

Reflections on Research Communication, Dissemination and Uptake to Impact Outreach

Seth Christopher Yaw Appiah^{1*}, Jonathan Mensah Dapaah¹
and Kofi Awuviry-Newton¹

¹Department of Sociology and Social Work, Kwame Nkrumah University of Science and Technology,
Kumasi, Ghana.

Authors' contributions

This work was carried out in collaboration between all authors. Author SCYA designed the study. Authors SCYA, JMD and KAN managed the analyses of the study. Author SCYA wrote the first draft of the manuscript. All Authors managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJESBS/2016/26277

Editor(s):

- (1) Jose Angel Lopez Sanchez, Department of Management and Sociology, Faculty of Economics and Business, University of Extremadura, Spain.
(2) Madine Vander Plaats, Department of Sociology and Criminology, Saint Mary's University, Canada.
(3) Stan Weeber, Professor of Sociology, McNeese State University in Lake Charles, Louisiana, USA.

Reviewers:

- (1) Samah Khaled Zahran, Ain Shams University, Cairo, Egypt.
(2) Rohaiza Rokis, International Islamic University Malaysia, Malaysia.
(3) Anonymous, Polytechnique Montréal, Canada.

Complete Peer review History: <http://www.sciencedomain.org/review-history/16526>

Short Research Article

Received 8th April 2016
Accepted 25th July 2016
Published 12th October 2016

ABSTRACT

Background: Disseminating research findings remain a central issue as far as operations research is concerned.

Objective: This study sheds light on experiences; observed patterns and identified limitations with research outreach and the challenges associated with the approach, mediums and expected impacts they are to yield.

Methods: The study is informed by the researcher's reflection on three research disseminations and communications conducted. Using an observatory and phenomenological design approaches, the experiential accounts and processes bordering on scientific research outreach are described and analyzed on thematic basis.

*Corresponding author: E-mail: sychrist_2007@yahoo.com;

Findings: In carrying out research outreach, it was identified that presentation of study findings were done when the target audience were mostly distanced from the study findings. This constitutes a challenge for the use of research findings. Except for the findings in rural Ethiopia where the results were communicated to the target audience in the Youth in Action programme, the other two studies reported in Ghana concerned itself with reaching mostly to the academic community with policy makers absent.

Recommendation: Addressing and identifying the best way possible to communicate and ensure uptake of research findings remain imperative in regard to operation research. This causes research to remain useful to the people for whom and by whom research is being conducted.

Keywords: Research dissemination; knowledge intermediary; Ghana; Research communication; research outreach; stakeholder involvement.

1. INTRODUCTION

The need for uptake facilitated by research outreach is fast catching attention within academic communities [1]. This calls for exploring different and effective approaches in disseminating research findings in addition to transferring appropriate knowledge. It has been reported that while about 73% of researchers and Non-governmental organisations use workshops and conferences to present research results, only 43% of research findings provide specific advice to policy makers and research funders for stakeholder uptake [2].

Carter and Paulus report [3] that the argument and traditional understanding of research as having the ability to reach the wider community because it has its results published online in peer reviewed journals has been questioned and found inadequate in reaching policy makers and potential beneficiaries. This approach to research 'research dissemination' is driven by a 'supply side' conceptualization where researchers initiate research themselves. In the opinion of Obeng-Ofori, this is so because researchers always have the arduous task of combining teaching and research hence ending their research only with dissemination [4]. A more advanced way of getting research to its target audience is through purposeful and strategic direction of study findings. This is known as 'research communication'. Universities and researchers remain better placed to use their results to inform policy if careful attention is paid to critical components of university outreach such as research communication, research uptake, the target audience and the knowledge intermediary [1]. Research dissemination often occurs through conferences, academic or online publications [5]. In research communication complex findings are broken down into simple format, languages and context that can easily be understood by

lay persons beyond normal dissemination of research findings [3]. Critical to research findings is research uptake which is demand driven. In the opinion of Knezovich, research uptake provides appropriate information to stakeholders to formulate policy processes [6]. In between research findings and uptake is the role of target audience who stand to benefit from research or university outreach. The target audience is different from dissemination audience, a distinction which has not been clearly delineated. This has caused many good research works to be limited in impact [1,7].

