African Universities' Research Approaches (AURA) Programme Materials: Engaged Excellence in teaching and research

Online Conference: Researchers of the future: 21st Century Approaches for effective global research
2-4 November, 2015. Co-hosted by the AURA Programme and WHO HIFA-Fr.

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The **AURA Programme Consortium** and **WHO HIFA-Fr**
are pleased to announce:

RESEARCHERS OF THE FUTURE: 21ST CENTURY APPROACHES FOR EFFECTIVE, GLOBAL RESEARCH

*An **online** learning event and facilitated discussion which will take place over three days:*

From 12.00/Midday to 15.00 GMT
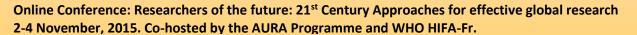**Monday 2nd** to **Wednesday 4th November, 2015**

Topic 3. How would a shift in research practice, applied in the social and digital environment, impact on the capabilities of researchers in the future?

Laura Camfield, Senior Lecturer, School of International Development, University of East Anglia (UEA)

I'm Laura Camfield from the University of East Anglia (UEA), and I've been asked to talk to you today because since my PHD in the early 2000s I've been working exclusively in an inter-disciplinary way, well at least trying to, using mixed methods on two large international projects both looking at well-being. So, I faced quite a lot of the challenges but also understand the value and importance of this work particularly as we deal with increasingly complex problems in research and evaluation.

In the last five years since joining UEA my work has been more focused around methodology and particularly around pedagogies of teaching inter-disciplinarity and mixed methods, and thinking about how within research projects you create conditions in which that can best exist. So, in the next ten minutes I'm going to talk a little bit about some of my experiences. **And I'm also going to use slides and I would say in advance when I want the slides to move on so that they can be synchronised. This is more to give you a little bit more detail on the work that I'm talking about as I'd be necessarily brief in this overview. You have to excuse me looking away down at my notes.**

The first question I wanted to raise is this question around multi, inter, post, trans disciplinarity; all these different terms, but what do they actually mean? Well, as part of the q-squared movement there was quite a good analysis made of the differences between multi and inter-disciplinarity. And, basically multi-disciplinarity is where you bring multiple disciplines together. But they might not be interacting, they might not be questioning each other's paradigms. They might be working alongside each other, but not really working together. Inter-disciplinarity attempts to move beyond that. It attempts to get people engaging critically with paradigms held by other disciplines. And also to think about how their own work can be improved by drawing on different examples. Trans-disciplinarity is very similar to inter-disciplinarity where you have researchers working together to solve a common problem. And then, post-disciplinarity would be a situation which is often said to be reached within development studies, where people are less strongly attached to their particular disciplines. And, actually I think that that can be quite problematic because I think being grounded in a particular discipline, in my case anthropology, gives you a place from which you can speak, from which you can

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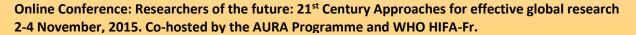
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reflect critically on your own practice or launch into a critique of other's work. I mean, it gives you quite an important perspective.

So, when people talk about inter-disciplinary working it can just mean picking up methods from different disciplines and putting them in a toolkit without much thought about different disciplinary understandings around ontology (how the world is) and epistemology (how we can know about the world) which is obviously very important and shapes the concepts that we use, the methods that we use, and then the ways in which these methods then construct data. I mean the very notion that methods can construct data indicates that I come from a particular ontological and epistemological perspective.

All of these disciplines and these methods have particular intellectual histories and I think it's very important to understand those in using them, which is why inter-disciplinary working is a very good model. If you move to post-disciplinary then you forget the history essentially and I think you can then perhaps head into some problems. There's also a sense in which, within development studies at least, a post-disciplinary vision could be one that's influenced by the strongest actor which would undoubtedly be development micro-economics. So, a post-disciplinary world might be one where we in fact all become economists and I don't feel so comfortable with that. I think that particular disciplines have rich and important contributions that we should draw on. So that's why, although it is challenging to do in practice, I position myself within inter-disciplinarity.

