



## L2 WRITING ANXIETY AND TEACHER'S COMMUNICATION BEHAVIOR AS PREDICTORS OF RESEARCH SELF-EFFICACY OF STUDENTS

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### **Abstract:**

The purpose of this study was to determine whether second language writing anxiety and teacher' communication behavior significantly predict students' research self-efficacy. The working group for the present study, in which quantitative descriptive-predictive design was employed, included 187 students enrolled in Research 1 and 2 subjects at UM Digos College. The participants answered adapted standard questionnaires to quantify which dimension/s of Second Language Writing Anxiety and Teacher's Communication Behavior significantly predict/s research self-efficacy. The gathered data were interpreted using the mean in determining the central tendency and Pearson-r. Regression analysis was used to predict the value of research self-efficacy based on the value of writing anxiety and teachers' communication behavior. The results revealed that the level of L2 writing anxiety of students is moderate. Likewise, the level of teacher's communication behavior was revealed as high and the level of research self-efficacy is also high. The result also shows that there is no significant relationship between L2 writing anxiety and research self-efficacy but indicators of L2 writing anxiety posed a significant relationship with research self-efficacy while teachers' communication behavior resulted in no significant relationship to research self-efficacy, but two indicators of TCB posed a significant relationship to RSE. The findings corroborated the four domains for SLWA and TCB, which are cognitive, somatic, challenging, and encouragement and praise; significantly predict research self-efficacy. The findings obtained in this study suggest that students look for ways to enhance their confidence in performing tasks related to research papers.

**Keywords:** second language writing anxiety, teacher's communication behavior, research self-efficacy, Philippines

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## 1. Introduction

Research is a systematic procedure. It entails a series of stages that are completed well for the overall research project to succeed. To complete the study correctly, a researcher must meticulously follow the conventional steps included in the research process (Mertler, 2018). However, Manchishi et al. (2015) reported that the undergraduate research paper's mistakes and challenges include broad and confusing research concepts, failure in research procedure, and understanding research terminologies. There are few references resources in surrounding libraries where researchers are studying and have difficulties finding them (Al-Qaderi, 2016; Qasem and Zayid, 2019). Another factor to consider is the L2, where researchers found problem writing from sources (Cumming et al., 2016). Hence, the term "research self-efficacy" constitutes one's confidence in doing activities connected to the research process, such as conducting a literature review or analyzing data (Forester et al., 2004). Thus, low research self-efficacy is an interjecting factor to produce poor outcomes in lieu of performance in research papers (Love et al., 2007; Forester et al., 2014).

Moreover, high levels of research self-efficacy have teeming benefits. In undergraduate research, practical skills, including communication and socialization in the community, data collection, critical thinking, and problem-solving, are developed (Hunter et al., 2007). As a result, research self-efficacy arouses interest in carrying it out (Vaccaro, 2009). On a larger scale, research-based knowledge is a source of long-term development, which necessitates knowledge being put to work in the service of development, transformed into applications, and disseminated to ensure widespread benefits (Meek, 2009). Thus, experts measured research self-efficacy, to name one, the Self-efficacy in Research Measure (or SERM) was designed to measure students' research self-efficacy vis-a-vis research design, practical, writing, and quantitative skills (Phillips and Russell, 1994). Bishop et al. also focused on measuring the research procedures, including research conceptualization, research implementation, and presenting the results (1998). Thus, these measurements interpret self-efficacy in research as solely methodological, which means research papers will only be successful when all elements in the study are efficacious (Forester et al., 2014).

Furthermore, 40% of the research work is apportioned to writing (Campbell, 1986). It is empirical that writing with clarity and mastery in L1 or L2 is mandatory to ensure well-presented ideas from credible sources of research reports. Unfortunately, forcing students to write increases composition anxiety, and that this form of stress can coexist with the pressure to complete a paper to meet a course requirement (Onwuegbuzie, 1997). On the other hand, research mentoring plays a mediating effect in research self-efficacy (Knight, 2012). Research concepts are part of lessons in higher institutions education, and they are deemed relevant in undertaking the research process. Thus, the role of research subject teachers is vital in the student's acquisition of research concepts, for they provide instructions, especially in the step-by-step research process. Hence,

teachers' communication behavior yields effectiveness in teacher-students or student-teacher classrooms (Assuah, 2010).

In addition, research skills are part of the 21st-century skills in the 4Cs- Critical thinking, Communication, Collaboration, and Creativity of the SDGs (Sustainable Development Goals). The need to support students to develop a broad set of competencies in research skills must be implemented and the goal of the higher education institutions in the Philippines (Scoular, 2020). Since there are targeted competencies, having poor performance or low self-efficacy in research skills will inevitably affect the students as they will be ushered in 21st-century skills. Though there have been studies on research self-efficacy, the research seeks to determine whether second language writing anxiety and teacher communication behavior significantly predict students' research self-efficacy. Lastly, the results and conclusions of this study will enhance the development of research productivity. Instructors and programs of HEI's requiring research papers will improve their research agenda and the students' performance in research papers.

## **2. Literature Review**

### **2.1 Second Language Writing Anxiety**

The term "second language" (L2 or SL) is generally referred to as any language other than the first. With regard to second language writing anxiety, it is essential to understand the concept of how a second language is acquired. Krashen gave us a way of understanding second language acquisition in his theory of the Acquisition-Learning hypothesis. He hypothesized that L2 acquisition would be accomplished through learning and acquiring. In the acquisition aspect, we can establish a connection with this study (1982). In addition, Krashen explains that the ability of a learner to use a second language comes from what they have acquired from the facts of vocabulary and structures of language. Schools are grounded in this hypothesis and shape their curriculum for classroom techniques for learners of L2. The four language skills, namely, listening, writing, speaking, and reading, can acquire language if a learner can perform the L2 in these four skills (Sureshkumar, 2002).

Moreover, Chomsky explained second language acquisition in his concept of performance. According to him, the performance consists of the use of grammar in the comprehension and production of language and to assess the learner's acquisition of L2; thru this, teachers will have a direct assessment of their outputs like oral recitations, papers, language tests, activities or even research papers. In addition, Krashen also explains some factors that affect learning a second language through his hypothesis on 'Affective Filter,' which explains that variables play a facilitative role in SLA; these variables include motivation, self-confidence, personality traits, and anxiety (Schutz, 2012). And lastly, McIntyre and Gardner (1991) claimed that stress could negatively affect performance in SLA.