Towards achieving sustainable development, the role of knowledge intermediary (KI) becomes crucial. The duty of knowledge intermediary (KI) is to link and serve as a conduit in international development linking research or evidence to policy. Though libraries and journalists have served as knowledge intermediary historically, their effectiveness in the present day has become questionable. They are often not utilized presently by researchers or policy makers since they do not find those areas adequate place to source for evidence-based research [8]. These traditional platforms do not attract the traffic of readers they used to enjoy due to the surge in online platforms. This calls for exploring multi dynamic ways of processing and sharing research output. This multi dynamic approach calls for a conceptualization of how outreach can be made effective. Ostrom [9] explains that conceptual frameworks aid in identifying the individual indicators that have the potential to determine "general relationships" among the elements in the conceptualized framework. This can be considered for proper impact analysis [10-11] when research outreach is carried out.

In Ghana, research communication appears very limited as researchers are constrained by the several factors key among them being financial

support. More to this daunting task remains the issue of not incorporating research communication, dissemination and uptake in the larger project planning phase. The general thinking has been that, academics are only knowledge generators or producers. Other groups or entities should take it upon themselves to access that knowledge produced and make it usable to the larger community. The demerit of this argument is the unresolved question of what the merit is in strenuously conducting cutting edge research only for the findings to remain within the academic walls if researchers decide not to communicate or disseminate. Noticeably, the question that seeks answers is whether academics organize conferences only in the quest to attend so as to present evidence of attendance for academic promotions?. Though, there is little or no empirical evidence to buttress this notion, the inability of conference to release at least policy briefs and academic stance on matters of national interest emanating from research conference proceedings reaffirm such notions. This development has made it imperative for the current study to be conducted within the Ghanaian context, exploring how university outreach could be enhanced for research to have the necessary impact it deserves and is intended to generate.

2. METHODS

This paper is informed by a descriptive and phenomenological design that used desktop research, document review and conference papers presented by the researchers. The study is descriptive in that the researchers describe the issues as they observed. From a phenomenological perspective, the submissions are experienced accounts by the researchers during the period the studies were presented at the various conferences (2013-2015). The phenomenological account was adopted by the researchers through their direct participation of the phenomena, thus research conferences, workshops, and seminars. The researchers share experiences through conference attendance and seminar paper presentations. The direct observations in respect of research outreach are also documented. Through the descriptive approach, accounts are made on the efforts made by university/research institutions to increase outreach. These accounts are direct first hand cumulative descriptions that the researchers had in the various conferences, research outreach seminars, workshops and

published papers presented at peer reviewed conferences.

The study settings are Woldia in the Amhara region of northern Ethiopia, the Kumasi Polytechnic and Kwadaso Sub Metro districts in Kumasi of the Ashanti region of Ghana. The sampling was purposive in nature. Only three conference papers aided by direct participatory observation of the researchers are discussed. In addition to a desktop review, related literature pertinent to outreach were consulted. The analysis is purely descriptive and qualitative in nature using direct observation and experiential account by the researchers. The conduct of the study had received ethical approval and as such their utility in the current study is in conformity with the Helsinki declaration.

3. FINDINGS

The experiences and observations of the researchers are shared from three research conference presentations. The results are presented in the light of how scientific research outreaches could be enhanced. The bottlenecks to research communication, dissemination and uptake are examined. The three studies were conducted among participants located in distinct geographical and cultural context (Ghana and Ethiopia). However, the two studies in Ghana have some similarities in their context, social milieu and culture. Two of the research findings were submitted in peer reviewed international conference held in Ghana. The third scientific paper was presented in Ethiopia at a stakeholder meeting with a multi-dimensional staff representation of Save the Children International and PaDet –a Non-Governmental Organization located in Woldia, in northern Ethiopia. The reason for the inclusion of the Ethiopian paper was to explore how research communication and dissemination was facilitated across other Sub Saharan context where challenges with research uptake remain almost similar.

