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W4H
WOMEN FOR HEALTH

Addressing the shortage of female health workers

Developing an e-learning platform and high-quality courses

Since it began in 2012, the Women for Health (W4H) programme has successfully addressed many of the practical and strategic challenges associated with its goal of increasing the number of female health workers, especially midwives, in rural areas of Northern Nigeria.

By September 2020, a total of 9,601 women had entered professional health training as a result of the programme. Since the first students supported through the W4H Foundation Year Programme (FYP) began completing their professional studies in 2017, a total of 556 have graduated. Some 80% have been employed and of those 97% have been deployed to rural areas where they can have the greatest impact on maternal, infant and child mortality and act as role models and champions.

This 'how-to' guide is one of a series about different aspects of addressing barriers to the education and recruitment of young women from rural areas of Northern Nigeria to enter training to become health workers. This guide is about developing an appropriate e-learning programme, as part of a wider transformation of teaching practice. It translates the lessons learnt during the programme into a series of practical, inter-connected steps to guide similar projects and government initiatives in comparably challenging locations.

This guide is for anyone aiming to implement an e-learning system – the guidance is based on experience in health education, but the learning could be valuable for education and training applications in other areas. This is not a technical guide – it is a high-level process guide suitable for project and programme staff, education institutions and related stakeholders, development partners and non-governmental organisations.

How-to guides and other resources based on the learning from different aspects of the W4H programme are available. For more please visit the resources section of the Human Resources for Health Learning Hub, hosted by the Centre for Gender Studies, Bayero University Kano.

www.learninghub4hrh.org

How to use this Guide

This how-to guide aims to share insights from the Women for Health programme into designing and installing an e-learning hardware platform, developing high-quality content and supporting the adoption of e-learning in health training institutions (HTIs). The guide is organised into **six stages**, with each stage broken down into the **key steps** that need to be taken. The stages are set out sequentially, but some steps can be carried out at the same time.

The Women for Health programme

In the North of Nigeria, a chronic shortage of female health workers converges with social, cultural and religious norms which impact on women's access to health care to produce some of the poorest maternal and newborn health indicators in sub Saharan Africa: in 2009 women faced a one in nine lifetime risk of maternal death; two in three girls were married before age 18; only 10% to 15% of deliveries in the North were attended by a skilled provider, compared to over 75% in the South. Moreover, rural deliveries in the North were three times less likely than those in urban areas to be attended by a skilled provider.

In the Northern Nigerian context, social norms prescribe that women receive reproductive care from other women. Yet the seriously low number of female frontline health workers in rural areas meant that few government health facilities had midwives or female nurses. Moreover, government efforts to recruit midwives from the South to fill rural vacancies had had limited success, mostly because of the social and cultural differences between the North and South.

The context

In response to this challenge the UK aid funded W4H programme focused on a sustainable approach – recruiting young women already residing in the rural areas for training so that they return to their home community to provide culturally appropriate health services for girls and women. At the same time, the programme empowered these women to act as local champions, transforming attitudes to women and girls and helping to shift gendered social norms.

Since it began in November 2012, W4H has worked in five Northern Nigerian states of Jigawa, Kano, Katsina, Yobe, and Zamfara, strengthening stakeholders' capacity to address the female health worker crisis, improving the management, quality of teaching and gender-responsiveness of health training institutions, and engaging rural communities to support young women to train and practice as health workers. In April 2018, the W4H programme was extended to the conflict-affected Borno state.

The challenges faced

The recruitment of young Northern Nigerian women for professional health training is challenging for a range of complex reasons including socio-cultural disadvantage and exclusion. Poor educational provision in rural areas means that most young women do not have the level of education to enter and succeed in nationally accredited training courses. Moreover, restrictions on women's mobility and the deep-seated expectations around appropriate gender roles constrain opportunities for career development of young women.

Professional education materials and learning content must be regularly updated to ensure they are in line with the latest developments and practice – and this is particularly true in health.

E-learning is the delivery of interactive teaching materials using a computer or other device – and it is an established part of teaching in many institutions around the world, often as part of a student-centred learning (SCL) approach. SCL shifts learning from the traditional educational model, where teachers deliver instruction and information to students, to one where students are encouraged and supported to become independent learners. SCL-taught students are more likely to exercise

clinical judgement appropriately and effectively – and to keep up-to-date with best practice in their field. This is important for health workers in the rural communities, as newly qualified health workers often have significant responsibility and have little external supervision and support.

Towards a sustainable solution for low-resource settings

E-learning can be a cost-effective complement to other student-centred teaching methods – in the resource-challenged setting of Northern Nigeria it also gives students access to learning materials and content that would otherwise not be available to them. However, there were severe constraints that made it hard to implement e-learning in the HTIs in the states supported by W4H: the institutions did not have adequate ICT infrastructure to use for e-learning; the electricity supply was unreliable and prolonged periods without power were common; internet access was expensive and connection speeds poor; the HTIs did not have the budget for software and other electronic subscriptions.

The resource constraints led the W4H team to design a low-cost, bespoke system, based on solar power and which made use of free open-source software. Each HTI was equipped with a 'solar classroom' with computers for students to use – and the e-learning network was also set up to allow local Wi-Fi access from smartphones and other devices. The local network in the HTIs periodically connected to a central server for updates so continuous internet access was not needed.

