JOVES (Journal of Vocational Education Studies)
VOL 5, No. 2, 2022, pp. 238-253
pISSN: 2614-7483 pISSN: 2614-7475 https://doi.org/10.12928/joves.v5i2.6334

Investigating the Knowledge, Attitudes, and Practices of Interns in the Workplace

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ARTICLE INFO

Article history
Received Jul 25, 2022
Revised May 4, 2022
Accepted Des 15, 2022

Keywords
Internship
Intervention
Library interns
University libraries
Workplace learning,

ABSTRACT

Since internships are recognized forms of workplace learning, this study investigated their impact on the knowledge, attitude, and practices of interns. A paired t-test quasi-experiment (pretest/post-test) was carried out on the sample of 137 interns in university libraries in Edo State, Nigeria using a questionnaire. The study found that the interns had improved their knowledge, attitudes, and practices post-intervention. The statistically significant results imply that the internship was an effective intervention that improved the interns' knowledge, attitude, and practice. In conclusion, the study considered the implications of practicing librarians and Library and Information Science educators uniting to develop and implement structured interventions. It recommended replicating this intervention in other states to improve the knowledge, attitude, and practical skills of interns and ensure they are effective in the workplace.

Introduction

Higher education institutions across the world and including in Nigeria, continue to struggle with making the most of internships as forms of workplace learning. This is because an internship is seen as a mechanism for connecting the theoretical and practical aspects of the professional knowledge, attitude and practice of teachers and students (Gugssa & Kabeta, 2021; McEwen & Trede,

2014). Internships are recognized forms of workplace learning or industrial training (IT). These have become totally embraced in universities as a valuable component of educating students for professional practices (McEwen & Trede, 2014). Education without the practical application of knowledge would not equip the students with the skills to work effectively in a profession (Dodge & McKeough, 2003). Like other professions, the librarianship profession attaches great importance to practical training that presents the students with the opportunity to learn the practical skills needed in the workplace or library. Such opportunities to learn practical skills are provided through interventions like internships as well as other industrial training (IT). An industrial training like the library internship provides a professional learning experience that takes place in a library setting. It is aimed at providing the students with learning experiences through a variety of tasks in a range of library operations that include acquisition, cataloguing, circulation, reference, special collection, user services, and others (Musonda, Zulu & Chewe, 2020).

Like other workplace learning or industrial training, the library internship enables students to learn practical skills needed in various sections of any library under the guidance of an experienced librarian. The library internship in the library and Information science (LIS) curriculum is designed only for roles in the library (Katuli-Munyoro & Mutula, 2016). It presents an opportunity to apply the theoretical learning of the classroom in the workplace. But, the problem of putting knowledge of theory into practice has been of concern for library management and education experts (Hacker, 1987). These library interns often meet different classification schemes in the various libraries and since their subject knowledge is weak, it takes them a long time to understand how to catalogue the library collection. Their workplace learning also gets challenging when their knowledge and practical skills are not in tune with the tasks and opportunities within the workplace. Therefore, when there is a mismatch between the LIS curricula and the tasks in the library work environment, an intervention will help the library interns to learn the practices in that workplace.

Given that the aim of internships in university libraries is to improve the knowledge of the interns in delivering information services to library users, the improvement of their attitudes and practices is of high importance. In addition to gaining knowledge of librarianship, the library interns need to develop the appropriate attitude when they learn library practice skills. This is because the knowledge, attitude, and practices of librarianship are important factors to consider when designing any form of learning intervention in this workplace. Moreover, the transformation of thoughts (knowledge), feelings (attitude), and actions (practices) of the library interns in university libraries had rarely been taken into consideration in studies. This poses a potential research gap since literature discussing the impact of internship as an intervention on the knowledge, attitude, and

practice of library interns are few. Addressing this research gap will have practical benefits as well as inform future policy objectives in the planning of library internships. The findings of this study will contribute empirical evidence on the impact of internship as an intervention on the knowledge, attitude, and practice of interns in university libraries. The study aimed to investigate the impact of internship as an intervention on the knowledge, attitude, and practices of interns from university libraries and other organizations in Edo State, Nigeria. The specific objectives of this study are to find out if internships improves: 1)the knowledge of interns, 2)the attitude of the interns , and 3)the practices of the interns . The following research hypotheses where tested in line with these objectives. There is no significant improvement in the knowledge of interns from university libraries : 1)There is no significant improvement in the attitude of interns from university libraries , and 2)There is no significant improvement in the practices of interns from university libraries

