How do we waterfall capacity building across Sierra Leonean Universities?

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With thanks to AQHEd-SL

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Cover image: A quality assurance cross-institution MEL workshop during the AQHEd-SL project

Credit: Hannah Lewis, AQHEd-SL

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Executive summary

Assuring Quality Higher Education in Sierra Leone (AQHEd-SL) is a four-year project (April 2018-December 2021) bringing together higher education institutions (HEIs) across Sierra Leone to improve quality management in higher education and support the introduction and implementation of outcome-based education.

It includes partners from all the higher-education institutions across Sierra Leone. The project has successfully used a "waterfalling" model to maximise the impact of capacity development and the implementation of new quality management processes within the project and to promote learning between institutions and individuals in a range of both formal and informal ways.

Through this work, we have identified the following key aspects of successful waterfalling in Sierra Leone:

- Motivation and positioning of staff trained
- Institutional buy-in
- Exposure to materials and training
- Sustainable training resources
- Strong relationships and support

These aspects will continue to be important to the sustainability of this work and to ongoing efforts to strengthen higher education in Sierra Leone and, ultimately, to the success of graduates who will be better equipped to adapt to the evolving needs and challenges of life beyond university.

1 Introduction

The Assuring Quality Higher Education in Sierra Leone project has been training staff from seven higher education institutions to improve the quality of education through critical thinking, pedagogical, curriculum revision and gender, diversity and inclusivity workshops since 2018. Lecturers have learned how to teach in a student-centred classroom and how to instil employable skills in their students through classroom activities, engagement with industry professionals and improved assessment techniques. They have also learnt how to revise and quality assure curricula and how to ensure that the learning environments are inclusive and actively championing disadvantaged and minority groups.

Over the past two and a half years, we have watched lecturers gain confidence in their teaching abilities and become remotivated to invest time and energy into providing the best education possible for their students.

The project uses a waterfalling model. This assumes that, if we train a critical mass of lecturers and staff, those staff will cascade what they have learned to their colleagues in their institutions. This is an important model to test because it could benefit future projects attempting to transform whole education systems with relatively few resources.

In this paper we discuss some of the ways that this waterfalling model has been applied in the AQHEd-SL project and what we have learnt from this process.

ASSURING QUALITY HIGHER EDUCATION IN SIERRA LEONE

Assuring Quality Higher Education in Sierra Leone (AQHEd-SL) is bringing together higher education institutions across Sierra Leone to improve quality management in higher education and support the introduction and implementation of outcome-based education. It aims to bring about a student-centred focus within higher education across the country, leading to a more responsive and capable national workforce.

The partnership is led by the University of Sierra Leone, working with Njala University, the University of Makeni , Tertiary Education Commission, Sierra Leone Institution of Engineers, the 50/50 Group, Milton Margai College of Education and Technology, Freetown Teachers' College, Ernest Bai Koroma University of Science and Technology, Eastern Polytechnic (all in Sierra Leone), and King's College London (UK), INASP (UK), and the University of Illinois Urbana-Champaign (US).

AQHEd-SL is funded by the UK's Foreign, Commonwealth & Development Office (FCDO) as part of its SPHEIR (Strategic Partnerships for Higher Education Innovation and Reform) programme to support higher education transformation in focus countries in Sub-Saharan Africa, Asia and the Middle East.

2   How waterfalling works in AQHEd-SL

In the AQHEd-SL project, three of Sierra Leone's universities – University of Sierra Leone (USL), Njala University (NU) and University of Makeni (UNIMAK) – were initially defined as what we call "anchor institutions". The partnership was also set up with four "waterfall institutions" – Ernest Bai Koroma University of Science and Technology (EBKUST), Eastern Polytechnic (EP – now known as Eastern Technical University, ETU), Milton Margai College of Education and Technology (MMCET – now known as Milton Margai Technical University, MMTU) and Freetown Teachers' College (FTC).

At the start of the project the approach was for project activities to first be carried out with the anchor institutions and then cascaded to the waterfall institutions. Waterfall partners originally observed as lessons were learned by the anchor institutions, before beginning to implement the improved processes and trainings in their own institutions. These waterfall partners then became active participants in curricula review and capacity building from the beginning of 2019.

AQHEd-SL involves higher-education institutions across the country, including long-established universities and newer institutions that are yet to gain university status. It also cuts across subject areas, with the project specifically focuses on four different subject clusters, health, agriculture, STEM and management. As a result, there is no single approach to waterfalling; instead, different project processes have been piloted in certain sectors, institutions or faculties, and then waterfalled through multiple formal and informal mechanisms.

