Information Anxiety: A Phenomenon Experienced by Final Year Students During the Preparation of Their Thesis

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Abstract

Background: Information anxiety is a topic of interdisciplinary study. Although it has been widely studied by researchers in the field of library and information science, several other fields such as education, business and economics also examine a person's information anxiety. However, this topic seems to have disappeared from scientific discussion, especially in scientific journals.

Objective: This research tries to bring back the topic of information anxiety within the scope of Library and Information Science, especially in the context of education in higher education.

Methods: The population in this study were final year students of one faculty at Diponegoro University class of 2018 with a population of 730 students and a sample size of 251 samples calculated using the Isaac and Michael formula with a significance level of 5%.

Results: The results of the analysis show that students feel anxious when they cannot access the information, they need even though they know the location of the information. In other words, they experience anxiety when they know the location of information, but experience limited access in obtaining the information needed to support their thesis.

Conclusion: The study reveals that students' information anxiety when writing a thesis is more influenced by limited access to information than by the abundance of information.

Keywords: Information Anxiety, Information search, Undergraduate students, Information Literacy

INTRODUCTION

The anxiety that a person experiences in terms of obtaining information in their learning life or in the context of their work is often the subject of research in the field of Library and Information Science. (Khan, Naveed, and Anwar 2022; Naveed and Anwar 2022; Isyawati Permata Ganggi, 2020). This concept in English is written as information anxiety which describes the worries that a person experiences about the information he obtains and that he needs (Bawden & Robinson, 2009). (Bawden & Robinson, 2009). Wurman (1989) even describes information anxiety as 'the black hole between data and knowledge that happens when information doesn't tell us about what we want or need to know'. Wurman (1989) adds that someone feels information anxiety when they know there is a gap between the information they understand and what they should know. Information anxiety occurs to someone who feels that they have not been able to understand the information they get, and even feel that they get

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excessive information but are unable to process the information further. (Girard & Allison 2015; Naveed & Anwar 2022).

Based on initial observations, the research team identified that some students in one faculty at Diponegoro University experienced feelings of anxiety when facing difficulties in accessing information sources and in terms of finding the information they needed to complete their final project.

LITERATURE REVIEW

A study on information anxiety has been conducted by Blundell & Lambert (2014) entitled "Information Anxiety from the Undergraduate Student Perspective: A Pilot Study of Second-semester Freshmen." The purpose of this study was to test the Library Anxiety Scale by Sharon Bostick (1992) which was adapted by including statement items related to information technology to better reflect information anxiety to assist researchers in exploring ways to strengthen the research scale for future larger studies regarding information anxiety. In addition, to inform future research regarding the field of information anxiety in undergraduate students. The subjects studied were second semester undergraduate freshmen English majors at Ohio University. The theory in this study utilized the Library Anxiety Scale by Sharon Bostick (1992).

The research method used is a data analysis survey with a quantitative approach. The scale used by researchers is an adaptation of the Information Anxiety Scale from the Library Anxiety Scale. The Information Anxiety Scale was created online and then sent through a university email account to all new second semester English majors at Ohio University, totaling 845 potential respondents. Two questions were asked which of the independent variables influenced information anxiety and if there was an influence with one of the independent variables, what elements of information anxiety were affected. The results showed that the most significant variables in the Information Anxiety Scale were gender and race/ethnicity. Statistical analysis also revealed that those who had used the internet in finding information for academic assignments before attending university, were significantly more likely to respond to the instructions in using the university library's online resources than those who did not. According to the results of the study also stated that the scale used was problematic for the respondents in this study, so revisions to the Information Anxiety Scale are needed in future research. Blundell & Lambert (2014) focused on freshmen, and implemented the Library Anxiety Scale by Sharon Bostick (1992).

Another study was also conducted by Olufemi J. Ojo (2016) entitled "Information Anxiety and Information Overload of Undergraduates in Two Universities in South-West Nigeria". The purpose of this study was to determine the effect of age and gender on information anxiety and information overload among undergraduate students at two universities in Southwest Nigeria. The subjects studied were undergraduate students of the University of Ibadan and Tai Solarin University of Education. The theory in this study uses five scenarios of information anxiety by Richard Wurman (1989).

