RESEARCH ARTICLE

▪ Vol. 5, No. 4 (Fall 2024) ▪ p-ISSN: 2791-0237 ▪ e-ISSN: 2791-0202
▪ Pages: 242 – 249 ▪ DOI: 10.55737/qjss.v-iv.24174

Open Access

QLANTIC JOURNAL OF SOCIAL SCIENCES

Effect of Information Literacy on Academic Motivation of University Students

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Abstract: *The development of information literacy skills and academic motivation is essential for university students, as these factors significantly contribute to their academic success and engagement. This study examined the effect of information literacy skills of university students on their academic motivation. The study utilized a quantitative and correlational approach, involving 300 students from two faculties including Faculty of Social Sciences and Faculty of Sciences from University of Sargodha across 6 academic departments including 3 departments form each faculty. Data were collected using stratified sampling techniques to ensure balanced representation. Questionnaire was developed to collect data from university students that was administered personally by the researchers. The results indicated no significant gender differences in information literacy skills or academic motivation, suggesting that male and female students have similar levels of these skills when provided with equal educational opportunities. However, significant differences in extrinsic motivation were found between faculties, with Social Sciences students exhibiting higher levels of extrinsic motivation compared to their counterparts in the Sciences. A positive relationship was also identified between information literacy skills and both intrinsic and extrinsic academic motivation, highlighting the importance of these skills in enhancing students' overall motivation. It was recommended that standardized information literacy training should be offered to university students to foster student motivation and skill development.*

Key Words: Information Literacy, Academic Motivation, Academic Growth, Personal Development, Social Sciences, Skill Development, Higher Education

Introduction

Information literacy turns out to be one of the crucial elements in higher education, with the orientation to the contemporary development of the infrastructure of the information society. Information literacy, which is the competency in the identification, assessment, and efficient use of information (Association of College & Research Libraries, 2016), is one of the required competencies for university students. While students work through extensive information flows, such factors as the subject's credibility and meaningful use determine their achievement and motivation. Student motivation, therefore, is commonly known as the urge or thirst to excel in academics (Deci, 2017), and it plays a central role in performance.

The American Library Association (2020) defines information literacy as the skills and knowledge required to acquire, evaluate, and use information in a specified context. In the context of university education, however, information literacy is central to academic achievement and is very instrumental in student's achievement of independence and reasonability (Flierl et al., 2021). Information literacy as an

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▪ **To Cite:** Ali, G., Ghayyur, T. S., Fatima, Z., Khan, A. M., Malik, G. (2024). Effect of Information Literacy on Academic Motivation of University Students. *Qlantic Journal of Social Sciences, 5*(4), 242-249. https://doi.org/10.55737/qjss.v-iv.24174

essential form of literacy has been introduced as a tool allowing students to function in this environment and is related to the improvements of students' motivation and achievement (Rahanu et al., (2015).

In terms of information literacy and academic motivation, the role of educators cannot be overemphasized. This is anatomical with students who complete their information literacy within a course receiving increased ability to practice important academic skills and retention of motivation at a higher level (Flierl et al., 2021). For example, teachers, together with librarians, who work together on the creation of tasks in which students might have to do research, assess sources, and develop a synthesis, allow students to apply IL skills in productive settings.

Defining Information Literacy

The American Library Association (ALA) explains information literacy as the skills through which one can identify the need for information and, thereafter, locate, assess, and use the information properly (ALA, 2020). However, this working definition also focuses on the cognitive aspects inherent in managing access to data and in decision-making and problem-solving skills (Brown et al., 2021). To university students in particular, these skills are valuable for their education because to be an academic, to be able to comprehend as well as decode academic information, do research as well as engage in scholarly discussion is part and parcel of the learning process for a university student.

Subsequent research has further developed this definition to include digital literacy as a parameter due to an increased usage of digital sources in the material. According to Yurynets & Havura (2021), a modern university student must have both fundamental information literacy skills as well as abilities connected with quick orientation in the digital environment and the ability to define a trustworthy source and cope with the information overload in the digital age. The current definition of information literacy fits this view well, as it connects critical thinking and problem solving to motivation to learn, as well as the requirement of skills in presenting information.

Academic Motivation and Information Literacy

Academic motivation is defined as the desire and drive to engage students in academic activities, which can be further divided into two types: intrinsic motivation, which is driven by personal interest, and extrinsic motivation, which is driven by external rewards (Deci & Ryan, 2020). Some scholars have looked at how info literacy helps boost academic motivation, and these scholars posit that IL leads to the achievement of basic aspects of motivation such as self-regulation, self-efficacy, and competence.

