

# Overview of Sense of Connectedness in Distance Learning for First-Year Students

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## ABSTRACT

Distance learning is increasingly in demand by students in higher education. However, distance learning presents various problems for students, such as limited interaction, physical separation, and feeling disconnected from people in their learning environment. These problems lead to a higher dropout rate in distance learning. To overcome these problems, students' sense of connectedness is important to improve in distance learning. This study aims to describe the sense of connectedness in distance learning for first-year students. The type of this research is descriptive quantitative. This study uses nonprobability-criterion sampling techniques to collect data. The measuring instrument used in this study is the Online Student Connectedness Survey (OSCS). Data were collected in early November 2020. Participants involved in this study are 284 first-year students in Jakarta and outside Jakarta. The results have shown that the first-year students' sense of connectedness was in the moderate category level (69.7%). Generally, first-year students show moderate scores on the comfort, community, facilitation, and interaction and collaboration dimensions. However, community dimension show the lowest scores compared to other dimensions ( $M = 2.903$ ). This study also found that the community scores for men were higher than for women. It means that men are more able to engage and build relationships with peers in distance learning.

**Keywords:** *sense of connectedness, distance learning, first-year students*

## 1. INTRODUCTION

In the current era, technology and the internet have become part of human life. According to Suryono et al. [1], technological advances not only provide benefits and convenience in the business field, but also all aspects of human life, including education. In the field of education, technology and the internet provide convenience for distance learning. With distance learning, the teaching and learning process becomes more flexible because students and educators do not need to meet in the same room or location [2], [3]. Therefore, distance learning is increasingly in demand by many people, especially students. Based on data from the National Center for Education Statistics (NCES) in Singh & Thurman [4], the number of students in the United States who did distance learning increased by 16% from 2012 to 2016 and about 6.3 million students in 2018 conducted distance learning. In addition, distance learning can also be a solution to avoid dangerous state of the outside world. This is based on the Covid-19 pandemic that has occurred since the beginning of 2020, distance learning is the best solution chosen by countries in the world, including Indonesia so that the teaching and learning process can still be carried out [5]. In Septalisma [6], 98% of universities in Indonesia have conducted distance learning due to the Covid-19 pandemic.

In fact, although distance learning is increasingly in demand, distance learning still poses problems. The main problem of distance learning is the higher dropout rate among students [7], [8]. This statement is supported by the research of Halawa et al. [9] which shows the dropout rate in distance learning is estimated at 40% to 50%. The limited interaction with other students and educators can be a factor causing dropout in students [2], [8], [10]. In addition to the limited interaction, factors that cause students to dropout are physical separation [11] and lack of feeling connected [2], [12] with people involved in distance learning, such as other students and educators. Responding to this problem, research states that creating and maintaining good relationships with people who are involved in the learning environment can be a way to avoid problems in distance learning, including dropouts in students [7]. Thus, the sense of connectedness in students has an important role and needs to be improved in distance learning. Sense of connectedness in distance learning refers to students' belief in having close relationships and feelings of belonging and acceptance with people involved in distance learning [2], [13]. Terrell et al. [11] added that the sense of connectedness also includes the ability of students to have the opportunity to acquire knowledge and improve skills in a learning environment. When students feel connected to the people in their learning environment, they will be more involved and actively participate in the learning process [2].

### **1.1. Related Work**

Based on the importance of a sense of connectedness in distance learning, Jamison and Bolliger [14] have studied the sense of connectedness in 106 graduate students who take part in the Master of Business Administration (MBA) and Master of Organizational Management (MSOM) study programs remotely at a university in the Midwestern United States as measured by the Online Student Connectedness Survey (OSCS) ( $\alpha = 0.94$ ). According to the four dimensions measured, namely (a) comfort, (b) community, (c) facilitation, and (d) interaction and collaboration; shows that the sense of connectedness is at a moderate level, meaning that students feel accepted, valued, and engage as part of a group of people who are involved in their learning environment. However, low results are shown in the community dimension ( $M = 2.68$ ,  $= 0.89$ ) which means that they are less able to get to know and engage with other students.

Armier and Bolliger's research [15] which examined the sense of connectedness using the OSCS measuring instrument ( $\alpha = 0.92$ ) also showed that the results of the community dimension were the lowest ( $M = 3.02$ ,  $= 0.89$ ) and the overall sense of connectedness showed that it was at a moderate level. The study used 125 research participants who were postgraduate and doctoral students from a small university in the Western United States.

In addition, a mixed method study that examined the sense of connectedness in distance learning in graduate students also stated that students felt more connected to their educators than other students [16]. However, the study stated a very high sense of connectedness in all students. This indicates that students feel very connected to the people in their learning environment.

