Investigating Information Literacy Self-Efficacy among Senior High School Visual Arts Students in Ghana

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Abstract

In today's digitised era, the ability to competently navigate and utilise information, often termed 'information literacy', is a pivotal skill, especially for pre-tertiary visual art students. Their academic and artistic pursuits are significantly influenced by their capability to harness relevant information. This research sought to ascertain the degree of information literacy self-efficacy amongst pre-tertiary visual arts students and to discern the potential influence of specific sociodemographic indicators on their self-efficacy beliefs related to information literacy. The geographical focus of this inquiry was a curated selection of schools in Kumasi, Ghana. A cross-sectional survey study encompassed a sample size of n = 136 pre-tertiary visual arts students. The assessment utilised an information literacy self-efficacy scale complemented by several sociodemographic variables. Subsequent data analysis encompassed descriptive and inferential statistics facilitated via the Jamovi statistical software. The study's outcomes revealed that these students exhibited moderate aptitude in basic information literacy and its associated competencies. However, a discernible dip was noted in their proficiency concerning advanced information literacy skills. This underscores the imperative for a more comprehensive integration of information literacy modules, especially within the affective learning spectrum, to cultivate innovative and adept information-seeking tendencies in these students. While the study's scope precludes sweeping generalisations, the instruments employed have showcased potential as efficacious metrics to collate student-centric data, thereby enhancing individual and group educational outcomes. This research augments the academic understanding of information literacy and its bearing on the information-seeking patterns of pre-tertiary visual art students. By embedding these insights into pedagogical strategies, educators can champion a generation of artists well-versed in navigating the intricate tapestry of the information milieu.

Keywords: Information literacy, Information literacy self-efficacy, Information-seeking behaviour, Pre-tertiary visual art students, Education, Ghana

Background

Human progress hinges on knowledge built on the foundation of information. This resource is pivotal, enabling individuals to make meaningful contributions to society. The 21st century has brought forth numerous terminologies - from "knowledge society" and "information society" to "digital society" and "network society". While these terms might often be used synonymously, their collective essence emphasises the profound impact of information on various aspects of contemporary life. As Drucker (1993) put it, knowledge is increasingly the primary factor of production, signalling a shift from a material-based economy to a knowledge-centric one. The intricate and evolving nature of the information landscape, amplified by technological advances, has heightened the challenges associated with accessing and retrieving information (Amoah, 2014; Bruce, 2004; Demiralay & Karadeniz, 2010; Solmaz, 2017). This dynamic underscores the widening gap between abundant information and the skills required to harness it, thus magnifying the significance of acquiring information and technology skills.

Arising from these developments, information literacy is vital for this era (Aharony & Gazit, 2020; Bruce, 2021). The Association of College and Research Libraries (ACRL) (2000) and the American Library Association (1989) define information literacy as encompassing the competencies an individual needs to discern the need for information and the ability to effectively locate, evaluate, and use it. Although the importance of this skill for the 21st century is recognised (Darkwa, 2020; Reddy et al., 2022), the ever-shifting information landscape necessitates not only possessing these skills but mastering their competent application.

Bandura's (1977) social cognitive theory of self-efficacy - an individual's belief in their capability to perform tasks - offers insight into the connection between personal belief and skill sets like information literacy. Notably, possessing a strong sense of self-efficacy correlates with enhanced motivation and determination (Dula & Osorno, 2022; Pajares & Usher, 2008). In the context of information, Information Literacy Self-Efficacy (ILSE) denotes confidence in one's abilities to identify, retrieve, use, and assess information (Kurbanoglu et al., 2006; Naveed & Mahmood, 2019). Individuals with low self-efficacy are still determining their capability. They usually respond to new tasks with anxiety and may avoid challenges; thus, they may fulfil their self-made prediction of failure (Aharony & Gazit, 2020). Recognising the significance of ILSE among pre-tertiary visual arts students is paramount for targeted instruction in information literacy. This thus prepares them adequately for higher education where they will need to access, understand, and communicate about artists, artworks, audiences, and art practices