Understanding the pedagogical and affective domain of SLA, it is clear that second-language writing is generally affected by anxiety. In EFL settings, individual differences in anxiety are investigated. For example, a study with Iraqi tertiary EFL learners found that writing is perceived as both a cognitive and emotional activity and strongly linked to the following affective factors: anxiety, self-efficacy, and motivation. In addition, a correlational study of writing self-efficacy and writing anxiety of Turkish students found that as students' stress decreases, their writing self-efficacy increases. It implies that language teachers must do everything possible to reduce their students' writing anxiety (Kirmizi et al., 2015).

Furthermore, a study found out that students who had never taken a writing lesson before, self-conscious about their writing abilities, the teacher's pressure, and writing under a tight schedule are reasons why students felt uneasy in writing (Kirmizi et al., 2015). These students were fearful of the teacher's expectations regarding content and whether it was appropriate for what was expected and the teacher's standard for writing quality. Expectations from classmates also played a significant role in why students feared their writing outputs (Tuppang, 2014). However, the study found out that feedback can help boost writing performance among students. As a result, language teachers or instructors reduce their students' writing anxiety by providing peer-reviewing opportunities.

In addition, writing anxiety will occur when students are informed that they will evaluate their writing activity. Also, students felt less anxious when they were told there would be no evaluation for them. According to this study, if teachers know how to deal with their students' nervousness, administering the test can increase their focus, and by taking advantage of the facilitative aspect of anxiety, the students' writing performance will improve. Teachers' anxiety control during the L2 writing test should not be debilitating but rather beneficial to their writing performance (Negari and Rezaabadi, 2012).

Moreover, writing anxiety was also found to be a cause of low reading frequency. A study investigated the effect of newspaper purchase frequency on students' writing anxiety. The result has discovered that children raised in daily and mostly newspaper buyer homes have less writing anxiety than children raised in newspaper never-buyer families. This research demonstrates that families that set an example for their children by reading the newspaper can significantly impact their children's education (Guneqli's, 2016). It is seen that children's writing anxiety diminishes as their reading frequency increases.

Writing anxiety was seen as a factor in de-motivate students in the classrooms. Kirmizi et al. state that fear causes students to be de-motivated and discouraged, and as a result, they may develop negative self-efficacy and attitudes toward writing (2015). As a result, it is precarious to educate people about writing achievement motivation and writing self-efficacy, as these factors influence their readiness to complete a writing activity. However, having a moderate level of writing anxiety implies that students

execute confidence in their writing activity inside the classroom, especially at the college level (Alfajen, 2013).

Hence, anxiety in writing has been confirmed to affect students' performance and motivation. Measurements for writing anxiety are essential in EFL classrooms. Thus, Second Language Writing Anxiety Inventory or SLWAI measures the level of students' anxiety in their second language. It was used by a group of Japanese students in English to measure their L2 writing apprehension, and this could identify at-risk writers and predict academic success in writing. The questionnaire comprises subscales: somatic anxiety, cognitive anxiety, and avoidance behavior (Cheng, 2002).

The negative expectations are associated with cognitive anxiety and preoccupation with performance (Cheng, 2002) and the capability of threat to a person's well-being, increasing worries and disbelief (Weinberg and Gould, 2012). Moreover, Anand defined it as being worried during the writing activity (2012). Cheng also stressed out that this component of L2 writing anxiety results from test anxiety (2002). In FLA or Foreign Language Anxiety, test anxiety is an indicator that refers to a fear of failure (Horwitz et al., 2021) since the nature of taking tests is incessant and performance-based (Cheng, 2002).

Moreover, cognitive anxiety refers to the mental aspect of the anxious experience, concerns about others' perceptions, and performance stress. It may link to students writing influenced with expectations from teachers. For example, the teacher has a high expectation, and the students are required to do above standards set by the teacher. It will affect writing as it will focus on expectations from the teacher (Wahyuni and Umam, 2017).

On the other hand, the negative feeling like tension reflects the somatic anxiety. Cheng illustrated it like butterflies in the stomach (2002) and they are known as somatization. It is contrasted with cognitive anxiety. Concerning somatization, Chen and Wang classified people with somatic symptoms as having acute Somatic Symptoms Disorder. The symptoms are disruption of functioning, excessive and disproportionate thoughts, feelings, and behaviors. People who have extreme somatic symptoms experience distress and trouble in daily life (2002).

Furthermore, somatic anxiety also refers to the perception of the anxiety experience, such as nervousness. When there is a high tension, nervousness is manifested, especially when classroom tasks are time constraints. For example, students are assigned to finish a two-page writing activity within 5 minutes. They may never feel nervous at the start, but they will gradually feel the symptoms while observing that the other classmates are done with the task (Wahyuni and Umam, 2017).

Avoidance behavior is reflected as avoidance in writing (Cheng, 2002). It is the behavioral aspect of the writing experience. In an instance, the learner does not come to the writing class or do their writing tasks. It is a debilitating type of writing anxiety because the students will avoid writing. They will not do anything in the writing class and will result in zero scores in their task, affecting their overall grade. Similarly, this avoiding component has two effects in the learner's distress experience with the writing

task and having a profound distaste for the process. As a result, students with high anxiety in writing tend to avoid taking subjects or courses with more writing activities. They prefer to choose academic majors or careers with less writing activity (Cheng, 2002).

## 2.2 Teacher's Communication Behavior

Communication is the basis of all human interactions, which is essential to human life (Bunglowala and Bunglowala, 2015). Likewise, according to Schmidt and Richards (2021), communication is exchanging ideas and information. Hence, practical communication skills are tools for teachers to create learning. It is imperative to use communication processes to create a conducive class environment. Regarding teacher's competencies, good interpersonal communication is called among professional teachers (Erdem, 2018). It is necessary to know that a positive classroom environment depends on the teacher's interpersonal communication skills.

On the other hand, the speech ability of teachers is the central part of delivering instruction, whether inside or outside the classroom. Teachers' communication skills should be excellent to foster active and healthy dialogue with students and parents. Speech skills are the most crucial components that contribute to vigorous and healthy communication. A study on pre-service teachers found out that those with a high perception of speech self-efficacy also had strong self-expression, active listening, non-verbal communication skills, and a willingness to communicate (Erdem, 2018).

In a Mathematics classroom, the frequent behaviors that teachers and students report as successful in improving teacher-to-student or student-to-teacher relationships are that students' primary concern is their mathematical proficiency. As a result, these teachers used suitable and effective instructional strategies to aid instructional delivery, including excellent oral communication channels. Students saw math education as dynamic, shifting on the demographics of the students in the classroom. Teachers spoke loudly and clearly, even repeating themselves, to ensure that all students benefited from their instruction (Assuah, 2010). However, this does not support the study of Winheller et al. found out that the liking of Mathematics subject has nothing to do with student-teacher relationships but confidence in the topic (2013).

