Building Capacity at African Universities through Curricular Collaboration

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Introduction

A central component of the Carnegie African Diaspora Fellowship Program (CADFP) is curriculum co-development between U.S. and Canadian academics from the African Diaspora (hereafter, Fellows) and host collaborators at African higher education institutions. The CADFP aims to build the capacity of African higher education institutions by increasing and enhancing curriculum offerings, graduate programming, and research production. Amongst educators, it is well-known that curriculum development and the accompanying approval and implementation processes are, by nature, time-consuming, multi-year endeavors that engage a wide range of stakeholders. The CADFP model gives Fellows the opportunity to receive the award up to three times, giving Fellows and their host institutions the possibility to complete curriculum development work through to its implementation.

This study explored and updated findings related to curriculum development from the 2018 program report, *Investing in Diaspora Exchange: Impact Evaluation of the Carnegie African Diaspora Fellowship Program*. From 2013-2017 more than 60 Fellows collaborated on curriculum development projects in 30 different fields of study. These Fellows supported the creation or revision of individual course content as well as full degree programs at all academic levels. This brief highlights findings from the experiences of CADFP Fellows and their host institutions as they continued collaborating on post-fellowship curricula projects.

The findings describe the Fellows' role in the curriculum development process at their host institution followed by a summary of the different types of curriculum projects Fellows worked on. The brief then explores findings related to the impact of the implemented curriculum development projects on students, faculty, and the host institutions. It concludes with a description of the challenges Fellows and their host institutions faced when designing and implementing curriculum projects.

Methodology

Survey. The IIE Research, Evaluation, and Learning (REL) Unit developed a targeted survey in May 2021, which was administered to the 63 CADFP alumni who had completed at least one fellowship with a focus on curriculum development between 2013-2017. The survey asked respondents to update the status of their curriculum development projects and indicate if they had returned to the host institution since their initial fellowship period for work related to the curricula. The survey had a 48% response rate.

Interviews. REL interviewed seven Fellows and four host collaborators in May 2021 for this study. Interview participants were selected based on their 2018 and 2021 survey results considering demographic diversity that reflected the fields of study, host country, home country, and gender of CADFP Fellows. The interviews sought to gain a deeper understanding of participants' and host institutions' experiences collaborating on curricula and the subsequent impact.

Analysis. The analysis included a basic comparison of the quantitative results to the three survey questions posed in 2018 and repeated in 2021 around the status of curriculum development projects that CADFP Fellows engaged in during their award period. Fellow and host institution interviews were reviewed and coded through an inductive coding process to identify emergent themes related to curriculum development.

Limitations. The findings presented in this study reflect only the experiences of the seven CADFP Fellows and four host institution collaborators who collaborated on curriculum development projects and who responded to the survey and/or the request for interview and cannot be generalized to represent the experiences of all CADFP Fellows.

Findings

Overall, the study shows that curricula projects were likely to be implemented by the African host institution within four to five years. Fellows collaborated on 109 curricula projects that led to 49 implemented or approved curricula at African higher education institutions (45%). A greater number of curricula moved from the development process (i.e. work in progress, in review, and approved) to the final stage, implementation, over the three year span between surveys. While one-third of respondents returned to their host institution to teach in the area of their curriculum project, nearly half of all respondents returned to their host institution, some with CADFP funding, to provide support for the curriculum project through engagements such as working with doctoral students and training faculty.

Half of post-fellowship curricula projects have been implemented, approved, or are in review by African host institutions.