Several studies have centred on the subject of IL self-efficacy. Aharony and Gazit (2018) examined how students' information literacy (IL) self-efficacy is influenced by their openness to experience, cognitive appraisals (threat and challenge), and motivation. Soroya et al. (2020) discovered that three emotional intelligence subconstructs positively influence students' information literacy self-efficacy. Amit-Aharon et al. (2020) found that factors like information literacy self-efficacy, perception of Evidence Based Practice (EBP), and intrinsic academic motivation contribute to predicting future EBP implementation, accounting for 46.3% of the variability. Naveed and Mahmood (2022) indicated that students possessed high self-efficacy in basic information literacy skills but showed low self-efficacy in advanced-level skills. Kurbanoglu et al. (2006) determined that IL self-efficacy notably predicts students' academic success. Besides, Stokes and Urquhart (2011) deduced that students' IL self-efficacy rose during the initial two levels of a program but declined in the research-heavy third level.

As mentioned earlier, the literature suggests that modern learning paradigms have experienced significant shifts due to the rapid growth of information, digitisation, and technological tools. To succeed in this globalised environment, students must embody competence, an apt mindset, and responsibility (Baido & Jones, 2024; Kankam, 2024; Nkansah & Oldac, 2024; Partnership for 21st Century Learning, 2019; Reddy et al., 2022). Ghana's pre-tertiary art education strives to equip students with cultural knowledge and contemporary skills (Nortey et al., 2018; Opoku-Bonsu, 2017; Seid'ou et al., 2015). However, there is a lack of empirical research on the information literacy self-efficacy of Ghana's pre-tertiary visual art students. This study addresses this gap by investigating the information literacy self-efficacy of pre-tertiary students in selected Kumasi Senior High Schools. In doing so, it aims to enhance the corpus of literature surrounding information literacy and self-efficacy.

The following research questions drive the study:

1. What is the level of information literacy self-efficacy of pre-tertiary visual art students?
2. Is there any relationship between students'

perceived ILSE and their sociodemographic factors, such as age, gender, and ICT proficiency?

Review of Related Literature

In an "infodiverse" ecosystem, technological development abbreviates the longevity of skills and knowledge. Possessing information literacy skills is not an end, but the competency in utilising the skill set gained.

Since its inception at the beginning of the twenty-first century, self-efficacy research for IL has drawn more attention from scholars. Self-efficacy in information literacy has been studied extensively in many different places and situations. Relationships with students have been the subject of studies (Amit -Aharon et al., 2020; Harlevik et al., 2018; Bronstein, 2014; Kiliç-Çakmak, 2010; Oguz & Ataseven, 2016) by pre-service teachers (Adalier & Serin, 2012), librarians and information scientists (Ahanrony & Gazit, 2019; Bronstein & Tzivian, 2013), e-learners (Kiliç-Çakmak, 2010; Tang & Tseng, 2013), prospective school librarians (Ossai, 2022), college nurses (Chow & Wong, 2020), tourist (Peco-Torres et al., 2021), and medical students (Soroya et al., 2020). To set the stage, Kurbanoglu (2003) first defines self-efficacy in the context of information literacy (IL) before examining the information literacy self-efficacy (ILSE) of students at the Department of Information Management, Hacettepe University, Ankara, Turkey. The results indicated that these students rate themselves as competent in resolving information-related problems. In the first, second, third, and fourth grades, IL students' reported levels of self-efficacy did not change significantly over time. However, students' perceptions of their own IL self-efficacy have evolved over time from being occasionally successful to generally effective. The findings also showed a favourable link between computational self-efficacy and perceived IL self-efficacy among students.

