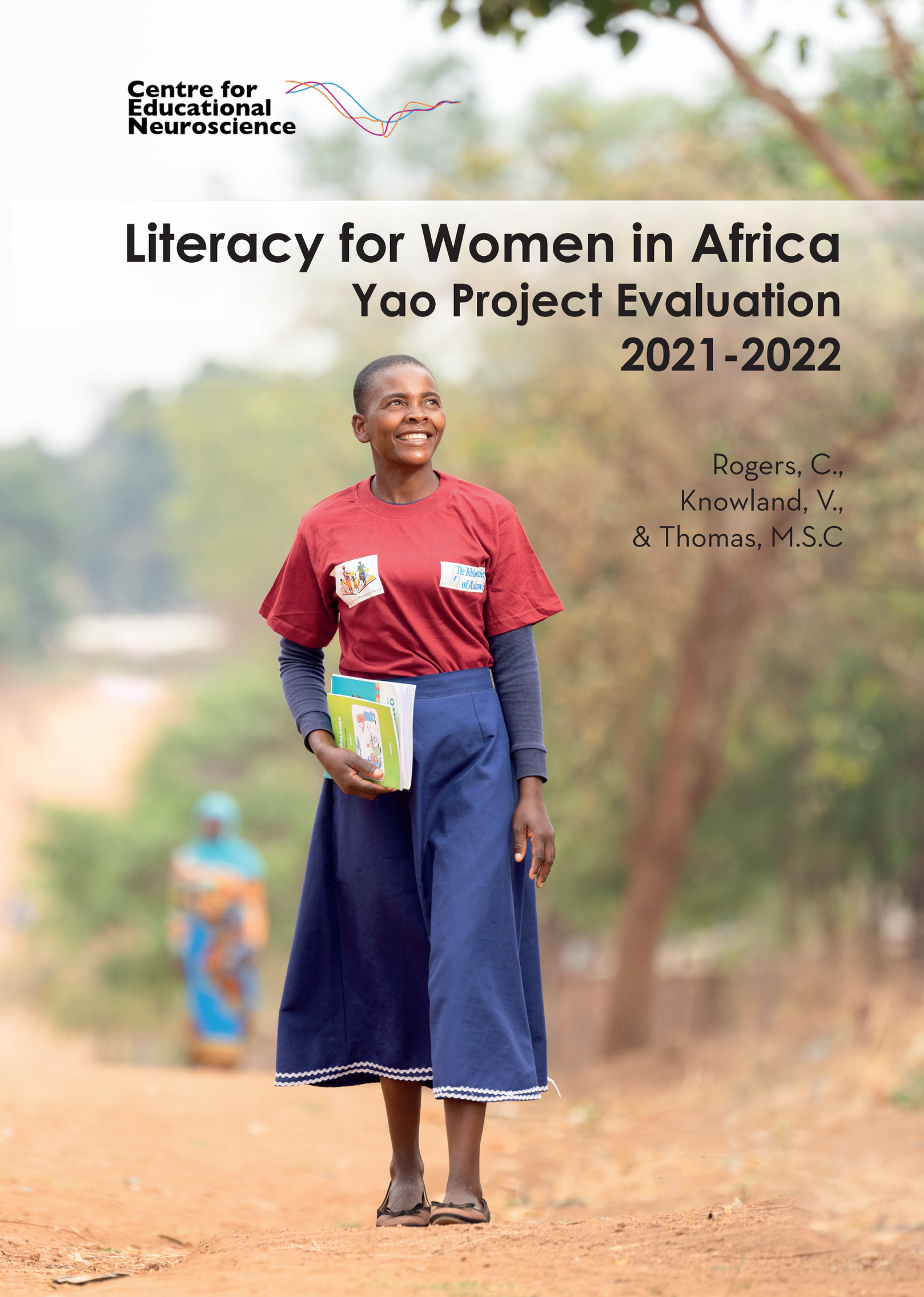
Centre for Educational Neuroscience

# Literacy for Women in Africa

## Yao Project Evaluation 2021-2022

Rogers, C.,
Knowland, V.,
& Thomas, M.S.C



Centre for Educational Neuroscience

# Literacy for Women in Africa Yao project evaluation, 2021-2022

Knowland, V., Rogers, C., & Thomas, M. S. C.

Centre for Educational Neuroscience (CEN)

October, 2022

# Executive summary

The most recent estimate in 2015 put the adult literacy rate in Malawi at 62%, with no improvement in that rate seen in the previous 20 years (UNESCO institute for Statistics, 2015). Low adult literacy rates in the Global South are a matter of on-going and urgent concern, with consequences for economic and democratic inequity, which are felt even more acutely by women and minority cultures. The Literacy for Women in Africa (LWA) Yao Project is a literacy intervention developed through collaboration by the Finnish Bible Society, the Bible Society of Malawi and SIL Africa Area, which aims to address the inequitable literacy rates experienced by women in the Yao district of Malawi.