2.1   Observation and caretaker relationships

A key approach taken is to have observation and "caretaker" relationships. These were used to waterfall the curriculum review process from 'anchor' institutions, USL, UNIMAK and NU to 'waterfall' institutions, EBKUST, EP, MMCET and FTC. While curriculum revision was ongoing at the anchor institutions, staff from the waterfall institutions observed and participated in the review of the programmes in these first three institutions, so that when they formally started the process themselves, they had all the necessary tools and capacity to do so.

The ties between institutions and individuals involved in this process were developed through cluster meetings and workshops. For example when the revision of the BSc in Accounting and Finance took place at UNIMAK, other institutions interested in revising management programmes were invited to join curriculum revision workshops and associated trainings. This led to close relationships and sharing of information between institutions in each cluster.

When it came to the time for waterfall institutions to implement curriculum reform in their own departments, one waterfall institution per subject cluster was chosen to per cluster (see Table 1 below). This gave rise to the "caretaker" relationships that now exist between the anchor and the waterfall institutions, where the anchor supports the waterfalls through meetings, workshops, and calls tailored to the needs of the waterfall institution staff. The anchor institution takes on the responsibility for helping keep the waterfall institution's revision process on track, supporting them through challenges and offering to connect lecturers with the same expertise for information sharing and advice.

Table 1: Programmes being revised directly by AQHEd-SL in each cluster at each partner institution

CLUSTER	ANCHOR INSTITUTION	ANCHOR PROGRAMME	WATERFALL INSTITUTION	WATERFALL PROGRAMME
STEM	FBC – USL	*Electrical and Electronic Engineering*	EP	*Civil Engineering*
Health	COMAHS – USL	*Pharmacy*	EBKUST	*Public Health*
Management	UNIMAK	*Accounting and Finance*	FTC	*Business Studies*
Agriculture	Njala University	*Agriculture*	MMCET	*Agriculture (Education)*

2.2 Informal support

This process of waterfalling curriculum revision between institutions was written into the project from the start, but we were delighted to see that staff have also been supporting their colleagues in different faculties and departments within their institutions informally, spreading the capacity building by sharing new techniques and best practices organically with their peers and subsequently beginning to change the culture within the institutions.

This peer-to-peer spread has been made possible by the relatively small size and close (physical) proximity between colleagues in different departments, meaning there are already good relationships between colleagues across the institutions. These friendships mean that information that is seen as interesting or valuable is quite often shared informally over the course of normal interactions between lecturers and other staff. It is a testament to the quality of the templates, frameworks, trainings and processes that have been developed through AQHEd-SL that they have become a regular topic of conversation on campuses across the country.

At least 30 programmes across the seven institutions have been partially or completely revised through the project, with only four programmes targeted formally in the anchor institutions, demonstrating the power and impact of the waterfalling process.

2.3 Cascading training

Recently, the project has been encouraging lecturers and staff trained by the University of Illinois and INASP in updated pedagogical techniques and critical thinking skills to cascade their training to others formally. A Critical Thinking Taskforce was set up comprised of lecturers trained in teaching critical thinking skills to students using versions of the INASP critical thinking course.[1] Over the past few months, this task force has been independently cascading their training to other lecturers from across their institutions using INASP resources. As the AQHEd-SL project draws to a close, members of the Critical Thinking Taskforce are now developing videos and other learning resources to help with long-term capacity development.

Similarly, for the pedagogy training, training of trainers' workshops were organised to build upon the previous two levels of training provided to lecturers. Special consideration went into inviting other influential members of staff who will be able to draw the interest of others in their institution and add their voices of support when speaking to senior management within the institutions about the importance of staff training and professional development (which has historically been lacking).

Practising facilitation during pedagogy training

The training specifically focused on how to become a facilitator and how to include participatory techniques. These techniques demonstrate how lecturers can teach using the methods needed to encourage students to develop the skills identified by employers as lacking, such as problem solving, communication and teamwork.

Three series of videos and a pedagogy manual were created by the University of Illinois in order to equip lecturers to facilitate institutional workshops and as reference materials for whenever they want to refresh their memory. As a result, institutional pedagogy trainings have been successfully carried out in some institutions with more planned over the coming months.

The resources created are designed to be simple and easy to use, but also accessible through multiple platforms in order to ensure that they are insured against loss through staff turnover, website changes or physical loss of paper documents.