After their initial work, Kurbanoglu et al. (2006) introduced the Information Literacy Self-Efficacy Scale (ILSES). This scale boasts a robust Cronbach's alpha (α) score of 0.91, signifying its consistent reliability. As Mahmood (2017) noted, since its inception, the ILSES has been a recurrent tool in various studies for measuring information literacy self-efficacy. While Kurbanoğlu et al.'s (2006) scale has consistently demonstrated reliability over time, recent insights from Sommer et al. (2021) advocate its revision to stay up-to-date with the dynamically changing information ecosystem.

Additionally, efforts have been made to evaluate this IL self-efficacy scale psychometrically. Shim et al. (2009) used factor analysis in South Korea to look at the psychometric properties of Kurbanoglu's ILSES after these projects. The 40-item ILSES version used in this study was broken down into six categories. The components gained from this study differed considerably from those in the initial study. They showed how students' information-seeking was pragmatic, favouring Internet sources and rapid satisfaction. Numerous studies have looked at how IL self-efficacy affects learning and academic success. Kim (2011) discovered a link between pupils' academic progress and information literacy. Such a partnership typically endures for a long time. After the second year, according to De Meulemeester (2013), students' IL skills remained the same, but as their education levels rose, so did their self-efficacy in these areas. Ross et al. (2013) studied students with and without paid employment to examine the relationship between IL self-efficacy, academic motivation, and employment. The findings demonstrated the relevance of motivation for Information Literacy self-efficacy. The fact that students have paid jobs does not change how they feel about their IL self-efficacy. Studying time, however, can predict your IL self-efficacy. Tang and Tseng's (2013) research shows that people with a moderate level of self-efficacy in searching for and using information have a higher level of self-efficacy in online learning. In their study, Bronstein and Tzivian (2013) looked at how self-efficacious Israeli LIS professionals felt about their abilities to find and retrieve information. The results showed that these professionals had high levels of information-seeking self-efficacy for all four kinds of self-efficacy information: (a) past performance or domain, (b) vicariously experiencing the experiences of others, (c) verbal or social feedback and (d) affective states that affected the formation of self-efficacy beliefs. LIS professionals' courage in locating information seems to depend on their age, gender, and experience level. In line with this, Bronstein (2014) reported high self-efficacy concerning their information-seeking behaviour. How information sources affected students' sense of self-efficacy was essential for giving them more self-confidence. The age and grade level of pupils and other sociodemographic factors predict their self-efficacy views regarding information-seeking behaviour. Aharony and Gazit (2020) reported a highly favourable and substantial connection between age and information literacy self-efficacy. Cited empirical surveys (Atikuzzaman &

Ahmed, 2023; Bronstein, 2014; Bronstein & Tzivian, 2013; Geçer, 2012; Naveed, 2022; Naveed & Mahmood, 2019; Naveed & Mahmood, 2022) confirmed age as a predictor of information literacy self-efficacy. As a result, students' IL self-efficacy levels varied depending on their ages—the older the student, the higher his or her IL self-efficacy. Studies showed no gender-based disparities in the mean of students' self-efficacy views (Kozikoglu & Onur, 2019; Naveed, 2021, 2022; Naveed & Mahmood, 2019, 2022; Oguz & Ataseven, 2016; Ross et al., 2016; Seng et al., 2021). Based on grade/level, there is a considerable positive association between student level and IL self-efficacy among prospective instructors (Demirel & Akkoyunlu, 2017; Geçer, 2012; Naveed & Mahmood, 2019, 2022; Usluel, 2007). Some studies have focused on teachers' self-efficacy for IL because instructors do a lot of teaching, research, and learning while relying primarily on IL skills. Zinn (2013) looked at the instructor's IL self-efficacy. Twenty-nine teachers who responded to an IL survey provided the data before and after the course. The outcomes demonstrated a beneficial impact of the IL course intervention on teachers' abilities. Among pre-service teachers who specialised in pedagogy, Kokic and Novosel (2014) found a meaningful positive correlation between information literacy self-efficacy and information literacy. The unit of analysis in a study by Ossai (2022) was prospective school librarians. The findings revealed a significant, moderate correlation between information literacy self-efficacy and academic resilience. Chow and Wong (2020) found a statistically significant, moderately positive correlation between college nurses' academic motivation and information literacy self-efficacy. The factors that influence medical students' development of self-efficacy in information literacy were the subject of a study by Soroya et al. (2020). A statistically significant positive correlation was reported between Emotional Intelligence and perceived information literacy self-efficacy