This report is the second in a series of two evaluations of the LWA Yao project by the Centre for Educational Neuroscience in London. It is designed to be read alongside the best practice spreadsheet, which sets out the evaluation recommendations in more detail. Our source material for this evaluation comprises primary data on literacy skill development and questionnaire responses from learners on the 2021 project; alongside interviews and observations from a field trip to the Mangochi district of Malawi made in September 2022.

In this report, we analyse the LWA Yao project using as a framework the COM-B model of behaviour change (Michie et al., 2014). The COM-B model offers a systematic way of identifying what is required to bring about sustainable behaviour change. It recommends that interventions are evaluated by considering their potential barriers in terms of Affordability, Practicability, Effectiveness, Acceptability, Side effects, and Equity. In addition, for this evaluation we also consider Sustainability.

We assess *effectiveness* using data from learners' change in literacy skill over the 2021 course, and the extent to which progress is maintained. The improvements in reading skill shown by learners clearly fulfil the LWA goal of supporting women to achieve and maintain 'functional literacy'. The suggestions we make for even greater effectiveness relate chiefly to the content of revision classes and to recommendations to enhance the development of reading and writing fluency.

The *practicability* of a behaviour change intervention asks whether the intervention can be delivered as intended to the target population. Practicability has been carefully considered by the LWA team and both learner questionnaires (2021) and interviews (2022) clearly indicate that where barriers to accessing classes exist, they invariably relate to life events *outside* the course, rather than logistics *about* the course. Observations and field trip interviews highlighted two main practicability barriers: the learning environment (particularly the size and stability of blackboards) and the question of

extending learning to the national language of Chichewa, to allow learners more opportunity to use their literacy skills beyond the Yao region.

Successful interventions need to be acceptable to all relevant stakeholders. *Acceptability* is considered here through interviews with current and past learners and current teachers. Despite some evidence of negative peer pressure (e.g., scepticism about the benefits of learning literacy in adulthood), very high levels of acceptability were found, with 95% of learners from 2021 reporting that they would like to continue learning to read.

Our evaluation of *sustainability* considers how the LWA team is supporting local communities to take responsibility for their continued, long-term literacy development. The high motivation of both learners and teachers, and the high quality of teachers recruited from the hyperlocal area, are key assets in facilitating long term literacy habits. 'Post literacy classes' (which we suggest re-naming 'improving literacy classes') have become established in 90% of villages. According to all stakeholders with whom we spoke in 2022, the main barrier to more sustainable literacy development is a lack of materials with which to practise. Although the LWA team is aware of this and is currently developing more materials, we strongly emphasise the importance of this issue and make some suggestions for the kind of materials needed to best support continued progress.

There are few barriers to the *affordability* of the intervention. We acknowledge that while the project does not incur a direct cost to learners, attendance does represent an opportunity cost: learners are not free to earn money for three afternoons a week. Interviews with learners in 2022 showed that they typically prioritise class over work opportunities and rarely indicated that they considered affordability a barrier to learning.

The LWA Yao project is specifically designed to support *equity* through the provision of learning opportunities to doubly marginalised persons, with the key beneficiaries being women who speak a minority language. Equity is clearly addressed, with the vast majority of Yao learners being women (95% in 2021). The majority of teachers are also women, allowing opportunities for higher social standing among local educated women. Additional equity considerations concern people of religious minorities, something of particular relevance to the Yao people, who follow the Muslim faith in a predominantly Christian country. The Yao project appears to have handled this potentially difficult issue very sensitively, with the result that the project is very successful in not only promoting gender equity but also in reducing the effects of disparities based on religion.

With respect to unintended *side effects*, we consider both the negative and the positive. On the one hand, interviews with current and past learners in 2022 suggested that some learners experience

negative peer pressure such as 'teasing', but on the other hand, substantial positive side effects were also identified. The most notable positive side effect is a 'force multiplier' effect, whereby empowering women in turn allows them to educate and empower their own children to learn to read and write. This has the potential to bring about enduring improvements for future generations.

### Conclusions and recommendations

Our evaluation of the LWA Yao project found that this is an excellent, well-executed, well-conceived programme that achieves its goal to improve women's literacy levels. The report concludes by identifying aspects of the programme which we think are particularly strong (e.g., overall course design; very high quality of teaching and teacher training; high motivation of the learners; and strong support from the local community), as well as barriers to the project achieving its goals (e.g., the need for further materials for practice; the missed opportunity represented by 'revision' classes; and the potential power of continued data collection to allow further improvements to the project). We finally present some ongoing dilemmas and challenges for the programme team to consider around issues such as indirect costs of classes, sustainability, language choice, acceptance, and technology.

