

# Transforming University Students into Library Users: Influence of User-Education Programmes on the Information and Study Skills of First-Year Students in South Africa

Katlego Petrus Chiya and Omwoyo Bosire Onyancha

The study aimed to examine the influence of user-education programmes on the information and study skills and competencies of first-year students at North–West University, Vaal Triangle Campus (VTC), in South Africa. The study adopted a quantitative approach and employed the case study method. The respondents consisted of 1,885 first-year students across two faculties with a sample size of 320, which were selected using the systematic sampling technique. The self-developed questionnaire was then distributed among the respondents. Out of 320, 266 students responded to the questionnaire, which produced a good response rate of 83%. The collected data were analysed using frequency and percentages and presented in tables and charts. The results revealed that a substantive number of first-year students never attended training on library use, including high school, public, college or any other academic libraries, prior to their arrival at the university. However, after attending the user-education programmes, they became independent users of the library and its resources, which was of great importance to lifelong learning and, thus, increased the usefulness of the library. Moreover, the majority of the students (60.1%) agreed that their information literacy skills improved. The findings further indicated that user-education programmes improved their skills in searching for information relevant to their studies. The study observed that although the VTC library conducts user-education programmes, they are not integrated into the university curriculum. Consequently, they are not formally evaluated. Thus, the study recommended that library management should ensure that user-education programmes should be fully integrated into entire university programmes. Furthermore, programmes should be regularly evaluated to ensure that they remain relevant in content and scope.

*Keywords: information literacy, study skills, higher education, South Africa.*

Ranganathan (1931, p. X) observed, in what was to become one of the five principles of librarianship that books (information resources) are for use. Lamptey (2010) argues that the use and demand for library resources will most likely be increased by improving the awareness of students and equipping them with the competencies and skills required to explore and use library resources. Similarly, Punchihewa et al. (2018) propose that libraries are made for use and, as such, any programme geared towards the optimal use of the library and its resources validate all effort exerted by librarians in acquiring and organising information resources and justify the budget allocation for libraries. The optimal use of information resources stored in libraries demands a concerted effort on the part of librarians and other stakeholders to create not only awareness among and a conducive space for users but also appropriate education and information literacy programmes for users to equip them with competencies and skills.

User-education programmes are seemingly significantly associated with the use of libraries and library resources. However, the term *user-education programme* is occasionally synonymously used with information literacy instruction programmes (Anunobi & Ukwoma, 2016). Other scholars (e.g. Chen & Lin, 2011) consider information literacy to constitute a major component of user-education programmes whereas others (e.g. Wooliscroft, 1997) perceive information literacy as evolved user-education programmes. Hence, his paper was entitled *From library user education to information literacy: Some issues arising in this evolutionary process*. Nevertheless, the majority (if not all) of commentators agree on the ultimate goal of user education programmes and/or information literacy programmes. Moyane and Dube (2015) contend that user-education programmes are intended to develop the independence and sophistication of users of libraries and information resources. In its statement on the standards and objectives of information literacy instruction, the Association of College & Research Libraries (ACRL 2001) goes further and includes the aspect of lifelong learning by stating that information literacy

forms the basis for lifelong learning. ... It enables users to master content and extend their investigations, become more self-directed, ... assume greater control over their learning... [and] develop a metacognitive approach to learning, making them conscious of the explicit actions required for gathering, analyzing, and using information (ACRL 2001).

In another statement on the definition of an information-literate person, the ACRL (2001, p. 4) stated that

an information-literate person is one who is able to: (a) recognize and understand an information need or problem, (b) discern the appropriate sources to satisfy the information need or problem, (c) evaluate, synthesize, and apply the information as it applies to the need or problem, (d) discern when enough information has been gathered to satisfy the need or problem, and (e) use information and information technology appropriately.

Agnes and Popescu (2010) added their voice by opining that information literacy programmes should be geared towards helping students to develop skills for recognising types and forms of information sources and to use information appropriately. The authors further argued that user-education programmes (including IL programmes) should equip students with skills to enhance their understanding of library services and departments/sections, how the library supports research skills and how to find information sources and apply ethical principles to the consultation and use of information resources. Therefore, equipping users with skills and competencies to maximise the use of the libraries and information resources for lifelong learning is seemingly the common denominator that explains the objective of user-education programmes, including information literacy, in the publications of many scholars. Libraries and librarians must evaluate the extent to which their user-education programmes have achieved this purpose. We concur with the assertion of Bello (2003) that one of the features of user-education programmes that must be evaluated is the degree to which the skills and abilities of students have changed as a consequence. By so doing, the results can be used to inform decisions on whether or not to continue, improve or terminate an existing user-education programme.

A dearth of literature exists on the impact of user-education programmes on the skills and competencies of first-year university students. However, studies that assess success or failure in the pursuit to enable users to acquire relevant and appropriate skills and competencies for lifelong

learning or pursuing their education are few. Several studies reveal that user-education programmes have empowered students in their pursuit of the use of different sources of information in libraries. For instance, Punchihewa et al. (2018) reported that library user-education programmes at the University of Moratuwa have enabled students to effectively locate and access library resources and services. They divulged that the library programmes have improved the ability of patrons to use the library; as a result, it enhanced the quality of their academic work. Moyo and Okemwa (2022), who examined the perceptions of students of information literacy at two South African universities, supported this notion. The authors found that many students acknowledged that the information literacy programme offered at the two universities have considerably academically helped them. Based on these findings, Punchihewa et al. concluded that user-education programmes can minimise *library fear* among first-year students by acquiring skills essential for the utilisation of library resources and services. Of particular interest was their conclusion that the programmes increased the visibility and exploitation of the resources available in the library. To *measure the importance of library user education*, Liu, Lo and Itsumura (2016) noted that the library programmes in Fudan University and the National Taiwan Normal University equip and enable students with skills and competencies necessary to make the best and maximum use of available library resources. Portman and Roush (2004) found a statistically significant increase in library use among students after undertaking library instruction. Moreover, Manuwa, Agboola and Aduku (2018) found that one of the most popular user-education programmes in Nigeria, namely, library orientation, positively influenced the students' use of the library and its resources, which, in turn, influenced academic performance. In terms of the assessment of the influence of the library in general and user-education programmes in particular and academic performance, scholars observed a positive correlation between user-education programmes and academic performance. For example, Barkey (1965) found a high grade point average for users who checked out books from the library, while Allison (2015) noted a significant correlation between library use and the GPA scores of students. Shao and Purpur (2016) cited that IL skills are positively correlated with writing scores and final course grades.