Working from scratch, W4H also had to develop the e-learning content for the different nursing and midwifery courses. W4H trained a group of experienced tutors drawn from all of the HTIs to review the curricula approved by the Nursing and Midwifery Council of Nigeria (NMCN) and develop a series of e-learning courses that all the institutions could use.

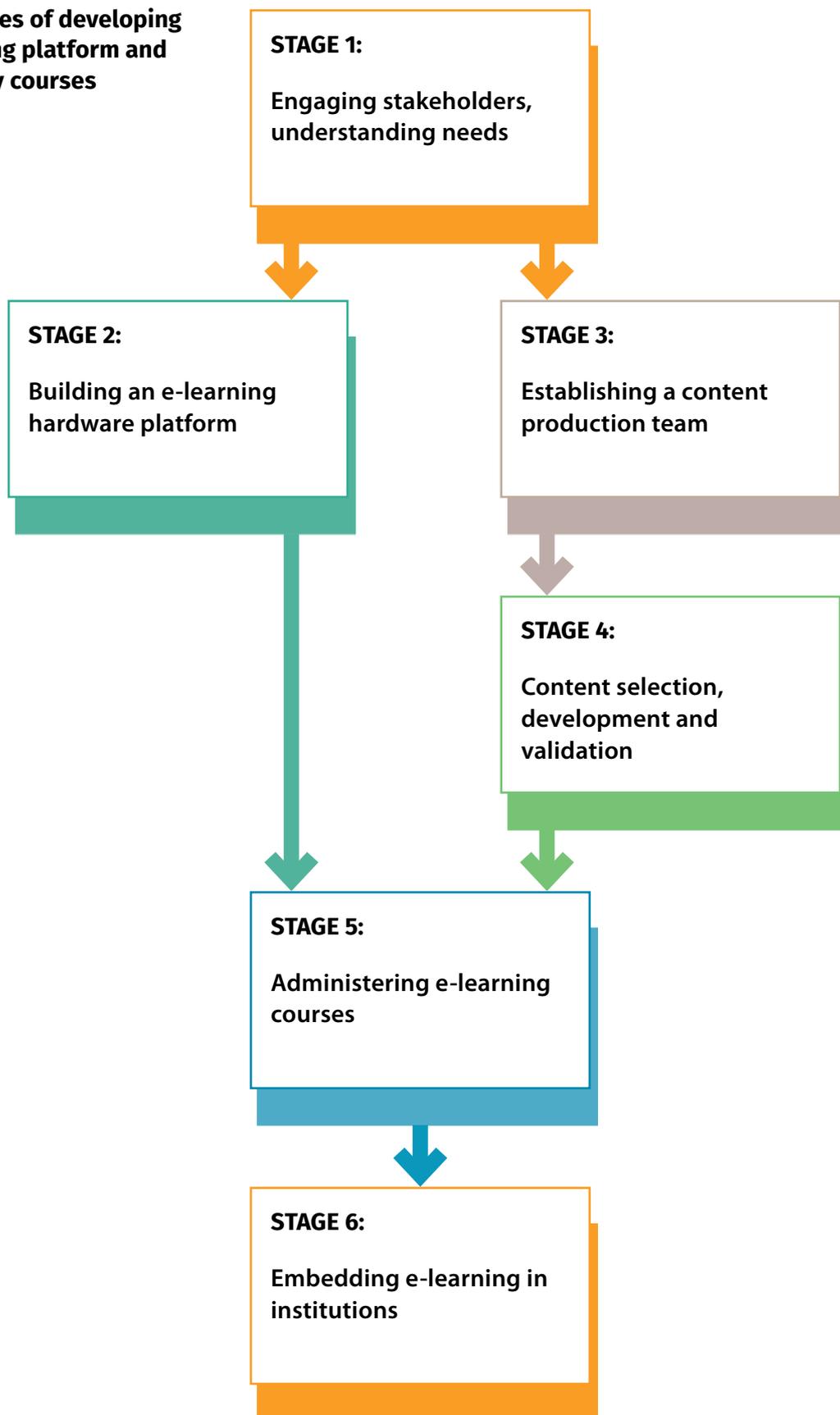## The importance of sustained support and capacity building

W4H faced many challenges in installing the e-learning system in the HTIs and in developing the e-learning content – but just as challenging was supporting the behavioural change needed in the institutions, the social and human change. While the HTIs welcomed the e-learning project, the people in the institutions – at all levels from leadership to students – needed support to successfully embrace e-learning.

Fortunately, the W4H programme had sufficient time to provide the sustained support and capacity building the HTIs needed. Over a period of more than two years, W4H provided a wide range of support: senior leadership and management were sensitised and trained; tutors were given capacity development to adapt their teaching as well as practical support to use the technology; ICT and other staff were trained to maintain and update the systems; and students were supported to access and use the learning content. W4H monitored each institution and gave additional support where needed.

The major lesson learnt by W4H about e-learning was this: that extensive and sustained support was needed by institutions before the benefits of e-learning could start to flow. This aspect of our experience is covered in Stage 6 of this guide (page 18). The HTIs have come to value the investment W4H made in e-learning – in addition some have become national exam centres and generate revenue using the solar classrooms. Furthermore, the COVID-19 pandemic in 2020 has demonstrated to all institutions the value of having remote learning capability.

