SCIENCE COMMUNICATION AT THE NUST IN ZIMBABWE

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What was the purpose of the study?

(i) To determine whether academics at NUST communicated research findings to their public and policy audiences, and

(ii) To understand academics' views towards public Science Communication (SciCom).

Why are findings of this study useful?

(i) The recommendations are contributing to the institutionalisation of research utilisation (RU).

(ii) They show that SciCom is key in disseminating research findings to broader audiences.

(iii) They highlight the need for a SciCom policy to guide academics in engaging non-academic audiences. A SciCom plan has subsequently been incorporated into the Research Policy.

(iv) They show that academics tend to focus on teaching and consultancy services to generate extra income, and that NUST should prioritise research and SciCom in academics' duties.

(v) They show that academics should get formal recognition in the form of incentives and rewards for going the extra mile to get research disseminated and utilised, with improved funding for research and a budget for SciCom.

(vi) They show that NUST should encourage academics to incorporate RU and dissemination aspects throughout the research lifecycle, from the research proposal stage.

(vii) They reveal that most academics need the help of a professional science communicator to package their research.

(viii) They show that the university needs to introduce public SciCom training programmes.

INTRODUCTION

Public science communication (SciCom) is a relatively new concept for universities in Zimbabwe. It was introduced in the country in 2012 when the National University of Science and Technology (NUST) began to participate in the Development Research Uptake in Sub-Saharan Africa (DRUSSA) programme, which included training workshops. This study, the first of its kind in Zimbabwe, explores the status and strategies of SciCom by academics at NUST. NUST is well placed to excel in the area of research, and the potential for communities to benefit from its unique combination of applied sciences, technology and commerce is extensive. However, the state of public science communication at NUST appears to be in disarray. Research findings are communicated only sporadically, and no defined channels of communication or proper coordination with the Research and Innovation Office exist. Most academics have never communicated their findings to public, media and policymaker audiences, and neither are they compelled to do so. Right now, science is almost entirely a monologue delivered to a very specific, small audience1.

[1] Wilcox (2012:85)

THE KEY RESEARCH QUESTIONS FOR THIS STUDY WERE:

(ix) What are the main strategies of public SciCom practices by academics at NUST?

(x) How are academics participating in public SciCom activities?

(xi) What are the views of academics on support mechanisms provided by NUST to encourage academics to communicate their findings?

(xii) What are the perceptions of academics on interactions with the media?

(xiii) Are there any training programmes to equip academics in public SciCom skills at NUST?

(xiv) What challenges affect public SciCom at NUST?

LITERATURE REVIEW

Pertinent literature on SciCom guided the study, identifying gaps in information and highlighting what other scholars had written about in the field. Studies related to SciCom[2] highlight different scenarios, challenges, and benefits, especially within university settings.

For example, a 2006 Royal Society study found that leadership support was important for academics to engage with relevant stakeholders. Scientists commonly believed external support for public communication was lacking and blamed the absence of resources and managerial support for their lacklustre participation[3,4,5,6]. Scientists who held this view might be less inclined to communicate their research.

In this study about two-thirds of the respondents were either not sure whether the university had a SciCom policy or believed there was no policy, while the balance believed a policy was in place. At the time, NUST had no dedicated SciCom policy, but a plan has subsequently been incorporated into the NUST Research Policy.

Most academics at NUST had never communicated their findings to public, media and policymaker audiences, one of the reasons no doubt being the absence of a policy stipulating SciCom as part of academics' job descriptions. Such a policy needs to offer guidelines and support structures to reach out to non-scientific audiences. Other studies have also found that if communication with the public were part of their jobs, scientists were more likely to communicate. Two-thirds of the time, however, this is not the case[7].

A SciCom policy should also stipulate appropriate rewards for academics' communication efforts. This study found that 70% were not sure or didn't know whether the university rewarded public communication. This corresponded to findings of a study of 40 European research institutions,[8] which have also failed to recognise public communication as an integral part of the research profession, constituting an organisational responsibility. SciCom is an organisational activity and it should be understood as such[9]. When scientists talk about science in public, they do more than purely communicate scientific knowledge to

[2] For the purposes of this case study, the terms 'academics', 'scientists' and 'researchers' will be used interchangeably.
[3] Dudo, 2013
[4] Kreimer et al, 2011
[5] Martin-Sempere et al, 2008
[6] The Royal Society, 2006
[7] Searle, 2011
[8] Casini and Neresini, 2012
[9] Horst, 2013

non-scientists—they represent the world of science and all that goes with it[10].

METHODOLOGY

The study was done in two stages: a survey of 300 academic staff members, of whom 198 responded, followed by 35 semi-structured interviews representing all academic ranks across seven faculties. The purpose of the survey was to determine academics' current opinions and attitudes towards science communication. The purpose of the interviews was to get a detailed understanding of how individual academics perceived the process of SciCom, their motivations and ultimately how (and whether) the process fed into their academic work.