The LWA programme is an excellent example of educational neuroscience in practice. We suggest that the team consider ways in which they could share their approach and their data with others, as a tangible demonstration of how academic research can be used to inform and improve best practice on the ground.

## Introduction

### The Literacy for Women in Africa programme & the Yao project

Malawi has one of the lowest literacy rates in the world, with overall adult literacy at 62% and the rate for women being just 55% (UNESCO, 2022). In a world where education is a vehicle for employment and better life outcomes, these figures speak volumes. Indeed, in Malawi just 3% of women complete secondary education (Castel et al., 2010). Although children's school attendance rates are now slowly improving in the country, a generation of women remain uneducated and severely lacking opportunities.

The Literacy for Women in Africa (LWA) programme aims "to reduce illiteracy among women and promote lifelong learning opportunities". The programme originated in Malawi in 2015, and is now also active in Ethiopia, Kenya, Namibia and Tanzania, with all classes being taught in learners'

mother tongue. The programme, which was developed in collaboration with SIL -Africa Area, covers the alphabetic principle, grapheme-phoneme correspondences, phonemic awareness, vocabulary knowledge, reading comprehension and the gradual development of reading fluency. Classes also support learners to develop basic writing skills.

This evaluation pertains to one specific project within the LWA programme: the literacy project in the Yao region of southern Malawi. The original goal of the LWA Yao project was to teach 3,250 adults (85% women) to read to a functional level by the end of 2022. The project's key beneficiaries, women with low or no literacy, are marginalised both by their gender and by language, since their mother tongue is the minority local language of Yao. The materials developed for classes to achieve this goal were specially designed to promote gender equality and to focus on cultural themes familiar to learners. The materials do not contain religious material.

The LWA is operated by the Bible Society of Malawi (BSM), who are responsible for planning, implementing, monitoring and reporting on the programme in Malawi. The programme is funded by the Finnish Bible Society (FiBS), through resources from the Development Co-operation fund of Finland's Ministry for Foreign Affairs.

## Introduction to the Centre for Educational Neuroscience

The Centre for Educational Neuroscience (CEN) is a University-led research centre, combining the expertise of researchers in child development, neuroscience, and education at three world-leading institutions: Birkbeck, UCL Institute of Education, and University College London. The mission of the centre is to harness this combined interdisciplinary approach to translate research into practice to improve education and well-being across the lifespan. The long-term aim of developing better learning environments is to allow more effective learning and produce more fulfilled learners.

The CEN was commissioned by the Finnish Bible Society (FiBS) to write a series of two reports evaluating the LWA Yao Project. This is the second of those two reports.

## The evaluation team

Dr Victoria Knowland is a CEN affiliate and lecturer in Speech and Language Sciences at Newcastle University. Dr Knowland has collaborated with the CEN over several years, focusing on projects around adult learning and brain plasticity. Dr Cathy Rogers is a CEN affiliate. She has recently completed a PhD in Educational Neuroscience as well as co-authoring a book (with Prof Thomas) introducing educational neuroscience to a wide audience. Prof Michael Thomas is the Director of the CEN. He has been closely involved in the planning, development and finalisation of the evaluation

report. The three evaluation team members co-authored the World Bank Report 'The science of adult literacy' (Thomas et al., 2020) which was the starting point for this work. Drs Knowland and Rogers made the September 2022 field trip to Malawi, on which much of this report is based. All three CEN evaluators are independent of all operative and financial stakeholders involved in the LWA programme, as well as all beneficiaries.

## A behaviour change approach to the LWA project

The first CEN evaluation in 2021 focused on the 2019 Yao literacy project (since the Covid-19 pandemic prohibited classes taking place in 2020). The evaluation used documents and materials to assess the pedagogical approach taken, the teaching materials developed for the project, the characteristics of learners, the role of teachers (including teacher training), and the cultural context and sustainability of the project. The evaluation considered how the project compares with the evidence available for best practice at the level of the brain, the individual, and the wider cultural environment. The findings were summarised in two ways: a written report outlining the main findings, and a spreadsheet which listed all components of literacy programmes which contribute to their effectiveness, and a rating (traffic light) for each component for this project. Both sets of findings sought to highlight both existing examples of excellent practice and areas for possible improvement.