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The six stages of developing an e-learning platform and high-quality courses

STAGE 1:

Engaging stakeholders, understanding needs

STAGE 2:

Building an e-learning hardware platform

STAGE 3:

Establishing a content production team

STAGE 4:

Content selection, development and validation

STAGE 5:

Administering e-learning courses

STAGE 6:

Embedding e-learning in institutions

Stage 1: Engaging stakeholders, understanding needs

Developing an e-learning hardware platform and high-quality e-learning content is often a complex process, as both the platform and the content may have to be created from scratch specifically for the commissioning organisation or institution. This was the case for W4H – there was no readily available platform or content that could simply be acquired and installed.

This stage is to do with essential preparation needed before starting to develop an e-learning system. The four key steps are designed to give you the information you need to successfully design and implement the system – from engaging the key stakeholders, to assessing the context where the e-learning system will be used, and assembling the right team to deliver it.

Step 1

Identifying and engaging key stakeholders

Identifying and engaging with the key stakeholders is essential to understanding the requirements of the commissioning organisation or institution, the setting in which the e-learning is going to be used, and the needs of the learners and their teachers. Having identified the stakeholders, it is important to identify key individuals in the different organisations, engage with them to inform them about e-learning and to enlist their support in the project and help in overcoming any challenges.

W4H developed the e-learning system in partnership with the HTIs where it was going to be used, and with the principal regulatory bodies for the courses taught in those institutions – the NMCN and the Community Health Practitioners Registration Board (CHPRB). These partners were essential to ensure the resulting system would be acceptable to tutors and students at the HTIs and also correctly aligned with the national curriculum and meeting the standards of the regulators.

Step 2

Technological context assessment

The setting where the e-learning system is going to be installed and used needs to be understood so that the technological solution is appropriate for that context. Is there a reliable power supply? Is there good internet access – and how much does it cost? Can the institutions' existing computer or network systems be used or adapted, or is new equipment needed? How many institutions are involved?

In the case of the W4H e-learning platform, our assessment of the HTIs in the Northern Nigerian states showed that electricity supply and internet access were unreliable (and expensive). Also, we learnt that HTIs did not have the funds to pay annual software licences or subscriptions. This led us to decide on a low cost, low power consumption platform that did not rely on having continuous mains electricity or internet access – using open source software that is free.

Step 3

Institutional capacity assessment

Before starting to develop an e-learning system, it is also important to understand the capacity of the institutions to adapt their teaching methods to make use of the benefits of e-learning – as well as their capacity to manage and maintain the technology. Do the institutions already make extensive use of technology and have skilled IT staff to support the new platform? Do the leadership teams of the institutions have the knowledge and experience to actively support the transition to e-learning? Are the tutors and academic staff ready to adapt their teaching to use e-learning alongside their existing classroom practice? What about the students – do they have the technology experience needed to access e-learning – what devices will they use to do so?

Answering these questions helps you to understand what kind of support the institutions are going to need if they are to successfully adapt to using e-learning as part of their academic offer to students.

The biggest learning W4H had while rolling out e-learning was that institutions needed a lot of support, and only some of it was to do with the challenges related to the technology. There was also resistance to change and support was required over an extended period to overcome that and help institutions to use e-learning effectively. Developing appropriate support for institutions is covered in Stage 6: Embedding e-learning on page 18.

Step 4

Creating a delivery team

The characteristics of the team that is going to deliver the e-learning system will start to become clearer as you work through the previous 3 steps: you will know about your stakeholders from step 1, and the skills and resources they can bring to the project; from step 2 you will understand what kind of e-learning technology is appropriate to the context; and from step 3, you will know what level and type of support is going to be needed to make e-learning successful in the receiving institutions.

If the key stakeholders involved in the project have skilled and experienced people available, then they can join the e-learning delivery team. If not, then a team will need to be created from scratch. The size of the team will of course depend on the scale of the implementation, and the number of institutions involved. See box 1 for the skill areas that the delivery team should have.

Box 1

Key delivery team skill areas

The key skill areas the team will need include:

- Project Leadership: covering overall project leadership and managing stakeholder relations
- Project coordination: day-to-day project management, coordination and administration
- e-learning platform development: technology specialists covering system design, procurement, installation, training and on-going support
- e-learning content development: subject matter experts supported by specialists in e-learning content development and design.

Stage 2: Building an e-learning platform

The W4H e-learning platform

● Low cost, low power consumption components

● Solar panels and batteries to provide power for the system

● A server for storing e-learning content

● An e-learning classroom with computers

● A tutors' room with computers

● Wi-fi routers linking computers to the server

● Free 'open source' software

This stage covers the development of a technology hardware platform for delivering e-learning content that is appropriate to the context where it will be used – and installing it and training the people that are going to maintain and update it. This stage consists of four steps:

Step 1

Designing the system

The technological context assessment carried out in stage 1 provides the key information needed to design a suitable e-learning platform. The low-resource situation of the HTIs supported by the W4H programme meant that a low-cost solution was needed and one that could operate effectively without access to mains electricity and the internet. It is important to build and test a prototype system before finalising the design.

The W4H solution was made up of the following elements:

■ Arrays of solar panels, plus batteries and other components, to provide power for all the elements in the system:

■ A server where the e-learning content was stored;

■ A classroom with computers that students could use to access e-learning content;

■ A tutors' room with computers that teaching staff could use to upload courses and monitor student progress;

■ Wi-fi routers linking the server to the classroom and the tutors.