The current study provides a partial report on the findings of a broad study entitled 'The Role of User-Education Programmes in the Information Literacy Skills and Competencies of First-Year Students'. Specifically, this study focuses on the influence of user-education programmes on

the information and study skills and competencies of first-year students at North–West University (NWU), South Africa. We use user-education programmes in the broadest sense to include contemporary information literacy programmes offered at the NWU. The focus on the first-year students is based on the acknowledgement by many scholars that many first-year students enter universities with little or no basic academic and information literacy skills to successfully undertake their courses at institutions of higher learning as well as skills and competencies to use the information resources and services of libraries (Titi et al., 2016; Philip, 2015). Pretorius (2011) observes that such a deficiency may be attributed to a number of reasons, including staffing problems and the fact that the majority of VTC students are partially computer literate, especially older students originating from previously disadvantaged areas. Evidently, this deficiency could also be a result of a much broader problem, as Jiyane and Onyancha (2010:11) explain: ‘the low functional literacy rates, in sub-Saharan Africa in general and South Africa in particular, profoundly impact on the information literacy skills of the general population’.

The objective of the current study is to explore the influence of user-education programmes on the information and study skills and competencies of first-year students at the NWU, South Africa. Specifically, the study examined the influence of user-education programmes on the following:

1. competencies and skills of students;
2. competencies of students in using information and communication technology (ICT) in libraries; and
3. the studies of students.

## Research Methodology

The study investigated the influence of user-education programmes on the study skills and competency of students at NWU. To achieve the objective of the study, the researchers examined the (i) influence of user-education programmes on the competencies and skills of the students, (ii) influence of user-education programmes and the competencies of students in using ICT in libraries, (iii) influence of user-education programmes on the studies of the students. The study asked the following questions to the students:

1. Do you agree that the library orientation, training and workshop helped you to effectively use the library and its resources?
2. In your opinion, how have they helped you use the library?
3. Do you think the information literacy skills training you received has improved your information literacy skills?
4. Which skills were improved as a result of the user-education programmes and training you attended?

The study adopted the quantitative approach and employed the case study method. A quantitative research approach is intended to quantify and analyse variables to produce results (Apuke, 2017, p. 41). It involves utilising and analysing numerical data using specific statistical techniques to answer questions such as who, how much, what, where, when, how many and how. The study used a self-developed questionnaire to collect data from first-year students across the two faculties (i.e. the Faculty of Economic Sciences and the Faculty of Humanities). The NWU consist of only two faculties. A structured questionnaire was prepared in relation to the study objectives and was distributed to 320 respondents between January and March 2020, to obtain information on the influence of user-education programmes on study skills and competency in using the library. The questions were asked to establish the influence of user-education programmes on the information and study skills and competencies of first-year students. The target population consisted of 1,885 first-year students at the NWU, Vaal Triangle Campus (VTC), who underwent one form or another of user-education programmes at the university.

**Table 1.** *Target population*

Stratum	Stratum Size
Faculty of Humanities	1113 (N1)
Faculty of Economic Sciences and Information Technology	772 (N2)
<b>Total Population</b>	<b>1885 (N)</b>

Source: Own elaboration.

The study drew a sample population of 320 using the systematic sampling technique. Out of the 320 students that were surveyed, 266 responded to the questionnaire, which led to a positive response rate of 83%. Data were analysed using frequency and percentages and presented in tables

and charts. The study found that 150 students from the 266 respondents attended user-education programmes upon their entrance at the university.

## Results

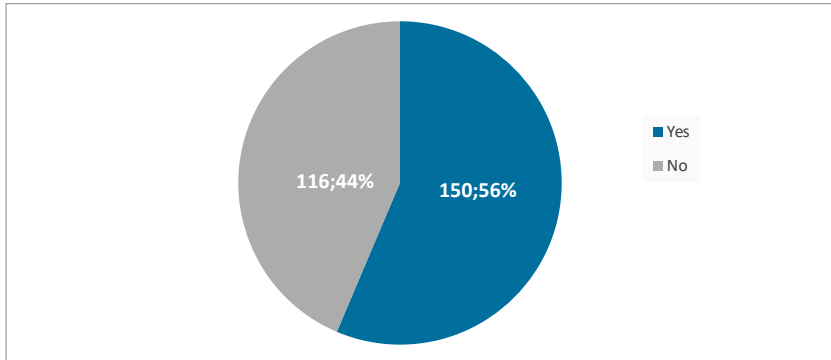
### *Influence of User-Education Programmes*

This section intends to explore the influence of user-education programmes on the skills and competencies of the students in using the library and its resources, specifically those who had undergone at least one user-education programme. The following questions were posed to achieve the objective:

- Have you attended user-education programmes at NWU library?
- Do you agree that the library orientation, training and workshop have helped you to effectively use the library and its resources?
- How have they helped you to use the library?
- In your opinion, do you think the information literacy skills training you received has improved your information literacy skills?
- Which skills have been improved as a result of the user-education programmes and training you undertook?