The qualitative findings that follow highlight the effect of curricula projects on the students, faculty, and host institutions for which the curriculum was designed to support. They also identify challenges that respondents encountered as they sought to see the curriculum through to implementation.
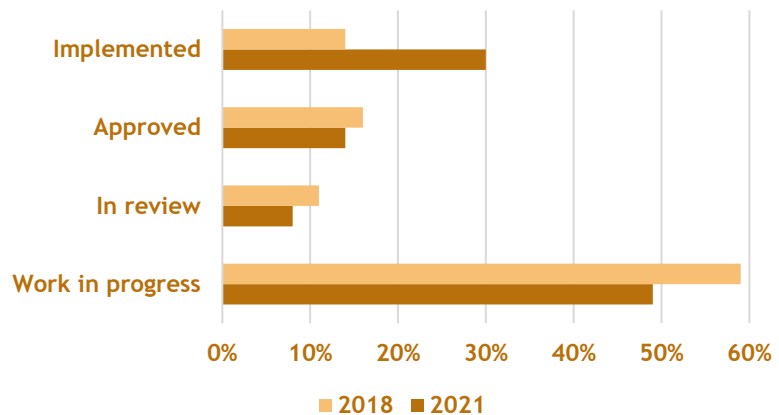
Curriculum development is a multi-year endeavor. Successful collaborations involved continued engagement at critical touchpoints: needs assessment, proposal drafting, proposal defense, implementation.

It has been a great experience and just being in that one same institution that creating rapport with period of time, I think things that Carnegie should learn is that it's a process. The product is important, but the process is very important, so sustaining until something happens is really helpful so I'm very grateful for that opportunity.

— Fellow, private university in Tanzania, Education

Five of the seven Fellows interviewed, whose curriculum projects were implemented at their host institution, spent many years working closely with the African institution and host colleagues, often before receiving the CADFP and continuing after the CADFP funding has ended. Fellows described spending their first Carnegie-funded fellowship period involved in needs assessment and proposal drafting activities, while subsequent fellowship periods or return visits were spent teaching, training faculty, or supporting other aspects of the curriculum implementation at their host institution. For curriculum development projects, a successful program model supports Fellows' continued collaboration with their host institution to see their project through to implementation.

Five of the seven Fellows remarked that the lengthy curriculum development and approval process benefits from their engagement at strategic moments that support moving the process along to the next phase. For example, three Fellows mentioned returning to their host institution for the proposal defense or participating in the defense online after their fellowship period in the country had ended. Fellows remain a central resource for faculty and the institution after curriculum approval and in the early stages of implementation. Fellows support faculty recruitment and training to ensure the new program is adequately staffed and prepared to enroll students.

> *I'm still in touch with them, but what I'm trying to do now is really that our programs have a lack of human resources and that we need to address them. So, my goal is to sort of help them to train really most of our faculty members to make sure that level of instruction in the engineering program.*
> *— Fellow, public university in Uganda, Engineering*

Fellows' engagement with the African host institution and colleagues looks different over time. While engaging with faculty was key to building community and support for the curriculum projects in-country, four Fellows found that, after returning home, collaborations with groups shifted to providing more individual support for colleagues. Faculty reached out regularly for support to complete advanced degrees, co-author publications, or to gain access to resources.

CADFP Fellow curriculum co-development projects introduced:
- new course content,
- new pedagogical approaches, and
- new technology

to new and existing degree programs at the host institution.

All seven of the Fellows interviewed revised or created new course content alongside new degree programs that brought in the latest international trends in a given field. This work involved identifying or updating course readings, materials, and software and ensuring these items were accessible to students in the university library. Three Fellows noted that identifying publicly available online articles or donating books and materials to fulfill the needs at the institution was necessary for their integration in the courses and for the curriculum to receive approval.

[To receive curriculum approval], they want you to have a library, to know the resources, where they are going to come from. So, some of the resources we had to show them. Being able to say that we can find some of these resources online, you know that really helped us a lot. This became possible because I had been talking about these online resources that are available, and we could find other universities that have online course materials that we could use. I would help also find articles that they will use from having access to my library here in the United States. So those articles I could use and share with them for the reading list. Because students don't have access to textbooks, because you don't have a library, what are they going to use and having a good beefy list of references and online pdf articles was really very useful.