Workplace learning is increasingly becoming an area of interest in higher and continuing education. It has been embraced in universities as a valuable part of educating for professional practice. In universities, workplace learning is regarded as a means of connecting the theoretical and practical aspects of the professional knowledge and practice of teachers and students (Gugssa & Kabeta, 2021; McEwen & Trede, 2014). Aside from learning theories, the development of practical skills is important for the students in any given profession as it is necessary for the continuous growth and survival of that profession. A good number of professions including librarianship attach great importance to the development of practical skills in the students. This involves their developing skills through the use of tools or equipment to perform job tasks that are related to the field of library study (Ugwuanyi & Ezema, 2010). Identifying and understanding the important job tasks is also important.

Library and information science students across the world gain experience and employability skills through industrial training or practicum in the library. The industrial training or practicum is a core academic requirement for Nigerian undergraduate students who are given the opportunity to acquire practical experience through the students' industrial work experience scheme (SIWES). The student industrial work experience scheme provides the means of developing work skills through academic learning and exposure to the workplace. Ojokuku, et al (2015) described it as a process whereby the knowledge, skills, abilities, and attitudes required in doing a specific job or carrying out a specific function are transferred to students. This training scheme provides the students with significant benefits in career preparation (Karunaratne & Perera, 2015). It provides an opportunity for industries to evaluate the students.

Budgen and Gamroth (2008) pointed out that there are ten basic models of industrial training: faculty-supervised practicum, preceptorship, education unit, joint appointment, secondments, affiliated position, internship, co-operative education, and work-study as well as student employment. It is important that the industrial training for library and information science students to follow any of these models to ensure that there is consistency in the knowledge and skills wherever the training is carried out. In Nigeria, the students' industrial work experience scheme (SIWES) for the library and information science students follows the internship model. An internship is a pre-professional work experience that provides students and recent graduates with the opportunity to gain experience in a particular career field (Rahman, Khatun & Mezbah-Ul-Islam, 2008). A library internship refers to the process of training students as library interns to enable them to acquire practical skills in various sections of any library under the guidance of an experienced librarian in other to create the link that exists between theory and practice in librarianship.

The library interns are expected to acquire relevant knowledge and develop a good attitude as well as a practice skill set. Their knowledge, attitude, and practice skills set should be evaluated at the beginning and end of the internship to ensure these library interns' training needs are met. This is because doubts are still being expressed in terms of whether the interns have gained knowledge of librarianship and the inclination to react or interpret its procedures in the right way while learning the practice (Simisaye, 2014; Saleh, 2012; Ugwu, 2010). In his study, Khoo (2005) argued that aside from gaining knowledge of cataloguing, acquisition, and referencing the library interns should possess skills like research, soft, IT, subject knowledge, values, personal traits, and appropriate attitudes. Other scholars like Mason, Willams, and Crammer (2006), as well as Gill and Lashine (2003), included working in teams; communicating, time management, self-confidence, self-motivation, flexibility, and willingness to handle a wide range of tasks, ability to handle change, continuous learning, IT knowledge and entrepreneurial attitude.

Prior studies failed to establish that this intervention (internship) improves the library interns' knowledge of librarianship and their inclination to react or interpret procedures in the right way as well as their practices. Usman (2020) studied 109 post-library interns at Bayero University with a view to ascertaining their digital skills and competencies. The study found that the library interns had digital skills and competencies to provide contemporary library services. It showed that a higher number of library interns had computer, internet, and e-service skills while a lesser number had database management and networking skills. On the other hand, many library interns still have a negative attitude towards tasks like cataloguing and classification of collections (Yusuf, 2015; Akinyele, 2001; Adamu, Yinusa & Miring, 2017). Tiemo and Ogheneruemu (2007) found that library

and information science students believe the time spent on the practicum was worthwhile in evaluating the effectiveness of the library practicum program. Others like Ugwuanyi and Ezema (2010) emphasized the need for library and information science students to acquire the much-needed competencies and skills through internships. It is believed that an internship affords students the opportunity of familiarizing and exposing themselves to the needed experience in handling equipment and machinery that are usually not available in their institutions (Nse, 2012).