The researchers first determined the number of first-year students who attended the user-education programmes since becoming students of NWU VTC. Figure 1 indicates that 150 (56.4%) of the respondents attended at least one user-education programme (i.e. library orientation, library training, information literacy skills and workshops) offered at the library. Alternatively, the figure depicts that 116 (43.6%) did not attend any of these programmes.

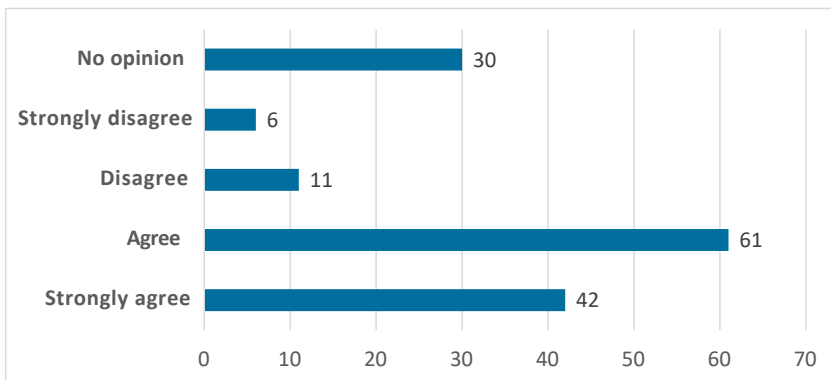
**Figure 1.** Attendance in user-education programmes by the library (n = 266)



Source: Own elaboration.

On the question that sought to determine whether or not user-education programmes comprised of library orientation, training and workshops offered at the NWU have helped the students to be competent in using the library and its resources, Figure 2 revealed that 61 (40.7%) of the respondents agreed that the programmes helped them, while 42 (28%) of the respondents strongly agreed with this view. Thirty (20%) respondents neither agreed nor disagreed with this statement. Only six (4%) of the respondents strongly disagreed with this view. These results demonstrate that many first-year students admitted and recognised the importance of library orientation, training or workshop to help them use the library and its resources.

**Figure 2.** Positive changes on the competencies of students in using the library and its resources (n = 150)



Source: Own elaboration.



The second question sought to determine the level of agreement of the students with statements that explained the specific skills with which user-education programmes have equipped users in using the library. Table 2 indicates that out of the 150 students who reported attending the user-education programmes at the NWU library, 77 (51.3%) strongly agreed that attending these programmes enabled them to search for scholarly articles through the library. The results also demonstrate that 62 (41.3%) agreed that the programmes enabled them to effectively use entire library services, while 60 (40%) agreed that the programmes allowed them to use the catalogue to search for books. These findings indicate the great influence of the user-education programmes on the information literacy skills and competencies of the first-year students. In other words, they are now competent and perhaps confident in using library services and their information literacy skills greatly improved, because they can independently search for scholarly articles, among other skills.

**Table 2.** *Influence of user-education programmes on the use of the library for students who attended user-education programmes (n = 150)*

		Freq.	%	Grouped responses			Mean
					Freq.	Freq.	
Enabled me to search scholarly articles	Agree	43	28.7%	Agree	120	80%	4.38
	Strongly agree	77	51.3%				
	Never	5	3.3%	Disagree	30	20%	
	Disagree	25	16.7%				
	No comment	0	0%				
Enabled me to effectively use the catalogue to search for books	Agree	60	40%	Agree	109	72.7%	4.36
	Strongly agree	49	32.7%				
	Never	10	6.7%	Disagree	41	26.0%	
	Disagree	29	19.3%				
	No comment	2	1.3%				
Enabled me to use all the library services effectively	Agree	62	41.3%	Agree	107	71.3%	4.22
	Strongly agree	45	30%				
	Never	7	4.7%	Disagree	43	21.3%	
	Disagree	25	16.7%				
	No comment	11	7.3%				
Enabled me to know how to reference works correctly	Agree	62	41.3%	Agree	119	79.3%	4.55
	Strongly agree	57	38%				
	Never	10	6.7%	Disagree	31	17.3%	
	Disagree	16	10.7%				
	No comment	5	3.3%				

Source: Own elaboration.

The most favourable option was the ability of the students to understand how to reference or cite sources correctly. The responses generated a weighted mean of  $\bar{x} = 4.55$  followed by the ability to search scholarly articles ( $\bar{x} = 4.38$ ), ability to effectively use the catalogue to conduct searches ( $\bar{x} = 4.36$ ) and the ability to effectively use library services ( $\bar{x} = 4.22$ ). The grouping of the responses into two broad categories of Agree or Disagree revealed that the user-education programmes helped the students to acquire different but relevant skills and competencies in effectively using the library. High scores were obtained for the agreement of the students agreed that the skills enabled them to search scholarly articles (80%) and properly reference their work (79.3%).