Ojo (2016) used a descriptive survey research method of correlational type with a quantitative approach. The sample technique used purposive sampling and stratified random sampling. The sample in this study amounted to 384 students. Data collection instruments used structured questionnaires and measurement tools using a Likert scale. Data analysis used Statistical Package for Social Sciences (SPSS) software and data were analyzed using the Pearson Moment Correlation method and multiple regression analysis. The results of this study state that there is no significant relationship between age and gender on information anxiety and information overload to undergraduate students at the University of Ibadan and Tai Solarin University of Education.

The subjects studied were undergraduate students, using the theory of five information anxiety scenarios by Richard Wurman (1989), the research method used a quantitative approach, the data collection instrument used a structured questionnaire, the measurement tool used a Likert scale, data analysis used SPSS software and the analysis method used multiple regression analysis, where one of the research objectives was to determine the effect between age and gender with information anxiety and information overload.

Third, research conducted by Yanhui Jia & En Wang (2021) entitled "Research on Information Anxiety of College Students under the Background of Information Overloaded Based on Support Vector Machine Optimization Alogrithm." The purpose of this research is to apply the Support Vector Machine optimization algorithm in the Matlab language to measure the relationship between the amount of information received and the level of information anxiety for students to help students learn more efficiently. The subjects studied were university students.

This research method uses a quantitative approach. Researchers distributed questionnaires to the subjects studied to find out the factors that cause information anxiety to students. It is known that there are three causal factors which are then used as independent variables and the level of information anxiety as the dependent variable. The results of this study state that the way to overcome information anxiety is that excessive information is filtered through the Support Vector Machine optimization algorithm model to provide effective information to students. This study also states that students can relieve information anxiety through three aspects, namely individuals, schools and society, so that they can actively deal with information overload and reduce information anxiety.

The equation of this research with the research is that there are similarities in the topic of discussion regarding information anxiety, the use of research methods with a quantitative approach and the subjects studied are students. The difference between this research and the research studied by the researcher is the focus of the research to apply the Support Vector Machine optimization algorithm in the Matlab language to measure the relationship between the amount of information received and the level of information anxiety of students, while this study is to determine the effect of information anxiety on the target time in preparing the thesis of final year students.

Fourth, research conducted by Zhao et al. (2017) entitled "An Investigation and Analysis of the Relationship between College Students' Information Anxiety and Coping Style

under Internet Background." The purpose of this study was to explore the relationship between information anxiety in college students and coping styles under the internet background. This study was conducted to understand whether there are differences in the effect of different coping styles on information anxiety in college students. The subjects studied in this study were students at Qiqihar University, China.

This research method uses quantitative methods with sampling techniques using cluster sampling. Researchers distributed questionnaires to 1120 selected respondents. The research measuring instrument used the Adolescent Coping Style Assessment Questionnaire and the Information Anxiety Self-Rating Scale. Data analysis used Statistical Package for Social Sciences (SPSS) with correlation analysis and multiple regression analysis methods. The variables in this study are differences in information anxiety with student gender, differences in student coping styles with gender and the relationship between students with information anxiety and coping styles. The results of this study state that the difference in the level of information anxiety with the gender of students is not significant, there is no significant difference in the use of coping styles with the gender of students and there is significance in the difference in coping styles of students with various levels of information anxiety. This study also states that to overcome information anxiety, students need to strengthen network information management. Universities need to guide students to use the internet scientifically and provide assistance to students to overcome information anxiety.

The equation of this research with this research is that there is a similarity in the topic of discussion regarding information anxiety, the research subject is a student, the research method uses quantitative by distributing questionnaires and using multiple regression analysis methods. The difference between this research and the research studied by the researcher, the population in the study was all students at Qiqihar University, while the population of this study was only final year students of the Faculty of Social and Political Sciences, Diponegoro University class of 2018, the sampling technique used the cluster sampling method, while this study used random sampling, the study used the Information Anxiety Self-Rating Scale measuring instrument, while this study used the Likert Scale and the focus of the study was to determine the difference in the effect of different coping styles on information anxiety in students, while this study was to determine the effect of information anxiety on the target time in preparing the thesis of final year students.

Fifth, research conducted by Sadatmoosavi & Noonshinfard (2014) entitled "Review on Students' Information Anxiety for Information-Searching Process in Biophysics and Biochemistry Research Center of Tehran University". The purpose of this study was to review information anxiety in the information search process in master's and doctoral students at the biophysics and biochemistry research center at Tehran University. The theory in this study uses the theory of information anxiety by Erfanmanesh (2012). The subjects of this study were master's and doctoral students at the biophysics and biochemistry research center at Tehran University.