Then the second thing I would say is that the nature of the problems that we encounter as researchers and as evaluators are increasingly complex and complicated. So if we move on the next slide which is a summary of Glouberman and Zimmerman's work around the difference between simple, complex and complicated we can see that actually very few projects or interventions fall in to this first category of simple. These are the so-called low hanging fruit. The kinds of things the Bill and Melinda Gates Foundation focuses on. But arguably all these low hanging fruit have been picked and what remains now are the truly wicked problems of development. Problems which involve comprehensive social change which may be resisted by many actors and are socially embedded such as Female Genital Mutilation (FGM), child marriage. Problems about which few agree even that it is a problem or particularly what the solution would be. And I think also when you look at simple interventions – so mosquito treated bed nets, something I've always imagined is a paradigmatic simple intervention, but when you know a little bit more about it you discover that in fact that isn't the case and that even simple interventions have complex aspects to them. Within the case of bed nets it's actually very common in fishing communities for fishers to use the nets to do their fishing rather than necessarily to protect their families. Obviously it's a choice that they are making but it's one that you would need to be aware of in evaluating the success of distribution and also perhaps a mismatch between the success of distribution and reduction in incidence of malaria. Similarly with iron tablets the data has shown it's a great intervention if a single individual gets it. If it's shared across the whole family, if the child is then ill as a result of taking iron tablets, it tends to be less successful.

My third point would be engaging with these increasingly complex problems, and emerging problems, recalls Donald Rumsfeld talking about the known knowns and the unknown unknowns, what we don't know that we don't know. That seems very much to characterise the state of many interventions and research problems like the reintegration of child soldiers – it's very new and very problematical on a number of levels. In terms of how you actually do it you learn as you go along. Programmes need to be quite flexible and adaptive, and then very detailed in recording what they're

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doing. So whereas with a simple problem you could imagine a single discipline might possibly be able to solve it. How do you get vaccines to work and how do you get vaccines to the children? Once the children are vaccinated they're then not vulnerable to particular diseases. Maybe you only need clinicians, nurses, specialists in healthcare distribution, but for more complex and multi-dimensional problems around say economic empowerment then clearly you need a number of different specialisms working together. And this is where we come back to this idea of inter-disciplinarity.

So my fourth point would be that disciplines are quite different. We are socialised quite differently within these disciplines, and we often hold quite different value systems which are then associated with the approaches that we take. So, this question of the place of the individual within anthropology and other disciplines, is very, very important. If you have a more quantitative mind-set then you don't get it quite right with an individual questionnaire, but actually it's cancelled out by the large numbers of other questionnaires people take. It is not really the individual, it's the average, it's the mean; that's the important thing that you're working towards. The place of context as well - is this something that should be controlled for, or is it a valuable object of study and learning in itself? That's definitely a disciplinary difference. And, also the way in which you work with participants and colleagues. Is it okay to administer a massive questionnaire to people that takes four to five hours? Quantitative people say yes it is. Qualitative people say no it isn't (actually some quantitative people say that there's a clear diminution in data quality as the questionnaire length extends, so obviously there are critical perspectives within different disciplines).

I think the final and very fundamental difference is of course the extent to which you believe that the data is not collected, but is actually generated through the interactions that produce it. As an anthropologist or a sociologist or a social scientist I think that would be a premise that you would work from. You need to look very carefully at the instruments that you use and the context in which you collect data to see the ways in which you might be inadvertently constructing the data that you then go on to report. And obviously an awareness of this, and also the way the biases a particular researcher holds then shapes the way in which they analyse their data, is coming into economics and other disciplines. And we see this very much in the increasing advocacy for replication because few studies in fact within psychology and economics can be reliably replicated. I think Ioannidis found that it's about a third because very particular conditions were in place at the time in which the study was done which means it can't necessarily be assumed that it is a general phenomenon that's being observed. It could be in fact be one constructed by the study itself. So, economic replicators have actually found that treasured ideas around the reasons for economic growth in Africa or the benefits to women of micro-credit when you attempt to replicate them just don't stand up. And this is a really important insight for programming.

