabic learners who are in certain areas, tend to use the language of the people in the area. This condition will become a negative transfer in learning Arabic, because, between Arabic with Indonesian and regional languages, Indonesia is distinctly different, at least in terms of structure. Social environments that have an intensity of influence on those who are high in language learning include people who live together, neighbors, work friends, study friends, religious friends, and mass media. Creating a language environment would be a step appropriate in learning Arabic, at least in the teaching and learning process in class.

Student Factor

The students themselves do not have motivation strong and their perspective on Arabic is considered difficult to learn. The solution is to motivate students so that they can be enthusiastic about learning, such as realizing instrumental and integrative motivation. Instrumental motivation is a desire to have Arabic proficiency for reasons and benefits. Integrative motivation is the desire to obtain foreign language skills so that they can integrate with the Arabic-speaking community. Eliminate the difficult Arabic image to create passionate motivation and enthusiasm so that the ultimate goal of learning Arabic can be achieved, where the ultimate goal is to be able to use Arabic both spoken and written accurately, fluently, and free to communicate with people who using Arabic, in other words, four skills have been achieved, namely listening or istima', speaking or muhadatsah, reading or qiro'ah, and writing skills.

First Language or Mother Tongue Factor

The first language (mother tongue) may influence the process of mastering the second language of learners. Even this first language has long been considered a nuisance in the learning process second language. It is because it is common for a learner to consciously or not transfer the elements of his first language when using a second language. As a result, the so-called interference, code-switching, or error.

Teaching Method.

Inaccuracy from teachers in choosing the method or method offered is not attractive, causing students not to be passionate about learning Arabic. The teachers can choose the right method in the language teaching process of Arabic, such as applying interesting and innovative methods in teaching Arabic.

Media and Infrastructure

The limitations of existing media or the limitations of schools in providing learning media. The solution is to provide adequate learning media because the use of media in learning is very important. Media can attract students' interest, increase student understanding, provide strong/trusted data, condense information, and makes it easy interpretation of data, using the media can simplify and streamline the learning process and can make the process more interesting in learning Arabic.

Teacher

The professionalism of a teacher is a must in realizing knowledge-based schools, namely understanding learning, curriculum, and human development including learning styles. Good Arabic teachers are those who always invite students to use Arabic when they gave the material. However, the expertise of the teacher is also sometimes a problem in itself. It is not uncommon to find field teachers in Arabic studies who are taught by non-experts, so the process the learning took place. The reason is varied, mainly due to the lack of skilled teaching staff in this field. As a solution, Arabic teachers must always improve their abilities. Teachers need to emphasize that language is a means of think. Students' language skills are the benchmark for students' thinking skills. Student creativity in a language is necessary for the teacher to follow the rules of the Arabic language. Learning Arabic should be an interest, curiosity, and passion of students that need to get attention. Teachers do not need to be monotonous and shouldn't be engrossed in technique Arabic learning.

Study Time

In terms of time learning Arabic for students at institutions relatively very few. They study only a few hours of lessons each week, sometimes as many as four hours per week. In terms of very little time seems so far away from our hopes of getting the most out of learning Arabic. Moreover, this is a very completely foreign language that we must learn. The time allotted should be more than the time available now so that learning can be maximized and the expected results can be achieved.

CONCLUSION

Arabic learning problems can arise due to differences in the educational background of students, this is also one of the learning problems that are common in every study group and need to find a solution immediately. Differences in educational background can lead to various problems or learning difficulties for students. Data obtained from students of the Islamic Economics Department, ITB AAS Indonesia, related to learning problems that arise due to their different educational backgrounds. Several things become problematic in learning Arabic for students majoring in Islamic Economics at ITB AAS Indonesia, both from the internal (linguistic) and external (non-linguistic) aspects. From the aspect internal (linguistics) namely; sound system, vocabulary, sentences, and writing. While from the external aspect (non-linguistic) namely; socio-cultural factors, textbook factors, environmental factors, social factors,

student factors, first language factors, methods, media and infrastructure, teachers, and study time.