For instance, Flierl et al. (2021) claimed that students who believe in their abilities to search and use information competently are motivated to perform academic activities because they have the power to acquire knowledge on their own. This confidence not only boosts their performance but also turns out to be great for their academics. Brown et al. (2021) also pointed out that students who possessed higher levels of information literacy were more inclined to engage in class discussions, hone skills in other assignments, and look for more literature as the academic research work is challenging.

The connection between information literacy and self-directed learning is another critical factor in understanding the relationship between IL and academic motivation. Self-directed learning refers to the process by which students take initiative in their learning, setting their own goals, identifying resources, and evaluating their progress (Knowles, 1975). The study by Flierl et al. (2018) examines the effects of information literacy (IL) on student learning and motivation in university courses. Analyzing data from over 3,000 students across 102 course sections, the researchers found that students who engage in synthesizing information and communicating their findings perceive higher levels of motivation compared to those who do so less frequently. Additionally, there is a significant positive relationship between these higher-order IL activities and course-level learning gains. This independence fosters intrinsic motivation, as students feel a sense of ownership over their education.

Digital Information Overload and its Impact on Motivation

Although retrieval of information is now being linked with positive results, digital information also has its fair share of drawbacks, including the problem of information overload. Yurynets & Havura (2021) have

mentioned common reactions to these circumstances: frustration, cognitive overload, and decreased academic motivation identified by many university students. If students are unable to use IL skills effectively to sift and sort information, they may have a hard time in class completing tasks, engaging in dialogue, or staying abreast with the material.

Owing to these challenges, there has been a call to mainstream information literacy instruction in the contexts of teaching and learning. When students are trained on how to use digital platforms, how to critically evaluate for credibility and relevance the information available online, and how to work effectively with lots of information, then the effects of information overload may not so much affect motivation. Flierl et al. (2018) provide evidence that embedding information literacy into university curricula, especially through activities that involve higher-order thinking skills like synthesis and communication, positively impacts student motivation and academic performance.

Statement of the Problem

While information literacy has been recognized as a key competence for academic success, its direct effect on students' academic motivation remains underexplored. Information literacy includes the skills necessary for identifying relevant information, evaluating sources, and applying this information appropriately. Academic motivation, derived from self-determination theory (Deci, 2017), includes both intrinsic and extrinsic motivation factors that drive students to engage in academic tasks. With the increasing use of digital technologies and the proliferation of online resources, university students are expected to manage, evaluate, and synthesize large amounts of information. However, many struggle with the skills needed to process this information efficiently, which may lead to lower academic motivation, feelings of frustration, and, ultimately, poor academic outcomes (Baggia et al., 2016). This study seeks to address the gap in understanding how information literacy skills influence the academic motivation of university students, identifying the areas where support is most needed.

Objectives of the Study

The primary objectives of this study are:

1. To find out the level of information literacy skills among university students.
2. To determine the effect of information literacy on the academic motivation of university students.

Research Questions

1. What is the current level of acquisition of information literacy skills among university students?
2. Is there any significant effect of information literacy on the academic motivation of university students?

Research Methodology

Research Design

This study adopted a quantitative approach with a correlational research design to examine the effect of information literacy on the academic motivation of university students. The research aimed to explore the direction and strength of the relationship between information literacy skills and academic motivation among students from two distinct faculties.

Participants

The study population was comprised of students enrolled in the Social Sciences and Sciences faculties at the University of Sargodha. According to Scheaffer et al. (2006), the population refers to the larger group to which the results of the study will apply. A multistage sampling technique was employed. Initially, convenient sampling was used to select students from two faculties, including the Faculty of Sciences and the Faculty of Social Sciences, out of six faculties at the university. A sample of 300 students was selected, with an equal number of participants (150) from each faculty through proportionate stratified sampling techniques. Departments included in the Social Sciences faculty were Education, Psychology, and Political Science departments. The Sciences faculty included students from the chemistry, Zoology, and Statistics departments.

Research Instrument

The research instrument was a structured questionnaire developed after a thorough literature review. Following Abowitz & Toole (2010), the instrument was designed based on the study's variables, population, and research questions. The questionnaire utilized a 5-point Likert scale to measure students' responses, with options ranging from "strongly disagree" to "strongly agree." The questionnaire comprised sections that focused on information literacy and academic motivation, drawing from validated scales in the existing literature. The reliability analysis assessed the internal consistency of the measurement scales. Information Literacy showed good consistency (α=.786, 17 items), and Academic Motivation exhibited high consistency (α=.854, 30 items).