LIMITATIONS

This study was conducted on a small scale at a single university that employs only 413 academic staff. Most studies on public science communication are national surveys done in developed countries in Europe and the USA, and in Canada, Australia, Japan and China, among others. Comparisons of our findings with those from these other, national studies were limited because of the large scope of these surveys. The study therefore made reference to such surveys mainly in terms of similar issues that were also applicable to the findings of the present study.

RESULTS

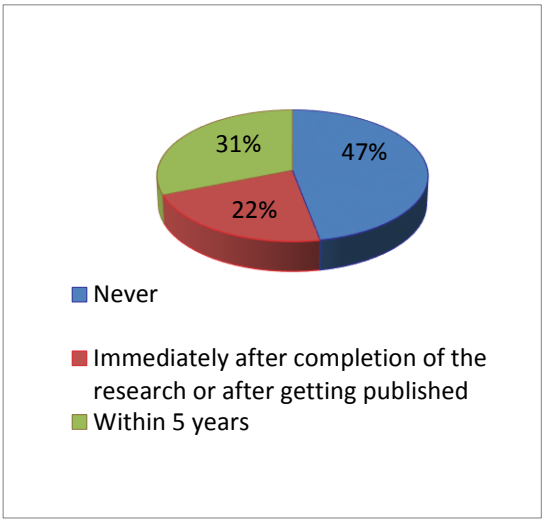
Almost all the respondents (93%) had been involved in research activities between 2009 and 2014. However, research productivity measured by publication output was disappointing, with 34% indicating that they had never been published at all, 38% having been published between one and four times, and only 19% between five and ten times.

In the five years up to December 2014, only 31% of the NUST academics had ever presented guest lectures in public, while only 16% had been interviewed by journalists and only 1% had been guests on television or radio shows to share their work with the public.

The low level of communication with the public, media and policymakers is not confined to any particular discipline or group of disciplines; it is prevalent across all faculties at NUST—as much so in the social as in the applied sciences.

Eighty percent of the academics blamed a lack of time and heavy teaching loads for poor levels of public engagement, and NUST offers no rewards or incentives in the form of career progression for such activities. Without a reward system, academics are not likely to change their practices.

Frequency of communication to public and policy audiences (*N*=19)



Various personal skills are needed to communicate with the public, media and policymakers and these appear to be lacking. Skills may relate directly to communicating science at an interpersonal or public level, or more indirectly to designing, organising or facilitating public science activities.

[10] Horst, 2013

Two-thirds of the NUST academics had never communicated their research to public, media and policymaker audiences. Organisational culture and leadership strategies on public communication are important, since they either encourage or discourage individual scientists to popularise their research. Organisational priorities at NUST, as spelled out in academic staff contracts, stipulate teaching, research and community service. The latter concept is not well defined in terms of what it entails and has been replaced by the newer and narrower concept of the 'civic scientist', which is all about the relationship between scientists and the public.

Academics would welcome training programmes to equip them with skills to discuss science with non-scientific audiences and they believe a dedicated office dealing with this would be a good idea. Acquiring the services of a professional science communicator would also go a long way toward helping organise workshops, seminars and courses for academic staff.

CONCLUSION AND RECOMMENDATIONS

Across all academic faculties at NUST, very few academics had participated in public engagement activities such as giving guest lectures, being interviewed by journalists, appearing on radio or television, writing newspaper articles or engaging the public through social media. Academics were concerned mainly with communicating their findings to scientific audiences at seminars and conferences, and publishing in peer-reviewed journals. The reason for this is primarily the fact that the contracts of academics at NUST do not stipulate SciCom as a requirement for promotion. Therefore, scientists still prioritised scientific publishing, peer recognition and teaching over SciCom to get promoted[11].

The study recommended, inter alia, that the university draft a policy to guide science communication targeted at non-academic audiences; provide adequate support for public science communication through rewards and incentives; introduce training programmes on public science communication for academics; and appoint a professional science communicator.

AUTHOR'S REFLECTIONS:

Until the concept was introduced by the DRUSSA team, the NUST research office did not manage the uptake of research. It also did not have a dedicated person to capture research outputs, nor a system to do so. It did not use public platforms to disseminate research to inform academics, internally or externally, about ongoing research. Such a position now exists, and I have been seconded to act as the university's Research Uptake Management Officer.

Subsequent to this study, I wrote a position paper for the Dean of the Faculty of Communication and Information Science on the applicability of the Hirsch Index for promotional considerations for academics. The paper is still under consideration.

The NUST research project titled 'Textile Technologies and their Indigenous Applications to Rural Communities' has been redesigned to highlight stakeholder and community engagement and social impacts. Messages in this project have been repackaged and was presented by the Vice-Chancellor at the DRUSSA Vice-Chancellor's Seminar in Ghana.

[11] Kyvik, 2011. Jensen et al, 2008