Furthermore, a teacher challenges and encourages their students to think and reason logically and approach problems in a problem-solving manner (She et al., 2001). The students are expected to engage cognitively with the mathematics and issues they are presented with. An effective mathematics teacher establishes a relationship between the students and mathematics, rather than between themselves and the students. It shows that competent mathematics teachers encourage and develop an inquiring mathematical mind in their students by providing hard material and prosperous assignments. Our best teachers are not known for their 'drill and routine' approach to studying mathematics (Irving, 2020).

On the other hand, in teaching poetry, teacher's nonverbal communication to student's learning suggests that the medium of instruction is important in the teaching-learning process, particularly in the teaching of poetry and prosodic elements such as

body movements, facial expressions, eye contact, voice pitch, and spatial distance. When included in the teaching process, all of these will result in effective and efficient learning results for students. These prosodic elements improved students' grasp of poetry and appreciation of it (Butt and Shafiq, 34).

In addition, teachers' communication behavior correlates with students' attitudes in the classroom. Teachers who use challenging questions, give more encouragement and praise, exhibit nonverbal support, and be kind and friendly will increase students' scores in their tests (She et al., 2001). Researchers have consistently found that when students perceive teachers to be more sociable, kind, and understanding, their attitudes improve (Henderson et al., 2000; Kim et al., 2016). Other researchers have found that questions are a fundamental aspect of learning and that teacher-asked questions can be used as predictors of teaching quality (Carlsen, 1991; Smith et al., 1993).

Furthermore, students' perception of their teacher's communication behavior affects the motivation of the students. A study found out that four communication dimensions (challenging, nonverbal support, understanding and friendly, encouragement and praise) have a positive correlation between teacher communication and student motivation, and controlling communication and student motivation did not have a positive relationship with motivation (Armstrong et. al, 2016). Excellent teachers are those who: maintain control of the classroom, demonstrate a willingness to assist students whenever and however they request assistance, clearly explain assignments and content, vary the classroom routine, and take the time to familiarize the students and their circumstances. Teachers who use these strategies could boost student learning and motivation (Corbet and Wilson, 2002). Thus, the Teacher's Communication Behavior Questionnaire measures students' communication towards their teacher (She et al., 2001). The questionnaire has five subscales; challenging, encouragement and praise, non-verbal support, understanding and friendly, and controlling.

Challenging is the extent to which the teacher uses higher-order questions to challenge students in their learning (She et al., 2001). For instance, after their discussion, the teacher asks questions like how lessons are integrated into the student's daily life. In addition, it also means testing one's abilities. Challenging students for deeper learning, the teacher's questioning strategy must be adequate to develop higher-order thinking skills among students (Corley and Rauscher, 2013). A study about classroom instructions confirms that only 20% of teachers' questions need to improve. It implies that more teachers must be familiar with using higher-order questions to challenge students for deeper learning (Hare and Pulliam, 1979). The National Research Council in the US also stated the value of deeper understanding. They define it as a process where students can apply what is learned to new situations (2013).

Praise means describing the behavior that someone likes, or for instance, a teacher tells the student that they want the way they are behaving and encouragement is praise for effort. For example, students are seen doing the task and trying to give their best efforts. It is the extent to which the teacher praises and encourages the students (She et al., 2001). Furthermore, experts gave a clear distinction between encouragement and

praise. Lott and Nelsen insisted that teachers should not 'praise' their students for this will hamper their risk-taking. As a result, students will choose more manageable tasks because they are afraid of making mistakes (2012). On the other hand, students should be given 'encouragement' because this will make them choose challenging tasks. However, Sæverot claimed that teachers are required to give back both praise and encouragement to their students because this will lead them to develop self-respect than teachers being manipulative and serving them with a selfish attitude. All of this will not make sense in education for democracy (2008).

Non-verbal support transfers information through body language, including eye contact, facial expressions, and gestures. For example, the teacher is nodding when their students are doing right with their classroom tasks. This indicator of a teacher's communication behavior is described as how the teacher utilizes non-verbal communication to interact positively with students (She et al., 2001). In addition, the use of nonverbal communication is shown to have more strengths than using verbal communication. Miller identified some reasons humans use nonverbal communication; words are limited, nonverbal signals have exact power, nonverbal message is genuine, nonverbal cues can opt for some feeling which is hard to say with words, and separated communication channel is needed to help send complex messages (2005).

In addition, Surkamp explained that nonverbal support could aid learners in both understandings and expressing themselves in a foreign language. The deciphering of nonverbal signals or the transmission of some of the communicative purposes to the gesture modality might compensate for a lack of vocabulary or the inability to create words. Similarly, in linguistic emergencies, the emotional function of nonverbal behavior can provide students with crucial information about their conversation partner's feelings and intentions. Using the phatic function of nonverbal communication can also be a strategy for speakers to use their facial expressions and/or gestures to provide feedback to their conversation partner about their reaction to the perceived communicative process or, inversely, to interpret whether the communication is successful or not by decoding their conversation partner's non-vectored nonverbal communication (2014).

According to Bunglowala and Bunglowala (2015), teachers must employ nonverbal communication to improve classroom teaching. Moreover, nonverbal communications play an essential role in learning. Richmond et al. stated that nonverbal communication is as important as verbal communication in classrooms. The fundamental purpose of a teacher's verbal conduct in the school is to provide content to help students learn more effectively. A teacher's nonverbal activities' real goal is to increase the impact or like of the subject matter (2012).

Understanding means showing compassion and sympathy for another person, and for instance, a teacher is showing empathy towards their students. Friendly means being kind, caring, making someone feel comfortable, and being affectionate. Understanding and friendly is the extent to which the teacher is understanding and friendly towards students (She et al., 2001).



A study investigating the teacher's knowledge in teaching children with disabilities shows that 89% of the teachers indicate a moderate level of knowledge and understanding about learning-friendly inclusive education. In comparison, the other 11% are teachers who had good knowledge about friendly education for young learners with disabilities. This data contains a considerable difference and called for immediate actions. The implications of this study are teachers need more training about learning-friendly schools for children with disabilities, and those institutions that offer inclusive education should encourage and influence their faculties. Their instructional materials should usher the potentials of these young learners and loosen the negative perceptions about children with disabilities, all of these must also be understood by teachers (Nugraheni et al., 2019). Controlling is the function of class management that helps to seek learning objectives targeted by the students. It is the extent to which the teacher owns and manages student behavior in class (She et al., 2001). In the psychoanalytic theory of interpersonal behavior, controlling oneself and others means taking responsibility and making decisions because this attitude serves as the basic need of the personality. However, excessive control and lack of power lead to the poor emotional life of a person (Ackerman, 1960). In terms of social needs, a controlling attitude is beneficial because this will influence building relationships with other people. In interpersonal relationships, controlling is characterized by 'self-leadership forming accountability, predictability, subordination of self to self (Shkurko, 2013).