The fifth thing I'd like to talk about would be something that you tend to come across when you teach mixed methods. It sounds like a naive question, but is in fact probably the most fundamental one what do you do if you get different answers? What if the interviews tell you one thing and the surveys tell you another thing? This is actually a very real problem, particularly when you come to present your research to others. And this is probably why, and I'll say more about this later, some studies tend to analyse and present their data separately and don't analyse some types of data.

I think it's fair to say that policy-makers don't necessarily embrace poly-vocality. They actually feel that many contradictory voices may reduce the credibility of evidence rather than increase it. So, if you have a sort of action orientation you want a 'just so story' or 'killer facts' to base your intervention on then mixed methods research which can actually be better at deconstructing these

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simple stories is maybe not your ally as it doesn't necessarily give you the information that you need. And that's why we sometimes see an approach and analyses of mixed methods work where the quantitative data is presented as the truth and then this is illustrated by quotes and text boxes but there isn't some of the fundamental challenging of the quantitative data that you might like to see in a genuinely inter-disciplinary study.

My sixth point would be around the fundamental hierarchies within teams. This can be about quantitative or qualitative research, particularly in terms of how the research budget is allocated, but they can also be about global north, global south, age, gender, ethnicity, even contractual status, for example, whether you're an early career researcher rather than someone who is more established.
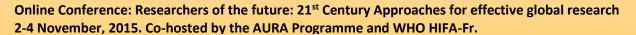
So related to this, of course, are slightly different incentive structures within research teams. We see this very much when we work in communities and participants clearly have different incentives to respond in different ways so you know they have their own motivations as well. And we need to take that into account.

I think that one example in which this is very obvious is the focus on publication in European and US universities. In the UK this is very much crystallised around this figure of the REF (Research Excellence Framework) which not only requires international publication but requires very particular forms of publication. Ideally single authored papers in elite single discipline journals. So, the emphasis is on focus, specialisation, and having more clearly identifiable individual contributions. It is not about everybody who worked on the project being credited on the paper, that's not approved of, it's not about devoting lots of resources to communicating your findings to practitioners and policy-makers... I mean, yes, we have an impact agenda, but in the end it seems to always come down to high impact factor journals which are usually single discipline journals rather than the broader development and policy journals that practitioners tend to read.

So people have different backgrounds, they are motivated by slightly different things and this is something that we need to balance in working as a research team. But what are the kinds of practical strategies that we can use? Well, ideally integration starts right from the start so qualitative and quantitative teams are working together on research instruments. But this obviously requires quite a lot of time, it requires mutual respect and under-standing and creating a culture within which people can exchange quite freely. And it requires careful thought around the research design to allow sequencing. There's the harmonisation of the schedule which means that people have enough time for analysis. So the quantitative data can build on the findings of the qualitative or vice versa without that analysis time this doesn't really happen. And there perhaps needs to be harmonisation of schedules so the survey researchers can participate in the earlier qualitative field-work and get a sense of what problems are in the community and the best way to talk about them. But this probably feels like doing everything twice. There's a certain benefit in terms of specialisation and time saving in splitting different teams and getting them to do different things, but then you then you lose this holism, this chance to exchange.

So, the final area that can be problematic is writing together. I'm going to discuss this in relation to a particular case a little bit later on, however, the main problem is usually time because field-work always takes longer than anticipated. The processing always takes longer than anticipated. Usually you've only just finished your field-work when your grant has actually run out. So, when you come to do the analysis, you work with the data you're familiar with, you work with the colleagues you're familiar with, the approaches you're familiar with – why would you go beyond your comfort zone?

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What would be the benefit of doing that? It is quite hard to do rigorous inter-disciplinary work and in a situation where people are already under a considerable amount of pressure, why would they make their lives more difficult?