Moreover, the assumption of the knowledge, attitude, and practice (KAP) model was useful in explaining this study. The knowledge, attitude, and practice model followed the assumption or notion that knowledge precedes attitudes and that both knowledge and attitude would predict and precede behaviour or practice (Nganwai, 2007). It proposed that the changes in human behaviour involve these three successive processes: the acquisition of knowledge, the generation of attitudes, and the formation of behaviour (Kim, Ross, and Smith, 1969). Although the KAP model was propounded as a health behaviour change theory, it is a significant and useful framework for carrying out other intervention studies because it is relatively easy to interpret. KAP studies reveal what people know about certain things, how they feel, and how they behave. They provide access to quantitative and qualitative information that reveals misconceptions that present obstacles to the activities or potential barriers to behavioural change.

The underpinning of the knowledge, attitude, and practice (KAP) model can be used to measure the extent of a known situation; confirm or disapprove a hypothesis through standard social research. It can be tailored to a specific location, project, or problem that needs an intervention. Based on a series of anticipated interventions, the application of the KAP model in studies will be able to establish over time the changes in behaviour that are attributable to the interventions. This includes the application of the KAP model in the study of a planned intervention like the library internship. For a planned intervention like the library internship to be successful, the interns will need to behave in certain ways. Their behaviour determines whether the intervention presented through the internship has achieved the desired impact. Whereas improving the knowledge of interns is important where and when it is lacking, it is also important to examine other factors that could influence whether and how interns will actually make use of this knowledge as well as benefit from its use.

The KAP model's application in this study highlights the progressive relationship among knowledge, attitudes, and practice or behaviour of the library interns. Knowledge is the foundation of behaviour change. It is the capacity to acquire, retain and use information. It consists of comprehension, experience, discernment, and skills. The knowledge of the library interns is guided

by these thoughts. Attitude is the driving force of behaviour change. It is the inclination to react in a way to a certain situation or see and interpret procedures according to certain dispositions. Attitude is revealed by the state of mind of the library interns (feelings). Practice or behaviour is the application of rules and information that lead to action. Practical or behavioural knowledge involves developing skills through the use of tools to perform tasks that are related to a field of study (Ugwuanyi & Ezema, 2010).

Method

The research design was a quasi-experiment that evaluated the causal impact of an intervention on interns in university libraries. This design is chosen because quasi-experiments are effective and reliable in measuring stipulated learning objectives. It involved the control and experimental group in a pre-test and post-test. The study population consists of one hundred and thirty-seven library and information science students in three universities in Edo State, Nigeria. The population was homogenous in terms of age and educational levels. These students qualified based on the departmental rules in their universities in participating in the internship intervention. They were placed in control and experimental sample groups. The control group consisted of forty-seven students that were participating in internships at other organizations while the experimental group consisted of ninety students that were participating in internships at university libraries. The instrument used for collecting data was a multi-choice questionnaire with questions adapted from Edonkumoh, Nwachukwu, and Agyo (2015). This questionnaire was given to some librarians in another university for content and face validation before it was administered under the supervision of the researcher by four assistants who were responsible for ensuring confidentiality and answering the respondents' queries.

Pre-intervention, both the control group and experimental group were assessed (Pre-test) using this questionnaire to ascertain the knowledge, attitude, and practices of interns. Both the control and the experimental group participated in these internships for ten weeks. Post-intervention, the questionnaire was re-administered (Post-test) to both the control group and experimental group to re-ascertain the knowledge, attitude, and practices of the interns. All ethical approvals were gotten from the universities where this study was conducted and participation was voluntary. The respondents did not receive any compensation for participating in the study.

Results and Discussion

Data collected was analyzed and findings were presented in line with the research objectives and hypothesis. Descriptive statistics like mean scores, standard deviation, and error were used to

present demographic and analyzed data on the knowledge, attitude, and practices of interns in pre-intervention and post-intervention. Inferential statistics from the paired T-test were used to present analyzed data on the improvement in the knowledge, attitude, and practices of interns. The decision rule requires that we reject the null hypothesis if the P-value is less or equal to the critical values in the tables. The data collected were tested to see if these were normally distributed.

Table 1. Test of Normality

Tests of Normality				
	Kolmogorov-Smirnov[a]		Shapiro-Wilk	
	Statistic	Sig.	Statistic	Sig.
Pre-test	.200	.014	.682	.000
Post-test	.277	.000	.834	.001

a. Lilliefors Significance Correction

Table 1 shows the result of the test of normality. It resulted from a process where only 90 interns from university libraries were considered, excluding 47 interns from other organizations. The Kolmogorov-Smirnov test was used to determine if the data distribution was normal for both the pre-test and post-test because the sample size was large (n≥25). For the post-test data, K-S =.277, p= 0.001, while for the pre-test, K-S= .200, p=0.000. Both tests were statistically significant and not normally distributed at the 0.05 level of significance. Therefore, the data were not normally distributed because they represented a subset.