### **2.3 Research Self-Efficacy**

Self-efficacy is an essential factor for every individual having tasks to finish (Bandura, 1989). On the other hand, research self-efficacy is another form of self-efficacy and may be defined as one's confidence in successfully performing tasks associated with conducting research (Boswell, 2012). Hence, self-efficacy and study are related and intertwined since both are involved with performance and duties. Bard et al. explained tasks in research self-efficacy into four dimensions: conceptualizing, locating resources that relate to the first step, implementation or execution of the study, and lastly, presenting the results (2000). It will give us an idea that research is indeed involved with tasks.

On the other hand, lecturers of research subjects have felt and anticipated that their university's research culture can support research activities. Lecturers with high research self-efficacy will be more likely to perform research of higher quality and quantity. However, lecturers who are obliged to spend a lot of time on administrative tasks, family responsibilities, and social obligations are more likely to struggle in their research assignments. Due to a shortage of motivated students to assist with research projects, insufficient incentives for generating high-quality research, increasing teaching obligations, a lack of high-quality research publications, and inadequate research equipment and infrastructure (Garnasih et al., 2017).

In addition, there is a direct link between research self-efficacy and research outcomes. The more confidence an instructor has in their study, the more likely it is that

their work will be published in a famous journal (Garnasih et al., 2017). In a survey of large institutions in South Africa, Callaghan found that research self-efficacy substantially impacted research outcomes (2015). However, this is opposed to the study of Bay and Clerigo that although lecturers have high research self-efficacy in the technical part of the research paper when it comes to the research method, they found out that lecturers have low research self-efficacy, the methodology part of the research is an indicator for research productivity (2013).

Furthermore, a pilot study of Boswell was conducted to identify a practical approach for research self-efficacy. Active-learning, course-based system to social science research methodologies increases undergraduates' research self-efficacy. For colleges with limited resources for undergraduate research, these approaches can be a reasonable solution. Despite that research projects generated during this course were not applied, students' confidence in their abilities to do research grew. It implies that research-related activities like finding and evaluating journal articles are suitable for general scientific confidence and abilities development (2012).

Moreover, metacognitive awareness of reading strategies was found to predict research self-efficacy among students. Research anxiety and research attitude are serving as mediators. Supervisor satisfaction for research anxiety and reading intensity for metacognitive awareness of reading techniques were important mediators in further analysis of research self-efficacy. As a result, academic institutions can help students develop research self-efficacy by focusing on increasing students' awareness of problem-solving reading strategies and providing support to help them achieve research-related goals such as reviewing the literature, designing research, developing research tools, analyzing data, and writing reports, all of which require different reading strategies (Wajid and Jami, 2020). Thus, the Research Self-Efficacy Scale or RSES measures the students' extent in conducting research. This instrument has four subscales: data analysis self-efficacy, research integration self-efficacy, data collection self-efficacy, and technical writing self-efficacy.

Data analysis self-efficacy refers to the quantitative and computer skills dimension of the self-efficacy research measures and the analytical skills dimension of the research attitudes measure. It pertains to using computer packages to analyze data, interpret statistical data, and know what statistics to use (Forester et al., 2004). Furthermore, there are many terms and concepts about data and its analysis. These terms serve as raw materials and essential ingredients in the analysis process. Acquiring knowledge of these will become the researcher's means to work with the data for program purposes (Academy for Educational Development, 2013). In addition, Howe claimed that examining data will reveal patterns of information and can be used to enhance knowledge (2020).

Research integration self-efficacy is the extent of the conceptualization dimension of the research self-efficacy scale (Forester et al., 2004). It focuses on identifying areas based on reading literature, developing the logical rationale for a particular research idea, and generating possible researchable questions. It also provides a similar background to

Bishop et al. research process, the conceptualization stage (1998). Furthermore, more research pieces of training the students receive will increase their self-efficacy in the conceptualization stage. During this stage, the researcher is generating research ideas either individually or collaboratively (Boswell, 2012).

In addition, interacting with a research community offers opportunities to generate research ideas like having time with colleagues, inquiring about the department chair, building conversations on research topics with knowledgeable peers, and talking to other experienced researchers are good habits for conceptualizing a research topic (Hassan, 2019). Lopes et al. provided a chart for defining steps of developing research ideas: *“choose the idea, find a mentor, perform a literature review, brainstorm options for research element in PICOT (population or problem, intervention, comparator, outcome, time frame) framework, build your research question; evaluate if the question follows the FINER (feasibility, interesting, novel, ethical, relevant) criteria, and lastly, refine a research question into an answerable format”* (2016).

Data collection self-efficacy is the implementation dimension of the research self-efficacy scale and the other practical skills dimension in the self-efficacy measures. It involves how to obtain information essential to the research process. Training assistants can do this stage in collecting data, supervising assistants, and execution collecting data and face-to-face interviews with the study participants (Forester et al., 2004). The data collection process is learned throughout the methodology coursework by their research subject teacher or adviser, but researchers may experience such issues or challenges during the data collection stage.

Hence, experts have identified possible challenges that may happen in this stage. In the researcher's point of view, the following are identified: some participants do not wish to participate in the interview (Hoskin and White, 2013); researcher's lack of knowledge of what to wear according to the site of the data collection (Dearnley, 2005); a novice researcher who lacks in experience handling qualitative interviews (Dearnley, 2005; Hoskin and White, 2013); and feelings of being isolated towards peers and other researchers during data collection. On the other hand, challenges in the participant's point of view are also identified: confidentiality of participant's health information during the interview (Bonevski et al., 2014); feelings of hunger and sick on or before collecting data (Dearnley, 2005; Easton et al., 2000); and participant's perceived anxiety due to the location of interview or uneasiness towards the researcher (Ashton, 2014).

The technical writing self-efficacy dimension is similar to the skills in the self-efficacy research measures and the research attitude. It focuses on writing the introduction, literature review, and discussion sections of the research paper for purposes of publication (Forester et al., 2001). Writing abilities are a critical part of the learning and communication skills of the student's academic life. Application of linguistic and rhetorical competence is necessary to finish specific writing tasks (Johns, 2008). Research is integrated with academic writing. However, academic writing appears to be a problematic academic skill for most college students (Negari, 2012). Alsamandani pointed out difficulties and complexities in academic writing from discovering a thesis,

supporting the thesis statement, encapsulating ideas, paraphrasing, summarizing, when and how to use direct quotations, outlining, organizing, revising, and editing to ensure accuracy of grammar and spelling (2008).