Academic Motivation towards Information Literacy

To assess the academic motivation related to information literacy, a validated questionnaire namely Information Literacy Self-Efficacy Scale (ILSES) developed by Kurbanoglu et al. (2006) was used and a validated questionnaire namely Academic Motivation Scale (AMS) developed by Vallerand et al. (1992) was used. The research instrument contained 30 items aimed at measuring students' motivation to perform academic tasks and their perceptions of information literacy skills. Participants rated each item using the Likert scale described earlier.

Data Analysis

Once data collection was completed, the collected data was entered into IBM SPSS version 22 for statistical analysis. The data cleaning process involved identifying and correcting errors, handling missing values, and removing outliers. Descriptive statistics, such as frequency counts and means, were calculated for each item. Inferential analyses included the use of an independent samples t-test to explore significant differences in academic motivation across different groups, and Pearson's correlation coefficient was applied to determine the direction and strength of the relationship between information literacy and academic motivation. This comprehensive analysis provided insights into the key relationships among variables.

Results

The findings are stated according to the sections in the questionnaire and some inferential analysis.

Table 1

Demographic Information of University Students

Variable	Categories	Frequency	Percentage in Sample
Gender			
	Male	113	37.67
	Female	187	62.33
Faculty			
	Social Sciences	150	50.00
	Sciences	150	50.00
Departments of the Faculty of Social Sciences			
	Education	50	16.67
	Political science/IR	50	16.67
	Psychology	50	16.67
Departments of the Faculty of Sciences			
	Chemistry	50	16.67
	Zoology	50	16.67
	Statistics	50	16.67

Table 1 presents that the sample comprises 300 university students, with a higher proportion of female students (62.33%) than male students (37.67%), suggesting a gender imbalance favoring females. The students are evenly distributed between the Social Sciences and Sciences faculties, each with 50%

representation. Within these faculties, each department (Education, Political Science/International Relations, Psychology in Social Sciences, Chemistry, Zoology, and Statistics in Sciences) has an equal share of 16.67%.

Table 2

Mean Difference of Information Literacy Skills and Academic Motivation of University Students with Respect to Their Gender

Variables	Gender	N	Mean	Std. Deviation	T	P
Information literacy skills	Male	113	59.7542	9.222	0.712	0.506
	Female	187	58.775	9.879		
Extrinsic academic motivation	Male	113	71.7949	14.651	0.933	0.446
	Female	187	70.3274	10.384		
Intrinsic academic motivation	Male	113	35.8025	5.501	-0.583	0.096
	Female	187	35.3017	6.508		

Table 2 reflects that the analysis reveals no significant gender differences in information literacy skills, extrinsic academic motivation, or intrinsic academic motivation, as indicated by p-values greater than 0.05. The mean scores for males and females across these variables are relatively similar, suggesting that gender does not play a significant role in influencing information literacy skills or academic motivation among the students sampled.

Table 3

Mean Difference of Information Literacy Skills and Academic Motivation of University Students with Respect to their Faculty

Variables	Faculty	N	Mean	Std. Deviation	T	p
Information literacy	Science	150	58.85	9.009	-0.6747	0.412
	Social Science	150	59.86	9.941		
Extrinsic academic motivation	Science	150	72.21	14.651	1.722	0.016
	Social Science	150	69.57	11.999		
Intrinsic academic motivation	Science	150	35.59	5.749	0.192	0.127
	Social Science	150	35.42	6.465		

Table 3 indicates that when comparing faculties of sciences and social sciences, no significant difference was found in information literacy skills, as indicated by the p-value of 0.412. However, a significant difference was noted in extrinsic academic motivation, with the Social Sciences students scoring higher than those from sciences (p=0.016). There was no significant difference in intrinsic academic motivation between the faculty of Sciences and the Faculty of Social Sciences, suggesting similar levels of intrinsic drive across disciplines.

Table 4

Mean Difference of Information Literacy Skills and Academic Motivation of University Students with respect to their Departments

	Education (N=50)		Psychology N=50)		Economics (N=50)		Chemistry (N=50)		Statistics N=50)		Zoology (N=50)		Df	Mean Square	F	Sig.
Variables	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD				
ILS	59.55	8.98	59.41	9.39	60.72	12.33	58.34	9.61	58.62	8.06	60.48	9.02	293 5	27.83 91.49	0.3	0.91
EAM	69.71	14.33	69.2	11.3	70.63	9.77	71.94	8.77	70.69	7.85	73.87	10.02	293 5	81.52 112.86	0.72	0.607
IAM	35.71	7.5	36.08	6.08	34.48	5.7	35.79	5.79	34.19	4.1	36.26	6.79	293 5	20.4 37.7	0.54	0.745

ILS= Information Literacy Skills, EAM= Extrinsic Academic Motivation, IAM=Intrinsic Academic Motivation

Table 4 shows the results of an analysis of variance (ANOVA) to determine the differences in information literacy skills (ILS), extrinsic academic motivation (EAM), and intrinsic academic motivation (IAM) among university students from different departments, including Education, Psychology, Economics, Chemistry, Statistics, and Zoology. The results of ANOVA indicate that there are no statistically significant differences in information literacy skills, extrinsic academic motivation, or intrinsic academic motivation among university students from the different departments included in the study, as the p-value in all respective constructs is greater than 0.05 level of significance.