The system was designed to connect periodically over the internet to get content and other updates from a central server – the system was designed to connect at night when there is lower demand for internet bandwidth.

Hardware components were chosen that were both cheap to buy and that were low in terms of electricity consumption. Free 'open source' software was chosen so that institutions would not be saddled with ongoing subscriptions. As the W4H solution was bespoke, the W4H technology specialists in charge of developing the system built and tested prototypes before finalising the system specification.

Step 2 — Sourcing system components

A key question to consider before settling on a final design for the technology platform is whether the relevant system components can be easily sourced in the region where the e-learning system is being installed. With W4H's bespoke low-power, low-cost platform, some components were not available in Nigeria – importing them was time consuming and added to the cost.

Step 3 — Installation, configuration and testing

The process of installing the e-learning technology platform will depend on the specification of the system and the setting. With the installations led by W4H, the first step was to install the solar power for the system – this was done by specialist installers, who mounted the panels on roofs, and connected inverters and batteries to ensure the power supplied was correct for the different system components.

Because of the limited internet access at the HTIs, the software running on the different hardware components was installed and updated before the W4H technical specialists went to the institution to do the installation. The e-learning content was also pre-loaded onto the server. Once the hardware was installed and connected, the system was configured and tested.

Step 4 — Initial training for institution IT staff

The technical capacity of the staff at the institution where e-learning is to be implemented needs to be assessed. Explore their experience of:

- The specific hardware being installed
- The software running the network
- Network configuration and administration
- Relevant operating systems and applications
- E-learning authoring tools, such as Moodle
- Technical support for system users

Stage 3: Establishing a content production team

This stage is about getting set up to produce high quality e-learning content – the kind of content that will enhance students' understanding as part of a SCL and blended learning approach to education that combines digital educational materials and activities with traditional classroom teaching methods.

Setting up an e-learning content production process will depend on the subject matter and, crucially, on the institution or body commissioning the content. In the case of W4H, e-learning was co-developed with the HTIs and later handed over to the regulatory body the NMCN. The commissioning body has a key role to play in ensuring the content is of appropriate quality, meets relevant standards and will be readily adopted by tutors.

Step 1

Building a content development team

The foundation of the content development team is the group known as Subject Matter Experts (SMEs), experienced professionals with detailed knowledge of the curriculum. They are supported in the development of the e-learning content by a number of technical specialists who will help to put the courses together and install them on the e-learning platform. To ensure that the process proceeds smoothly, an experienced Project Coordinator is needed to manage the different team members and activities so that content is delivered on time. Another key role, which could be played by an individual or a group of people, is that of Tester.

The Project Coordinator, the Tester and the Commissioning Body need to be somewhat independent from the production process – an 'outsider's perspective' is valuable to ensure the resulting e-learning content is of good quality. The Technical Specialist roles described below (Learning Designer, Moodle Developer and Graphics Designer) don't have to be separate people, but can be combined if one person has the skills to take on more than one role.

Step 2

The Project Coordinator

The Project Coordinator needs an understanding of the whole production process so that they can recognise issues as they arise. Typically, they don't create the content or get involved in production. Their role is all about assembling the right team, briefing people correctly, ensuring deadlines are met, and managing everyone's expectations.

The Project Coordinator is at the heart of the content development process and a project's success can depend on them. Traditionally, project management has been the method by which the project team meets the constraints of budget, time and planned deliverables – and juggles these factors to achieve the best result. The skills needed to be a good Project Coordinator include being organised, calm and having an ability to lead – being a good communicator, with a good understanding of process and steps are also important.

Step

3

The Subject Matter Experts

The SMEs are responsible for ensuring that the teaching content in a specific module is correct and that the related curriculum deliverables meet the needs of the students. They will often have a leadership role in their field, and will certainly have a number of years' experience in their particular subject.

In the W4H programme, the SMEs were a group of selected tutors from all of the HTIs where the e-learning system was being installed. W4H organised an intensive training and capacity development workshop for this group, including refresher training in their specialist subjects as well as hands on experience in creating e-learning content. The group's first task was to define the courses from the Nursing and Midwifery Curriculum that were most appropriate to develop into e-learning and then gather core curriculum source material. Care was taken to identify any copyright issues and reference all source material in the e-learning, through the addition of a full resources section or through links.

In W4H, the SME tutor group worked together to create standard e-learning courses that all the HTIs could use – which could be localised or adjusted according to each tutors' or colleges requirements. Generally, the SMEs' role is to gather selected content and pass it to the production team who would then begin to create the content for the course. SMEs have a critical role in quality control throughout the production process and need to be available for key milestone review sessions.

Box 2

Moodle: a free, open source solution

Moodle is the e-learning software chosen by W4H to use in the HTIs across Northern Nigeria. Moodle is an 'open source' software, and is available at no cost under the GNU General Public License.

Moodle is also a very robust, secure and integrated system that is trusted by institutions and organisations around the world – including Shell, London School of Economics, State University of New York, Microsoft and the UK's Open University. Moodle has more than 213 million users and is the world's most widely used learning platform.

Other advantages of this open source approach include:

- Moodle is continually being reviewed and improved on by developers and users; it is modular and can be customised in any way and tailored to individual needs.

- Anyone can adapt, extend or modify Moodle for both commercial and non-commercial projects without any licensing fees.