The research method used an analytical survey method with a population of all master and doctoral students in 2012-2013 at the biophysics and biochemistry research center of Tehran University as many as 200 students. This study uses Erfanmanesh's theory (2012) to

measure information anxiety which consists of 47 questions using a Likert Scale. The results of this study state that the level of information anxiety of students in the process of searching for information due to information sources and obstacles in the search is not much, the level of information anxiety in the process of searching for information by computer or internet and the obstacle of choosing a topic is average, but the level of information anxiety in the process of searching for information due to technical obstacles is very much. The data also shows that female students are more likely to experience information anxiety than male students. Then, there is a significant difference in the relationship between various students in different departments with information anxiety and the level of information anxiety with master's program students and working students is higher than doctoral program students and unemployed students.

The similarity between this research and the research is the similarity of the topic of discussion regarding information anxiety and the research measuring instrument using the Likert Scale. The difference between this research and the research studied by the researcher is that the theory used is the theory of information anxiety by Erfanmanesh (2012), while this study uses the theory of information anxiety by Richard Wurman (1989), the subjects studied are master's and doctoral program students, while the subject of this study uses undergraduate students, the research method uses survey analysis method, As for this study using multiple regression analysis methods and the focus of research to review information anxiety in the process of searching for information in master and doctoral students at the biophysics and biochemistry research center at Tehran University, while this study is to determine the effect of information anxiety on the target time in the preparation of the thesis at the Faculty of Social and Political Sciences, Diponegoro University.

METHODS

This study uses a quantitative research design because the data collected in this study are numbers that are analyzed using statistical techniques. The variable used is a single variable, namely information anxiety. According to Nawawi (2006) a single variable is a variable used to reveal one variable to describe the elements or factors in a phenomenon included in that variable. (Nawawi, 2006). The indicators in this study are found in the Information Anxiety theory by Wurman (1989) which is derived into 5 (five) dimensions, namely: not understanding information; feeling overwhelmed by the abundance of information; not knowing the amount of information available; not knowing the existence of information; and knowing the existence of information but not having access.

The population in this study were final year students of the Faculty of Social and Political Sciences, Diponegoro University, class of 2018 with a population of 730 students and a sample size of 251 samples calculated using the Isaac and Michael formula with a significance level of 5%. The data collection technique used a questionnaire received by respondents via google form. The data collection technique uses cluster random sampling because the population does not consist of individuals, but consists of groups of individuals or clusters (Syahrum, 2012). This study uses a Likert scale as a research measurement tool.

This study uses descriptive statistics to analyze data by describing or describing the data that has been collected as it is without intending to make general conclusions or generalizations. (Sugiyono, 2015). In research there are several stages in conducting descriptive statistics. According to Priyono (2008) the stages of quantitative data analysis are data coding, data entering, data cleaning, data output and data analyzing. The data in this study were then analyzed using the mean (average) value, namely by summing up all the values of the items in a series divided by the number of items to get the value of each indicator (Hardani et al., 2020). (Hardani et al., 2020).

RESULTS AND DISCUSSIONS

Validity Test

The validity test is used to measure whether a question item in the questionnaire is valid or not. The question items in the questionnaire are called *valid*, if the questionnaire is able to reveal the research variables measured by the questionnaire. (Sunyoto, 2012). The validity test in this study was carried out by comparing the value of r count with r table. According to the results of the calculations that have been carried out, it produces an r table of 0.3610 with a total of 15 statements. Then, the test was carried out using SPSS 25 (*Statistical Package for Social Sciences).* The results of the validity test of 15 statements were declared valid because r count was greater than r table. This means that all statement items used in the variable are suitable for testing.

Reliability Test

The reliability measurement was carried out by conducting the *Cronbach Alpha* test. *The* basis for making a reliability test decision is if the *Cronbach Alpha* value is greater than 0.60, it is said that it is reliable. The results of the reliability test state that all variable items have a *Cronbach Alpha* value greater than 0.60. This of course can be the basis for concluding that the question items in the questionnaire are reliable so that the question items in this questionnaire can produce answers from respondents consistently over time.