The second evaluation builds on the first through this report and an updated version of the best practice spreadsheet. We consider the same areas in more depth, drawing on additional sources of data. Here we take as our source material: primary data on literacy skill development and questionnaire responses from learners on the 2021 course; and interviews and observations from a field trip to the Mangochi district of Malawi made in September 2022 by Dr Rogers and Dr Knowland. During this trip the authors observed seven classes, during which detailed notes were taken and observation forms (see Appendix B) completed. In addition, interviews were conducted with current teachers and learners, as well as learners from the previous year - both those who had completed courses and those who had stopped attending classes (see Appendix C for qualitative methodology).

For this 2022 evaluation, we analyse the project using the COM-B model of behaviour change (Michie et al., 2014) as a framework. The COM-B model is a well-established interdisciplinary tool for designing and evaluating interventions. It offers a systematic way of thinking through what is required to bring about a desired change in behaviour. Here, we describe the project with respect to

specific target behaviours, evaluate the project, and identify areas where barriers to behaviour change remain; in these last cases, we make proposals for how barriers might be tackled. Finally, we present suggestions for ongoing evaluation, to allow for local implementation of behaviour change techniques, guided by the collection of data from learners.

### Evaluation goals

The goal of this evaluation is twofold

i. To analyse the 2021-2022 Yao literacy project activities against criteria set out by the COM-B model of behaviour change.

ii. To make recommendations for how the Yao literacy project could work to address any barriers to behaviour change that are identified.

The overarching objective of this report is to allow ongoing impact monitoring and continued long-term project improvement to be managed at a local level, as well as to make some shorter term recommendations which we believe could improve outcomes for learners.

### Sources of data

To be clear on data sources for this evaluation, the project described is the one implemented in 2021 and quantitative data collected on effectiveness are from that year. However, the evaluation is heavily informed by the 2022 field trip to the area. In the relevant sections of the report, we explicitly state the source of information for each aspect under consideration. Where there are known differences between the two years, such as materials used or approach taken, we point these out.

The field trip to Mangochi was conducted by Dr Rogers and Dr Knowland in September, 2022. Over the course of five days of classroom visits, seven classes were observed. Classes varied by teacher experience (first vs second year of teaching); locality (semi-urban vs remote); classroom conditions (inside vs outside) and size (minimum number of learners 16, maximum 44). After each class, semi-structured interviews were conducted with both learners (a group of 6-8 for each class) and teachers (2 per class) with the support of an interpreter.

## The COM-B model of behaviour change and APEASE criteria

The problem that the LWA project seeks to solve is the low rate of literacy among Yao women in the Mangochi district of Malawi. According to Malawi's National Statistical Office, the overall literacy

rate for Mangochi (from age 5 upwards) is the lowest of Malawi's 32 districts, with a literacy rate of just 53% (National Statistical Office of Malawi, 2019). The project speaks to goals 4 and 5 of the UN Sustainable Development goals; namely (Goal 4) 'Ensure inclusive and quality education for all and promote lifelong learning' and (Goal 5) 'Achieve gender equality and empower all women and girls' (United Nations Millennium Declaration, 2000).

The project seeks to increase reading behaviour in Yao women who are beyond school age, by providing specialised, targeted training in literacy skill. According to the COM-B model of behaviour change, an intervention can make a meaningful change to behaviour (B) if it makes adjustments to at least one of three intervention components: capability (C), opportunity (O), and motivation (M). The LWA project was designed to make use of all three components through the provision of local classes. Here we briefly describe how the project, as designed, addresses each of these intervention components in order to bring about behaviour change.

The intervention component ***capability*** describes any changes brought about in the knowledge or skill base of the target group that enable progress towards the intervention goal. Capability is the key intervention component for the LWA Yao project, and is addressed through the development of skill and knowledge relating to literacy by the provision of literacy classes. In classes, learners develop orthographic and phonological skills, along with knowledge of the alphabetic principle. Learners also develop skills around behaviour regulation, for example through engaging in their own practice outside of timetabled classes. The intervention component ***opportunity*** is engaged by the provision of physical and social opportunity, by ensuring learners have materials with which to practise and a supportive learning environment. The LWA Yao project adapts the physical environment to ensure learning opportunities are available (e.g., through the provision of chalk boards and other resources for teaching). The project also supports change in the social environment by providing opportunities for women to engage in continued learning and by working with local communities and village chiefs to gradually change expectations about women's role in society. Finally, the intervention component ***motivation*** refers to ways in which the intervention alters reflective motivation, but also automatic processes involving emotional reactions. The LWA project enables learners to change their self-belief and self-identity, coming to see themselves as literate and developing confidence as they acquire new skills and knowledge. Though changing the motivational state of learners is not an explicitly stated aim of the project, as far as we are aware, it is nonetheless an important component inherent in the way the project was set up.

As well as behaviour change coming about through individual intervention components, it also comes about through interactions between components as they strengthen and support each other.