In Indonesia, research on the sense of connectedness in students is still quite limited. Purwantika et al. [17] examined the sense of connectedness in 124 students of the Faculty of Psychology, Diponegoro University, Semarang. The results show that about 90% of the students studied have a sense of connectedness which is included in the high category. However, this study only describes face-to-face learning. Regarding the sense of connectedness in distance learning, until now no one has researched it in Indonesia.

### **1.2. Our Contribution**

The difference in results between previous studies on the level of sense of connectedness in students in distance learning situations indicates a gap that encourages researchers to conduct a review in this study. In addition, the limited literature regarding this research in Indonesia makes this research even more important to study. Therefore, this paper aims to provide an overview of the sense of connectedness in distance learning for first year undergraduate students. This paper only focuses on researching first year students with the assumption that a sense of connectedness is needed because they are in a

new learning environment and meet many people they have never met before. This assumption is supported by the statement of Montgomery and Côté [18] which states that first-year students need good social relationships and academic networks with other students and their educators.

### **1.3. Paper Structure**

The rest of the paper is organized as follows. Section 1 and 2 introduces the preliminaries used in this paper, which include distance learning issues and the need for a sense of connectedness in the learning environment. Section 3 presents contributions and novelties from previous research. Section 4 presents the structure of contents in this paper. Section 5 presents the results and explanation in this study. Finally, section 6 concludes the paper and presents suggestions for future research.

## **2. BACKGROUND**

Sense of connectedness defined as a feeling of being accepted, valued, and being part of the community through interaction and good quality relationships between individuals [2], [19], [20]. In the learning environment, the people include students and educators. When students have a strong sense of connectedness, they will not feel isolated [19], [20]. People who feel connected to their environment will more easily adapt to other people and carry out activities [2]. According to Bolliger and Inan [2], there are four factors that influence students' sense of connectedness: (a) comfort, a feeling of security in distance learning situations; (b) community, the ability to build relationships and emotionally close with other students; (c) facilitation, the ability of educators to create learning communities and apply appropriate teaching methods; and (d) interaction and collaboration, the ability of students to exchange information or ideas between individuals or groups so as to gain new knowledge.

In distance learning, sense of connectedness is important to improve because it can provide several benefits for students. According to Gallien and Oomen-Early [13], a high sense of connectedness in distance learning can reduce feelings of isolation for students and allow students to achieve more in academics. LaBarbera [21] also stated that the sense of connectedness in distance learning can provide satisfaction in learning to students. A high sense of connectedness also provides an advantage in reducing burnout in students [22].

This study used 284 students (71.8% female and 67.6% male). The participants involved in this research came from universities in Jakarta and outside Jakarta. In this study, the students' majors varied, but mostly were economics and business majors. In this study, the results of the data normality test using the Kolmogorov-Smirnov technique on the sense of connectedness variable showed that the value of  $Z = 0.626$  with  $p = 0.828$  ( $p > 0.05$ ). This shows that the data is normally distributed. The results of

the data normality test conducted on each dimension showed that the data were normally distributed ( $p > 0.05$ ) on the comfort, community, and facilitation dimensions so that the data met the requirements to be tested with parametric statistics. Meanwhile, the results of the data normality test on the interaction and collaboration dimension showed that the data were not normally distributed with a significance value of 0.000 ( $Z = 2.249, p > 0.05$ ) so that the data could not be tested with parametric statistics.

Overall, sense of connectedness mean score shows 3.3901. Based on dimensions, comfort mean score shows 3.3763; community mean score shows 2.9026, facilitation mean score shows 3.6661, and interaction and collaboration mean score shows 3.6662. Based on these results, the mean score on the community dimension is the lowest compared to the mean score on the other dimensions.

In this study, there are three levels of categories used, namely low, moderate, and high. The categorization is done by making a range of values from the mean and standard deviation scores on normally distributed data or quartile scores on data that are not normally distributed.

Table 1 shows the results of data categorization on the sense of connectedness variable. The results show that the first year students have a moderate level of sense of connectedness (69.7%). This shows that first-year students quietly feel accepted, valued, and being part of a group of people who are involved in their learning environment, such as other students and educators. Similar findings were also found in previous studies [14], [15]. However, these findings differ from the results of research conducted by Green et al. [16] and Purwantika et al. [17] which shows that students have a strong sense of connectedness. Research by Purwantika et al. [17] shows that students' sense of connectedness in the high level can be caused by a face-to-face learning method. According to Isnayni et al. [3], face-to-face learning facilitates the process of interaction and exchanging learning experiences directly between educators and students because the people involved in the learning process are in the same room. Meanwhile, distance learning provides limitations in communication and socializing so that students are more vulnerable to feeling disconnected [23].