REFERENCES

Abbasi, A. Z., Shamim, A., Ting, D. H., Hlavacs, H., & Rehman, U. (2021). Playful-consumption experiences and subjective well-being: Children's smartphone usage. *Entertainment Computing*, *36*, 100390. https://doi.org/10.1016/j.entcom.2020.100390

Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2022). The effect of online learning on communication between instructors and students during the Covid-19 pandemic. *Asian Education and Development Studies*, *11*(2), 380–400. https://doi.org/10.1108/AEDS-06-2020-0131

Albursan, I. S., Al Qudah, M. F., Dutton, E., Hassan, E. M. A. H., Bakhiet, S. F. A., Alfnan, A. A., Aljomaa, S. S., & Hammad, H. I. (2019). National, Sex and Academic Discipline Difference in Smartphone Addiction: A Study of Students in Jordan, Saudi Arabia, Yemen and Sudan. *Community Mental Health Journal*, *55*(5), 825–830. https://doi.org/10.1007/s10597-019-00368-x

Amaechi, E. (2021). Understanding Culture and Success in Global Business: Developing Cultural and Innovative Intrapreneurs in Small Businesses. In B. S. Thakkar (Ed.), *Culture in Global Businesses* (pp. 205–224). Springer International Publishing. https://doi.org/10.1007/978-3-030-60296-3_9

Amorim, E., van der Stoel, M., Nagaraj, S. B., Ghassemi, M. M., Jing, J., O'Reilly, U.-M., Scirica, B. M., Lee, J. W., Cash, S. S., & Westover, M. B. (2019). Quantitative EEG reactivity and machine-learning for prognostication in hypoxic-ischemic brain injury. *Clinical Neurophysiology*, *130*(10), 1908–1916. https://doi.org/10.1016/j.clinph.2019.07.014

Anshari, M., Almunawar, M. N., Shahrill, M., Wicaksono, D. K., & Huda, M. (2017). Smartphones usage in the classrooms: Learning aid or interference? *Education and Information Technologies*, *22*(6), 3063–3079. https://doi.org/10.1007/s10639-017-9572-7

Assyfa Putri, A. N., & Irwansyah, I. (2021). EFEKTIVITAS KOMUNIKASI DALAM PEMBELAJARAAN ONLINE. *Jurnal Teknologi Dan Sistem Informasi Bisnis*, *3*(1), 54–63. https://doi.org/10.47233/jteksis.v3i1.184

Ba, S. (2001). Establishing online trust through a community responsibility system. *Decision Support Systems*, *31*(3), 323–336. https://doi.org/10.1016/S0167-9236(00)00144-5

Boling, E. C., Hough, M., Krinsky, H., Saleem, H., & Stevens, M. (2012). Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. *The Internet and Higher Education*, *15*(2), 118–126. https://doi.org/10.1016/j.iheduc.2011.11.006

Can, Y. S., Arnrich, B., & Ersoy, C. (2019). Stress detection in daily life scenarios using smart phones and wearable sensors: A survey. *Journal of Biomedical Informatics*, *92*, 103139. https://doi.org/10.1016/j.jbi.2019.103139

Cheboxarov, V. V., Yakimovich, B. A., Lyamina, N. V., Abd Ali, L. M., & Zhiganov, I. G. (2019). Some Results of a Study of Wave Energy Converters at Sevastopol State University. *Applied Solar Energy*, *55*(4), 256–259. https://doi.org/10.3103/S0003701X19040029

Chou, H.-L., & Chou, C. (2019). A quantitative analysis of factors related to Taiwan teenagers' smartphone addiction tendency using a random sample of parent-child dyads. *Computers in Human Behavior*, *99*, 335–344. https://doi.org/10.1016/j.chb.2019.05.032