The findings of the study by Demiralay and Karadeniz (2010) showed that access to computers and the Internet, frequency of ICT use, computer expertise, and abilities all significantly affect perceived IL self-efficacy. Geçer (2012) found a connection between computer use and IL self-efficacy levels. Similarly, Chen et al. (2022) reported that information literacy and ICT self-efficacy jointly influence the use of ICT tools for teaching by K–12 instructors in Chengdu (China) significantly. This finding confirms the mediating role of ICT self-efficacy on information literacy and the teachers' intention to integrate ICT into instructional strategies. Contrarily, Tunce and Balci (2013) found that information literacy self-efficacy has no significant effect on information literacy. Wu (2019) broadens the scope of information literacy research to include creativity. He found a statistically significant positive link between creativity and the influence of information literacy self-efficacy.

Similarly, Saadia and Naveed (2023) reported that information literacy has a positive and significant impact on the creativity of journalists in Pakistan. Peco-Torres et al. (2021) expand the research focus by investigating the impact of information literacy self-efficacy on tourists' perception of hotel safety and its influence on their intention to return based on the assurance that their safety will not be compromised. A positive correlation was observed between individuals' perceived hotel safety and their level of self-efficacy in information literacy.

Further studies on students' information literacy self-efficacy are needed, as only some studies measure skills in pre-tertiary art or assess self-efficacy.

Theoretical Framework and Hypothesis Development

Information literacy

Zurkowski (1974) is credited with coining the term "information literacy," which refers to individuals who possess the skills necessary to utilise information resources in their professional endeavours effectively (Chang et al., 2012; Ireri et al., 2022; Lin et al., 2013). Information literacy is defined by the American Library Association (ALA) as the "set of abilities requiring an individual to recognise when information is required and have the ability to locate, evaluate, and effectively use the required information." (American Library Association, 1989).

The American Library Association's (ALA) Presidential Committee on Information Literacy released its definitive report in 1989 and came up with the definition that is now most widely used for information literacy: "An information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and effectively use the needed information"(para.3) Although the Final Report emphasises that information literacy will be taught mainly in schools and academic libraries, the text also portrays information literacy as a crucial life skill for everyone at any age,, not just an academic one (Saunders & Wong, 2020).

The ACRL 2000 model categorises information literacy into five domains: Know, Access, Evaluate, Use,

and Ethics/Legal. It focuses on skill and awareness, making it a crucial life skill for students to navigate the information-rich 21st-century ecosystem.

Self-efficacy and information literacy

Independent, self-aware, self-regulated, lifelong learners are needed in the information age (Aharony & Gazit, 2019; Hatlevik et al., 2018; Prabowo et al., 2024). Information literacy (IL) helps people locate, choose, obtain, assess, and ethically and legally use the information they need (ACRL, 2000; American Library Association, 1989; Li et al., 2023; Loh et al., 2017)

Lifelong learning requires IL skills and the confidence and ability to apply them well, particularly within a complex and dynamic information ecosystem. Thus, more than having IL skills is required; people must have confidence in applying them. According to Bandura (1977), self-efficacy is as crucial as goal-setting skills. Self-efficacy is the conviction that one can finish a task. It is a multidimensional cognitive construct (Bandura, 1986, 1997; Cassidy & Eachus, 2002). Skills influence decision-making, but beliefs drive behaviour. Self-efficacy underpins motivation, well-being, and success. When individuals think they can do a task and get results, they are more motivated to do it (Tu et al., 2022; Bandura, 1977; Pajares, 2003).