- There is an active international Moodle community and a team of dedicated full-time developers, bugs are fixed quickly and the software is improved regularly.

Step 4

Technical specialists

The key technical specialist roles are The Learning Designer (LD), Graphic Designer (GD) and Moodle Authoring Tool Developer (DEV). The LD takes the source material from the SME's and crafts it into well-structured and clearly written learning content. They are the 'script writer' of the course and should have a passion for learning, with an interest in technology and the web. They will write learning objectives, write and edit learning content, and produce storyboards, scripts and design briefs.

The GD is responsible for sourcing images, producing graphical artwork and preparing visual assets for development. They should also be comfortable working in multi-disciplinary teams, collaborating effectively with colleagues in both content and technical development. Their specific tasks include cropping and re-touching photography, creating illustrations, diagrams, sourcing media from stock libraries, ensuring accessibility requirements are met, and compressing raw assets to small file sizes.

The DEV is responsible for building the Moodle content and, ideally, they would have an excellent eye for detail, high proficiency with spelling and grammar and be a logical thinker. Their tasks include copy typing in Moodle, setting trigger/actions to create interactions, implementing required changes, creating presentations using PowerPoint and creating audio, photo and video briefs.

Testimony

"*Support from W4H has transformed the quality of teaching at the College, with the introduction of student-centred learning and e-learning, as well as global best practice such as blended learning – and the dividend has been increased student performance.*"

Hajiya Hadiza Sabo, Provost, Shehu Sule College of Nursing and Midwifery, Damaturu (Yobe)

Step 5

Testers

One or more Testers are needed. They need to be independent from the production team so that when they review the course, they are dispassionate and looking at the content with fresh eyes. A tester is responsible for reviewing the module's content on a number of devices and browsers and recording any defects, issues or bugs. Proofreading, taking screenshots of issues and describing and recording bugs is also essential, so that any issues can be eliminated.

Ideally, testers have a love of detail and correctness, enjoying methodical and repetitive actions in the hunt for finding that elusive mistake. Specific tasks will include proofing the text on each screen, checking the alignment of icons and buttons, the functions of hotspots and icons and methodically recording all actions that lead to bugs and errors.

Stage 4: Content selection, development and validation

This stage is about the process of developing accurate, high quality e-learning content from the source material provided by the SMEs. The phase is often referred to as a design, scoping or pre-production phase as it involves everything to do with setting out the learning as a blueprint or framework for the production team to then create the training. The key protagonist of this phase is usually the Learning Designer, but in very large or complex projects a Learning Consultant can also be brought in to map out the scope and then pass this to the Learning Designer who would then write the actual interactive script.

Step

1

The kick-off meeting

Once all the individuals in the content production team are identified, the first step in the process is for the Project Coordinator to set up a kick-off meeting. This is a chance for everyone to meet (in person if possible) to discuss the timelines for the project, establish lines of communication, identify success factors and determine what the core objectives for the learning are to be. This may be the only time in the entire project that the Project Coordinator will be able to meet representatives of the Commissioning Body and the SMEs so it is crucial that the time is used wisely.

The Project Coordinator should gather everyone's contact details, agree a date and time for regular project progress calls, discuss the overall design, identify any risks and agree a basic schedule.

An example of a Scoping Document with Learning Objectives developed for the NMCN

INTRODUCTION

This scoping document outlines suggestions for the detailed breakdown of the screen-by-screen content across the proposed module of the Women for Health e-learning. It is the first design document, and will be followed by the more detailed scriptwriting stage when the content will be fully fleshed out.

LEARNING OBJECTIVES

Treatment and referral of:

- Pregnancy
- Pelvic inflammatory disease
- Cervical erosion
- Tumor
- Sexually transmitted infection and human immune deficiency virus/acquired immune deficiency syndrome (AIDS)
· Identification and referral of infertile couples

CONSIDERATIONS

The primary audience for the e-learning are trainee midwives.

The audience is not likely to be expert in the subject matter, and so we should not assume that they already know the basics and explain all key terms/acronyms.

Step

2

The Design Solution and Content Scope

The Learning Designer begins by establishing the learning objectives for the course, in other words, what the learners need to achieve by the end of a course. A Learning Designer will need to find out about the students' skills and current knowledge base: are they new to the subject, or are they revising what they have already learned? The SMEs should be able to help with this. Keeping the learners and their objectives at the centre of everything is fundamental to a good e-learning course.

The Learning Designer will need to understand what the learners need to get out of the e-learning course. Are they trying to master a specific professional skill? Is it to recap and test existing knowledge? Knowing the desired outcome will enable a learning designer to create a strategy that encompasses necessary information, tools, and activities. This needs to be discussed at the kick-off meeting with the SMEs and the decision makers.

The learners on the e-learning course should know exactly what they are going to achieve by completing it – which helps with motivation. So, before beginning the development process, the Learning Designer creates a statement that concisely describes the learning goals, making sure that the objectives are realistic.

Box 3

Tips for Learning Designers when scripting interactive courses:

- Resources and references should tie into the goals themselves, or take the learner closer to achieving the goal.

- Assessments and quizzes are essential, as these will gauge whether the learner is actually acquiring the information/skills. After each section is completed, a summary or exercise that centres around the learning goals can be created.