Table 2. Demographic characteristics of interns from university libraries

Parameter	Group	Frequency (n)	Percentage (%)
Gender	Male	17	18.9
	Female	73	81.1
Age	18-20	4	4.4
	21-23	80	88.9
	24+	6	6.7

Table 2 shows the distribution of demographic characteristics of interns from university libraries. From the table, it could be seen that the number of female interns (*n*=73, 81.1%) was more than the number of male interns (*n*=17, 18.9). This result implies that there was a gender bias amongst participants in favour of the female gender. It could also be seen that the group of interns between the age range of 21-23 years (*n*=80, 89.9%) were more than those 24+ years (*n*=6, 6.7%) while the group of interns between 18-20 years (*n*=4, 4.4%) constituted the least proportion of the study participants. This implies that the interns were adults and were capable of making independent

choices. Research objective one, to find out if the internship improved the knowledge of the interns from university libraries and other organizations

Table 3. The knowledge of interns from university libraries and other organizations

Statements	Intervention assessments/test	Control group Mean	Experimental group Mean
Various library services	Pre	2.56	2.80
	Post	3.90	3.91
Organization of library materials	Pre	2.69	2.87
	Post	3.94	3.94
Computer databases	Pre	2.35	2.73
	Post	3.06	3.07
Available library software	Pre	2.67	2.98
	Post	3.04	3.04
Catalogue books/serials	Pre	2.42	2.72
	Post	3.46	3.46
Promoting the usage of library materials	Pre	2.46	2.72
	Post	3.52	3.52
Preserving library materials/files	Pre	2.48	2.76
	Post	3.90	3.89
Library policies	Pre	2.44	2.73
	Post	3.94	3.93

Table 3 shows the mean scores on knowledge of interns from university libraries and other organizations. It shows that an increased number of interns post-intervention (Mean=3.91) understood the various library services compared to the number of interns pre-intervention (Mean=2.80) from university libraries. Also, an increased number of interns post-intervention indicated that they understood the organization of library materials compared to the number of interns during the pre-intervention (Mean=2.87) from university libraries. Furthermore, more interns post-intervention (Mean=3.89) indicated that they knew how to preserve library materials/files compared to the number of library interns during the pre-intervention (Mean=2.76) from university libraries. Finally, a number of interns post-intervention (Mean=3.93) indicated that they had an understanding of library policies compared to the number of interns during the pre-intervention (Mean=2.73) from university libraries. The results imply that an increased number of interns had improved their knowledge of librarianship through the intervention from university libraries. Research hypothesis one, there is no significant improvement in the knowledge of interns from university libraries.

Table 4 is the paired sample T-test showing the distribution of the knowledge of interns from university libraries and organizations. The result from the Experimental group (m≈1.09, SD=.382) was statistically significantly higher than the control group (m=.807, SD=.418).

Table 4. Distribution of the knowledge of interns from university libraries and organizations

Statements	Paired differences							
	T	Df	Sig. (2-tailed)	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
							Lower	Upper
Control Group Pre-Post	5.502	7	.001	.8069375	.4148375	.1466672	.4601247	1.1537503
Experimental Group Pre-Post	8.048	7	.000	1.0859125	.3816220	.1349238	.7668685	1.4049565

The pre-test and post-test of the experimental group (interns from university libraries) indicated that there was an improvement in the knowledge of interns, t (7) = 8.048, p=0.001 since P-values were lower than the alpha value of 0.05. Therefore, the null hypothesis of no significant improvement in the knowledge of interns from university libraries was rejected. The result implies that the knowledge of interns had improved post-intervention. Research objective two, to find out if the internship improved the attitude of the interns in university libraries and other organizations

Table 5. The attitude of interns from university libraries and other organizations