For example, supporting change in the social environment by working with local communities and chiefs may feed into a positive cultural shift in women's feelings of self-belief and personal relevance, which in turn could support shifts in cultural expectations at the local level.

In the following sections we evaluate the LWA Yao project using the 'APEASE' criteria (Michie et al., 2014), which are designed to interrogate the COM-B model. APEASE is an acronym, standing for Affordability, Practicability, Effectiveness, Acceptability, Side effects, and Equity. For this evaluation we also include Sustainability. We consider the criteria in order of their importance for this project. As such, effectiveness is the central concern, but this approach allows us to think systematically beyond effectiveness, to the individual, social and cultural context of the intervention.

For each of the APEASE criterion, a descriptive evaluation is provided, based on course materials and data from the 2021 learners. Where relevant, this is supported with observations and data collected during the 2022 field trip. We focus particularly on two areas highlighted in the first evaluation report: first, those areas where there was insufficient detail for evaluation based solely on project materials (those areas were marked on the spreadsheet in 2021, as 'Needs observation for full evaluation'), and second, areas where we had highlighted the potential for improvement (those items rated amber or red on the spreadsheet in 2021). An updated spreadsheet providing pertinent information for the project moving forward is available here.

## Effectiveness

The project is evaluated for effectiveness based firstly on assessments of reading skill conducted with the learners in 2021. Effectiveness is measured by the change learners made in their reading skill from the start of the course to the end, and the extent to which progress was maintained approximately six months later. Secondly, effectiveness is evaluated on the basis of class observations and interviews conducted in 2022, which allowed further evidence to be gathered on the extent to which the project aligns with findings from the literature on principles of andragogy.

## 2021 data: assessment of learners' skills

Skill assessments were conducted at the start of the course (baseline) and at the end (endline), with a subset of learners also assessed at follow-up approximately six months later. Alongside skill assessments, questionnaires answered by learners gave details about learners' backgrounds and motivations at baseline, self-evaluation at endline and continued engagement with reading at follow-up. The sample size of baseline and endline assessments represents all learners who could be

tested but is not comprehensive in including all learners who attended classes. The data are therefore presented here with the caveat of their being illustrative rather than necessarily representative. Full responses to the skill assessment and questionnaires are given in Appendix A.

At baseline, 592 observations were recorded (of 1423 enrolled learners: 1365 women and 58 men); at endline, 1306 observations were recorded. The notable difference between baseline and endline numbers is due to difficulties getting baseline questionnaires to teachers in time for the start of the 2021 project, meaning many learners missed baseline assessments. We also know that some learners join the course after the official registration period and that others drop out during the course, but we are not able to accurately represent those figures here.

Demographic data were collected at baseline only. Women made up 94.6% of learners. Women from 70 different villages were represented. The majority of learners, 59.8% of those for whom we have data (n = 577) were young adults (age 20-40 years), 14.2% were youth (under 20 years), 23.6% middle adults (40-60 years) and 2.4% older adults (over 60 years).

### Description of measures of literacy skill

At baseline, reading skills were assessed by asking learners to name three individual letters, a single word, and a simple sentence. At endline, assessment was the same except that learners were asked to read three sentences instead of one. At follow-up, one sentence was used again. For the purposes of this report, reading level is calculated by allocating one point for being able to name all three letters, one point for being able to read the single word, and one point for being able to read at least one sentence correctly.

Unfortunately, accuracy of sentence reading was scored differently at baseline, endline and follow-up, meaning that precise comparison of sentence-level reading across timepoints is not possible. As comparable sentence-level data were not available at baseline, learners are scored between 0 and 2, while at endline (and follow-up) the range is 0 to 3.

At ***baseline*** (n = 592) 71.5% were at level 0 (unable to name three letters), 10.8% were at level 1 (able to name letters but not read a word) and 17.7% at level 2 (able to read a single word), such that median and mode reading level were both 0 (IQR = 1) i.e., the majority of learners were not able to name all three letters. At ***endline*** (n = 1,306), median and mode reading level were both at level 3 (IQR = 1), with 7.0% at level 0, 5.8% at level 1, 33.8% at level 2, and 53.4% at level 3. Note that this is likely to be a conservative estimate of skill at endline, since data on sentence-level reading was not available for some learners, and where this was the case, it was assumed that sentence-level reading

had not been achieved. Sentence-level endline data were missing for 522 learners, nearly half of the cohort, so it is possible that many more learners reached level 3 than are represented here.