– Fellow, private university in Tanzania, Education

Four Fellows provided recommendations on course structure and sequencing and, in one case, introduced the concept of cohorts for new degree programs. It is noteworthy that approximately one-third of Fellows who focused on curriculum development supported the design of a new advanced degree program at their host institution, examples include a Doctor of Pharmacy, Doctor of Philosophy in Supply Chain Management, and a Master of Science in Cybersecurity. Their home institution experience teaching and working with established advanced degree programs coupled with their unique background and experience in Africa as diaspora scholars meant Fellows had a strong sense of what would work and what would not work in a real-life setting within the African context. Fellows also had wide networks of international experts in the field of study to reach for support. For example, one Fellow convened a meeting of representatives from companies such as IBM and McAfee for a feedback session with the host institution to receive their input on the cybersecurity curriculum design. This involvement demonstrates that curriculum development was not arbitrary, but members of the private sector were involved to help the university programs respond to market needs. Insights from Fellows and their networks were invaluable to shaping the structure and identifying content for new degree programs.

I honestly believe we got a better-quality program. We were able to tap and not just into the Fellow's expertise, his international exposure, his ability to see the trends in terms of you know, a graduate program. There was a kind of engagement and contribution that comes from that exposure and experience, from seeing how courses are run even not just local, internationally, I think that really, really helped shape the Program … having someone who was really dedicated to ensuring that the program is a well-structured program that will deliver to the market needs and also ensure that the graduates was successful in it, so I think those were some of the key things that a diaspora fellow has that you may not find locally.

- Host, private university in Kenya, Information Systems

For some institutions, these content updates also introduced new pedagogical approaches to teaching the subject matter. For example, the introduction of case studies, lab simulations, or clinical rotations contrasted with the lecture format traditionally used by faculty at their African host institutions. The pedagogical approaches introduced by Fellows brought innovation to the curriculum that focused on the direct application of knowledge to real-life situations offering students practical training. This change resulted in the need for additional faculty training on the new pedagogical approaches. Ensuring faculty

supported these changes and were comfortable implementing them in courses was essential to the success of new courses and degree programs.

> *One of the challenges we had would be in the area of pedagogy, but that was in a sense specifically usage of case studies. Before we had been so much used to the general instruction where you see the professor stands before the student and communicates the concepts, communicates the information that he or she knows to do. Now, I mean, this new arrangement requires that you are able to properly engage with case studies and explaining cases with a student, so it's not everybody who actually understands how to implement a strategy of using case studies to teach. I remember some of my colleagues were not too comfortable with the case study approach really because it is quite a new thing to them.*
>
> *— Host, public university in Ghana, Business*

> *The programme/curriculum is still in the second year and mostly basic at this stage. The content of the higher years which focus on medicine and therapy management, pharmacotherapeutics and advanced patient care are not well understood by academics. There are some competency gaps. The department got a grant for a small patient simulation laboratory but adequate competency to properly train the students in it is lacking. More competency training is needed especially if the structure and delivery of the PharmD curriculum can be directly observed by academic clinical pharmacists from our university in pharmacy schools in the US.*
>
> *— Host, public university in Nigeria, Medical Sciences*

In several instances, technology updates or new software were a component of the new curricula and facilitated the transition of programs to online and cloud-based environments. Implementing new technology in curricula also required faculty at the African host institution to gain familiarity and comfort with using the technology. At one institution, a Fellow met with faculty on multiple occasions to demonstrate how to use the technology and answer questions to alleviate their concerns around integrating the technology in the new curriculum.

> Mentoring faculty is a critical component of curriculum development to ensure qualified faculty are available and have buy-in to implement and sustain the approved curriculum.

Overall, Fellows played a crucial role in motivating and engaging faculty. While working closely with faculty to identify program needs and outline weekly course content, much of which introduced new topics or required different pedagogical approaches, five Fellows found themselves seeking buy-in from faculty and, at times, needing to persuade faculty to see the benefits of the curriculum. For example, one Fellow, who had the support of university leadership and was matched to support their requested project, noted

hesitation from faculty to move some course content online for delivery in a hybrid or virtual format, even after demonstrating the software for them. The Fellow described needing to explain to faculty the benefits of online instruction.