Moreover, there are several reasons why writing is considered as a difficult skill, for example, grasp of spelling and grammar as mentioned earlier, proper punctuation, use of appropriate technical words, suitable style of format for expected readers, drawing out on outside sources, and organization of ideas (Alsamandani, 2008). Hence, experts suggested that teaching academic writing should start at elementary and high school so that at their tertiary level, battling academic writing will not be a problem (Saddler et al., 2004). Teachers are encouraged to use different approaches in teaching academic writing because some can facilitate students' writing success (Al Fadda, 2012).

#### **2.4 Correlations between Measures**

Second-language writing anxiety has connections with research self-efficacy. In the discussion that implementing metacognitive awareness leads to higher research self-efficacy (Wajid and Jami, 2020), anxiety is negatively associated with metacognitive awareness (Cassady and Johnson, 2002). Researchers found that reducing the student's utilization of cognitive learning techniques leads to anxiety (Naveh-Benjamin et al., 1981). Anxiety in research has been explored and defined as the aspects or activities of research work that a student finds uncomfortable and which influence him or her to the point that productivity is impaired (Higgins and Kotrlik, 2006).

Thus, research tasks have a surmountable amount of writing which makes anxiety in writing possible to coexist while conducting papers. Students were anxious about organizing their essays for a research paper's objective. These students thought that their inability to write in English was a severe challenge. Students must develop not only their research writing abilities but also their writing self-efficacy (Ho, 2015). However, universities can support preparing their students for research writing through seminars and workshops (Azizah and Budiman, 2018). This kind of support from the school can motivate students in conducting research papers (Photongsunan, 2016).

Similarly, when it comes to the relationship between teacher communication behavior and research self-efficacy, research mentoring experiences influence research self-efficacy. Good research mentoring is a result of responsive and attentive mentors who show available time to meet the pressing need of their research mentee (Knight, 2012). Teachers' views and receptivity to students' ideas were key indications of whether they wanted to participate in classrooms. It emphasizes the significance of instructors using affirmative actions like head nods or positive answers to encourage pupils to participate in active communication (Roehling et al., 2010). These communications are significant in establishing students' research papers since they will be spending time getting instructions from their research advisors. Also, research subject teachers contribute to a positive research experience (Love et al., 2007).

In summary, the literature shown by different authors gives value to the present study. It investigates how second language writing anxiety and teacher's communication

behavior influence research self-efficacy. These relevant and comprehensive discussions gave significant perspectives on how research self-efficacy is influenced by second language writing anxiety and teachers' communication behavior. Hence, the researcher is motivated to address the statement of the problem and prove or disprove the hypotheses.

### 3. Material and Methods

The study utilized a quantitative, descriptive-predictive research design. A descriptive research design investigates a naturally occurring event or a topic of interest (Mertler, 2018). It simply describes a target population's distinctive characteristics or behavior. Furthermore, a correlational research design is used to investigate the relationship between two or more variables (Leary, 2018). Predictive correlational studies use the variance of another variable to predict one or more variables (Sousa et al., 2007). Quantitative research was used as a deductive method, was utilized to support the hypotheses made in analyzing the variables: student's second language writing anxiety, student's perception of teachers' communication behavior, and research self-efficacy, and the data were recorded were in numerical form (Muhartoyo, 2007). Also, quantitative research used projectable, measurable results generated through the measures of the constructs as used in the study (Morse, 2016). The research study was conducted at UM Digos College, located at Roxas Extension, Barangay Zone II, Digos City. It is a tertiary school nestled in a 2-hectare land. The school is a tertiary institution in the province of Davao del Sur offering various undergraduate programs. This institution was established in the year 1949, making it the oldest school in the city. Also, in this institution, in all courses, students are obliged to undergo two research subjects.

There were 272 research participants of this study of a particular school. As of the Second Semester of the school year 2020-2021, there were 355 total population who were enrolled in Research subjects. Out of the total population, 272 were identified as the sample size. The participants of this study were students enrolled in Research 1 and 2 subjects. Research 1 subject focused on equipping students with the basic concepts and principles of doing research. This subject provides the skills and various steps in conducting, choosing a research design, and writing an outline. For Research 2 subject, this involved data gathering, interpreting results, and defending an undergraduate research paper. Specifically, in this subject, students communicated with their adviser, statistician, grammarian, and their list of panels during the defense. Random selection of the research participants was drawn out from the population using simple random sampling.

Simple random sampling was used for this study. It means that when a researcher uses a simple random sample, the researcher chooses participants at random from a list of all the people in the target group. Each person has an equal probability of getting selected using this technique (Howitt, 2021). The random samples were selected equally.

This method was for a population with similar characteristics and ensured all aspects were presented in the sample (Coolican, 2018).

This survey was carried out on the randomly selected Research 1 and 2 subjects during the 3rd week of May 2021. For the criteria, students who were currently enrolled in Research 1 and 2 were included in this study, and those who were not enrolled in these subjects were not included as participants in this study. Respondents who wished not to participate in the survey were not forced or obliged to answer all questions if they felt uneasy with the sets of questions in the questionnaire. They had the freedom to withdraw from the survey at any time.

To quantify the dimension/s of students' second language writing anxiety and students' perception of teachers' communication behavior to significantly predict research self-efficacy, the researcher used the adapted standard questionnaires validated by five language experts.

In Second Language Writing Anxiety Inventory, the SLWAI- questionnaire was being used. Second language writing anxiety – questionnaire focused on students' writing anxiety in English as their second language (Cheng, 2002). This questionnaire consisted of three subscales: somatic anxiety, cognitive anxiety, and avoidance behavior. The distribution of items across the three subcategories is as follow: cognitive anxiety (1,3,7,9,14,17,20,21), somatic anxiety (2,6,8,11,13,15,19), and avoidance behavior (4,5,10,12,15,18,22). This questionnaire will measure students' writing anxiety. This is proven and accurate when used to correlate and factor analysis (Cheng, 2002). The questionnaire included a 5-choice response style, like a Likert scale.

Lastly, the research instruments were validated by a group of experts and had rated with a mean score of 4.38, which is very good. Also, the researcher followed all the advice and corrections made by the experts to make the questionnaire easier to understand by the participants. It also underwent pilot testing and was tested using Cronbach Alpha. Hence, the reliability was proven in the Alpha equivalent of Second language writing anxiety (0.781), teacher's communication behavior (0.932), and research self-efficacy (0.977).

Simple random sampling and structured data collection tools were used in quantitative research to fit diverse experiences into present answer categories that are directed to describe, compare and generalize.