- Omit any irrelevant content from the e-learning course, especially if it doesn't directly relate to the learning objectives. This extraneous information can lead to cognitive overload and distracts the learner from the core objectives.

- Remove non-essential content.

- Write in a way that is simple as well as engaging, using short sentences and avoiding unnecessary complexity and jargon.

- Keep a consistent numbering system. Acronyms must be spelled out fully the first time they appear in the course, then the acronym can be used thereafter. A glossary of terms is a useful addition to any interactive learning course.

- Present some information via the visual channel (images) and some via the verbal channel (text or audio).

- Break content into smaller segments and allow the learner to control the pace.

- Words should be placed close as possible to the corresponding graphics.

- Don't narrate on-screen text word-for-word

- Real world examples bring the subject matter to life.

- Above all reduce cognitive overload – don't make the course too information dense or try to cover too much in one module.

Step

3

The Interactive Learning Script

Once the Content Scoping document is reviewed and signed off by the Stakeholders and SME, the Learning Designer can then begin to write the interactive script that gives the Moodle Developer and Graphic Designer the exact instructions they will need to create each screen of the course, detailing how it should look and function.

Step

4

Producing and testing e-learning content

The Production Phase takes the project from the very start of the build in an authoring tool (such as Moodle) to the delivery of the final module or learning session. E-learning progresses through various review releases: often known as Alpha, Beta and Gold. Internal testing of the various review releases is a vital part of every e-learning project. A dedicated team of testers go through the course checking each aspect of its quality before it is released to the SME for review.

The Alpha Phase of production begins when a script is signed off and the Moodle Developer can start building the course. To build the course a Moodle Developer will work in the authoring tool: W4H used Moodle, an open source learning platform, and in particular the H5P plugin to create the interactive activities.

All images need to be copyright free. Keeping the size of images consistent throughout a course establishes a visual brand – as does using a consistent colour palette.

W4H used Whatsapp support groups with the ICT Managers at the HTIs to help them with troubleshooting
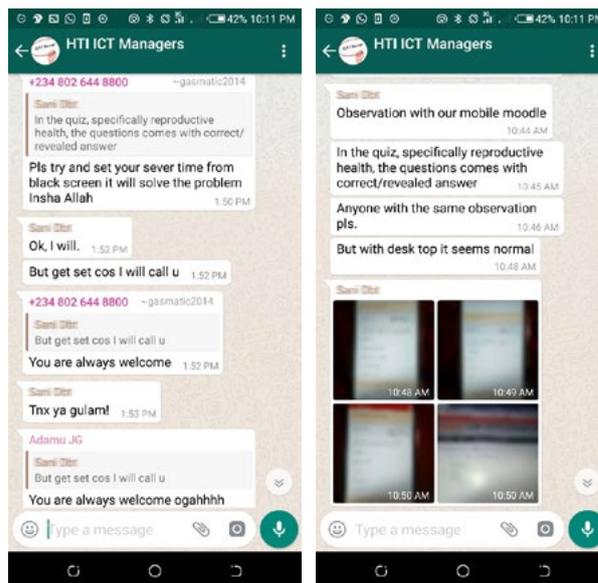
The importance of testing

The tester will need to look out for the following aspects of the build at the end of each phase of production, before the course goes to out for review:

- [ ] Is the spelling, punctuation and grammar in correct UK English?
- [ ] Does the order of the course and text make sense?
- [ ] Do you agree with the choices of activity and do they function correctly?
- [ ] Is the text size consistent for headers and body text?
- [ ] Is the numbering of headings correct?
- [ ] Are the images suited to the content, free from copyright, a good size and do they work well together?
- [ ] Does the instruction text make sense? Is it consistent?
- [ ] Is there feedback on the quizzes?
- [ ] Can you spot anything you think we should change?

Testimony

> *We invited all the schools to participate in creation of e-learning content content, as we had found out that many tutors were reluctant to use content developed by other people. So we gathered tutors from all the schools, we gave them subject-specific refresher courses and trained them to develop the content – this was hands on training, all of them working together. As a result, they took ownership of the e-learning courses, and we found utilisation increased.*

Balarabe Ibrahim Gaya, W4H Capacity and Quality Adviser

When reviewing the Alpha, the tester(s) should focus on course appearance and navigation. After the tester is happy with the quality of the Alpha build there needs to be a period when the stakeholders and SMEs review and give feedback on the course. These are the most critical parts of any project and require SME involvement as early as possible. All feedback is recorded in a spreadsheet supplied to the SMEs for their input – and this is collated and shared.

Beta version: after the Alpha amends have been actioned, internally tested and approved the Beta version of the build is released to the Stakeholders and SMEs for their review. The same testing process is repeated with the focus on the course content and how it is presented: Does the flow and the length of the course make sense? Are the learning objectives covered?

In smaller projects this Beta stage can be omitted, and the reviewers can be content to go straight from Alpha to Gold.

Gold phase: This stage of the production process signifies the finished version of the course. At Gold there should be little, or no changes and the Stakeholders and SMEs are merely being asked to check for any fatal flaws. When Gold has been finally approved and signed off then the course can be delivered to the server for the users to be able to access. A copy of the final course and source files should be saved in a secure drive for safekeeping. At regular intervals the course will need to be reviewed and updated.