Self-efficacy is crucial for achieving challenging goals, as it influences tenacity, resilience, persistence, and task completion (Bandura, 1977, 1986; Ross et al., 2016; Tu et al., 2022). In the information-centric ecosystem, high self-efficacy is linked to tenacity, resilience, and problem-solving abilities (Bandura, 1977; Pajares & Usher, 2008; Zimmerman, 1995). A positive correlation between information literacy and self-efficacy suggests that high perceived self-efficacy is directly proportional to perseverance in overcoming challenges (Adalier & Serin, 2012; Baran & Ata, 2014; Kiliç-Çakmak, 2010). Understanding IL self-efficacy among different populations can inform information retrieval systems and IL programme design.

Age and information Literacy self-efficacy

Age may predict information literacy self-efficacy, as students' interactions with their surroundings and meaning shift over time, increasing comprehension, analytical acuity, and self-assurance. Studies (Atikuzzaman & Ahmed, 2023; Geçer, 2012; Naveed & Mahmood, 2019; Naveed & Mahmood, 2022; Usluel, 2007) show that older students have higher levels of information literacy self-efficacy. Based on the empirical studies cited above, we set the null hypothesis as follows:

$H_0$1: Age does not significantly influence the information literacy self-efficacy of pre-tertiary visual art students

Gender and information Literacy self-efficacy

The information landscape constantly evolves, and gender does not significantly influence an individual's mastery of information literacy skills. Studies (Demirel & Akkoyunlu, 2017; Naveed & Mahmood, 2019, 2022; Oguz & Ataseven, 2016; Ross et al., 2016; Seng et al., 2021) have found that being male or female does not significantly influence information literacy self-efficacy. Based on the exposition above, the null hypothesis is set as follows:

H_o2: There is no significant difference in ILSE levels among pre-tertiary visual arts students in different gender groups (i.e., male and female)

ICT competency and information literacy self-efficacy

The widespread adoption of information technology and globalisation has significant educational implications, as learning occurs throughout life (Coşkun & Demirel, 2010). ICT competency is crucial for mastering information literacy, as studies (Adalier & Serin, 2012; Chen et al., 2022; Demiralay & Karadeniz, 2010; Demirel & Akkoyunlu, 2017; Geçer, 2012; Naveed, 2022; Naveed & Mahmood, 2019; Usluel, 2007) show it predicts information literacy self-efficacy. The null hypothesis is therefore set as:

$H_0$3: ICT competency does not significantly impact the information literacy self-efficacy of pre-tertiary visual art students.

Materials and Methods

Design, Population, and Setting

The study employed a cross-sectional survey research design. Adu and Miles (2024) said that using a cross-sectional research design can improve the effectiveness of a study by making it easier to look at a large number of people in a short amount of time. This lets researchers determine the causes and frequency of a given phenomenon or situation.

The population consisted of visual art students from selected senior high schools in Kumasi. Of the eligible students, 205 students responded to the survey, forming a convenience sample based on the availability and willingness of the students (Etikan et al., 2016).

After data cleaning, which involved the exclusion of incomplete questionnaires, the final sample comprised 136 students. Only the complete questionnaire was analysed, consistent with the recommendation of Little and Rubin (2019) for enhancing data integrity. The sample was then imported from Microsoft Excel into the Jamovi software (v 2.2.28) for analysis

This study examines the level of perceived information literacy self-efficacy of pre-tertiary visual arts students and its relationship with certain demographic variables, focusing on T.I. Ahmadiyya SHS and Armed Forces SHTS-Kumasi in the Ashanti region of Ghana. The study was conducted between January and July 2023. The data collection took place in May 2023.