Table 5

Effect of Information Literacy Skills on Academic Motivation of University Students

	Information Literacy	Extrinsic Academic Motivation	Intrinsic Academic Motivation
Information Literacy	1	.386**	.351**
Extrinsic Academic motivation	.386**	1	.750**
Intrinsic Academic motivation	.351**	.750**	1

Table 5 presents that the correlation analysis shows a significant positive relationship between information literacy skills and both extrinsic ($r=0.386$, $p=0.000<0.001$) and intrinsic ($r=0.351$, $p=0.000<0.001$) academic motivation. This suggests that higher information literacy skills are associated with increased levels of both types of motivation. The strongest correlation observed is between extrinsic and intrinsic academic motivation ($r=0.750$), indicating that these forms of motivation are closely linked. The significance value ($p=0.001$) is less than 0.05, which indicates that this relationship is statistically significant.

Findings

1. There are no significant gender differences in information literacy skills ($t=0.712$, $p = 0.506 > 0.05$), extrinsic academic motivation ($t=0.933$, $p=0.446 > 0.05$), or intrinsic academic motivation ($t=-0.583$, $p=0.096 > 0.05$). The mean scores for males and females across these variables are relatively similar, indicating that gender does not significantly influence information literacy skills or academic motivation among the students.
2. The t-test indicates no significant differences in information literacy skills between students from the Sciences and Social Sciences faculties ($t=-0.6747$, $p=0.412 > 0.05$). However, a significant difference was found in extrinsic academic motivation ($t=1.722$, $p = 0.016 < 0.05$), with Social science students demonstrating higher extrinsic motivation compared to science students. There were no significant differences in intrinsic academic motivation between the two faculties ($t=0.192$, $p=0.127 > 0.05$).
3. The results of ANOVA indicate that there are no statistically significant differences in information literacy skills, extrinsic academic motivation, or intrinsic academic motivation among university students from the different departments included in the study.
4. The correlation analysis reveals a significant positive relationship between information literacy skills and both extrinsic academic motivation ($r=0.386$, $p < 0.001$) and intrinsic academic motivation ($r=0.351$, $p < 0.001$). This indicates that students with higher information literacy skills tend to have higher levels of both extrinsic and intrinsic motivation. Additionally, a strong correlation was observed between extrinsic and intrinsic academic motivation ($r=0.750$, $p < 0.001$), suggesting these types of motivation are closely linked.

Conclusions and Discussion

On the basis of the findings of the study, it was concluded that no significant gender differences were observed in information literacy skills or academic motivation of university students. Such a result correlates with the earlier studies that male and female students perform and have motivation and skills alike if given equal chances to learn (Meza-Mejia MdC et al., 2023; Bhowmik, 2023).

The average score of extrinsic motivation was higher among the students from the Social Sciences faculties as compared to the Sciences students, $F (3, 47)=4.86$, $p < 0.05$. This could have been due to the

characteristics of social sciences fields in which students could be influenced by external environments, such as changes in society and communication skills to improve their performance (Seifert, 2024). Conversely, science students would be more intrinsic as the nature of achievements in science courses involves problem-solving (Zhou & Zhang, 2023). These variations imply that motivational drivers may differ by faculty level and that certain characteristics related to faculties should be taken into account when designing a curriculum. The lack of significant differences in information literacy skills across departments suggests that students from all academic backgrounds may have comparable access to resources and opportunities to develop these skills. This could be due to the standardized use of digital and library resources across the university, where all departments provide similar exposure to information literacy training.

In addition, the substantial positive correlations identified between information literacy skills and both types of academic motivation demonstrate the importance of fostering these skills to motivate all university students. Flierl et al (2021) also found information literacy as a crucial component of academic success. The high level of association between intrinsic and extrinsic motives indicates fact that students under motivation are likely be intrinsically and extrinsically motivated (Ryan & Deci, 2020).

