

# THE IMPACT OF E-RESOURCE USAGE IN ACADEMIC AND RESEARCH INSTITUTIONS IN TANZANIA

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This report is based on a study undertaken to investigate the impact of electronic resources training provided in academic institutions in Tanzania. Training was presented through a series of travelling workshops supported by INASP and aimed at facilitating access and usage of e-resources, in particular those available through the Programme for the Enhancement of Research Information (PERii). Since the inception of these travelling workshops in 2002, there has been little detailed evaluative study on their impact apart from a survey review of a sample of these activities. This study was carried out in an effort to remedy this.

## Objectives

The main objective of this study was to evaluate the impact of e-resource training on access, use and awareness within academic and research institutions in Tanzania. Specifically, this study aimed at:

1. Identifying the methodologies applied; the types of skills delivered; and the effectiveness of these skills in enhancing access and usage of e-resources
2. Building the capacity of those participating and fostering onward transfer of skills within respective institutions
3. Providing data with which to inform further related planning in Tanzania and the wider PERii network

## Methodologies

Methodologies for data collection involved the following:

- Questionnaires
- Hands-on activities/demonstrations
- Focus group discussions
- Planning and feedback exercises

## Demographics and participating institutions

The study was carried in the following institutions:

- Dar es Salaam University College of Education (DUCE)
- Sokoine University of Agriculture (SUA)
- University of Dar es Salaam (UDSM)

Plans to include Muhimbili University of Health and Allied Studies (MUHAS) were cancelled due to low turnout of participants.

The study was designed to include teaching staff across all levels, i.e. University Tutorial Assistants, Lecturers and Professors. A total of 29 participants from the above institutions agreed to participate

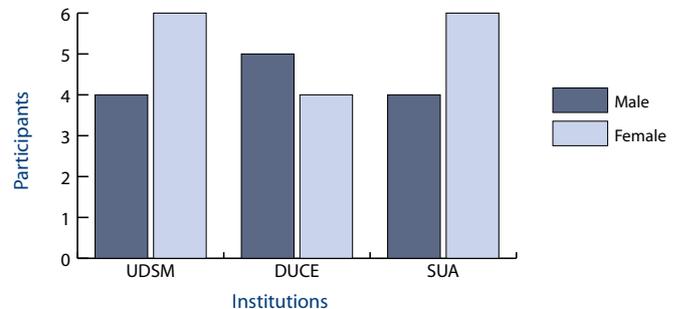


Fig. 1 Study institutions and participants

## SURVEY QUESTIONNAIRE RESULTS

A questionnaire was administered to respondents to complete prior to a hands-on activity. Below are key points of interest gathered from this task.

### Who took part

A questionnaire was given to participants prior to the workshop which assessed their background, knowledge and areas of interest. A total of 29 individuals participated in the study with a fairly even gender ratio (see Fig.1) and a diverse range of positions – ranging from researchers and librarians to associate professors and lecturers (see Fig.2). As this study sought to identify user preferences and usage, it is important to note that the academics who participated came from varied academic backgrounds and disciplines (see Table 1).

### Individual usage of e-resources

The questionnaire aimed to assess not only the skills and methods of users when accessing e-resources, but also what they use and the relevance of available resources in their work. Frequency of use and database selection were taken into account. The responses produced a varied picture showing that some of the most frequently accessed resources were not considered the most useful.

Fig. 2 Duration of Information Literacy training

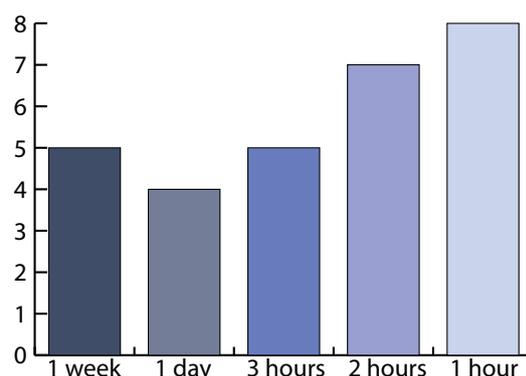


Table 1: Area of specialization within the academic discipline

Specialisation	UDSM	DUCE	SUA	Total
Library/Information science	2	2	1	5
Economics	3	-	1	4
Biochemistry	2	-	1	3
Geography	1	-	-	1
Marketing	2	-	-	2
Foreign languages	-	1	-	1
Linguistics	-	1	-	1
Analytical chemistry	-	1	-	1
Curriculum and teaching	-	4	-	4
Agricultural engineering	-	-	2	2
Animal science	-	-	1	1
Environmental sciences and management	-	-	1	1
Veterinary medicine	-	-	1	1
Wildlife management	-	-	2	2
<b>Total</b>	<b>10</b>	<b>9</b>	<b>10</b>	<b>29</b>