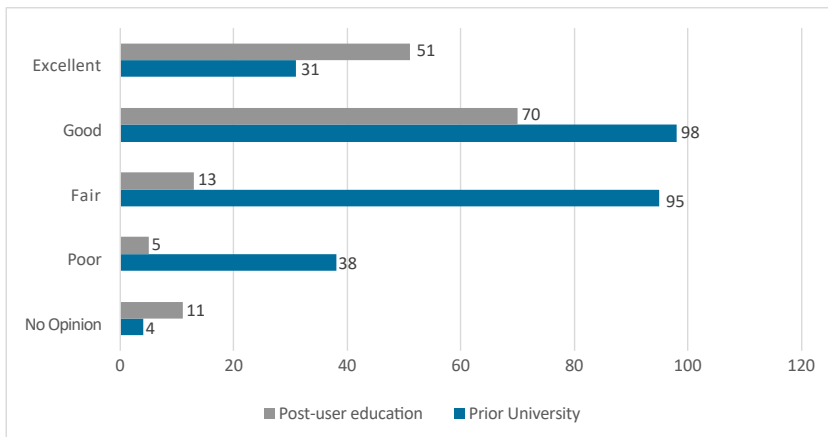
## Uses of Library ICT

ICT has become an integral part of the facilities and resources of the library. The shift in information environments from previously mainly reliant on paper-based resources to a hybrid environment that consists of paper-based, electronic and digital resources has propelled the importance of ICT in libraries to high levels. For example, electronic or online information resources have become the major sources of information of academic libraries. Consequently, the study posed several questions to ascertain whether or not the user-education programmes exerted an influence on their competencies and skills in using ICT and ICT-based resources housed at the NWU library. Examples of these questions are as follows: ‘How do you rate your ability to use ICT facilities and ICT-based resources before joining the university?’, ‘How do you rate your current ability to use the ICT facilities and ICT-based resources in the library?’, ‘Does your ability to use technology in the library influence the type of information and information sources you use in the library?’, ‘Which ICT are you likely to apply when accessing information in the library?’ and ‘Which electronic resources are you likely to use in the library as a result of the knowledge gained through the user-education programmes on ICT and ICT-based resources?’

Figure 3 illustrates that 98 (36.8%) of the ability of the students to use ICT was good prior to joining the university, while 95 (35.7%) considered their ability to use ICT was fair. The results demonstrate that 38 (14.2%) rated their ability to use ICT was poor, while 31 (11.6%) reported that their ability to use ICT was excellent. After completing the user-education

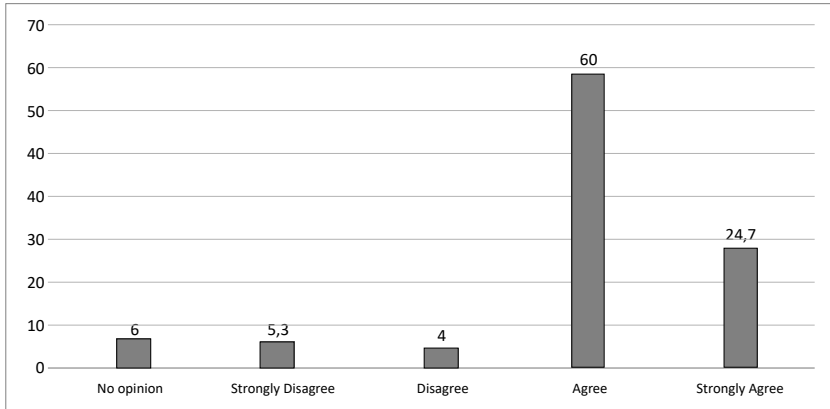
programmes at the NWU, 34% (i.e. 51) of the 150 respondents who had attended the programmes cited that their ability to use ICT and ICT-based resources was excellent, while 70 (46.7%) disclosed that their ability to now use ICT was good. The result also indicates that the abilities of 13 (8.7%) were fair in terms of ICT use, while 11 (7.3%) rated their ability to use technology as poor and 5 (3.3%) declined to comment. The study also compared their abilities before joining the university and before undertaking the user-education programmes on the one hand and after undertaking the user-education programmes using the weighted means on the other hand. The results demonstrated improvement in that the abilities of the students. The percentage representation in the two categories of responses indicates that although 36.8% of the students considered their abilities as good before undertaking user-education programmes at the NWU, 46.7% mentioned that their ability was good after attending the user-education programmes. The study observed similar patterns for the other responses, which were ranked from poor to excellent.

**Figure 3.** Ability to use ICT before joining the University and after attending user-education programmes (N = 150)



Source: Own elaboration.

**Figure 4.** Impact of ability to use ICT on the type of information and information sources used in the library (N = 150)



Source: Own elaboration.

The study posed a follow-up question on whether or not the abilities of the students to use ICT as a result of user-education programmes exerted an impact on their use of different types of information and information sources accessed in the library. Only students who attended the user-education programmes (N = 150) were asked this question. Figure 4 illustrates that the majority of the respondents (N = 90 or 60%) agreed that their ability to use ICT exerted an influence on the different types of information and information sources they use in the library. The results also demonstrate that 37 (24.7%) respondents strongly agreed with the suggestion that their abilities to use ICT impacted the type of information and information sources they use. Furthermore, 9 (6%) neither agreed nor disagreed with the impact of ICT use on their usage of information resources, while 8 (5.3%) strongly disagreed that their ability to use technology exerted an impact on the type of information and information resources they use in the library. Evidently, user-education programmes seemingly exerted an indirect influence on the use of information resources and, particularly, e-resources, as a result of the abilities of users to use ICT, which is an ability gained through user-education programmes.

**Table 3.** Likelihood of using different ICTs to access information in the library after attending user-education programmes (N = 150)

Type of ICT	Response	Freq	%	Weighted mean	Grouping responses		
	Response	Freq	%		Response	Freq	%
Library computers	Never	15	10%	4.07	Never/ unlikely	40	26.67
	Very unlikely	10	6.7%				
	Unlikely	15	10%				
	Likely	20	13.3%		Likely	110	73.33
	Very likely	90	60%				
Cellphone	Never	23	15.3%	3.58	Never/ unlikely	58	38.67
	Very unlikely	20	13.3%				
	Unlikely	15	10%				
	Likely	31	20.7%		Likely	92	61.33
	Very likely	61	40.7%				
Personal computer	Never	21	14%	3.75	Never/ unlikely	52	34.67
	Very unlikely	15	10%				
	Unlikely	16	10.7%				
	Likely	27	18%		Likely	98	65.33
	Very likely	71	47.3%				
DVD/ CD-ROM	Never	97	64.7%	1.86	Never/ unlikely	124	82.67
	Very unlikely	20	13.3%				
	Unlikely	7	4.7%				
	Likely	9	6%		Likely	26	17.33
	Very likely	17	11.3%				

Source: Own elaboration.