3.1 Research Communication–the Efficacy of Stakeholder Briefing before Final Research Uptake

The first study concerned itself with proceedings titled “Preliminary issues: Sustainability, Youth In Action Programme in Amhara region, Woldia”. This presentation was made on August, 18th 2015 in Woldia –Ethiopia. The objective of the study was to document changes in financial

literacy among youth enrolled in the Youth In Action intervention. A mixed methods approach that included a survey with youth, focus group discussions with parents, youth and facilitators triangulated from across multiple sources was adopted. In total, the study collected data from 279 youth, 38 parents, and 18 facilitators. There was marked increase in self-reported knowledge and attitudes toward financial literacy (savings, budgeting, expenditure management, and planning for the future) among the youth. Except for 4% (6/148) youth, all YIA youth in this study reported saving money during their time in the program. In the study, a case was made in respect of the need for community ownership, resource mobilization and bottom up feedback approach to information flow towards sustaining the Youth In Action intervention by Save the Children International and MasterCard Foundation. Similarly, the urgency for a review of per diem allowances for programme facilitators was highlighted [12].

The communication strategy of the scientific report necessitated that, findings were shared with all the stakeholders in Ethiopia country office at various levels of the programme implementation process. In light of this, the potential beneficiaries were able to make a feedback input in the findings before the completion of the final report. Thus, the application of this strategy with research communication preceding research dissemination enhanced the scientific worth of the recommendations and shaped the bottleneck and practicality of the recommendations. It fine-tuned the findings and gave ownership to the stakeholders. Despite the utility of this approach in enhancing research communication, research dissemination did not appear to be much a priority by the stakeholders in this context. It is instructive to know that while research communication focuses much on stakeholders, in the context of this study, dissemination which principally targets the academic community is minimally prioritized.

3.2 Increasing Research Uptake/Outreach by Engaging Stakeholders and Potential Beneficiaries in Research Conferences Attendance

In the second paper, we address 'Youth friendliness of sexual and reproductive health service delivery and service utilization in the Kwadaso Sub-Metro of the Ashanti Region, Ghana. The study findings were disseminated

during the 2nd CeCAST International Conference organized by the Centre for Cultural and Africa Studies-KNUST. The study objective was to assess the level of youth friendliness of sexual and reproductive health service delivery and how it influences service utilization. Using a multistage stratified sampling technique with qualitative and quantitative approaches, 170 youth (150 in-school and 20 out of school youth) aged 10 – 24 years were recruited in the study. The descriptive analysis demonstrated that out of the 150 in-school youth, 56% ever had a boyfriend or girlfriend, with one third (39.3%) not recalling the length of stay with partner. It emerged that 58% had heard about sexual and reproductive health services offered in the study area but only 55.8% of all categories of youth had used at least one or more reproductive health service before. Rating of services as very friendly and friendly was reported among 37.2% and 44% respectively of youth who had used sexual and reproductive health services in the study area [13]. In this research output, research dissemination was executed before research communication. Interestingly, the researchers have not conducted any research communication. The explanation to this development is obvious. Our study was investigator driven, thus a supply side research which did not have the necessary funding needed for research communication and outreach. More to this, research communication was not built into the entire study design from the commencement to the completion of the research. Media coverage of the conference was limited to intra-university media platforms, thus scientific evidence was limited to the confines of the university community. The post conference committee facilitating uptake and release of conference proceedings ended their task exactly the day they were formed as the conference ended.

3.3 Building Research Communication through Deliberate University/ Media and Business Collaboration in Scientific Communication and Uptake

The researcher's observation emanates from conference proceedings where the Paper: '*The influence of Science and Technology on Dress Sense and Fashion Taste amongst Polytechnic Students in Ghana*' was presented during the 1st International Conference on Applied Science and Technology (ICAST, 2014) [14]. In the cross sectional design with a sample of 102 students