The relevance of resources and those most commonly used is a key aspect in annual resource selection and determining user awareness. However, the survey sample in this case was fairly small and, as the participants came from a wide range of academic disciplines and professional backgrounds, the popularity and exclusion of some databases is to be expected.

The use of the resources, however, is interesting as it shows that some resources are used more specifically for different purposes. The responses indicated that a number of the resources such as ASABE, Annual Reviews, JSTOR, and Oxford Journals were used for finding literature for teaching purposes whereas other resources such as AJOL, British Library Direct, British Psychological Society CABI Compendia and Taylor Francis were useful as supporting literature sources for research purposes (see Table 2 and Table 3).

"I think we need to introduce this type of training as a course offered in the university. It should be a core course... at the moment students attend IL as a voluntary programme..."

**Respondent 3, UDSM**

### Information literacy training

Effective use of e-resources often goes hand-in-hand with strong information literacy skills. Part of the questionnaire focused on what skills they had prior to the workshop, where the training took place, and both the length and content of the training. With a relatively small number of respondents, there was a fair distribution of training, with 27 of the 29 having previously attended an Information Literacy (InfoLit) workshop. The location of the training showed that, while some institutions had conducted more training sessions, at least four separate institutions had run one such workshop.

Table 2: Frequency of use of electronic resources

Database/Journal service	Daily	Per week		Occasional	Never
		3 times	Once		
Acoustical Society of America	3	-	1	1	5
African Journals Online (AJOL)	1	4	3	2	1
American Chemical Society	1	1	1	-	2
American Institute of Physics	-	-	-	-	6
American Physical Society	-	-	-	-	8
American Society of Agricultural and Biological Engineers (ASABE)	-	3	-	-	-
American Society of Civil Engineers	-	2	-	-	-
Annual Reviews	-	3	2	-	1
Beech Tree Publishing	-	-	-	-	4
Bentham Science Publishers	-	-	-	-	3
British Library Direct	-	1	-	-	2
British Psychological Society	-	-	-	1	-
CABI: Compendia	-	3	-	-	-
Cambridge University Press	3	2	-	1	-
Cochrane Library	1	-	1	3	-
De Gruyter Edinburgh University Press	-	-	-	-	5
Geological Society	2	1	-	1	-
INFORMS	2	-	-	1	2
Institute of Electronic and Electrical Engineers (IEEE)	-	-	-	1	3
IOP Publishing	-	-	-	1	3
JSTOR	2	4	-	1	-
Mary Ann Liebert, Inc.	-	-	-	1	-
NPG - Nature	-	2	-	-	3
NPG - Palgrave Macmillan Journals	-	-	-	1	2
Oxford Journals (OUP)	2	4	2	1	2
Policy Press Journals	-	-	-	-	2
Royal College of Physicians	-	-	-	-	1
<b>Royal Society of Chemistry</b>					
Journals Archive	-	1	-	2	-
Journals Online	-	2	-	1	1
Sage Publications	-	1	2	1	2
Taylor & Francis Online Journals	1	4	2	2	1
University of California Press	-	-	-	-	3
University of Chicago Press	-	-	-	-	1
Wiley Online Library (formerly InterScience)	-	-	-	-	2
Wiley Online Library (formerly Synergy)	1	-	2	2	2
<b>World Bank</b>					
Global Development Finance Database	1	2	1	1	1
World Development Indicators (WDI) Online Database	-	2	1	2	1
Global Economic Monitor	-	1	2	12	3
Africa Development Indicators	1	2	1	2	1
<b>Total number of counts</b>	<b>19</b>	<b>45</b>	<b>21</b>	<b>41</b>	<b>73</b>

The duration of the workshops varied from two hours a day to one full week. The varied timeframes also meant varied content – be it time spent and hands-on application or inclusion/omission of some topics. In some cases, participants were highly skilled and were able to apply their learning with ease, however, there were knowledge gaps and previous training was sometimes forgotten because of lack of application or information.