Data Collection Tool and Procedure

The scale of information literacy self-efficacy was utilised in the study. Kurbanoglu et al. (2006) were responsible for developing the ILSES. ILSES has 28 items and a 7-point scale. The survey employs a Likert scale ranging from 1 to 7, where one represents "Strongly Disagree" and seven represents "Strongly Agree". The intermediate values on the scale are 2 for "Disagree", 3 for "Slightly Disagree", 4 for "Neither Agree nor Disagree", 5 for "Slightly Agree", and 6 for "Agree". The scale allows for 28 and 196 points as the least and maximum scores, respectively. The scale's Cronbach alpha reliability coefficient was determined to be 0.91 for the seminal study, indicating excellent internal consistency (DeVellis, 2017; Pallant, 2016; Sürücü & Maslakçıi, 2020). This study reported Cronbach's alpha value (and McDonald's omega) of $\alpha = 0.929$ ($\omega t = 0.930$). A non-significant Shapiro-Wilks value ($p = 0.407$) confirmed that the ILSES scores were normally distributed. In addition, the distribution exhibited viable skewness, and the kurtosis values ranged between -1 and +1 (Mertler & Vannatta Reinhart, 2017), suggesting that the distributions were relatively symmetrical with a peak.

Data were collected from pre-tertiary visual art students at T.I. Ahmadiyya SHS and Armed Forces SHTS-Kumasi in the Ashanti region of Ghana. Data for this study were collected using a structured questionnaire comprising the adopted scale and a demographic section, collecting information about the participants' age, gender, and level of ICT proficiency. The study was conducted using the traditional pencil and paper approach within the classroom environment during scheduled class periods with the consent of the instructors. The process of data collection was conducted anonymously. No incentives were given to the students after they completed the survey.

Data Collection and Statistical Analysis

The researchers used the Information Literacy Self-Efficacy Scale (ILSES) to survey pre-tertiary visual arts learners. The data was analysed descriptively and inferentially using Jamovi statistics software. The study aimed to determine ILSES self-efficacy among pre-tertiary visual arts learners and test the relationship between ILSES and socio-demographic features. Inferential statistics were used to test the hypothesis.

Ethical considerations

The researchers obtained ethical approval from the headteachers and respective heads of the visual art departments of the selected schools, who acted in loco parentis, to conduct this study. The study emphasised ethical obligations on confidentiality, anonymity, self-determination, and protection from discomfort. The participants were presented with a verbal elucidation of the study, and a comprehensive discussion on 'ILSES' was conducted. The researchers also provided verbal instructions to the participants regarding completing the survey.

Results

This section details the results of the present study. The level of information literacy self-efficacy (ILSE) among pre-tertiary visual arts students and the relationship between the ILSE and the sociodemographic variables were analysed.

Respondents' demographic features

The data were collected from final-year pre-tertiary visual art students from two schools within the Kumasi metropolis (see Table 1). The study sample comprised 104 (76.5%) male and 32 (23.5%) female participants. Nearly all respondents are 18 years old ($M = 18.1$, $SD = 1.36$). Regarding ICT proficiency, a significant proportion of the sample ($n = 80$, 58.8%) demonstrated moderate competence in utilising information and communication technologies. Following this were perceptions of low proficiency ($n = 29$, 21.3%) and high proficiency ($n = 27$, 19.9%).

Table 1: Participants' socio-demographic features

Variables		N	Mean	SD	f (%)
Age			18.1	1.36	
Gender	Male	104			76.5
	Female	32			23.5
ICT proficiency	High	27			19.9
	Low	29			21.3
	Moderate	80			58.8

Information literacy self-efficacy of pre-tertiary Visual Arts students

The study assessed students' self-efficacy in information literacy using a seven-point Likert scale (see Table 2). Students were confident and competent in basic information literacy skills, such as criticising information quality, selecting appropriate information, and learning from problem-solving experiences. They also moderately assessed their competency in internet search tools, synthesising information, and interpreting visual information. However, they were less competent in the library catalogue, types of libraries and identifying sources of agreement and disagreement. Overall, the total mean score for 28-information literacy-related activities was moderate (M = 4.16, SD =1.84)