One way in which this has sometimes been dealt with is having the same researcher working across both the quantitative and qualitative aspects. And this was very successful in Gibson and Duncan's longitudinal evaluation of the New Hope Programme in America. But again that requires quite particular skills on the part of the researchers. It requires openness, it requires a space in which they can afford to take risks and can actually afford to fail so it's also probably something that you want to do when you're quite early career. It may be that when you're more established as the Professor of X you don't necessarily want to start learning qualitative methods and find out that actually you're quite bad at them, you want to stick with your econometrics which you won awards for doing so superbly well. So, it's quite hard to get people to think differently or to create the space in which it is possible for them to do that.
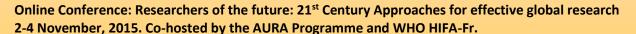
Which then brings us to a point about inter-disciplinary pedagogy. What do you do if you want to encourage a spirit of inter-disciplinarity among researchers of the future? Well, I would say that critical thinking is absolutely key. It's not easy to teach, but it is possible to get people to look critically at their own work, to look critically at others' work, to engage critically with published articles and not think 'oh that's by Angus Deaton, how can he be possibly wrong?' History has shown us that there are often small but important errors in analysis and theory that can be identified and it's important to be thinking critically about these. But there also needs to be a willingness to bridge, to not be deterred by what are quite superficial differences in vocabulary and conceptualisation. And perhaps also to bricolage, to draw on practice in other disciplines. To not think that just because you're a qualitative researcher it's okay to always use snowball sampling. Maybe random or stratified random sampling actually has something to offer in terms of credibility for research design. Perhaps one of the questions often addressed relation to focus groups around representativeness could be dealt with if sampling was done more systematically and this has been done in other projects notably by Carlos Barahona.

I'm also thinking about the way that quantitative research treats enumerators – they are also researchers, they are very skilled field workers – and that positionality, their identity, the way they present themselves, the language they use, constructs the data in the same way that a qualitative researcher does. Even if they have tablets, they are still engaging in this kind of social process, and I think this awareness should inform the way that we look at household survey data as well as interview data because it's all about people speaking to other people and then that being recorded, whether it's on a tablet or a handheld recording. Essentially it's data produced through human interaction and therefore fallible in very similar ways. I think treating enumerators as data collection machines is a very big mistake and we can see that as survey researchers, when we look at the systematic variations between the data collected by one individual versus that collected by another.

So, in terms of how you then train researchers obviously exposing them to the best of other disciplines, the best writings, and to people who can come and speak very powerfully about what economics or an aspect of natural resources or anthropology can bring to the world. And the different perspectives on different topics can be quite exciting. But you also need perhaps to have assessment strategies that reward inter-disciplinary working because it does take more effort.

So something that's been suggested among established researchers to reduce bias is to take an 'adversarial approach' to analysis. You could have two people working together who are not actually

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from similar schools of thought, but by having them working together they're constantly challenging each other's ideas and collectively moving to something that feels a lot more sound.

But I think there's a final thing to say about inter-disciplinarity which is that whilst inter-disciplinarity is the best way to tackle our complex reality because it reflects how the world is. It probably doesn't reflect the reality of how research is currently conducted. It feels more like an ideal which we continue to work towards rather than the reality.

If we move the slides to look at the case study of a very good project which was carried out in Nigeria, India and Uganda we see that some of the problems that I've already mentioned around integrating the data and analysis, and different rewards for different styles of writing, come out quite strongly here. This is a very good project, it's a very good example of inter-disciplinary working, but it wasn't wholly successful in achieving its goals for the reasons that are outlined here. My own work as part of an evaluation of nearly ten years of a particular research programme funded by two international funders found that of 120 studies these kinds of problems were all too common. This example very much illustrates the types of challenges in working with mixed methods, where you find little evidence of sequencing or integration in publication, which are key indicators of whether mixed methods work is being done well or badly. And it's something that Keetie Roelen and I explore in our edited volume that has recently been published. Also, archiving. If you're only archiving your quantitative datasets and not qualitative datasets what does that say about the status of qualitative data within your project? That's why I think these are important things that need to be looked at. In general inter-disciplinary working and mixed methods are not being done well – even in areas where you would expect them to be done well – and as someone who does try to do this kind of work, I can say I understand why that might be the case. And so it's clearly important that initiatives like AURA work with the future generation of researchers to build understandings that will enable them to carry forward this challenging form of practice in their own research and their own teaching of students.

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