Data Analysis

In finding the *mean* (average) of each answer that has been filled in by the respondent, to determine the assessment of the *mean* (average) using an interval scale to determine the length of the interval class. (Natawiria 2010). The following is the formula for class interval length:

$$\text{Class Interval Length (P)} = \frac{\text{Ren\$\%n\& (R)}}{\text{*+ml\%h /el\%0 (/)}}$$

$$= \frac{5-1}{5} = 0,8$$

Based on the formula above, it can be seen below the length of the interval class is 0.8 so that the scale of interpretation of the *mean* score (average) on the respondents' answers with an interval scale as follows:

4.20 - 5.00 = Very Influential.

3.40 - 4.19 = Influential.

2.60 - 3.39 = Less Influential.

1.80 - 2.59 = Not Affected.

1.00 - 1.79 = Very Unaffected.

The results of the data analysis obtained from the 5 (five) dimensions can be seen that the *mean* (average) value of each statement listed on the questionnaire can be described more clearly in the table of dimensional analysis results below

1. Dimensional Results Not Understanding Information

Table 1. Analysis Results of the Dimension of Not Understanding Information

Dimensions	Indicator	Value	Category
	The information found can beunderstood.	3,91	Influential
	The information found is difficult tounderstand.	3,68	Influential
Not Understanding Information	The information found is difficult to understand, triggering feelings of anxiety.	4,23	Very Influential
	Total	11,84	
	Average	3,94	

Based on the results of table 1, it can be seen that the *mean* (average) value obtained is 3.94 so that the results of the analysis on the dimension of not understanding information according to the class interval are at level 4 (four), namely 3.40 - 4.19. The *mean* (average) value obtained can explain based on the dimension of not understanding information in the influential category.

2. Dimensional Results Feeling overwhelmed by the abundance of information

Table 2. Dimension Analysis Results Feeling overwhelmed by the abundance of information

Dimensions	Indicator	Value	Category
	Abundance of information sources.	3,20	Less Influential
Feeling overwhelmed by the abundance of information .	Overwhelmed by the abundance of information sources.	3,16	Less Influential
	Information overload triggers feelings of anxiety.	3,11	Less Influential
	Total	9,47	
	Average	3,15	

Based on the results of table 2, it can be seen that the *mean* (average) value obtained is 3.15 so that the results of the analysis on the dimension of feeling overwhelmed by the abundance of information according to the class interval are at level 3 (three), namely 2.60 - 3.39. The *mean* (average) value obtained can explain based on the dimension of not understanding information is in the less influential category.

3. Dimensional Results Not Knowing the Amount of Information Available

Table 3. Dimension Analysis Results Not Knowing the Amount of Information Available

Dimensions	Indicator	Value	Category
Not knowing the amount of information available.	Knowing some information is available.	3,77	Influential
	Not knowing how to determine the information.	3,95	Influential
	Limited information triggers feelings of anxiety.	4,27	Very Influential
	Total		11,99
	Average		3,99

Based on the results of table 3, it can be seen that the *mean* (average) value obtained is 3.99 so that the results of the analysis on the dimension of not knowing the amount of information available according to the class interval are at level 4 (four), namely 3.40 - 4.19. The *mean* (average) value obtained can explain based on the dimension of not knowing the amount of information available is in the influential category.

4. Dimension Results Knowing Not Knowing the Existence of Information

Table 4. Analysis Result of the Dimension of Not Knowing the Existence of Information

Dimensions	Indicator	Value	Category
Unaware of Information Existence	Know the location of the information.	3,82	Influential
	Not Easy to Find Information	3,97	Influential
	The unknown location of information triggers feelings of anxiety.	4,05	Influential
	Total		11,84
	Average		3,94

Based on the results of table 4, it can be seen that the *mean* (average) value obtained is 3.94 so that the results of the analysis on the dimension of not knowing the existence of information according to the class interval are at level 4 (four), namely 3.40 - 4.19. The *mean*

(average) value obtained can explain based on the dimension of not knowing the existence of information in the influential category.

5.   Dimensional Results Knowing the Information Exists but Not Having Access to it

Table 5. Dimension Analysis Results Knowing the Information Exists but Not Having Access

Dimensions	Indicator	Value	Category
Knowing the information exists but not having access.	Knowing the location of information but not having access to it.	3,96	Influential
	Have access to all information locations.	4,0	Influential
	Inaccessible information triggers feelings of anxiety.	4,29	Very Influential
	Total		12,25
	Average		4,08

Based on the results of table 5, it can be seen that the *mean* (average) value obtained is 4.08 so that the results of the analysis on the dimension of knowing the existence of information but not having access according to the class interval are at level 4 (four), namely 3.40 - 4.19. The *mean* (average) value obtained can explain based on the dimension of knowing the existence of information but not having access to it in the influential category.