Another follow-up question sought to determine the likelihood of the students to use different ICTs to access information in the library. Table 3 indicates that 90 (60%), 71 (47.3%) and 97 (64.7%) of the respondents are more likely to use library computers, more likely to use personal computers, never likely to consult DVD/CD-ROM, respectively. After grouping the responses into two broad categories, namely, Never/Unlikely and Likely, the study observed that the majority of the respondents were likely to use library computers (73%), personal computers (65%) or cellphones (61%). The weighted means produced similar patterns in which the majority of the preferred ICTs were computers. The students reported that they are unlikely or never likely to use DVDs and/or CDs. Notably, DVDs and CDs are rarely used to store information in the current information environment. Finally, we assessed the most frequently used electronic resources that students are likely to use to access information.

**Table 4.** *Types of electronic resources likely used to access information (N = 150)*

Electronic resources	Response	Freq	%	Weighted mean	Response	Grouped responses	
						N	%
E-thesis/ dissertation	Never	52	34.7%	2.70	Never/ Unlikely	94	62.67
	Very unlikely	18	12%				
	Unlikely	24	16%		Likely	56	37.33
	Likely	35	23.3%				
	Very likely	21	14%				
E-books	Never	10	6.7%	3.92	Never/ Unlikely	43	28.67
	Very unlikely	11	7.3%				
	Unlikely	22	14.7%		Likely	107	71.33
	Likely	45	30%				
	Very likely	62	41.3%				
E-journals	Never	8	5.3%	3.99	Never/ Unlikely	42	28.00
	Very unlikely	15	10%				
	Unlikely	19	12.7%		Likely	108	72.00
	Likely	36	24%				
	Very likely	72	48%				

Electronic resources	Response	Freq	%	Weighted mean	Response	Grouped responses	
						N	%
CD-ROM	Never	82	54.7%	2.19	Never/ Unlikely	114	76.00
	Very unlikely	18	12%				
	Unlikely	14	9.3%				
	Likely	11	7.3%		Likely	36	24.00
	Very likely	25	16.7%				

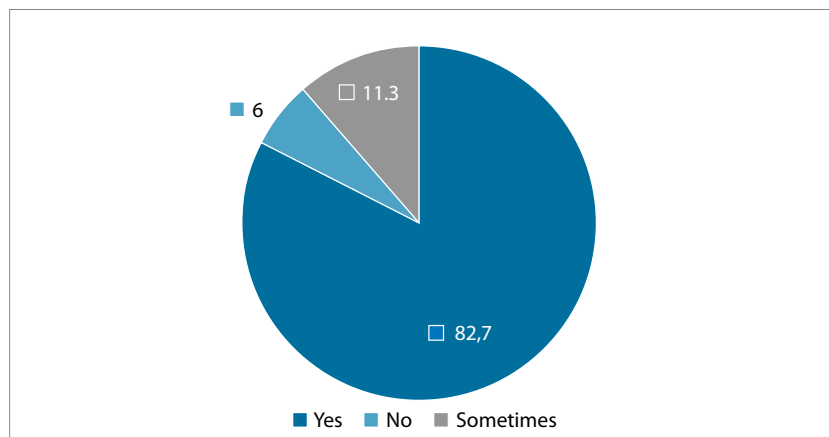
Source: Own elaboration.

The respondents were further asked about the electronic resources that they were likely to use to access information in the library as a result of attending user-education programmes. Table 4 indicates that 72 (48%) are very likely to use e-journals, while 62 (41.3%) are very likely to use e-books. These results are unsurprising because VTC librarians always encourage students to use e-journals and e-books when seeking information. The facilitators of user-education programmes frequently promote journal articles as the most reliable sources of information. Thus, noting that this type of information is the most preferred one after the completion of user-education programmes at the NWU is unsurprising. Once again, the least likely resources to be used are CD-ROM. The weighted means in Table 4 reveal that the students frequently preferred e-journals and e-books compared with e-theses/dissertations and CD-ROM. Therefore, the user-education programmes offered at the NWU seemingly influenced the use of e-resources with a high premium placed on e-journals and e-books.

### Influence on the Studies of the Students

The last part of this investigation involved the exploration of the influence of user-education programmes and training on the studies of first-year students. Towards this end, we asked the students the following questions: ‘As a new student at the NWU, do you think the training on the use of the library and its information resources is important for your studies? If yes, in your opinion, how is the training important to your studies?’ and ‘To what extent do you think your ability to use the library has influenced your studies?’

**Figure 5.** Importance of the user-education programmes and training on the studies of students (N = 150)



Source: Own elaboration.

Figure 5 reflects that a resounding 124 (82.7%) respondents considered that the training is important to their studies, while 17 (11.3%) felt the training is occasionally important and only 9 (6%) rated the training as not important. Their appreciation of the programmes is a manifestation of the importance of these programmes to the students.