Statements	Intervention assessments/test	Control group Mean	Experimental group Mean
Arrogance toward other users	Pre	1.02	1.72
	Post	1.06	1.07
Following oral or written instructions	Pre	2.58	2.81
	Post	3.50	3.50
Self-motivation	Pre	3.38	3.32
	Post	3.96	3.96
Willing to perform physical tasks	Pre	2.44	2.73
	Post	3.92	3.91
Confidentiality of records	Pre	2.75	2.90
	Post	3.88	3.87
Adapting to change	Pre	2.79	2.92
	Post	3.48	3.48
Good working relationships	Pre	2.5	2.77
	Post	3.10	3.11
Exercising good judgment at all times	Pre	2.88	2.93
	Post	3.94	3.93

Table 5 shows the mean scores on the attitude of interns from university libraries and other organizations. It revealed that a lesser number of interns post-intervention (Mean=1.07) indicated that they were arrogant towards users in the library compared to the number pre-intervention (Mean=1.72) from university libraries. An increased number of interns in the post-intervention

(Mean=3.50) indicated that they follow oral or written instructions compared to the number of interns at the pre-intervention stage (Mean=2.81) from university libraries. There was also an increase in the number of interns post-intervention (Mean=3.96) indicating they were self-motivated compared to the number of interns pre-intervention (Mean=3.32) from university libraries. Furthermore, an increased number of interns post-intervention (Mean=3.93) indicated that they tried to exercise good judgment at all times unlike the number of interns during the pre-intervention (Mean=2.93) from university libraries. Research Hypothesis Two: There is no significant improvement in the attitude of interns from university libraries.

Table 6. Distribution of the attitude of interns from university libraries and organizations

	Paired differences							
Statements	**T**	**Df**	**Sig. (2-tailed)**	**Mean**	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**	
							Lower	**Upper**
Control Group Pre-Post	2.926	7	.022	.5893000	.5697409	.2014338	.1129847	1.0656153
Experimental Group Pre-Post	5.290	7	.001	.8125125	.4344425	.1535986	.4493095	1.1757155

Table 6 is the paired sample T-test showing the distribution of attitude of interns from university libraries and organizations. It revealed that the attitude of interns post-intervention had improved from their attitude pre-intervention. The resulting mean of the experimental group (m=0.813, SD=0.434) was statistically significantly higher than the control group (m≈0.59, SD=.570). Also, the pre-test and post-test of the experimental group (interns from university libraries) indicated that there was an improvement in the attitude of interns, t (7) = 5.290, p=0.001 since P-values were lower than the alpha value of 0.05. Therefore, the null hypothesis of no significant improvement in the attitude of interns from university libraries was rejected. The result implies that a good number of interns improved or showed a positive change in attitude after the internship at university libraries. Research Objective Three, to find out if the internship improved the practices of interns from university libraries and other organizations.

Table 7 shows the mean scores on practices of interns from university libraries and other organizations. It revealed an increased number of interns post-intervention (Mean=3.44) indicating that they assisted library users with registration compared to the number of these interns pre-intervention (Mean=2.57) from university libraries.

Table 7. The practices of interns from university libraries and other organizations

Statements	Intervention assessments/tests	Control group Mean	Experimental group Mean
Registering/assisting library users	Pre	2.29	2.57
	Post	3.354	3.44
Entering records of library material movements	Pre	2.58	2.81
	Post	3.48	3.48
Updating e-databases with digital/scanned files	Pre	3.06	3.10
	Post	3.85	3.88
Cataloguing books/serials	Pre	2.5	2.79
	Post	3.46	3.46
Ensuring the correct shelving of books	Pre	2.40	2.72
	Post	4.00	4.00
Assisting with library bulletin boards	Pre	2.33	2.66
	Post	3.33	3.32
Following library procedures	Pre	1.79	2.14
	Post	3.56	3.57
Displaying special book collections	Pre	2.17	2.40
	Post	3.13	3.13

Increased number of interns post-intervention (Mean=3.47) indicated that they checked in and out of the library materials compared to their number pre-intervention (Mean=2.81) from university libraries. Furthermore, an increased number of these interns post-intervention (Mean=3.88) indicated that they updated e-databases with digital/scanned files compared to the number of interns pre-intervention (Mean=3.10) from university libraries. All the interns at the post-intervention (Mean=4.00) indicated that they ensured the correct shelving of books compared to their number at the pre-intervention (Mean=2.72) from university libraries. Hypothesis Three, there is no significant improvement in the practice of interns from university libraries.

Table 8 is the paired sample T-test showing the differences in the distribution of practices of interns from university libraries and organizations. It revealed that the practices of interns from university libraries post-intervention had improved from their practices pre-intervention. This is because the result of the experimental group (m≈1.13, SD=.356) was statistically significantly higher than the pre-test mean (m=0.874, SD=0.300).