The data collection started after the researcher identified the study's scope and proceeded to validate the instruments by experts. Before the processing of the questionnaire, the researcher sought the approval of the Professional School's research office to conduct the study. When consent to conduct the study was given, the researcher sent a formal letter to the VP-Branch Operations of UM Digos for the date and the process of how the students would answer the survey questionnaires and the responsibilities of the researcher throughout the data collection stage.

However, due to the global pandemic- COVID-19 outbreak, online platforms were utilized in the data-gathering process, ensuring to adhere to the government's ordinances and health safety protocols. Hence, the questionnaire was encoded in Google Forms on

this website <https://www.docs.google.com/forms>. This served as an alternative research modality in data collection for the study, similar to the features of the validation of the questionnaires by the experts.

The study targeted the 272 respondents selected using the random sampling technique. The participants received a pre-filled survey link thru e-mails and social media platforms. The respondents were asked to honestly answer the survey questionnaire based on their second language writing anxiety and their perceptions of teachers' communication behavior as predictors for research self-efficacy. After collating the responses, the researcher presented the raw data to the prescribed university statistician for application for statistical treatment. Then, the interpretation of data followed.

#### **4. Results and Discussion**

Discussed in this chapter are the data and the analysis of findings based on the responses of the respondents on second language writing anxiety and teacher's communication behavior as predictors of research self-efficacy.

Tables were arranged in the following subheadings: assessment of the level of second language writing anxiety, level of teacher's communication behavior, level of research self-efficacy, correlational analysis showing the significance of the relationship between second language writing anxiety and research self-efficacy, correlational analysis showing the significance of the relationship between teacher's communication behavior and research self-efficacy, and hierarchical multiple regression analysis showing the significant predictors of research self-efficacy among students.

Shown in Table 1 is the level of second language writing anxiety among college students. Data revealed that students perceived that they have a moderate level in terms of second language writing anxiety, which obtained an overall mean of 3.21 (SD = 0.370). This means that the condition associated with second language writing anxiety is observed sometimes. Alfajen (2013) stated that a moderate level of second language writing anxiety is considered to be a normal reaction for students, and that teachers did not demand exceptional writing and instead evaluated the work based on its ideas rather than its quality. As a result, it is possible that the students' concerns stemmed from the scientific course rather than the writing itself. And that it helps them become better writers in the future.

As shown in the same table, among the indicators of the variable, somatic anxiety obtained the highest mean of 3.54 (SD=.648), which was verbally described as high. This means that the condition associated with second language writing anxiety in terms of somatic anxiety is observed oftentimes. As discussed by Chen and Wang, people who have somatic symptoms are disruption in function and excessive and disproportionate thoughts, feelings, and behaviors. Extreme somatic symptom sufferers struggle with daily difficulties and distress (2002). On the other hand, the lowest mean was obtained by avoidance anxiety. It means that the conditions associated with second language writing anxiety in terms of avoidance anxiety are observed sometimes. According to

Cheng et al. (2002) that the learner's anxiety over the writing assignment and their disapproval of the procedure are outcomes of avoidance.

**Table 1:** Second language writing anxiety

Indicators	Mean	SD	Descriptive Level
Cognitive Anxiety	3.21	.534	Moderate
Somatic Anxiety	3.54	.648	High
Avoidance Behavior Anxiety	2.87	.321	Moderate
Overall	3.21	.370	Moderate

Moreover, cognitive anxiety obtained a mean of 3.21 (SD=0.534) described as moderate. This means that the conditions associated to second language writing anxiety in terms of cognitive anxiety is observed oftentimes. For Cheng (2002), cognitive anxiety refers to negative expectations, worry about performance, and concern about other people's perceptions.

Shown in Table 2 illustrates the level of teacher communication behavior perceived by college students. These communication behaviors were categorized into challenging, encouragement and praise, nonverbal support understanding and friendly, and controlling. It was explained that all indicators of each strategy had obtained a rating of 3.81 (SD = .477) which was verbally described as high. This means that the condition associated with teacher's communication behavior is observed oftentimes. Assuah discussed that teachers modify their use of instructional material to foster teacher-student or student-teacher relationships. As a result, the student's learning will be improved when these relationships are strengthened (2010).

Moreover, among all of its indicators, challenging received the highest mean ( $\bar{x}=3.91$ ; SD=0.538). This is confirmed by researchers claiming that students will improve if teachers are giving them challenging questions (She et al., 2001; Armstrong et al., 2016) while the lowest mean is the indicator controlling ( $\bar{x}=3.71$ ; SD=0.586). This is expressed as high and observed oftentimes. According to She et al. (2001) that the role of controlling in classroom management is to support the students' pursuit of their desired learning outcomes.

**Table 2:** Teacher's communication behavior

Indicators	Mean	SD	Descriptive Level
Challenging	3.91	.538	High
Encouragement and Praise	3.78	.578	High
Nonverbal Support	3.75	.588	High
Understanding and Friendly	3.89	.595	High
Controlling	3.71	.586	High
Overall	3.81	.477	High

Similarly, students expressed high on indicators of encouragement and praise ( $\bar{x}=3.78$ ; SD=0.578). This means it is observed oftentimes. To support this, Sæverot claimed that teachers are required to give back both praise and encouragement to their students



because this will lead them to develop self-respect than teachers being manipulative and serving them with a selfish attitude (2008). While nonverbal support ( $x = 3.75$ ;  $SD=0.588$ ) is expressed as high and observed oftentimes. Surkamp (2014) also said that nonverbal support could help students understand and speak a foreign language. And lastly, understanding and friendly ( $x=3.89$ ;  $SD=0.595$ ) expressed as high and observed oftentimes. Training for friendly-school is needed especially for children, children with disabilities and those institutions that offer inclusive education (Nugraheni, 2019).

Shown in Table 3 explains the extent of research self-efficacy of college students. Based on the table, the student's level of research self-efficacy is described as high, with a mean of 3.82 ( $SD=.468$ ). This means that the condition associated with research self-efficacy is observed oftentimes. When students have a lot of involvement in research activities in school, it contributes to high research self-efficacy (Bishop et al., 1998).