> *I had to sell it to them. I had to constantly tell them that by moving some of your classes online you get a lot of flexibility, you expand the reach of your educational programs, because not everybody can travel now from inside the country to come to Nairobi to take an MBA class over the weekend. …but there were some people who were skeptical about it – I don't think it would benefit me and it's going to increase my workload and stuff – so part of my job was I guess to sell it to them. But once COVID hit then its, we don't have a choice, we have to move online, …now people are realizing the value of what I did because now they have no choice.*
>
> *– Fellow, public university in Ghana, Business*

Four Fellows described one of the most significant barriers to curriculum implementation as the availability of qualified faculty. They noted that institutions were often eager to support creating new courses and degree programs that would attract students and increase enrollment. However, there was a shortage of faculty with advanced degrees who possessed the subject matter knowledge to teach the new content or manage the advanced degree programs. Fellows found themselves encouraging faculty to pursue masters and doctoral programs and supporting faculty by discussing their research models or serving on their theses or dissertation committees.

Fellows were often asked to remain affiliated with the university. Their affiliation and CVs were added to the faculty section of the application for curriculum approval. Five Fellows were asked to teach one or more courses in the new programs to fill vacant faculty spaces. One Fellow continues to support faculty recruitment for their African host institution to fill vacant faculty seats and sustain the program four years later.

Photo by Professor Bola Ekezue, University of Benin, Fall 2018

Through the curricula projects, host institutions have expanded program offerings to students through new undergraduate and advanced degree programs that better prepare them for the modern workforce. For example, advanced degree programs in cybersecurity and pharmacy address pressing global issues in areas with a high demand for skilled workers. After implementing the Doctor of Pharmacy program at the University of Nigeria, the university noted positive application and enrollment numbers for the pharmacy course, benefiting the university and the faculty.

> *Our university was among the first in the country to roll out the PharmD programme and this was partly due to the assistance received from the CADFP Fellow. The interactive training with hospital pharmacists greatly put our programme at a huge advantage as the curriculum has their involvement fully imbedded in it.*
>
> *– Host, public university in Nigeria, Medical Sciences*

Host institutions felt their students would benefit from the experience of having a foreign faculty member teach a new course. They valued students' exposure to different pedagogical approaches and how this experience might inform students interested in pursuing an advanced degree outside of their home country. In some programs, Fellows firmly implemented the different pedagogical approach in the new curriculum, allowing students to learn practical skills that could be applied in their field. One Fellow described this significant change in approach and the potential student and community benefits, although the implementation was only in year two of the new six-year degree program.

> *The biggest thing is just that the students are now going to get trained with real people, and not just textbook knowledge, because they will now go on rotations. They will start rotations early they'll have access to real patients charts, real patients, healthcare and you'll get to see firsthand how, you know, patients are taken care of. …Even if it's just starting in this one university in this one program, I still feel like it could have a huge impact when these students become pharmacists.*
>
> *– Fellow, public university in Nigeria, Medical Sciences*

African host institution faculty benefitted from the mentorship and guidance provided by Fellows throughout the curriculum process. Fellows were often integral leaders of the curriculum proposal, involved in feasibility studies or needs assessment, and responsible for convening faculty and institutional leadership for facilitated discussions to map out the new curriculum. Their experience implementing programs at their home institution prompted Fellows to ask questions, ensure they were answered, and focus on producing a program that would meet students' needs. This experience enabled Fellows to guide African colleagues through the process and hold them accountable for contributing valuable inputs to the curriculum that would enable its success in the African university context.