We considered how reading level at endline was related to learners' feelings about what they were able to do given their literacy skills. Among those who scored at level 3, 49.3% felt able to use technology, such as texting on a mobile phone; 53.4% felt their literacy skills helped with work; 75.1% reported feeling able to help their children read; and 44.9% reported being able to use reading to help with making decisions. Answers to all these questions were influenced by reading level[1], with those at a higher reading level feeling more able. The influence of reading level on how learners felt about their skills was most apparent when it came to helping children learn to read, emphasising the importance of supporting women's literacy in order to support the next generation of learners.

At ***follow-up*** (n = 387), median and mode reading level remained at level 3 (IQR = 1), with 8.5% of learners at level 0, 7.0% at level 1, 16.5% at level 2, and 68.0% at level 3. Again, this may underestimate reading skill, with data at sentence level missing from 44 learners. Although we cannot directly compare across all observations at endline and follow-up, the percentage of learners achieving level 3 at follow-up is notably higher than it is at endline (53.4% at endline to 68.0% at follow-up).

## Predictors of change in literacy skill

From the 2021 data, matched data for learners at both baseline and endline, were available for only 100 learners. This relatively small longitudinal sample size is believed to be accounted for by differences in learners' recorded names between the two time points; this is partly due to deviations in spelling across timepoints, and partly due to the fact that learners use different given and surnames in different contexts, making matching across timepoints challenging. This important point came to light in conversation with the National Literacy Coordinator, Mr Patrick Gondwe. It suggests that many learners who started the course will also have endline data, but difficulty matching across timepoints mean that it is not possible to analyse those data longitudinally. Mr Gondwe has now encouraged all teachers to require learners to give the same name at baseline, endline and follow-up for all future data collection, and for this also to be the only name recorded in class registers.

[1] According to binary logistic regression models evaluating the ability of reading level to predict each self-reported ability outcome. Learners were asked if they now feel able: 'to use technology (like texting on a phone)', for which B = 0.153, SE = 0.065, z = 2.361, p = 0.018; 'to help in my work or start a business', for which B = 0.328, SE = 0.067, z = 4.920 p <0.001; 'to help my children learn', for which, B = 0.393, SE = 0.067, z = 5.870, p <0.001; and 'to help me make good decisions', for which B = 0.228, SE = 0.068, z = 3.361, p <0.001.

For the 100 learners with matching baseline and endline data: at baseline, median and mode reading level was 0 (interquartile range, IQR = 0). At endline the median and mode reading level was 2 (IQR = 1). The median improvement between baseline and endline was 2 (IQR = 2), indicating that the majority of learners moved up two reading levels, for example from not being able to name the three letters, to reading at the single word level. This shift can be seen in Figure 1, where the grey columns show the number of learners at each reading level at baseline and the blue columns show the number of learners at each reading level at endline.

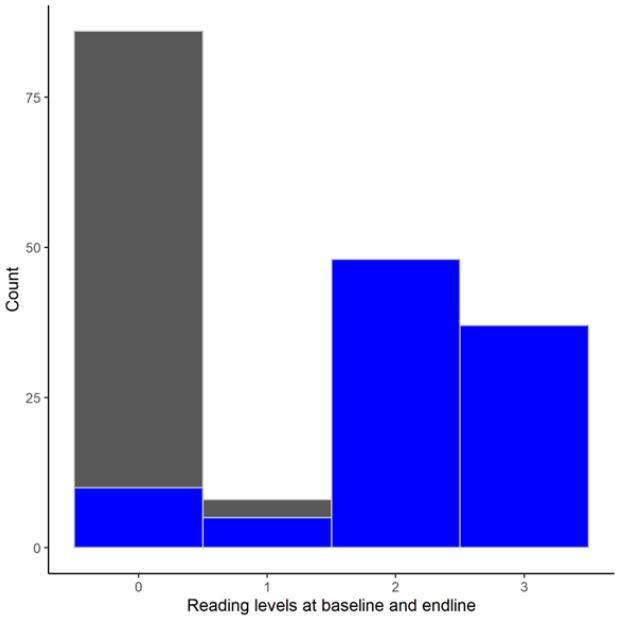



***Figure 1.*** *Reading levels at baseline (grey) and endline (blue) for n = 100*

A statistical analysis was run to see if change in reading level from baseline to endline could be predicted by particular characteristics. The 100 learners for whom baseline and endline data were available were included in this analysis. The predictors used were learners' age group, their reading level at baseline, and the number of languages they spoke. Age groups were: youth (<20 years: 16 learners); young adults (20-40 years: 57 learners); middle adults (40-60 years: 21 learners) and older adults (>60 years: 3 learners).