**Table 3:** Research Self-Efficacy of College Students

Indicators	Mean	SD	Descriptive Level
Data Analysis	3.80	.490	High
Research Integration	3.89	.483	High
Data Collection	3.81	.521	High
Technical Writing	3.76	.603	High
Overall	3.82	.468	High

Moreover, among all of its indicators, research integration received the highest mean ( $x = 3.89$ ;  $SD=.483$ ) and was expressed as high and observed oftentimes. According to Hassan (2019) spending time with colleagues, asking the department chair, talking to competent peers, and talking to experienced academics create research ideas. While the lowest mean is the indicator technical writing ( $x = 3.76$ ;  $SD=0.603$ ) and expressed as high and observed oftentimes. To support this, Johns (2008) stated that writing abilities are a critical part of the learning and communication skills of the student's academic life including writing research papers. Similarly, students expressed high on indicator data analysis ( $x= 3.80$ ;  $SD=0.490$ ) and is observed oftentimes. In addition, data analysis has several terminology and concepts. These terms are fundamental to analysis process (Forester et al., 2004). And lastly, the indicator data collection ( $x = 3.81$ ;  $SD=0.521$ ) was obtained as high and observed oftentimes. The researcher's perspective is seen as a major influence in the collection of data and successful gathering of information is essential for research work (Hoskin et al., 2013).

Shown in Table 4 is the correlation analysis showing the significant relationship between second language writing anxiety and research self-efficacy among college students. Based on the analysis, the overall second language writing anxiety does not significantly correlate with overall research self-efficacy ( $r=.097$ ,  $p>0.05$ ). And so, the null hypothesis of no significant relationship is accepted. Moreover, the indicators of second language writing anxiety which are cognitive anxiety ( $r=-.127$ ,  $p<0.05$ ), and avoidance behavior anxiety ( $r=-.062$ ,  $p<0.01$ ) are negatively but significantly correlated with the overall research self-efficacy while, the somatic anxiety ( $r=.303$ ,  $p>0.05$ ) of second

language writing anxiety does not significantly correlate with overall research self-efficacy.

**Table 4:** Significance of the relationships between second language writing anxiety and research self-efficacy

Research Self-efficacy					
L2 Writing Anxiety	Data Analysis	Research Integration	Data Collection	Technical Writing	Overall
Cognitive	-.117	-.094	-.098	-.140*	-.127*
	.054	.122	.106	.020	.036
Somatic	.260**	.255**	.305**	.262**	.303**
	.000	.000	.000	.000	.000
Avoidance Behavior	-.008	-.127*	-.041	-.047	-.062
	.898	.036	.497	.436	.312
Overall	.093	.066	.118	.071	.097
	.127	.275	.051	.241	.110

\*\*  $p < 0.01$ ; \*  $p < 0.05$

In addition, Table 4 presents the overall negative correlation but with a significant relationship between the indicators of second language writing anxiety in terms of cognitive anxiety ( $r = -.140$ ,  $p < 0.05$ ) and avoidance anxiety ( $r = -.047$ ,  $p < 0.05$ ) with technical writing. However, somatic anxiety ( $r = .262$ ,  $p > 0.05$ ) does not significantly correlate in terms of this indicator. Moreover, cognitive anxiety ( $r = -.098$ ,  $p < 0.05$ ) and avoidance behavior ( $r = -.041$ ,  $p < 0.05$ ) are negatively but significantly correlated with data collection. On the other hand, somatic anxiety ( $r = .305$ ,  $p > 0.05$ ) does not significantly correlate with the indicator of data collection. Then, cognitive anxiety ( $r = -.094$ ,  $p < 0.05$ ) and avoidance anxiety ( $r = -.127$ ,  $p < 0.05$ ), are negatively but significantly correlated with research integration. On the other hand, somatic anxiety ( $r = .255$ ,  $p > 0.05$ ) does not significantly correlate with research integration. In addition, cognitive anxiety ( $r = -.117$ ,  $p < 0.05$ ) and avoidance anxiety ( $r = -.008$ ,  $p < 0.05$ ) are significantly correlated with data analysis, while somatic anxiety ( $r = .260$ ,  $p > 0.05$ ) is negative but does not significantly correlate to the indicator of data analysis.

Displayed in Table 5 is the correlation analysis showing the significant relationship between teachers' communication behavior and research self-efficacy among college students. Based on the analysis, the overall teacher's communication behavior does not significantly correlate with overall research self-efficacy ( $r = .605$ ,  $p > 0.05$ ). And so, the null hypothesis of no significant relationship is accepted. Moreover, the individual indicators of second language writing anxiety which are challenging ( $r = .576$ ,  $p > 0.05$ ), encouragement and praise ( $r = .560$ ,  $p > 0.05$ ), nonverbal support ( $r = .489$ ,  $p > 0.05$ ), understanding and friendly ( $r = .481$ ,  $p > 0.05$ ), and controlling ( $r = .407$ ,  $p > 0.05$ ) do not significantly correlate with the overall research self-efficacy. Thus, the null hypothesis of no significant relationship is accepted.

**Table 5:** Correlation analysis showing the significance of the relationship between teacher communication behavior and research self-efficacy

Research Self-Efficacy					
Teacher's Communication Behavior	Data Analysis	Research Integration	Data Collection	Technical Writing	Overall
Challenging	.434**	.586**	.494**	.540**	.576**
	.000	.000	.000	.000	.000
Encouragement and Praise	.442**	.534**	.515**	.508**	.560**
	.000	.000	.000	.000	.000
Nonverbal Support	.371**	.482**	.452**	.442**	.489**
	.000	.000	.000	.000	.000
Understanding and Friendly	.400**	.476**	.423**	.422**	.481**
	.000	.000	.000	.000	.000
Controlling	.359**	.392**	.352**	.355**	.407**
	.000	.000	.000	.000	.000
Overall	.484**	.595**	.539**	.546**	.605**
	.000	.000	.000	.000	.000

\*\*  $p < 0.01$ ; \*  $p < 0.05$

In addition, Table 5 presents the correlational relationship between the indicators of teacher's communication behavior in terms of: challenging ( $r = .540$ ,  $p > 0.05$ ), encouragement and praise ( $r = .508$ ,  $p > 0.05$ ), nonverbal support ( $r = .442$ ,  $p > 0.05$ ), understanding and friendly ( $r = .422$ ,  $p > 0.05$ ) and controlling ( $r = .355$ ,  $p > 0.05$ ) with technical writing. While, challenging ( $r = .494$ ,  $p > 0.05$ ), encouragement and praise ( $r = .515$ ,  $p > 0.05$ ), nonverbal support ( $r = .452$ ,  $p > 0.05$ ), understanding and friendly ( $r = .423$ ,  $p > 0.05$ ) and controlling ( $r = .325$ ,  $p > 0.05$ ) with data collection. On the other hand, challenging ( $r = .586$ ,  $p > 0.05$ ), encouragement and praise ( $r = .534$ ,  $p > 0.05$ ), nonverbal support ( $r = .482$ ,  $p > 0.05$ ), understanding and friendly ( $r = .476$ ,  $p > 0.05$ ) and controlling ( $r = .392$ ,  $p > 0.05$ ) with research integration. Then, challenging ( $r = .434$ ,  $p > 0.05$ ), encouragement and praise ( $r = .442$ ,  $p > 0.05$ ), nonverbal support ( $r = .371$ ,  $p > 0.05$ ), understanding and friendly ( $r = .400$ ,  $p > 0.05$ ) and controlling ( $r = .359$ ,  $p > 0.05$ ) with data analysis. The individual indicators of teacher's communication behavior have no significant relationship with the indicators of research self-efficacy.