> *I think we have benefited immensely from his experience as an astute scholar from the United States. He actually contributed a lot in the area of making the whole program very practical and in touch with the students.*
>
> *– Host, public university in Ghana, Business*

I've done this for a long time. So having that mind of an evaluator and assessor, I was able to help them write it in, looking at the program the way an evaluator would do because I've also been the program director here and I've developed programs that have had to be submitted to the commission of higher education in the United States. So having that experience we really have to be able to guide, provide the guidance, but also to not just be there, telling them what to do, but I wanted them to learn how to do it, so that they can also be able to do that kind of curriculum development in the future by themselves, not to have to depend on me.

- Fellow, private university in Tanzania, Education

> ### Lack of resources affect curriculum co-development at the design, approval, and implementation phases.

In addition to the challenges mentioned around faculty, Fellows shared that a lack of resources affected all elements of the curriculum development from design and approval through implementation.

Funding

Fellows most frequently mentioned funding and financial support as a barrier to curriculum implementation. Some institutions did not have the budget to hire the additional faculty needed to implement the curriculum effectively. For other institutions, limited financial resources affected the initial feasibility and needs assessments that necessitated travel to other cities or stipend and meal benefits to reviewers and funds to pay for computer or internet access for faculty to support drafting the curriculum proposal. The CADFP program model includes supplemental funding for Fellows to support knowledge production and workshop attendance. Finally, the COVID-19 pandemic had a negative effect on higher education institution budgets, limiting the availability of institutional resources necessary for implementing curriculum, such as funding to hire or promote faculty and invest in equipment, office space, software, etc.

Books and Course Materials

The lack of books, materials, computer software, and other library resources was noteworthy, given its direct link to the curriculum design and approval. Curriculum approval requires institutions to have a library for new degree programs. Fellows held book donation drives, contributed materials from their personal collections, and supported host colleagues to identify publicly available electronic articles and books to include in course syllabi.

> *I've always led privately initiated book donations to any university that I thought could use help. I've used my own personal resources to provide desks and chairs for the conference room in the research department at the university and that's my way of thanking them and also institutional capacity building. We are in our field there now amongst us and I suppose with kind of the African diaspora flood you think about human beings donating our services but there are also things that can be done in terms of book drives and sharing literature, in fact, if I find some interesting collection of digital*

> *materials, I distribute them amongst fellow colleagues in that if, another person from*
> *another African country or working with another African country says, hey I want you to*
> *do this for the place where I go, I'll be more than glad to share those resources.*

> *— Fellow, public university in Ghana, Interdisciplinary Studies*

Technology

Six Fellows indicated that it was not just having up-to-date technology, but even access to technology was an issue in some locations. Technology included items such as computers, software programs, and laboratory equipment. In addition, access to the internet and stable electricity sources proved to be a secondary challenge if one had the latest technology. This issue also compounded access to electronic books and online course materials, necessitating physical copies of these items for the university library.

Time

All seven Fellows recognized that time was a persistent challenge in their experience. The short-term duration of their fellowship period required intense, focused work that, at times, did not align with the availability of colleagues at their host institution. Fellows noted that faculty carried heavy course loads that limited their contributions to the curriculum project, placing greater responsibility on the Fellow to ensure the curriculum was finalized and moved forward for approval.

Conclusion

Fellows demonstrated incredible resourcefulness and passion for supporting the curriculum co-development projects through their implementation. This passion energized them to continue work on the projects long after their fellowship period officially concluded, building sustainable connections between the Fellow and their host institution. Their dedication to mentor faculty beyond the fellowship experience further demonstrates how these connections serve to strengthen the academic capacity at African institutions.

However, the curriculum co-development projects were mutually beneficial. Fellows remained connected to Africa and integrated current trends and issues from Africa into their research and teaching in the United States and Canada. While at the host institution, Fellows expanded their network of African scholars and academics. The projects instilled confidence in Fellows who applied their knowledge and skills in curriculum development in a new way. Fellows took pride in making a positive contribution to African higher education.

The CADFP program model lends itself well to supporting the long-term process of curriculum development by giving Fellows and host institutions the possibility to reconnect in future years via alumni fellowships to ensure successful implementation of the curriculum.