Stage 5: Administering e-learning courses

The stage is about what tutors and system administrators need to do to enroll students and run e-learning courses. This stage has 4 steps:

Step 1

Creating courses and enrolling students

A finished e-learning course is 'published' by making it available on the system to the tutors who will be teaching the course. The IT staff at an institution should be trained to create user accounts, which are needed for all users to be able to log on to the Moodle software where the e-learning courses are available.

The IT system administrator should support tutors to create cohorts or groups of students so that tutors can easily manage learning. A cohort is a group of students working together through the same academic curriculum, whereas a group can be a subset of students set up to manage various activities within a course. The cohort is created at a system level while a group is created specific to a particular course.

Step 2

Monitoring and administration

Monitor student's use of the course by creating course reports and viewing log details. Depending on the type of report, it shows student activities, student course completion status and results on assessments. Reports typically show what was done, when, by which user and how it was done.

Support students by creating an environment in which students: engage with the tutor and feel supported; receive accurate and timely feedback and assessments; and engage with other students and take responsibility for their learning. Tutors adopting e-learning for the first time can be concerned about being overwhelmed by direct communication from students, so it is important to agree expectations and set guidelines.

E-learning systems allow administrators to monitor usage.

Step

3

Assessments and grading

Building tests and mini assessments into e-learning courses can help students to retain information – they need to see the results immediately, see their errors and to be able to do the test again. E-learning systems can also be used for exams that count towards grading. (In the W4H programe, some HTIs earned additional income by becoming exam centres for students taking national exams, such as to enter university).

Testimony

' *We learnt that anything to do with behaviour and attitudinal change is very difficult to achieve and requires a holistic and extended response. Around 30-40% of the work with this kind of implementation is installing equipment and content, 60-70% in changing the mindset of the people.* '

Dr Fatima Adamu, National
Programme Manager, W4H

Step

4

Collecting feedback

It is important for tutors to collect feedback from students after each course. We recommend that standardised student questionnaires are included as a feedback activity at the end of the course. Ideally, students will be able to share their thoughts easily and anonymously about the quality of the course and their learning experience. This feedback will help tutors to update and improve their courses, and also helps students to feel involved and engaged.

Feedback is important at every stage in the development of e-learning content and it is a good idea to ensure good communication between all those involved in content creation. Feedback can help those responsible for developing content to improve and revise the courses they create.

Ideally, you would also create a 'community of practice' allowing tutors in different institutions to share insights and learning related to e-learning. This would allow for peer support and ongoing capacity development. Similarly, it is a good idea to create channels allowing the ICT staff at institutions to support each other, such as the WhatsApp groups created by W4H, and solve problems together.

Stage 6: Embedding e-learning

Installing a functioning e-learning platform and content does not automatically mean that an institution will quickly get up and running with e-learning. As flagged up earlier in this how-to guide, the W4H team learnt that institutions need a lot of support and capacity building to be able to make effective use of e-learning. The support and capacity building is needed at every level of the institution – our experience is that a whole institution change process is required to ensure e-learning is successfully embraced.

Step 1

Identifying the potential barriers

The potential challenges and barriers you could face will depend very much on the institution where e-learning is going to be deployed. The assessments carried out in Stage 1 should give you a sense of the kind support that will be needed. For instance, an institution already using a variety of teaching methods will be better prepared to adapt than one where all teaching and learning is through teacher-led classroom sessions. Similarly, an institution with a developed technology infrastructure and a skilled in-house IT team will need less support than one where technology use is minimal.

In the case of the HTIs supported by W4H, a high level of support over an extended period of time was needed to embed e-learning. We encountered a wide range of barriers at all levels in the HTIs – senior leaders who did not understand the value of e-learning, tutors reluctant to change their style of teaching, issues with maintenance and misuse of the equipment, as well as students and IT staff needing training and on-going support.

Step 2

Whole institution capacity building

Beyond initial training, the capacity building and support provided by W4H were prompted by the challenges the programme encountered. We gave training to the HTI leadership, we trained and supported tutors to develop e-learning courses and how to use the platform to deliver learning materials to students, we trained the IT staff and returned with refresher training and other capacity building. Students were also given capacity building so they could successfully access the content and participate in activities such as tests and assignments.

A major learning from the project was that a programme of support for the whole of each institution was needed from the outset – training, capacity building and support at all levels, as well as careful monitoring. For the HTIs in Northern Nigeria, e-learning represented a major change in the way the institutions operated, in terms of both technology and organisational culture.

Step

3

Monitoring and on-going support

To ensure that the e-learning platform is functioning as it should and that tutors and students are accessing the content, it is important to monitor usage over an extended period. With the e-learning systems installed by W4H, this could be done remotely as the servers in each institution connected periodically with the central server.

Monitoring by W4H revealed early on that many of the institutions were encountering problems of different kinds. We organised site visits to find out more and address any technical problems. Cultural issues – such as reluctance of some tutors to integrate e-learning and other blended learning techniques into their teaching – required W4H to organise additional capacity building, support and encouragement to address. In some cases, lack of leadership support for e-learning hampered uptake and bespoke capacity building and support were needed.

Step

4

Embedding e-learning in the regulatory framework

Taking care to align with professional standards, including gaining relevant official certification or approval, will help an e-learning implementation have credibility with the institutions involved.

The e-Learning system developed by the W4H programme was created to complement professional courses for health workers. While each of the HTIs in the six different states localised the e-learning courses they offered, the core content was developed jointly by tutors from those institutions and based on the official curricula for the relevant professional roles.