aged +15≤ 40 years, despite the association between influence of science and technology and dress sense, this was not statistically significant [$\chi^2=0.21$, $p\leq 0.005$]. The study identified a very weak negative correlation between the future influence of science and technology on dress sense and better students dress [$p=-.2$, $n=102$, $p<.05$]. Though the communication strategy of the research conference had media representation, their functions were limited to the opening ceremony of the conference. The role of media in disseminating the scientific evidence submitted during the conference proceedings was absent. The media did not cover anything on the main reason for the occasion: Research dissemination. The conference proceedings are yet to be published and no feedback has been sent to researchers on the publication history to date. Years have passed by and new call for papers are being made for similar conference, However, the promise of publishing earlier conference proceedings is yet to be realized. It appears, the idea of publishing emerged as an afterthought and research conference were being organized just for their sake. Notwithstanding, the innovative and technological advancements that the researchers in the conference submitted through their presentation, the industrial community, the larger non-academic population was cut short of seeing, knowing and benefiting from the breakthroughs in scientific endeavours presented by the researchers. The keynote addresses by the special guest at the various conferences emphasized the call for a paradigm shift, necessitating for research that is demand driven and not only a supply engineered, motivated by the quest for academic promotion.

In the light of the observations and urgency for research dissemination, communication and update, we propose a conceptualized model for an increase in research outreach. This conceptualization is integrative and offers a holistic window to gauge research findings if science is needed to spark our developmental agenda towards realizing the sustainable development goals by 2030. Research outreach is considered the dependent variable whose drivers are research communication, research uptake, research dissemination and university capacity development and multiway discourse. When these independent factors have been directed in an integrative framework within every research whether demand driven or supply driven, outreach is expected to be effective, research will become what it ought to be-helping solve or understand human complex

problems. The proposed model views effective research outreach to encompass one that has an inbuilt communication, dissemination and research uptake strategy. In this way, a blend of university driven capacity building and institutional framework analysis for uptake and a multi-way discourse on how evidence-based results can be translated to reach target audience for community benefit. The independent factors relate to one another in a systematic pattern. The implication is that, simultaneously research communication may integrate research dissemination, which also could impact research uptake. The relationship between uptake and university capacity development is one that is not unilateral in approach. While university research capacity development defines the nature and trend of research uptake, the feedback from the research uptake and gaps in the implemented knowledge developed shapes future patterns in research communication, uptake and dissemination. There is a shaping and reshaping of outreach through an eclectic adoption of the model. The anticipated results are better realized when universities commit to developing the skills of its faculty. This is necessary for a proper adoption of the model to impact outreach. Much more skill and expertise is required for faculty to be able to contribute to evidence-based research than having a Doctoral degree-the minimum requirement for faculty membership in most universities. Outreach has the potential to become more visible if university commits to providing its faculty with soft skills through a multi-way discourse. More to that, research communication remains effective when study findings are communicated in simple language guided by info graphics that makes the findings appealing and readable. Research dissemination will require designing study protocols whiles engaging research beneficiaries with the dissemination plan. The focus should not only be in publications and peer reviewed journals which has colleague researchers as the potential beneficiaries. It should not also neglect the research target audience around whom the study problem revolved. The application of this model in impacting outreach and ultimately benefiting society is not without challenges. The principal prospective challenge is funding. Thus, university communities are challenged with competing demands. Research outreach becomes a little consideration on most universities scale of preference with little prioritization. There is also the challenge of some researchers not having the necessary skill to convert their research

works from the traditional research report to easily understandable forms beneficial to people outside the domains of scholarship and academia. These factors that mitigate against the full adoption of the model to improve outreach could be addressed through strategic planning. The first attempt will be for university to streamline a research prioritization and outreach agenda that is reflected across all faculties and units of the university. Through such a policy, budgetary allocation will be made at various levels of university management system and the universities would commence the approach from a lower step with timelines and yearly set targets. Universities promotions and appointments could be linked with the outreaches that faculty

members would have made. When this becomes a core criterion for appointments and promotions, it will serve as a means of institutionalizing research outreach in academic and research institutions.

3.4 Conceptual framework for Research Outreach and Uptake

This framework explains how research communication could be approached to yield the necessary impact. It discusses the interrelationship among the critical factors that need to be considered in research communication.