Overall the model significantly predicted change ($F(87,3) = 5.509$, $p = 0.002$). The only single variable which significantly predicted change was reading level at baseline ($B = -0.78$, $t = -4.04$, $p < 0.001$). That is, readers with lower reading levels at baseline were more likely to show a large change over the length of the course. The most likely explanation is that those with a lower starting level simply had further to go, given the very simple coding system used here. It might also be true that the course is particularly effective for those learners who start with no or very basic literacy skills at baseline. This would be appropriate given that the course was developed with these learners in

mind. There was no evidence from this small analysis that the learner's age or the number of languages they spoke influenced the level of improvement.

A total of 200 learners had data points at both endline and follow-up. The median change in reading level for this sample between endline and follow-up was 0 (IQR = 0), meaning that the majority of learners did not change in their reading ability over the six months following the end of the course (median reading level = 3 and IQR = 1 at both time points for n = 200). This is positive, since some evidence from the literature (UNESCO, 1976) suggests that newly gained literacy skills can often be lost. Of the 200 learners represented at both endline and follow-up here, there were in fact 35 learners whose reading level *increased* between these two points. Interestingly, this improvement was seen for all 12 learners who came from the villages Rashid and Taliya with data available at endline and follow-up. This suggests these villages may have particularly supportive systems for learners after the end of the course; if learners had ceased practice and neglected their skills, one would expect a decline in these measures, whereas if they had continued to practise and been exposed to wider opportunities for reading, one would expect gains. A group of learners from these villages was interviewed during the field trip to understand continued learning opportunities after classes; the findings are discussed below.

### The literacy continuum

We can relate the changes in reading level outlined above to the literacy continuum introduced in Thomas et al., 2020 (see Figure 2). The course is designed to support learners through 'emerging literacy', and the data presented here suggest that the majority of learners leave the course having achieved, or nearly achieved the level of 'Functional literacy'. This is exactly the stated aim of the project.

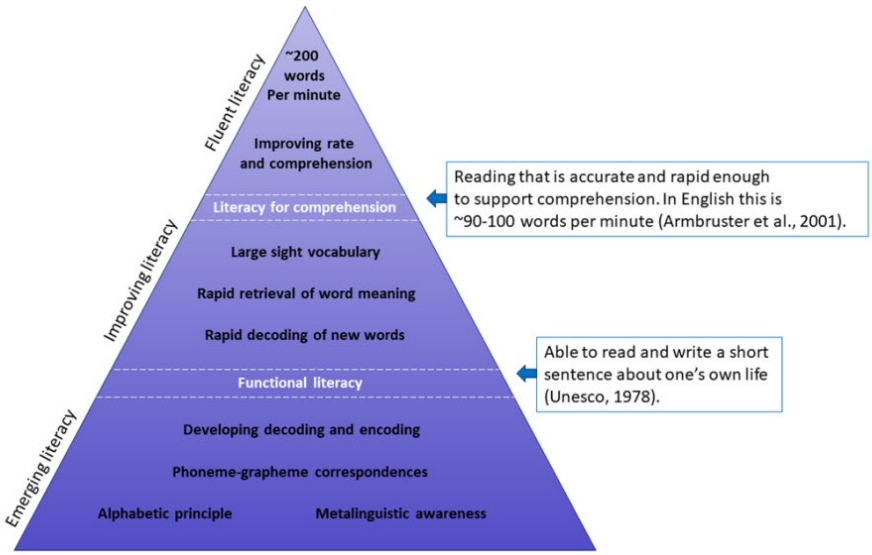



***Figure 2.*** *The continuum of literacy development: Emerging, Improving, Fluent literacy*

## On-going data collection

As this simple analysis of the 2021 data shows, information collected about the learning process and outcomes can be very valuable to those involved in running the project. The supervision team likely have additional questions, beyond whether the project results in the changes intended, for example: are there certain elements of the project that are particularly important in bringing about behaviour change? Is there anything about learners or how they engage with the project that predicts success? What are the barriers to long term change?

When we interviewed teachers in the 2022 field visit, all said that they valued having data on the learners in their class. They reported that it helped them to know everyone's starting levels, to understand in advance who might need additional support, and they understood the importance, to them and to others, of measuring literacy progress over time. Mostly, they suggested that collecting data on learners at the start of classes was manageable and they made time to do it; the only problems identified were for learners who started classes late in the registration period or after it, since collecting data then would interfere with teaching time. We recognise the important groundwork that has been done here to ensure that teachers are equipped and motivated to collect meaningful data on learners.

Currently, all learners are routinely assessed for literacy skill at the start and end of the course in order to track progress, and we understand that this will continue to be the case. In order to answer more specific research questions moving forwards, a small group of classes could be selected for

more thorough evaluation. A set of around ten classes would provide a solid dataset while allowing the team to maintain rigorous standards of fidelity and data coding. A basic set of questions year on year could answer questions about efficacy, while adding specific items for any given cycle would allow a focus on more specific questions. For example, one question that may be of relevance in the coming years is what the value is of introducing new technologies to introduce or extend literacy skills.