As the tutors using the e-learning courses created by W4H were involved in developing the material and were drawn from every HTI, this also helped institutions and other tutors accept the courses.

The W4H e-learning programme was part of a wider transformation of teaching practice at the institutions in the six states, which included a shift to SCL and blended teaching methods.

These initiatives were developed in partnership with the NMCN – and are now being rolled out across the whole of Nigeria. NMCN has taken ownership of the W4H e-learning deployment and is seeking to extend it to as many institutions as possible. In addition, taking a training course in SCL is now a regulatory requirement for relevant professionals renewing their NMCN licence.

This close partnership with NMCN on e-learning and related initiatives has helped them become embedded into the training of professional health workers.

Last words

E-learning can enrich the education and training of the health workforce, as a part of a student-centred and blended-learning approach to teaching and learning.

Successfully implementing e-learning in the HTIs of the six states supported by W4H was a challenging project, both in terms of creating a platform that was appropriate for the resource-constrained setting of the institutions and also in terms of the significant culture change that was needed for the new approach to learning to become embedded in day-to-day teaching.

This guide was developed to support and provide guidance to other states in Nigeria and to education projects in other settings. This guide emphasises the importance of intersectoral and multi-sectoral collaboration and how it is critical to improving health workers' training and the development of feature rich learning material. It also recognises that context-specific ICT interventions are needed to solve the resource challenges in developing countries to ensure the achievement of the global goal of Universal Health Coverage.

The challenge of change

W4H faced many challenges in installing the e-learning system in the HTIs and in developing the e-learning content – but just as challenging was supporting the behavioural change needed in the institutions. While the HTIs welcomed the e-learning project, the people in the institutions – at all levels from leadership to students – needed support to successfully embrace e-learning.

The major lesson learnt by W4H about e-learning was that extensive and sustained support was needed by institutions before the benefits of e-learning could start to flow.

Checklist

Stage 1: Engaging stakeholders, understanding needs

- ☐ Identify and engage key stakeholders
- ☐ Conduct a user needs assessment
- ☐ Conduct a technological environment assessment
- ☐ Carry out an institutional capacity assessment
- ☐ Recruit a delivery team

Stage 2: Building an e-learning hardware platform

- ☐ Use technological environment assessment to design an appropriate platform
- ☐ Source the components needed, locally if possible
- ☐ Install, configure and test your system
- ☐ Provide initial training for institution ICT staff

Stage 3: Establishing a content production team

- ☐ Engage with the stakeholders who are commissioning the e-learning
- ☐ Recruit a Project Coordinator
- ☐ Recruit Subject Matter Experts and train them in e-learning if needed
- ☐ Recruit e-learning technical specialists
- ☐ Recruit one or more Testers

Stage 4: Content selection, development and validation

☐ Hold a Kick-off meeting

☐ Decide the Design Solution and Content Scope

☐ Create an Interactive Learning Script

☐ Produce and test e-learning content

Stage 5: Administering e-learning courses

☐ Publish e-learning courses on the platform

☐ Support tutors to enroll students

☐ Put in place monitoring and administration systems

☐ Use the system for testing, assessments and exams

Stage 6: Embedding e-learning in institutions

☐ Assess the challenges likely to be encountered when embedding e-learning

☐ Provide whole institution capacity building over an extended period

☐ Put in place monitoring and provide on-going support as needed

☐ Seek to embed e-learning in the official regulatory framework

Notes

Acknowledgements

Glossary of key terms

Stakeholders – All those who have an interest in or can be affected by any action, project or programme.

Acronyms

FYP – Foundation Year Programme

HTI – Health Training Institution

ICT – Information and communications Technology

NMCN – Nursing and Midwifery Council of Nigeria

SCL – Student Centred Learning

W4H – Women for Health Programme

Since it began in 2012, the Women for Health (W4H) programme has successfully addressed many of the practical and strategic challenges associated with its goal of increasing the number of female health workers, especially midwives, in rural areas of Northern Nigeria.

By September 2020, a total of 9,601 women had entered professional health training as a result of the programme. Since the first students supported through the W4H Foundation Year Programme (FYP) began completing their professional studies in 2017, a total of 556 have graduated. Some 80% have been employed and of those 97% have been deployed to rural areas where they can have the greatest impact on maternal, infant and child mortality and act as role models and champions.

This 'how-to' guide is one of a series about different aspects of addressing barriers to the education and recruitment of young women from rural areas of Northern Nigeria to enter training to become health workers. This guide is about developing an appropriate e-learning programme, as part of a wider transformation of teaching practice. It translates the lessons learnt during the programme into a series of practical, inter-connected steps to guide similar projects and government initiatives in comparably challenging locations.

This guide is for anyone aiming to implement an e-learning system – the guidance is based on experience in health education, but the learning could be valuable for education and training applications in other areas. This is not a technical guide – it is a high-level process guide suitable for project and programme staff, education institutions and related stakeholders, development partners and non-governmental organisations.

How-to guides and other resources based on the learning from different aspects of the W4H programme are available. For more please visit the resources section of the Human Resources for Health Learning Hub, hosted by the Centre for Gender Studies, Bayero University Kano.

How-To Guides and other resources based on the learning from different aspects of the Women for Health programme are available.
For more please visit the resources section of www.learninghub4hrh.org