**Table 1 Sense of Connectedness Level Categorization**

Value Range	Category	Frequency	%
$X < 70.64$	Low	40	14.1
$70.64 \leq X \leq 98.86$	Moderate	198	69.7
$X > 98.86$	High	46	16.2

Table 2 shows the level of sense of connectedness in terms of each dimension. Based on the results of data categorization on the comfort dimension, most of the participants have comfort in the moderate category level (N=185, 65.1%). It means they quietly feel safe and comfortable in distance learning. Students feel comfortable in distance learning can be caused by the support from educators through learning design or teaching and communication methods built by educators in learning situations [24]. In addition, comfort in distance learning can also be due to the fact that today's students are intensive users and followers of technological developments [25], so that they are familiar and quickly adapt to carry out learning that utilizes technology. According to Futch et al. [24], sense of comfort in the learning environment can encourage students to increase endurance in learning, be more confident and willing to be actively involved during the learning process, and direct students to achieve success in learning.

In the community dimension, most participants have community scores which are included in the moderate category level (N=200, 70.4%). It means they simply feel they can engage and build rapport with others and are emotionally close. However, when compared with the mean scores on other dimensions, the community dimension shows the lowest score ( $M = 2.9026$ ). According to Phirangee [10], the low ability of students to

feel involved with other groups or students can be due to failure or limited social interaction in distance learning situations. In addition, this study also conducted an independent sample t-test analysis to compare community scores on male and female students. The results of the analysis showed that the community score for males ( $M=3.102, SD=0.851$ ) was higher than females ( $M= 2.824, SD=0.735$ ), with a significance value of 0.007 ( $p \leq 0.05$ ). The cause of this difference may be influenced by the different communication styles and socialization processes between males and females. According to Juliano [26], men are more likely to socialize with many people or groups, while women tend to socialize with only one or two people. In addition, men speak more simply, concisely, and clearly, while women usually tend to be more complicated in the communication process [26]. In the facilitation dimension, the most participants have a facilitation score which is included in the moderate level (N=176, 62%). It means they feel that educators are capable enough to be actively involved in distance learning by creating learning communities and appropriate teaching methods. Phirangee et al. [10] also stated that students really expect active participation from educators to facilitate them during distance learning, such as providing regular feedback, responding to student questions, and supporting collaboration between students. Thus, students are more motivated and actively involved in

learning, such as discussions and so on, because they realize that educators also participate and supervise them. In the interaction and collaboration dimension, the most participants have scores that are included in the moderate level (N=161, 56.7%). This shows that first-year students are quite capable of exchanging information or ideas with

other students or their study groups through interaction and collaboration. With interaction and collaboration between students, first-year students can gain new knowledge [2]. Furthermore, according to O'Keefe [27], interaction and collaboration can increase student satisfaction in learning and improve their memory.

**Table 2 Dimensions of Sense of Connectedness Level Categorization**

<b>Dimension</b>	<b>Value Range</b>	<b>Category</b>	<b>Frequency</b>	<b>%</b>
<i>Comfort</i>	$X < 21.16$	Low	50	17.6
	$21.16 \leq X \leq 32.86$	Moderate	185	65.1
	$X > 32.86$	High	49	17.3
<i>Community</i>	$X < 12.75$	Low	49	17.3
	$12.75 \leq X \leq 22.09$	Moderate	200	70.4
	$X > 22.09$	High	35	12.3
<i>Facilitation</i>	$X < 18.09$	Low	53	18.7
	$18.09 \leq X \leq 25.91$	Moderate	176	62.0
	$X > 25.91$	High	55	19.4
<i>Interaction &amp; Collaboration</i>	$X < 16$	Low	59	20.8
	$16 \leq X \leq 20$	Moderate	161	56.7
	$X > 20$	High	64	22.5

### 3. CONCLUSION

Based on the research that has been done, the sense of connectedness in distance learning in first year students is in the moderate category level (198 people, 69.7%), which means that first year students feel quite accepted, valued, and being part of the community in their learning environment. Generally, first year students simply feel comfort, community, facilitation, and interaction and collaboration in distance learning. However, the community score shows the lowest score compared to other dimensions. Also, the community scores for men were higher than for women. It means that men are still more able to engage and build relationships with peers in distance learning.

For further research, it is expected to consider using different research participants, for example students from various semester levels, so that the results of the research can be compared and the information obtained more developed. Further research is also suggested to be able to add other variables, such as the process of socialization, learning motivation, or the type of learning used. In addition, for students who need special attention due to low scores in various dimensions of sense of connectedness, the researcher suggests that a program

designed as a form of mentoring be held, such as coaching, foster brother programs, psychoeducation, and others.

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