**Table 5.** Extent of the importance of the library education of users to their studies (N = 124)

Importance of user training		Frequency	Percentage	Simplified response	Percentage
Helps me find relevant information for my studies	Important	15	12.1%	Important	60.6%
	Most important	60	48.4%		
	Slightly important	9	7.2%	Not/ slightly important	39.4%
	Not important	9	7.2%		
	No comment	31	25%		
Helps me learn how to use information effectively	Important	24	19.3%	Important	70.9%
	Most important	64	51.6%		
	Not important	6	4.9%	Not/ slightly important	29.1%
	Slightly important	15	12.1%		
	No comment	15	12.1%		

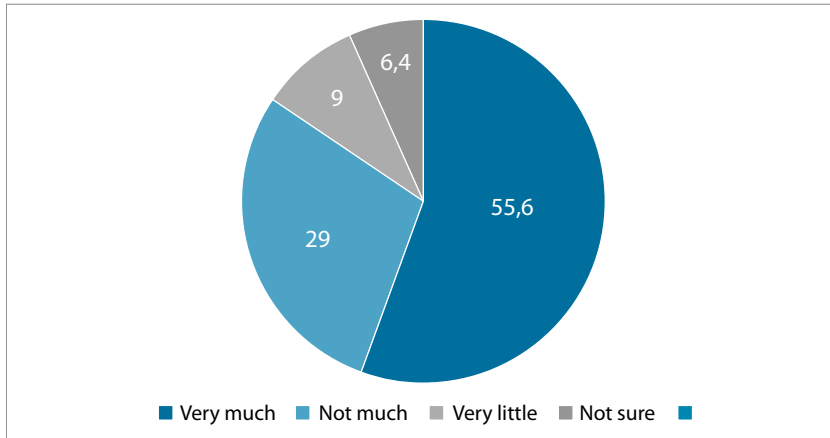


Importance of user training		Frequency	Percentage	Simplified response	Percentage
Helps me distinguish between scholarly and non-scholarly information	Important	34	27.4%	Important	77.4%
	Most important	62	50%		
	Not important	9	7.3%	Not/ slightly important	22.6%
	Slightly important	12	9.7%		
	No comment	7	5.6%		
Helps me to perform a proper citation for my assignment	Important	28	22.6%	Important	79.8%
	Most important	71	57.2%		
	Not important	4	3.3%	Not/ slightly important	20.2%
	Slightly important	12	9.7%		
	No comment	9	7.2%		
Helps me to analyse information effectively	Important	26	21%	Important	80.6%
	Most important	74	59.6%		
	Not important	4	3.2%	Not/ slightly important	19.4%
	Slightly important	14	11.2%		
	No comment	6	5%		

Source: Own elaboration.

The students who believed that the user-education programmes and training sessions were important for their studies were then asked to explain the specific areas to which this importance was applied. Sixty (48.4%) respondents reported that the training was most important in helping them find relevant information for their studies. Table 5 reveals that 62 (50%) respondents indicated that the training is most important in helping them distinguish between scholarly and non-scholarly information, while 57.2% (71) rated the training as most important, because it helped them provide appropriate citations for their assignments. The results also demonstrate that 74 (59.6%) revealed that the training was most important, because it helped them analyse information effectively, while 64 (51.6%) perceived that the training was most important, because it helped them use information more effectively.

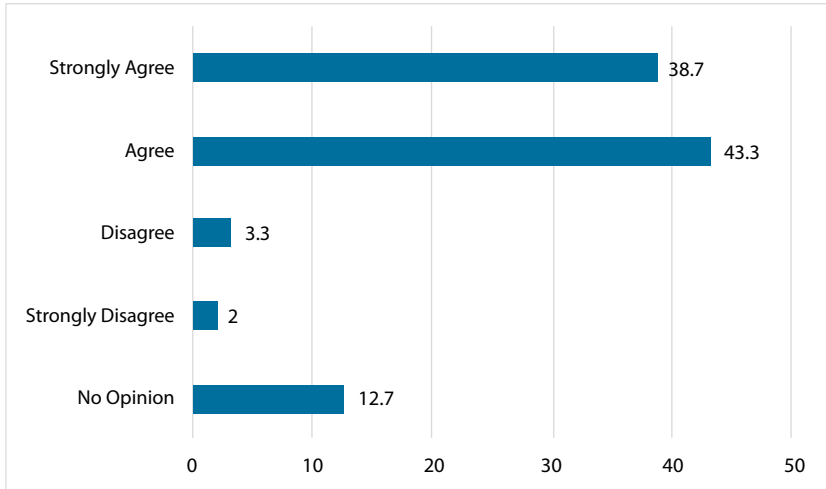
**Figure 6.** Influence of ability to use the library and its resources on the studies of the students (N = 124)



Source: Own elaboration.

The respondents considered the training important to their studies were then asked to determine the extent to which their ability to use the library has influenced their studies. The results reveal that 69 (55.6%) of the students perceived that the ability to use the library has ‘very much’ influenced their studies. However, 36 (29%) strongly felt that training on the use of the library and its resources exerted little influence; these students selected the option ‘not much’. Eleven (9%) and eight (6.4%) students cited that their ability to use the library exerted very little or no influence on their studies, respectively.

**Figure 7.** Influence of the ability of students to use the library and its resources on academic performance (N = 150)



Source: Own elaboration.

Finally, the students were asked whether or not their ability to use the library and its resources influenced academic performance. Figure 7 presents the results. A total of 65 (43.3%) students agreed that this ability exerted a direct influence on their academic performance, while 58 (38.7%) strongly agreed with this view. Nineteen (12.7%) respondents provided no opinion on this question, while five (3.3%) disagreed with this view.

## Discussion

This study aimed to explore the influence of user-education programmes on the information and study skills and competencies of first-year students at the NWU in South Africa. The study noted that a substantive number of the respondents never attended training on library use (high school, public, college or any other academic libraries) prior to joining the university. According to Pretorius (2011), the majority of students enrolled at NWU originate from environments that, relatively speaking, lack libraries or adequate libraries. This background heightens the importance of continuing to offer user education and information literacy programmes at the NWU. As Curd (2010) emphasises, previous experiences of library use determine how first-year students relate to the library and how quickly they learn to

orient themselves in a new library in which they would now need to study after becoming university students. Scholars have been acknowledged that students who join a university for the first time are ill-prepared to use the library and its resources due to the lack of exposure and training in high school (Kimani & Onyancha, 2015). Furthermore, Philip (2015, p. 1) argued that the majority of first-year students lack the basic library and literacy skills prior to entering institutions of higher education; therefore, receiving certain forms of orientation about the library and its resources is important. Notably, the majority of the respondents concurred that user-education programmes, such as library orientation, information literacy skills and workshops, have helped them effectively use the NWU library and its resources. A total of 51.3% agreed that these programmes greatly helped them to search for scholarly articles, while others (40%) mentioned that the programmes assisted them in effectively searching the library catalogue.