De Guimarães, J. C. F., Severo, E. A., Felix Júnior, L. A., Da Costa, W. P. L. B., & Salmoria, F. T. (2020). Governance and quality of life in smart cities: Towards sustainable development goals. *Journal of Cleaner Production*, *253*, 119926. https://doi.org/10.1016/j.jclepro.2019.119926

Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review*, *118*, 105440. https://doi.org/10.1016/j.childyouth.2020.105440

Farinde-Wu, A., Glover, C. P., & Williams, N. N. (2017). It's Not Hard Work; It's Heart Work: Strategies of Effective, Award-Winning Culturally Responsive Teachers. *The Urban Review*, *49*(2), 279–299. https://doi.org/10.1007/s11256-017-0401-5

Fryer, L. K., & Bovee, H. N. (2018). Staying motivated to e-learn: Person- and variable-centred perspectives on the longitudinal risks and support. *Computers & Education*, *120*, 227–240. https://doi.org/10.1016/j.compedu.2018.01.006

Gough, H. A., & Gough, K. V. (2019). Disrupted becomings: The role of smartphones in Syrian refugees' physical and existential journeys. *Geoforum*, *105*, 89–98. https://doi.org/10.1016/j.geoforum.2019.05.012

Hadad, S., Meishar-Tal, H., & Blau, I. (2020). The parents' tale: Why parents resist the educational use of smartphones at schools? *Computers & Education*, *157*, 103984. https://doi.org/10.1016/j.compedu.2020.103984

Hong, Y., Xie, H., Bhumbra, G., & Brilakis, I. (2022). Improving the accuracy of schedule information communication between humans and data. *Advanced Engineering Informatics*, *53*, 101645. https://doi.org/10.1016/j.aei.2022.101645

Jahnke, I., & Liebscher, J. (2020). Three types of integrated course designs for using mobile technologies to support creativity in higher education. *Computers & Education*, *146*, 103782. https://doi.org/10.1016/j.compedu.2019.103782

Lee, L. H. J., & Tan, S. C. (2020). Teacher learning in Lesson Study: Affordances, disturbances, contradictions, and implications. *Teaching and Teacher Education*, *89*, 102986. https://doi.org/10.1016/j.tate.2019.102986

Letina, A. (2020). Development of Students' Learning to Learn Competence in Primary Science. *Education Sciences*, *10*(11), 325. https://doi.org/10.3390/educsci10110325

Ma, M. (2019). Does children's education matter for parents' health and cognition? Evidence from China. *Journal of Health Economics*, *66*, 222–240. https://doi.org/10.1016/j.jhealeco.2019.06.004

Matzavela, V., & Alepis, E. (2021). M-learning in the COVID-19 era: Physical vs digital class. *Education and Information Technologies*, *26*(6), 7183–7203. https://doi.org/10.1007/s10639-021-10572-6

Merrie, A., Keys, P., Metian, M., & Österblom, H. (2018). Radical ocean futures-scenario development using science fiction prototyping. *Futures*, *95*, 22–32. https://doi.org/10.1016/j.futures.2017.09.005

Nurkolis, N., & Muhdi, M. (2020). Keefektivan Kebijakan E-Learning berbasis Sosial Media pada PAUD di Masa Pandemi Covid-19. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *5*(1), 212. https://doi.org/10.31004/obsesi.v5i1.535

Ogen, Y. (2020). Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality. *Science of The Total Environment*, *726*, 138605. https://doi.org/10.1016/j.scitotenv.2020.138605

Olivia Kim, U., Barnekow, K., Ahamed, S. I., Dreier, S., Jones, C., Taylor, M., Hasan, Md. K., & Basir, M. A. (2019). Smartphone-based prenatal education for parents with preterm birth risk factors. *Patient Education and Counseling*, *102*(4), 701–708. https://doi.org/10.1016/j.pec.2018.10.024

Perera, H. N., & John, J. E. (2020). Teachers' self-efficacy beliefs for teaching math: Relations with teacher and student outcomes. *Contemporary Educational Psychology*, *61*, 101842. https://doi.org/10.1016/j.cedpsych.2020.101842