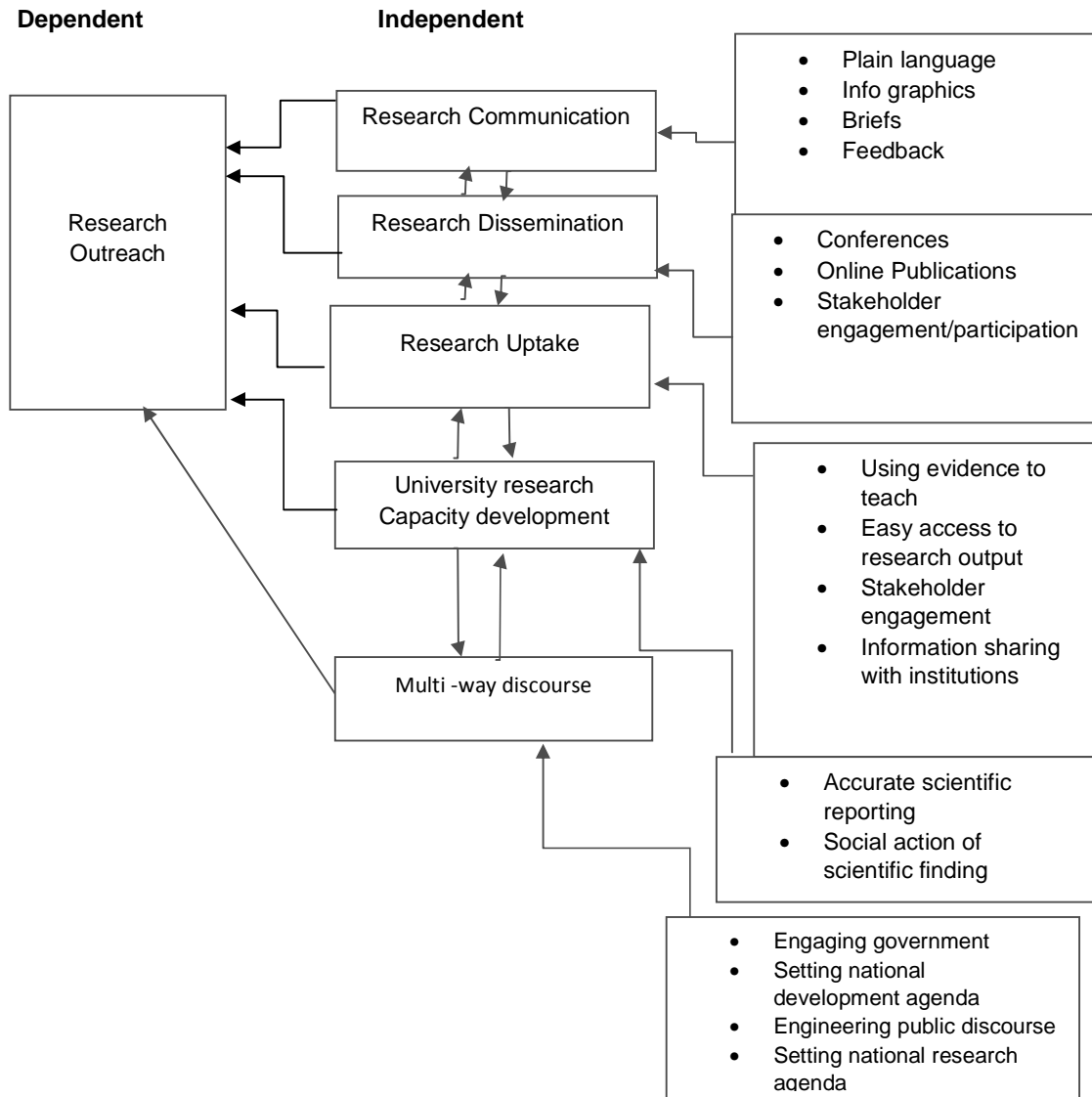


Fig. 1. Proposed framework for research outreach and uptake

4. DISCUSSION

The study presents an experiential and participant observatory account of research outreach activities that the researchers participated. The current study emanates from three presentations, two made in Ghana and one made in Ethiopia. The observations made in all the presentations are consistent with Nguyen finding where research dissemination appears to be the most comfortable reporting platforms for researchers across the globe [1]. Except but for the presentation that was carried out in Ethiopia, the Ghanaian cases chiefly adopted research disseminations over research communication. It emerged that few research works conducted by Ghanaian scientist presented at conferences move beyond conference presentations. These result due to the laborious work associated with fine-tuning conference papers to suit journal specifications. The fact that dissemination appears a challenge for some Ghanaian scientists is partially explained by the high workload on researchers [4]. Among those who attempt to disseminate, because the study is often supply driven research, the temptation to publish quickly in any journal becomes high and this ends in works deposited in predatory journals.

It has been observed that most conference organizers particularly in Ghana do not have reputable institutional peer review journals to publish fine-tuned conference proceedings and organizers do not feel concerned about the need to have one as successive conferences organized become repeatedly the same approach. Institutions that have such peer review journals are mostly not consistent with the frequency of publication as delays characterize their dissemination processes. Consistent with Adolph et al. [7] and Nguyen [1], the dissemination targeted audience are missed and the communication targeted audience are also reached. These findings do not reach the expected stakeholders and policy makers whether through communication or dissemination. A handful of participants become aware of the latest research innovations that exist in their area of research. In almost all cases from an observatory point of view, research communication is considered when the study is funded by "North" counterparts, with a demand driven agenda. Conference organizers collaboration with stakeholder during conferences is very limited. This remains worsened when research evidence are not often

reported to the larger community because media are mostly hired to cover conference opening ceremony neglecting the research findings to be presented. The role of Knowledge intermediary (KI) appears to be distinct, not acknowledged or has not been explored in shaping university's research outreach agenda. Their utility will help shape University's agenda on how research communication capacity could be developed to enhance effective collaboration with donors and governments, etc. In the light of such developments, our proposed model comes as a better way of increasing research outreach. This can only be done if the determinants