Recommendations

Based on the findings, the following recommendations are made:

1. Different academic departments should offer support programs that match their students' specific needs. For example, Social Sciences can use real-world examples to boost motivation, while Science programs can focus on research projects to increase interest.
2. Universities should make sure students across all subjects receive training in information skills. Workshops, classes, and projects can help students learn how to find and use information better, which can increase their motivation and improve their grades.
3. Schools should create ways to encourage both personal interest in learning and motivation from rewards. This can be done by setting up programs that recognize students' achievements, offering hands-on learning experiences, and providing real-world opportunities like internships or volunteer work.
4. Future research should include a larger and more diverse sample across various universities and disciplines to explore the generalizability of the findings. Including private and public institutions could help identify differences in academic motivation and information literacy skills.
5. Conducting longitudinal research would help track changes in students' information literacy skills and motivation over time. This could provide insights into how these skills develop and what factors contribute to their enhancement throughout a student's academic career.

References

Abowitz, D. A., & Toole, T. M. (2010). Mixed method research: Fundamental issues of design, validity, and reliability in construction research. *Journal of Construction Engineering and Management*, *136*(1), 108-116. https://doi.org/10.1061/(ASCE)CO.1943-7862.0000026

American Library Association. (2020). *Framework for information literacy for higher education*. https://www.ala.org/acrl/standards/ilframework

Association of College & Research Libraries. (2016). *Framework for information literacy for higher education*. http://www.ala.org/acrl/standards/ilframework

Baggia, A., Žnidaršič, A., Borstnar, M.K., Pucihar, A., Šorgo, A., Bartol, T., Rodič, B., & Dolničar, D. (2016). Factors influencing the Information Literacy of Students: Preliminary Analysis. Bled eConference. https://domino.fov.uni-mb.si/proceedings.nsf/Proceedings.pdf

Bhowmik, D. (2023). Gender Inequality in Higher Education and Research. *Business Ethics and Leadership, 7(3), 108-119.* http://doi.org/10.61093/bel.7(3).108-119.2023

Brown, Elizabeth H.; Wittek, Lauren; and Olshausen, Mattias, "Connections in Information Literacy Responses: IL in the Undergraduate University Experience" (2021). Library Scholarship. 122. https://digitalcommons.cwu.edu/libraryfac/122

Deci, E. L. (2017). *Intrinsic motivation and self-determination*. In *Reference module in neuroscience and bio behavioral psychology*. Elsevier. https://doi.org/10.1016/B978-0-12-809324-5.05613-3

Flierl, M., Bonem, E., Maybee, C., & Fundator, R. (2018). Information literacy supporting student motivation and performance: Course-level analyses. *Library and Information Science Research*, 40(1), 30–37. https://doi.org/10.1016/j.lisr.2018.03.001

Flierl, M., Maybee, C., & B*onem, E. (2021).* Developing the informed learning scale: Measuring information literacy in higher education. *College & Research Libraries, 82*(7), 1004. https://doi.org/10.5860/crl.82.7.1004

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Cambridge Adult Education.

Kurbanoglu, S. S., Akkoyunlu, B., & Umay, A. (2006). Developing the Information Literacy Self-Efficacy Scale. *Journal of Documentation, 62*(6), 730–743. https://doi.org/10.1108/00220410610714949

Meza-Mejia, M. del C., Villarreal-García, M. A., & Ortega-Barba, C. F. (2023). Women and leadership in higher education: A systematic review. *Social Sciences (Basel, Switzerland)*, *12*(10), 555. https://doi.org/10.3390/socsci12100555

Rahanu, H., Georgiadou, E., Khan, N., Colson, R., Hill, V. and Edwards, J. 2016. The development of student learning and information literacy: a case study. *Education for Information.* 32 (3), pp. 211-224. https://doi.org/10.3233/EFI-150959

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67. https://doi.org/10.1006/ceps.1999.1020

Scheaffer, R. L., Mendenhall, W., Ott, L., & Gerow, K. (2006). *Elementary survey sampling* (6th ed.). Thomson Brooks/Cole.

Seifert, T. (2004). Understanding student motivation. *Educational Research, 46*(2), 137–149. https://doi.org/10.1080/0013188042000222421

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and motivation in education. *Educational and Psychological Measurement, 52*(4), 1003–1017. https://doi.org/10.1177/0013164492052004025

Yurynets, O., & Havura, M. (2021). INFORMATION OVERLOAD OF COLLEGE STUDENTS. *Collection of Scientific Papers of Uman State Pedagogical University, (1), 189–197.* https://doi.org/10.31499/2307-4906.1.2021.228840

Zhou, Z., & Zhang, Y. (2023). Intrinsic and Extrinsic Motivation in Distance Education: A Self-Determination Perspective. *American Journal of Distance Education, 38(1), 51–64.* https://doi.org/10.1080/08923647.2023.2177032