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity. *Postdigital Science and Education*, *2*(3), 923–945. https://doi.org/10.1007/s42438-020-00155-y

Reid, A. J. (2018). *The Smartphone Paradox: Our Ruinous Dependency in the Device Age*. Springer International Publishing. https://doi.org/10.1007/978-3-319-94319-0

Rodrigues, H., Almeida, F., Figueiredo, V., & Lopes, S. L. (2019). Tracking e-learning through published papers: A systematic review. *Computers & Education*, *136*, 87–98. https://doi.org/10.1016/j.compedu.2019.03.007

Sarker, I. H. (2019). Context-aware rule-learning from smartphone data: Survey, challenges and future directions. *Journal of Big Data*, *6*(1), 95. https://doi.org/10.1186/s40537-019-0258-4

Sarker, I. H., Kayes, A. S. M., & Watters, P. (2019). Effectiveness analysis of machine-learning classification models for predicting personalized context-aware smartphone usage. *Journal of Big Data*, *6*(1), 57. https://doi.org/10.1186/s40537-019-0219-y

Sauermann, H., Vohland, K., Antoniou, V., Balázs, B., Göbel, C., Karatzas, K., Mooney, P., Perelló, J., Ponti, M., Samson, R., & Winter, S. (2020). Citizen science and sustainability transitions. *Research Policy*, *49*(5), 103978. https://doi.org/10.1016/j.respol.2020.103978

Shenouda, J. E. A., Davies, B. S., & Haq, I. (2018). The role of the smartphone in the transition from medical student to foundation trainee: A qualitative interview and focus group study. *BMC Medical Education*, *18*(1), 175. https://doi.org/10.1186/s12909-018-1279-y

Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online learning? A Systematic Literature Review of Definitions of Online learning (1988-2018). *American Journal of Distance Education*, *33*(4), 289–306. https://doi.org/10.1080/08923647.2019.1663082

Twenge, J. M., & Campbell, W. K. (2018). Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. *Preventive Medicine Reports*, *12*, 271–283. https://doi.org/10.1016/j.pmedr.2018.10.003

Voutilainen, A., Saaranen, T., & Sormunen, M. (2017). Conventional vs. e-learning in nursing education: A systematic review and meta-analysis. *Nurse Education Today*, *50*, 97–103. https://doi.org/10.1016/j.nedt.2016.12.020

Xiong, G., Zhang, J., Shi, D., & He, Y. (2018). Parameter identification of solid oxide fuel cells with ranking teaching-learning based algorithm. *Energy Conversion and Management*, *174*, 126–137. https://doi.org/10.1016/j.enconman.2018.08.039

Xu, P., Li, J., Meda, A., Osei-Yeboah, F., Peterson, M. L., Repka, M., & Zhan, X. (2020). Development of a quantitative method to evaluate the printability of filaments for fused deposition modeling 3D printing. *International Journal of Pharmaceutics*, *588*, 119760. https://doi.org/10.1016/j.ijpharm.2020.119760

Yahirun, J. J., Sheehan, C. M., & Hayward, M. D. (2017). Adult children's education and changes to parents' physical health in Mexico. *Social Science & Medicine*, *181*, 93–101. https://doi.org/10.1016/j.socscimed.2017.03.034

Yu, T., Man, Q., Wang, Y., Shen, G. Q., Hong, J., Zhang, J., & Zhong, J. (2019). Evaluating different stakeholder impacts on the occurrence of quality defects in offsite construction projects: A Bayesian-network-based model. *Journal of Cleaner Production*, *241*, 118390. https://doi.org/10.1016/j.jclepro.2019.118390

Zuo, W., Zhu, W., Chen, S., & He, X. (2019). Service quality management of online car-hailing based on PCN in the sharing economy. *Electronic Commerce Research and Applications*, *34*, 100827. https://doi.org/10.1016/j.elerap.2019.100827