The areas most commonly focused on included: sources of information such as search engines, information gateways, directories and journal databases available through PERii; information search techniques; evaluating information; and bibliographic citation. Skills that were less broadly covered included: formulating search strategies; plagiarism; and methods of presenting information. In some cases, respondents claimed not to know of certain techniques and not to have learned certain methods previously, yet they were seen to use and apply these methods during the workshop. This could be caused by several factors, but it is likely participants are simply unaware of the terminology used to describe some techniques (such as *truncation* or *phrase searching* — which they had applied).

“The training helped me to find relevant information from different sources and am now able to get most of what I want from the Internet or e-resources”

Respondent 4, UDSM

### Usefulness of IL skills acquired

When asked to indicate whether they were satisfied with the previous InfoLit training. The majority of participants indicated they were (see Fig. 3), but many were not. The key reasons given included: insufficient time; poor skills among instructors; insufficient content; and failure to cater for the entire user population within the surveyed universities.

Furthermore, respondents who were dissatisfied with the InfoLit training were asked to comment on measures that libraries would take to improve the training of users. Comments raised included making InfoLit mandatory for all undergraduate and postgraduate students; equipping instructors with appropriate pedagogical skills; and integrating IL into university curricula.

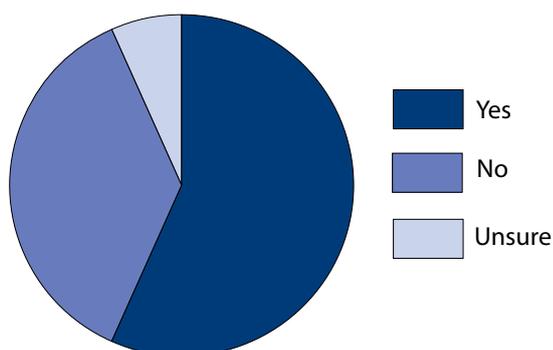


Fig. 3 Satisfaction with Information Literacy training

Table 3: Purpose of use of electronic resources

Database/Journal service	Research	Teaching	Consulting	N/A
Acoustical Society of America	2	1	-	1
African Journals Online (AJOL)	3	-	-	2
American Chemical Society	-	2	-	1
American Institute of Physics	-	-	-	2
American Physical Society	-	-	-	3
American Society of Agricultural and Biological Engineers (ASABE)	2	3	1	-
American Society of Civil Engineers	1	-	-	2
Annual Reviews	1	3	-	-
Beech Tree Publishing	-	-	-	3
Bentham Science Publishers	-	-	-	2
British Library Direct	2	1	1	-
British Psychological Society	-	1	-	-
CABI: Compendia	2	1	1	-
Cambridge University Press	-	-	-	3
Cochrane Library	1	2	-	-
De Gruyter Edinburgh University Press	-	-	-	2
Geological Society	-	2	-	1
INFORMS	1	2	1	-
Institute of Electronic and Electrical Engineers (IEEE)	-	-	-	2
IOP Publishing	1	-	-	-
JSTOR	2	3	2	-
Mary Ann Liebert, Inc.	-	2	-	1
NPG - Nature	1	2	-	1
NPG - Palgrave Macmillan Journals	-	-	-	-
Oxford Journals (OUP)	-	-	-	3
Policy Press Journals	2	4	1	-
Royal College of Physicians	-	-	-	2
<b>Royal Society of Chemistry</b>				
Journals Archive	1	2	-	1
Journals Online	-	-	-	2
Sage Publications	1	4	-	1
Symposium	-	-	-	2
Taylor & Francis Online Journals	3	2	2	-
University of California Press	-	-	-	-
Wiley Online Library (formerly InterScience)	-	-	-	3
Wiley Online Library (formerly Synergy)	-	-	-	2
<b>World Bank</b>				
e-library	1	2	2	-
Global Development Finance Database	2	3	1	-
World Development Indicators Online Database	1	3	2	-
Global Economic Monitor	1	-	1	1
Africa Development Indicators	3	4	2	-
<b>Total number of counts</b>	<b>35</b>	<b>51</b>	<b>17</b>	<b>43</b>

## Challenges

Some key challenges of using e-resources lies in accessibility. A few key concerns were noted including low bandwidth and slow loading/downloading times coupled with frequent and unexpected power cuts. Combined, these two issues can make accessing the e-resources available difficult. Several participants commented that increasing bandwidth should be a priority within insitutions.