Table 2: Perceived ILSE of Students

Students' perceived level of Information Literacy Self-Efficacy (n =136)		
Statements	**Mean**	**SD**
Define the information I need	4.07	2.07
Identify a variety of potential sources of information	4.04	1.91
Limit search strategies by subject, language and date	3.89	1.92
Initiate search strategies by using keywords and Boolean logic [e.g. AND, OR, NOT]	3.96	1.75
Decide where and how to find the information I need	4.43	1.81
Use different kinds of print sources (i.e., books, periodicals, encyclopaedias, chronologies, etc.)	4.02	1.90
Use electronic information sources	4.23	1.91
Locate information sources in the library	4.05	1.80
Use library catalogue	3.81	1.96
Locate resources in the library using the library catalogue	3.94	1.73
Use internet search tools (such as search engines, directories, etc)	4.36	2.00
Use different kinds (types) of libraries	3.82	1.90
Use many resources at the same time to make research	4.39	1.90
Determine the authoritativeness, currentness and reliability of the information sources	4.20	1.64
Select information most appropriate to the information needed	4.51	1.78
Identify points of agreement and disagreement among sources	3.84	1.96
Evaluate (the quality of) w.w.w sources	4.21	1.98
Synthesize newly gathered information with previous information	4.35	1.77
Interpret the visual information (i.e., graphs, tables, diagrams)	4.24	1.79
Write a research paper [artist statement]	4.10	1.91
Determine the content and form the parts (introduction, conclusion) of a presentation (written, oral)	4.21	1.81
Prepare a bibliography	4.01	1.73
Create bibliographic records and organize the bibliography	4.06	1.78
Create bibliographic records for different kinds of materials (i.e., books, articles, web pages)	4.10	1.74
Make citations and use quotations within the text	4.22	1.67
Choose a format (i.e., written, oral, visual) appropriate to communicate with the audience	4.12	1.80
Learn from my information problem solving experience and improve my information literacy skill	4.41	1.94
Criticize the quality of my information-seeking process and its products	4.63	1.75

Scale: "1," indicating "Strongly Disagree," to "7,"

signifying "Strongly Agree

Relationship between ILSE and socio-demographic variables

Using inferential statistics like the Pearson correlation coefficient, t-test, and one-way ANOVA, the relationship between the total ILSE score and socio-demographic factors of pre-tertiary visual arts students was studied. The results are presented in Table 3 below:

Table 3 Relationships between ILSE and Socio-demographics

Relationships between personal, academic variables and ILSE

Variables	Statistic	Value	P-value
Age	Pearson correlation	0.029	0.735
Gender	t-test	-0.938	0.350
Proficiency in using ICT (computer, internet)	One way ANOVA	0.0218	0.978

The results indicate no significant correlation between age and ILSE scores ($r = 0.029$, $p = 0.735$). Similarly, gender ($t = -0.938$, $p = 0.350$) and location ($t = -0.117$, $p = 0.907$) do not significantly correlate with ILSE scores. Proficiency in using ICT likewise does not show significant relationships with ILSE scores ($F = 0.0218$, $p = 0.978$)

Discussion

The study's results indicate that the respondents, who were pre-tertiary visual arts students from selected schools, exhibited a moderate information literacy self-efficacy with a mean score was 4.16, with a standard deviation of 1.86 based 28-item scale, with a sample size of 136. Participants who scored four or higher demonstrated a favourable level of self-efficacy. Based on the outcomes obtained from the 28-item scales, it can be inferred that roughly 79% of the populace has a mean score that surpasses the criterion mean, while 21% of the respondents had a mean score that fell below the criterion mean.