Consequently, we believe that the programmes ultimately enabled the students to be independent users of the library and its resources, which is of great importance to lifelong learning and, thus, increases the usefulness of the library. As Uwakwe, Oneneke and Njoku (2016) opined, the usefulness of any library is measured by the utilisation of its resources and services. Uwakwe et al. (2016) advise that the maximum use of libraries justifies all efforts exerted by librarians to organise user-education programmes. Chen and Lin (2011) argued that first-year students will need introduction and guidance in strengthening their awareness of the significance of library resources and services as well as their capability in using them. Moreover, they need to be persuaded to use a particular approach for the acquisition and use of information, which indicates a total cultural change.

Therefore, the library of the NWU VTC organises user-education programmes for this group of users to equip them with the necessary skills and competencies after entering the university environment. After attending information literacy training, the majority of the first-year students (60.1%) agreed that it improved their information literacy skills. This finding echoes that of Karimi, Ashrafi-rizi, Papi, Shahradi and Hassanzadeh (2015) who found that the information literacy skills of students were greatly improved after attending training. The authors also found that 40% and more than 36.7% stated that the information literacy training improved skills in searching the library catalogue and databases, respectively. Another 40% stated that the training helped them to effectively locate books from shelves.

The findings of Parirokh (2007) on measuring the effectiveness of information literacy workshops support that of the current study. Parirokh demonstrates that nearly all first-year students require information literacy skills and further reveals that a substantial difference exists between the information literacy skills of first-year students before and after participating in the programme. The results also reveals that the programme and the approaches used to teach information literacy were effective and very useful; however, the author argues that additional training is required to identify the information needs of the students and their ability to transform these needs into understandable questions. Bashorun, Aboderin and Lawal (2020) find that attending user-education programmes improved the skills of students. The study found that 92.4% of undergraduate students agreed to have acquired several skills in using the library and seeking information.

Therefore, effective training on information literacy can also equip first-year students with the necessary skills at the university level, given that they come to the institution with little prior training, as reported in the current study. This notion agrees with that of Kimani and Onyancha (2015) who reported that the majority of first-year students were not accustomed to various tools for information retrieval available in libraries or the applications of these tools. They further point out that the majority of the students did not know the meaning of the acronym OPAC and were unaware of the importance and objective of a call number. Onyancha stressed that many of them knew the purpose of a catalogue and the resources that could be found in the library catalogue.

The effective use or application of ICT in library systems demands good exposure to and training on ICT facilities (Uwakwe, Onyeneke & Njoku, 2016). The study found that a substantial number of first-year students improved their overall ability to use technology during their first year. According to Jamogha, Jamogha and Godwin (2019), the ICT skills of students are a relative measure of their capacity to appropriately use ICT for educational and learning purposes. These authors stressed that ICT skills are required to critically evaluate information content and explore it effectively. The majority of first-year students at the NWU indicated that the ability to use information technology influenced the types of information sources they use in the library. This result is in line with that of Adebayo, Olayinka and Adeniran (2018) who emphasised that the emergence of ICT has greatly influenced the quality of information provided through libraries. These scholars highlighted that using ICT

in libraries improves the information services provided. In other words, the application of ICT in libraries enables students to access timely information with ease.

The introduction and use of ICT have brought a number of tangible benefits to academic libraries together with users (Agyen-Gyasi, Lamptey & Frempong, 2010). Agyen-Gyasi et al. (2010) argued that perhaps the most evident benefits are those that emerged from the provision of facilities for electronic journals, which enabled library users to speedily access current and archival journal literature and to become aware of otherwise unknown literature sources. These findings illustrate the importance of being familiar with technological advancement to survive in today's academic world, which, thereby, reinforces the importance of user-education programmes. It further implies the importance of equipping students with ICT skills to use the library and its resources. This finding is supported by Johnson (2007) who considered that, ultimately, user education will be considered successful if users become self-reliant and information literate and consequently optimise the library and its resources.

Furthermore, this study demonstrated that the majority of students are at ease when using library (60%) and personal (47.3%) computers to access information as opposed to using other means of accessing information, such as cellphones (40%) and DVDs or CD-ROM (11.3%), upon their completion of user-education programmes at the NWU. Abubakar, Gupiyem and Banwar (2017) illustrated that the level of use of e-resources was very low on the part of the students. This finding echoes that of Mungwisi (2015:37) on the 'role of librarians in teaching information literacy in Zimbabwean and South African universities'. This author found that the majority of universities in Zimbabwe and South Africa reported that the increase in the use of e-resources after information literacy training is minimal. He also found that the majority staff and students are still more inclined to use print resources.

However, the current study revealed that e-journals (48%) and e-books (41.3%) are the most popular electronic resources that VTC students are likely to use compared with e-theses/dissertations (14%). This result is understandable, because first-year students are scarcely referred to these resources (e-theses/dissertations) and are not overly involved in research. In summary, the majority of the first-year students reported that technology has rendered access to information in the library easy for them. Abubakar

and Cholom (2017) inferred that students with high levels of computer literacy skills may use the library environment with computers and ICT with ease but not those with low levels of computer literacy skills. Consequently, user education and computer literacy could enhance the performance of students in a computerised library environment.