of research outreach are factored in an eclectic fashion. Thus we argue that while adopting this framework, research dissemination should be a core component during the study protocol designing. It is anticipated that, in both research dissemination and communication, the target beneficiaries would be invited to partake in the knowledge sharing experience. While we propose this model, we are cautious to admit that other variables could be included to make research yield the intended outreach impact it seeks to yield. While researchers and institutions of higher learning remain custodian and producers of knowledge through research, they remain the best group of persons to champion research outreach.

5. CONCLUSION

The observations, experiences and participatory knowledge from research has demonstrated key lessons that need to be highlighted for universities and researchers to bring the desired impact towards achieving the sustainable development goals by 2030. A major concern in either dissemination, research communication or uptake requires securing multi-way discourse to stimulate research awareness and stakeholder's interest from an eclectic perspective. To achieve this requires that in communicating research findings, results are written in plain language. Research dissemination should not also contain entirely too technical terminologies. The adoption of info-graphics has emerged as a tool that makes research findings well appreciated and visualized. Study results that remain appealing to beneficiaries' sense of touch have the propensity to be well understood. University media collaboration remains paramount in achieving set targets in research outreach. The model developed in this paper is worth adopting to achieve the goals of research outreach. Nonetheless, its application is likely to be limited

by three principal factors: Funding, University leadership prioritization of research outreach evidence by active actionable policy and the adequate faculty capacity (soft research skills) necessary for research communication, dissemination and uptake. The applicability of this model is yet to be demonstrated. Its practical demonstration and utility in meeting the stated benefits that the researchers have posited in this paper comes as an area that is worth investigating. This will present the weaknesses and strengths of model from a practical application perspective.

6. DEFINITION OF THEORETICAL CONCEPTS

6.1 Research Dissemination

The process by which researchers relay their research findings to the wider community by publishing results of study findings in either online peer-reviewed journals or institutional journals and research conferences. The targeted audience is mostly researchers and academics.

6.2 Research Communication

Research communication entails that complex study findings are broken down into simple format, languages and context that can easily be understood by lay persons beyond normal dissemination of research findings. The principal target audiences in research communication are the stakeholders around whom the research problem revolved.