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[1] Schaeffler, V., (2021), Adapting online approaches to context: an example from Sierra Leone's higher education, INASP. www.inasp.info/publications/adapting-online-approaches-sierra-leone

3   Lessons learnt

In reflecting on the ways that we have seen the waterfall process work successfully in our project we have identified some key lessons that have been essential to this success:

3.1   Motivation and positioning of staff trained

It is crucial for staff being trained to understand and be passionate about the importance of the training they have received. Training is passed on organically to peers because staff realise the training is helpful and impactful for both lecturers and their students.

It is also important, when training 'trainers' or facilitators of institutional training, that those staff are not only motivated, but positioned well in their institutions to have influence over others. This can be difficult because sometimes the most motivated are energetic, young junior lecturers, whereas the most influential tend to be senior staff who can sometimes become immune to innovations, weary of change or simply too busy to carry out training themselves. However, having a balance of both types of staff can be important, because if they attend the training and catch the vision, the senior influential staff can often voice support for the motivated junior staff in a way that allows them more freedom within the institution to conduct training.

3.2   Institutional buy-in

In a similar vein to the discussion above about influential staff, institutional buy-in is incredibly important to create an environment where staff are encouraged in their personal development, are supported to attend trainings, and that financial resources are allocated towards the purpose of capacity building. Continuous engagement of senior members of staff such as the Vice Chancellors, Deputy Vice Chancellors and the Registrars is key. It is important that staff feedback on the impact of such trainings on students and staff wellbeing to these senior management positions as this will help to motivate repeat or follow-on trainings in the future. We are encouraging facilitators to follow up with staff who have attended trainings to record the impact in their classrooms for this purpose and for the purpose of continuous improvement.

3.3   Exposure to materials and training

Staff have to be confident in their own understanding of the training or materials before they are able to pass on that training to others. Maximising the time that staff are exposed to materials and processes and giving them enough practice to explain what they have learned in a safe environment is essential to giving them enough confidence to carry out such capacity building independently back in their own institutions, where they might also have to battle with resistant staff or more complex power dynamics and relationships than in a 'neutral' workshop run by an external partner.

Some of the teaching resources given during the training of trainers pedagogy training

Ensuring that staff are able to deliver high quality training is essential for the future success of repeat or follow-on trainings too. Colleagues who attend an institutional training run by a staff member who lacks confidence or is not familiar enough with the materials will not attend future trainings on the same subject or that are run by the same individuals. We have noticed that we often have once chance to make an impression on people to ensure future investment.

3.4   Sustainable training resources

At the same time as we are trying to increase exposure and familiarity of trainees with workshop topics, we have to recognise that in only a few short training sessions, our staff cannot become true experts. Giving them materials and resources to refer to and use to conduct future training is key to waterfalling capacity building and processes within and between institutions. As a project, we have created a series of manuals, templates and courses which are used by staff as reference documents and training

resources when they are teaching their colleagues. These will continue to be available in a shared repository beyond the lifetime of the project.[2]

3.5 Strong relationships and support

The impact of the cluster observation/caretaker model on the success of waterfalling within this project cannot be underestimated. One of the main reasons why the waterfall institutions have successfully been able to conduct their own curriculum revision processes is because they have had continued support from their counterparts in anchor institutions. These trust relationships were developed during the stage where waterfall institutions were observers of the curriculum review process. It is important to note that at the beginning of this project back in 2017/2018, these institutions viewed each other as competitors only, and it was difficult for them to even speak in front of each other, let alone share information and collaborate. By now, after spending almost 4 years together learning and sharing information, challenges and successes together, the relationships formed on this project (especially within the clusters) are very strong and productive. Anchor institutions have a vested interest in the success of the curriculum review in their waterfall counterparts because of these strong relationships and because of how it will reflect upon them as caretakers.

This process of supporting the waterfall institutions has also reinforced the steps of the curriculum revision process in the anchor institution staff in a way that they are even more confident than before in passing on that information to their colleagues within their own institution.

4   Conclusions

Inspiring change across all the higher education institutions in a country within a programme that runs for less than four years has been a huge undertaking. The waterfalling approach has been crucial to the success of this work and will be crucial to the long-term sustainability of the quality assurance and learning outcome changes that has been put in place through the AQHEd-SL project.

We are incredibly excited to see how the culture in institutions is changing and how the new skills and techniques introduced by the project are spreading. The new knowledge and skills acquired by the lecturers is crucial for preparing students for modern graduate employment, where it is more important than ever to be an innovative and dynamic problem solver.

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For more information on the project, see aqhedsl.medium.com or spheir.org.uk

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[2] https://zenodo.org/communities/aqhed-sl