Recently, studies examined the link between user education and academic performance. A number of authors argued that no correlation exists between the two, whereas others claimed that a link exists between the two. Soria, Fransen and Nackerud (2013) claim that libraries need to collect data related to the use of library services by students; consequently, the lack of data collection leads to a shortage in studies that examine the link between library use and student outcome. Portmann and Roush (2004) assessed the effects of library instruction and found that measuring changes in student behaviour and skill development provided the greatest challenge in their academics. The authors predicted that it is likely to pose the same challenge for researchers in the future. However, Uwakwe, Oneneke and Njoku (2016) found that user-education programmes positively influence the use of the library of law students as well as their academic performance. Although the VTC library conducts user-education programmes, they are not integrated into the curriculum of the university and, consequently, are not formally evaluated.

The challenge for the VTC library is to integrate user-education programmes into the university curriculum, such that this programme can be ultimately measured according to its impact on the academic performance of students. Despite this shortcoming, the current study has established that the majority of the first-year students (82.7%) at VTC believe that the training they received in user-education programmes is significant to their academic performance. This result is collaborated by Molepo (2018, p. 97) who conducted a study on the impact of information literacy training on academic achievement and the success of first-year undergraduate students at Tshwane University of Technology (Polokwane Campus library). The author found that information literacy training exerted a positive impact on the academic success and achievement of first-year students. Furthermore, the study reported that students were ignorant of information resources, such as journals, databases, library catalogues and library resources, prior to information literacy training. The researcher conducted focus interviews post-training and found that the students demonstrated that they exploited library resources to

successfully complete assignments. This finding was in line with that of Ahemba and Terwase (2018) who found that the students greatly improved their ability to retrieve the needed information, they can effectively use catalogues to retrieve information and they were aware of the scope of the library among others.

The current study revealed that many of the VTC students (48.4%) perceived that the training they received in user-education programmes helped them to find relevant information for their studies. Mungwisi (2015) supported the finding that the quality of the projects of students improved (based on the perceptions of lecturers as reported in faculty board meetings). The findings also depict that many of the students (50%) reported that the user-education programmes helped them to distinguish between scholarly and non-scholarly information. This is important for students, especially with the over-proliferation of information available in the Internet today. In other words, one needs to know which information is scholarly and discard that which is not. A more significant aspect in user-education training was the capacity to equip students with the knowledge to effectively analyse the information they find from library sources and the Internet. This perspective is imperative for any student to excel in academia. According to Nithyanandam, Kanniyappan, Dhanakar and Rajasekar (2016, p. 450), if study programmes are to be based on the active search of students for knowledge, then they must acquire sound knowledge of searching for evaluating and utilising scientific and scholarly information.

Moyane et al. (2015) conducted a study at the University of KwaZulu-Natal on evaluating user-education programmes for post-graduate students in the School of Management, Information Technology and Governance. The authors found that all post-graduate students at the university considered user-education programmes essential to education. In other words, the positive response from these students indicated that they recognise that user education can be essential in improving their ability to use the library and its resources, which, as a result, can also exert a positive impact on their academic performance. Moyane et al. further argued that if these students, as per their admission, recognise the value of user education, then one can assume that they will ultimately recognise the relationship or interconnectedness between the use of the library and their academic success. This notion is in line with that of Ahemba and Terwase (2018) who state that user-education programmes exerted a positive impact



on the quality of education, because a significant relationship exists between library user education and academic performance. As such, the effective and efficient use of the library and its resources is the bedrock of academic excellence.

The abovementioned assertion is also true in the context of the current study, that is, students who considered the training on user-education programmes important to their studies stated that the ability to use the library greatly influenced their studies. Many of them (43.3%) acknowledged that their ability to use the library and its resources exerted a direct influence on academic performance. This finding was supported by Uwakwe, Oneneke and Njoku (2016) who found that user-education programmes positively influenced the use of the library of law students as well as their academic performance. Okoye (2013) further supported this result and argued that librarians should educate students on locating the required library resources with the consideration that these students originate from different cultural backgrounds and possess different levels of library skills. The author further mentioned that such education has benefits, because it can help students to achieve better grades due to their knowledge in locating relevant and better information resources to support their studies. Based on this finding, one cannot over-emphasise the importance of user education on the academic performance of students. Therefore, the university should develop plans to integrate the programmes into its curriculum and render these programmes compulsory for students, such that they can become more effective in their academic pursuits.

## Conclusion

The assessment of the influence of user-education programmes on their participants is a valuable tool for gauging their importance. The optimal use of the information resources held in libraries demands concerted effort on the part of librarians and other stakeholders to create not only awareness among users and conducive space for users but also appropriate user education and information literacy programmes to equip users with competencies and skills. Therefore, equipping users with skills and competencies to maximise the use of libraries and information resources for lifelong learning appear to be the common denominator that explains the objective of user-education programmes, including information literacy.

Therefore, libraries and librarians must evaluate the extent to which their user-education programmes have achieved this purpose. A good and effective user-education programme will naturally create a platform for active learning techniques and lifelong learning (Bhatti, 2010).

The study makes the following conclusions: It noted that a substantive number of first-year students never attended training on using the library (high school, public, college or any other academic libraries) prior to entering university. This background increases the importance of continuing to offer user education and information literacy programmes. Students who attended these programmes significantly improved their ability to use library ICT and other resources. Consequently, attending user-education programmes is imperative, particularly for VTC students, who mainly originate from a background that lacks library exposure. Ultimately, they enter the university without prior knowledge of a library and its functions.

In general, the study observed that user-education programmes can lead to the development of the skills of students, particularly regarding their ability to independently find relevant information for their studies, effectively analyse such information, distinguish which information is scholarly and which is not and ultimately, excel academically.

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