The pre-test and post-test of the experimental group (interns from university libraries) indicated that there was an improvement in the practices of interns, t (7) = 8.990, p=0.001 since P-values were lower than the alpha value of 0.05.

Table 8. Distribution of the practices of interns from university libraries and organizations

Statements	Paired differences							
	T	df	Sig. (2-tailed)	Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
							Lower	Upper
Control Group Pre-Post	8.230	7	.000	.87361	.3002	.10	.622612	1.12
			0	25	314	61478	8	46122
Experimental Group Pre-Post	8.990	7	.000	1.1302	.3555	.12	.832923	1.42
			0	125	996	57235	8	75012

Therefore, the null hypothesis of no significant improvement in the practices of interns from university libraries was rejected. The result implies that the interns had made considerable improvements in their practices after the internship in university libraries.

Findings revealed the knowledge of interns from university libraries and other organizations. The interns appeared to have improved in their knowledge of librarianship after the internship. It was revealed that interns had gained more knowledge of various library services; organization of library materials; how to preserve library materials/files; how to promote usage of library materials and library policies among others. This supports the finding of Raimi (2015) and Tiemo and Ogheneruemu (2007). Their exposure to different library units gave the library interns a better understanding of the activities of the library. The study also revealed that half of the respondents knew more about computer databases, corroborating the finding of Usman (2021). These were corroborated by the paired samples test that revealed there were statistically significant improvements in the knowledge of library interns. Such improvements in knowledge could result in significant differences in the level of satisfaction of the interns with the SIWES program (Simisaye, Anuoluwa, & Osisanwo, 2018). This implies that knowledge is crucial to the efforts of the interns.

Findings also revealed that there were improvements in the attitude of interns from university libraries after the intervention. Attitude is the inclination to react in a way to a certain work situation or see and interpret procedures according to certain dispositions. It is revealed by the state of mind of the interns. The library interns were less arrogant towards the library users in these universities. More of the interns followed oral or written instructions. They were also self-motivated and tried to exercise good judgment at all times. This implies that a good number of the library interns displayed a positive change in attitude after the intervention. The paired samples test confirmed that there were statistically significant improvements in the attitude of library interns. When interns enjoy or

appreciate the task assigned they are likely to have a positive attitude. Prior studies found that interns displayed a negative attitude towards physical tasks like cataloguing and classification of collections (Yusuf, 2015; Adamu, Yinusa & Miring, 2017). Their negative attitude could result in offenses in the workplace. Such offenses may include the attitude of arrogance to users, unwillingness to perform physical tasks, and exposing confidentiality of records. The interns deserved disciplinary measures for any offense committed in the library (Akinyele, 2001).

Finally, findings revealed that the practices of interns had improved following the intervention. The paired T-tests confirmed this. During post-intervention, a larger number of the interns were assisting library users in registration. All the interns ensured the correct shelving of books. They checked in and out the library materials. They also updated e-databases with digital/scanned files. Half of the library interns had improved their database management skills. This was unlike the study by Usman (2021) that found only a few library interns had database management skills. Findings imply that the library interns had gained relevant practical experiences through the internship. This corroborates Raimi (2015) that found that interns were able to put into practice their experiences from their participation in SIWES in real-life situations.

Conclusion

In conclusion, this study found that internships had improved the knowledge, attitude, and practices, of the interns from the university libraries. The interns had an improved level of knowledge of various library services; organization materials; how to preserve library materials/files; how to promote usage of library materials and library policies among others. Their attitude and practices had also improved. The main implications of the study relate to the significant improvement in the knowledge, attitude, and practices of these interns following the intervention. It is important for practitioner librarians and library science educators to unite in developing such structured interventions. This would form the standard for national evaluation. Such consistency would ensure interns improve their knowledge, attitude, and practical skills to become effective in the library as a workplace.

Notwithstanding the significant findings of this study, there were confounds such as the novelty effect which implies this intervention may have been effective simply because it was new to these interns. Also, the study focused only on interns in the university libraries leaving other organizations and possible contributing factors. Moreover, the statistically significant results suggest that the internship is an effective intervention that may improve interns' knowledge, attitude, and practice. Replication and further research should be carried out to provide more empirical evidence of the

effectiveness of library internships as workplace learning. Studies could also examine the difference in how internships are organized, the effects, and the cost-effectiveness in the workplace.

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