This finding aligns with previous research utilising the 28-item ILSES, as reported by (Adalier & Serin, 2012; Kokic & Novosel, 2014; Kurbanoglu, 2003; Naveed, 2022; Naveed & Mahmood, 2019; Usluel, 2007), which indicated a moderate level of ILSE among various groups such as prospective teachers, business students, and scientists. Nevertheless, the present finding is in contrast to the results of previous studies (Aharony & Gazit, 2019; Aharony & Gazit, 2020; Akkoyunlu & Yilmaz, 2011; Demirel & Akkoyunlu, 2017; Geçer, 2012; Oguz & Ataseven, 2016) which indicated a noteworthy degree of self-efficacy in information literacy among the participants.

The findings of this investigation underscore a deficiency in self-efficacy regarding advanced information literacy competencies, necessitating the implementation of artist information landscape-oriented IL guidance to enhance these skills. This finding also underscores the assertion that the basic information literacy skills based on the ILSES developed by Kurbanoglu et al. might be comparatively easy to learn without structured instruction (Atikuzzaman & Ahmed, 2023). The outcome was expected, as the present curriculum needs to prioritise pursuing information literacy instruction actively.

The relationship test results indicate no statistically significant difference in pre-tertiary visual art students' mean IL self-efficacy scores based on their age. The statement above suggests that the age of students is not a significant predictor in their level of self-efficacy regarding information literacy. These studies (Naveed & Mahmood, 2019; Usluel, 2007; Aharony & Gazit, 2019; Aharony & Gazit, 2020; Naveed & Mahmood, 2022; Naveed, 2022; Geçer, 2012; Bronstein, 2014; Bronstein & Tzivian. 2013) have presented findings that confirm the notion that as students progress in age, their competence and confidence levels increase. These studies have identified age as a predictor of information literacy (IL) self-efficacy. However, the results of this study are consistent with those of Shonfeld et al. (2022), who found no significant correlation between age and students' perceived level of information literacy self-efficacy. Gender does not impact the IL self-efficacy scores of pre-tertiary visual art students. The findings regarding gender in this study are consistent with previous research (Demirel & Akkoyunlu, 2017; Naveed and Mahmood, 2019; Naveed and Mahmood, 2022; Oguz and Ataseven, 2016; Ross et al., 2016; Seng et al., 2021), which also reported similar results. However, these findings differ from those of Usluel (2007), Adetoro et al. (2010), and Farinola (2018), who found that males had a higher mean difference in their ability to use information technologies to access information. The results indicate no statistically significant correlation between ILSE scores and the

level of competence in utilising ICT tools such as computers and the internet, as well as the use of the school library. The current discovery contrasts with earlier studies (Adalier & Serin, 2012; Chen et al., 2022; Demiralay & Karadeniz, 2010; Demirel & Akkoyunlu, 2017; Geçer, 2012; Kurbanoglu, 2003; Naveed & Mahmood, 2019; Naveed and Mahmood, 2022; Usluel, 2007), which reported that proficiency in information communication and communication technology is a prerequisite for achieving information literacy. In other words, a positive change in information literacy affects a positive change in information literacy self-efficacy, or vice versa.

Conclusion

The study found that pre-tertiary visual arts students' self-efficacy in information literacy was moderate despite being under-prioritised in the curriculum. The school library, which serves as a focal point for information literacy instruction, primarily consisted of reading rooms run by unqualified staff. Age and gender were not significantly related to ILSE scores, and proficiency in using ICT did not exhibit a significant relationship with ILSE scores. The literature review suggests that educational interventions can enhance information literacy proficiency, but they may not necessarily improve students' perceptions of information literacy. Integrating information literacy competencies into the pre-tertiary Art syllabus with Instructional methods that fit the information landscape is necessary to positively impact students' attitudes towards information literacy and boost self-motivation in creative endeavours.

Limitations and recommendations for future studies

The study's limitations include a limited sample size, self-evaluation as the primary assessment method, potential bias, and a cross-sectional design. Acknowledging and addressing these limitations is crucial for comprehensively interpreting the findings. Future studies can track students' perceived ILSE over a period of time and the challenges they encounter in developing IL skills, and also operationalise a qualitative study to get the nuances that the quantitative studies might not.

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