6.   Dimension Analysis Results

Table 6 Dimension Analysis Results

Dimensions	Value	Category
Not Understanding Information	3,94	Influential
Feeling overwhelmed by the abundance of information	3,15	Less Influential
Not knowing the amount of information available	3,99	Influential
Unaware of Information Existence	3,94	Influential
Knowing the existence of information but not having access	4,08	Influential
Total	18,95	
Average	3,79	

Based on table 6 which shows the *mean* (average) results of each dimension contained in *information anxiety*. It can be seen that the dimensions of not understanding information, not knowing the amount of information available, not knowing the existence of information and knowing the existence of information but not having access are included in the influential category in the preparation of the thesis of final year students of the Faculty of Social and Political Sciences, Diponegoro University class of 2018. The dimension of feeling overwhelmed by the abundance of information is included in the less influential category in the preparation of the thesis of the final year students of the Faculty of Social and Political Sciences, Diponegoro University class of 2018.

The findings obtained in this study that *information anxiety* in preparing the thesis of final year students of the Faculty of Social and Political Sciences, Diponegoro University class of 2018 received a total *mean* (average) value of 3.79 and according to the class interval these results show influential results, so it can be further explained that students who experience *information anxiety* in preparing their thesis are mostly due to knowing the existence of information but not having access to that information. As for other things that cause students to experience *information anxiety* in preparing a thesis because they do not understand the information found, do not know the amount of information available and do not know the existence of the information needed.

This study can provide findings that the things that cause students *information anxiety* in preparing a thesis are one of them because they do not have good information literacy skills or the ability to access, obtain and understand information, but when students get abundant information, students tend not to feel overwhelmed and not something that causes them to experience *information anxiety*. This is indicated by the acquisition of the *mean* (average) results on the dimension of feeling overwhelmed by the abundance of information of 3.15 and these results indicate a less influential category.

The findings of this study corroborate previous research from Zhao (2018) which states that *information anxiety* has become a common negative emotion among students that occurs when they do not understand the information needed and have difficulty selecting the information found. Research from Blundell and Lambert (2014) also states that students experience a lot of *information anxiety* when searching for information related to academic assignments and can cause failure in information searches which then results in decreased student academic performance.

The results of this study are similar to the study conducted by Katapol (2010) that *information anxiety is* experienced by students who experience obstacles in obtaining and using information for academic tasks. The study also states that information literacy and effective information seeking behavior can be the main aspects to avoid *information anxiety*. Then, research from Bawden and Robinson (2008) states that the cause of *information anxiety is* due to uncertainty around the existence of information. In other words, the cause is information poverty because it is not well organized or students' lack of understanding in understanding information. Finally, the results of this study also support the findings of Ojo (2016), which states that reducing the amount of information will not help students if students do not know where to find information.

CONCLUSIONS

The results of the research analysis of student information anxiety when compiling a thesis show a total mean (average) value of 3.79 and referring to the class interval, the value is included in the influential category. The highest result is in the dimension of knowing the existence of information, but not having access to get a mean (average) value of 4.08. Referring to the class interval, this value is included in the influential category in statement number 15 with the statement "Anxious when I cannot access the information, I need even though I know the location of the information" from these results it can be seen that final year students experience anxiety when they know the location of information, but experience limited access to get the information needed as thesis support.

This finding can be taken into consideration by the library to conduct a survey to students about the need for access to what information sources are needed by students to complete research, which can then be followed up by providing access to the required information sources.

In addition, the lowest result is in the dimension of feeling overwhelmed by the abundance of information, obtaining a mean (average) value of 3.15. Referring to the class interval, this value is included in the less influential category. The statement from this dimension that has the lowest mean (average) value in statement number six "Anxious when Getting Too Much Information" from these results it can be seen that final year students tend not to feel overwhelmed by the abundant amount of information so that it does not cause anxiety in preparing a thesis.

AUTHOR CONTRIBUTIONS

[Salsabila Dinda Riftianti]: Conceptualization, methodology, writing the original draft, review and editing. [Heriyanto Heriyanto]: Data analysis, correspondence, determining themes, finalizing drafts. [Yanuar Yoga Prasetyawan]: Data analysis, manuscript revision.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

ACKNOWLEDGMENTS

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