A hierarchical multiple linear regression was utilized to determine the degree of contribution or influence of second language writing anxiety and teacher's communication behavior and which of the indicators of these variables are significant predictors of overall research self-efficacy among college students. Table 6 shows two models which considered two steps of the hierarchical modeling performed. The first step includes the entry of the indicators of second language writing anxiety, while the second step now includes the indicators of the entry of teacher's communication behavior.

In Model 1 with second language writing anxiety entered as regressors, all indicators were found to not significantly influence overall research self-efficacy. The three indicators of second language writing anxiety have a combined variance explained

of  $R^2=0.192$ , which means that 19.2% of the variation of the dependent variable is explained by the three indicators mentioned. In Model 2, with second language writing anxiety and teacher's communication behavior entered as regressors, the indicator cognitive anxiety ( $B=-.215$ ,  $t=-4.728$ ,  $p<0.05$ ) and somatic anxiety ( $B=.185$ ,  $t=4.365$ ,  $p<0.05$ ) remained significant.

**Table 6:** Hierarchical multiple regression analysis  
showing the significance predictors of research self-efficacy

Model		B	S.E.	$\beta$	t	Sig.	$\Delta R^2$
1	(Constant)	4.312	.272		15.876	.000	0.192
	Cognitive anxiety	-.268	.052	-.306	-5.149	.000*	
	Somatic anxiety	.355	.046	.491	7.802	.000*	
	Avoidance anxiety	-.310	.085	-.212	-3.648	.00*	
2	(Constant)	2.128	.306		6.945	.000*	0.437
	Cognitive anxiety	-.215	.045	-.245	-4.728	.000*	
	Somatic anxiety	.185	.042	.255	4.365	.000*	
	Avoidance anxiety	-.099	.074	-.068	-1.326	.186 <sup>ns</sup>	
	Challenging	.295	.065	.339	4.550	.000*	
	Encouragement and praise	.146	.065	.181	2.247	.025*	
	Nonverbal support	.056	.056	.070	1.007	.315 <sup>ns</sup>	
	Understanding and friendly	-.029	.060	-.037	-.489	.625 <sup>ns</sup>	
Controlling	.055	.047	.069	1.169	.244 <sup>ns</sup>		

\*  $p<0.05$

In addition, the significant effect of the indicator avoidance anxiety ( $B=-.099$ ,  $t=-1.326$ ,  $p>0.05$ ) now posed a nonsignificant influence. Only two out of five teachers' communication behavior posed a significant influence on overall research self-efficacy – challenging ( $B=.295$ ,  $t=4.550$ ,  $p<0.05$ ) and encouragement and praise ( $B=.146$ ,  $t=2.247$ ,  $p<0.05$ ). The regressors in Model 2 have a combined variance explained of  $R^2=0.437$ , which means that 43.7% of the variation of the dependent variable is explained by the eight regressors entered in the model. It seems that the amount of variance as expressed in  $R^2$  only increased by 24.5% in the addition of teachers' communication behavior.

## 5. Recommendations

The overall level of L2 writing anxiety was derived from the moderate levels of all indicators which means that the conditions associated with L2 writing anxiety, in terms of cognitive anxiety, somatic anxiety, and avoidance behavior anxiety, are observed sometimes. With this, teachers are encouraged to be aware and watchful of how students feel about the writing tasks employed in their classrooms. Teachers also are recommended to provide writing activities that students can easily do and understand to lessen anxiety while writing. Also, the high level of teacher's communication behavior shows that the condition associated with teacher's communication behavior is observed oftentimes. In line with this, teachers are to supervise students in their construction of

knowledge. Teachers are encouraged to communicate holistically towards students, and use verbal and nonverbal cues effectively to achieve excellent communication so that students will feel convenient while communicating with them.

On the other hand, the level of research self-efficacy is high, which means that the conditions associated with research self-efficacy are observed oftentimes. Through this, students are suggested to harness skills in research, especially in the process underlying the conduct of research papers. Moreover, the study revealed that students gained higher in research integration. It means that students are capable of accomplishing research papers. Thus, they are encouraged to pursue higher education with research subjects or develop research papers in their post-graduate lives.

Furthermore, this academic inquiry revealed that second language writing anxiety and teacher's communication behavior have no relationship with research self-efficacy. It is recommended that students look for ways to enhance their confidence in performing tasks related to research papers. Lastly, there are four domains in the second language writing anxiety and teacher's communication behavior that significantly predict research self-efficacy: cognitive anxiety, somatic anxiety, challenging and encouragement, and praise. In this effect, further studies may be conducted to explore possible explanatory variables that can predict research self-efficacy.

## 6. Conclusion

This academic inquiry revealed a moderate level of L2 writing anxiety, including cognitive anxiety, somatic anxiety, and avoidance behavior anxiety. On the other hand, the overall level of teacher's communication behavior is high, including challenging, encouragement and praise, nonverbal support, understanding, and friendly and controlling. At the same time, the level of research self-efficacy is high in terms of data analysis self-efficacy, research integration self-efficacy, data collection self-efficacy, and technical writing self-efficacy.

Moreover, there is a negative correlation and no significant relationship between L2 writing anxiety and research self-efficacy. This supports the findings of Vaccaro that research development is traced to influence students' perception of research pieces of training and interest in research papers (2009). At the same time, teachers' communication behavior has no significant relationship with research self-efficacy. It also supported the claims of Wajid and Jami that research efficacy is a result also of higher metacognitive awareness of the students, which can be a result of students applying reading strategies, especially in understanding concepts and ideas as knowledge acquisition (2020).

Lastly, the overall second language writing anxiety and teacher's communication behavior does not significantly influence research self-efficacy. In their singular capacities, only four domains for L2 writing anxiety and teacher's communication behavior were found to significantly influence research self-efficacy, which are cognitive anxiety, somatic anxiety, challenging, and encouragement and praise. Further, the

significant influence of the aggregated weights of these dimensions indicates that an increase in overall conditions of second language writing anxiety and teacher's communication behavior will increase research self-efficacy. Hence, this study is supported by the claims of Astin on student involvement theory which believes that outputs are well generated by students depending on the physical and psychological amount they put into it (2005). Finally, support and encouragement from teachers are necessary to motivate students in their academic papers (Photongsunan, 2016).

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