“Instead of making e-resources available on campuses, libraries should ensure that these can be accessed everywhere remotely”

Respondent 1, SUA

Another challenge highlighted was the method of access. In most cases, access is granted via IP addresses within an institution. However, this is not always the case and sometimes passwords were required. Password based access can prove problematic depending on how frequently they are changed and how they are given to users. Fig. 4 shows the most common challenges faced.

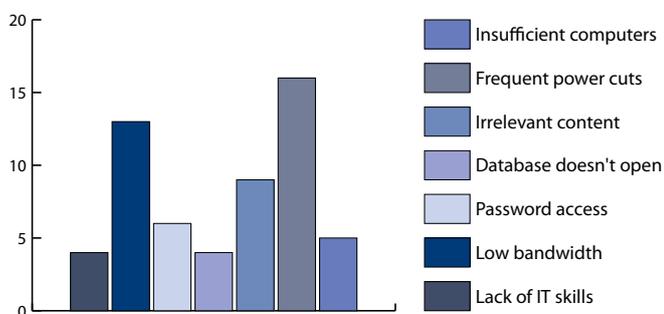


Fig 4 Challenges faced in using e-resources

## RECOMMENDATIONS ON FOSTERING ONWARD TRANSFER OF SKILLS WITHIN RESPECTIVE INSTITUTIONS

From the comments and responses, the following recommendations were made for academic institutions to foster skills transfer:

- Provide more InfoLit training to academic members of staff to help increase awareness of e-resources and improve skills that enable them to make best use of resources available.
- Develop a pilot programme to teach academic members of staff specific InfoLit skills as well as some pedagogical skills to pass on to students. This should be followed by an evaluative study to measure the impact of such training among students.
- Increase e-resource and library promotion to staff, faculty, researchers and students as many users still do not seem to recognize their availability and significance in supporting teaching and learning
- Provide training in pedagogical skills for librarians that will enable them to teach and explain InfoLit more effectively to users.

“Some of us have been using [features like simple or advanced] truncation and Boolean search without knowing what they are called. This is caused by lack of regular IL training... from this exercise, we could see that those who attended IL training for longer durations have been able to demonstrate many useful skills than us who spent only one hour in IL training”

Participant, SUA

## CONCLUSION

The study shows that there is a good deal of information literacy skills and a good awareness of the resources available, however, the level and application of skills and the usage of resources varies greatly between institutions and individuals. The varied focus and length of InfoLit workshops creates an uneven level of knowledge and the ability and willingness to apply the skills learned can have a noticeable impact on the usage of e-resources. Requests for longer workshops and follow-up training are all too common.

The size of the participant group was fairly small and did have a limiting effect on the conclusions that can be drawn. Ardhi University could not participate and there were delays caused by students' strikes. to some extent affected the timings of the exercise.

Key learning from the assessment exercise was that making prior plans for selecting participants, choice of venue and resources was crucial to the success of the entire exercise. Often, poor planning meant that potential participants were otherwise engaged which made it difficult to bring them all together and carry out an assessment. Several institutions (such as University of Dar es Salaam) did not have enough computers in the laboratory, which forced the facilitators to borrow from other sections of the library. In addition, monitoring participants when they were engaged in hands-on activities was not very easy especially when this was done without the aid of software (such as Cam Studio and others) or video recorders. Apart from aspects that participants revealed themselves, several details (such as moments when one made a wrong choice of database or search technique) went on without being properly recorded.

Finally, in the process of this study, the importance of keeping details on training workshops and participants became increasingly clear. Lists of participants and the content covered in InfoLit workshops helps to see where the skills are and is crucial in providing follow-up training or conducting surveys such as this. The key finding, however, was the need to implement InfoLit into the curriculum and to provide more comprehensive training opportunities to staff.

A study examining e-resource usage in academic and research institutions in Kenya was also recently undertaken. For more information, visit:

[www.inasp.info/me-of-e-resources-in-kenya](http://www.inasp.info/me-of-e-resources-in-kenya)