6.3 Research Uptake

Research uptake involves the processes of ensuring that study findings are being put into use, while monitoring the feedback resulting from the use of study recommendation. This provides opportunity to evaluate the study findings and explore potential sources and ways of improving upon the uptaken recommendations.

6.4 Knowledge Intermediary (KI)

The duty of Knowledge Intermediary is to link and serve as a conduit between International development agencies, academic research institutions and policy implementers linking research or evidence to policy and practice. Some institutions may decide to call such portfolios as knowledge brokers, but whatever

the title is, their role remains similar: fine-tuning research findings into simple readable formats, presenting them through policy briefs and championing an agenda for uptake of the knowledge generated.

6.5 Research Outreach

The combined activity of research communication, dissemination, research uptake is what constitutes outreach. Outreaches have their focus targeted much more on improving systems, processes, services delivery and total improvement of the people whom the outreaches were targeted.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Nguyen D, Research Uptake: The value of effectively communicating research to your audience. European Scientific Journal (Special/ edition), 2014;578-589 ISSN:1857-7881
2. Proctor AB, van der Gaag, NFJ, Davies J and Carlile E. Learning lessons on research uptake and use: Donor review on research communication. Triple Line Consulting Ltd, UK: Report prepared for UK DFID. 2009;65.
3. Carter I, Paulus K (eds) Research Gwyn E. Guest Blog: Improving the impact of development research through better communication and uptake. Foreign & Commonwealth Office (FCO), Science & Innovation Network, Canada: 22 December 2010. Web blog entry; 2010.
4. Obeng-Ofori D, Developing the culture and discipline of conducting and publishing scientific research: Guiding principles. JENRM. 2014;1(1):1-7.
5. Shaxson L, Improving the impact of development research through better research communications and uptake. Background paper for the AusAID, DFID and UKCDS funded workshop: London, November 29th and 30th, Delta Partnership, UK: Report prepared for workshop; 2010.
6. Knezovich J, The challenges of Research Uptake Part I: Systemic, institutional and individual barriers. Development Research

- Uptake in Sub-Saharan Africa (DRUSSA), 2012, South Africa.
7. Adolph B, Herbert-Jones S, Proctor F, Raven E, Myers M. Learning lessons on research communication and uptake. A review of DFID's Research and Evidence Division's human development (health and education) and agriculture portfolios and their contribution to the 30% policy. 2010 Jul 30.
8. Gwyn E, Guest blog: Improving the impact of development research through better communication and uptake. Foreign & Commonwealth Office (FCO), Science & Innovation Network, Canada: 22 December. Web blog entry; 2010.
9. Ostrom E, Background on the institutional analysis and development framework. Policy Stud. J. 2011;39:7–27.
10. Niemeijer D, de Groot RS. A conceptual framework for selecting environmental indicator sets. Ecol. Indic. 2008;8:14–25.
11. Hammond A, Adriannse A, Rodenburg E, Bryant D, Woodward R. A, Systematic approach to measuring and reporting on environmental policy performance in the context of sustainable development; World Resources Institute: 1995 Washington, DC, USA.
12. Appiah SCY, Save the children international. Nikhit D'Sa, Yosef Gebrehiwot, Nurling Angaw, Hailemariam Kassahun, Jonathan Dapaah. Documenting changes in youth financial literacy and savings, a technical field evaluation report on youth in action program, Ethiopia Save the Children in Partnership with the MasterCard Foundation; 2015b.
13. Appiah SCY, Badu E, Dapaah J.M, Harriet T, Abubakar M. Youth friendliness of sexual and reproductive health service delivery and reproductive health service utilization in Ghana',. International Journal of Innovation and Applied Studies. 2015;10 (2):716-725.
14. Schall M, Appiah SCY. The influence of science and technology on dress sense and fashion taste amongst polytechnic students in Ghana" at the 1st International Conference on Applied Science and Technology (ICAST,2014) with the theme: Building a Modern Society through Technological Innovation organized by Kumasi Polytechnic, November New Great Hall, Kumasi Polytechnic, Ghana (Conference proceedings). 2014;19-21.

© 2016 Appiah et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<http://sciencedomain.org/review-history/16526>