## 2022 data from the Mangochi field trip

In the 2021 evaluation report we considered the ways in which the LWA Yao project aligned with evidence of best practice from the existing literature on andragogy for non-literate or neo-literate adult learners. In that report we highlighted many things that the learning materials and Teacher's Guide suggested were already optimally supporting learners. Here we focus on those areas where there was either room for improvement or where more data was required in order to fully assess them. As classes were observed in September, some groups had already reached the end of the course Primer and were engaged in revision, though this was not true of all classes. Each evaluator was accompanied by a local interpreter, and for each class a project monitor was also present. Evaluators watched quietly during classes without intervening; though naturally the presence of visitors will have had some impact on proceedings, and conclusions drawn from these observations should be interpreted with that in mind. Some aspects of observation required translation for assessment (e.g., exactly what a teacher said when giving feedback); wherever possible, we ensured that interpreters knew in advance what we were looking for but this might not always have been conveyed. When we say something was 'not observed', we mean there is a feature we would have expected to see (directly or with the help of translation) that was not evident. During class, evaluators filled out a 'classroom observation tool' in order to structure observations and ensure that all pertinent data were collected. Each item on the classroom evaluation tool was given a rating of red, amber or green depending on whether the corresponding behaviour was observed during each class.

## Teaching

Throughout classroom observations, the quality of teaching demonstrated was consistently high. Teachers were engaged and engaging, and delivered the content of classes with clarity and passion. Fidelity of adherence to the Teachers' Guide was generally high, though with some variation chiefly due to the fact that many classes we observed were revision sessions. In interviews, teachers were

asked what they enjoy most about teaching. They talked about their relationship with learners and having a full and attentive class being key to what made teaching pleasurable and meaningful for them. One teacher commented, "We are happy when interactions between learners and teachers are equal. That is what makes it work."

Teachers also demonstrated good insight into the value of active learning and discussed how they sought to engage learners. We asked how they motivated the class at the start of the course when learners typically find the course content tough. Teachers talked about reminding learners why learning to read is valuable, and about how they made small adaptations, for example by repeating early lessons until learners felt confident, or how they helped learners to write using individual hand-over-hand support.

The quality of teaching was also apparent when talking with learners. Learners talked about the teachers being "talented" and "friendly", "respectful of elders" and "supportive".

## Motivation & feedback

Learner motivation is a key foundation for the effective acquisition of new knowledge in the classroom. Motivated learners are more able to attend to content and integrate new knowledge with existing knowledge. Learners are motivated by both internal (intrinsic) factors and by external (extrinsic) factors. In the classroom, motivation was evaluated by the extent to which learners appeared to be engaged by proceedings. On the classroom observation tool this category was given a high score, with learners typically appearing well-engaged for the duration of classes, which varied in length between 75 minutes and 150 minutes.

### Intrinsic motivation

Evidence from class registers showed that learners were asked about their intrinsic motivations for learning before classes began. This question was introduced for the first time for 2022 learners and is an addition we fully commend. For the most part, recorded motivations did not vary greatly, with 'reading and writing' being common. In some villages, however, learners had clearly been encouraged to consider more personal reasons for attending; these included 'to help my children learn' and 'to support business'. Learners expressed tremendous motivation in the enthusiasm with which they talked about classes, their reasons for learning and some of the barriers they had overcome to do so.

### Extrinsic motivation

Extrinsic motivation was supported in class by frequent group singing (which was an unexpected but very welcome addition to class content), by encouraging learner involvement, and by positive feedback. Singing was observed in all villages we visited; during class, both learners and teachers would initiate songs, often about some aspect of learning (e.g., a celebratory song about no longer having to sign names with a thumb print, or encouraging other village members to join class). Song was used to re-energise classes during periods when the teacher was preparing a new activity or when energy levels dipped. Not all classes used this tool to the same degree, but it had a tangible impact on engagement whenever they did.

With respect to learner involvement, the Teachers' Guide specifies that the whole class should be encouraged to contribute as a group at several points during each lesson. This was observed in all classes we visited, with learners reading as a group at the levels of single letter, single word, sentence and paragraph. Notably though, when individuals were asked to read or speak, teachers tended to ask for volunteers, meaning that the same learners often ended up responding. This might have had a negative impact on the motivation of other learners in the class. Learner involvement in class is critical to motivation, and could be improved by learners being given more choice during class. This was reported in some classes when we saw some 'revision' classes, for which learners had been asked before class which letters they wanted to revise, but the project team could benefit learners by thinking of other ways to build in more learner choice.

The final element of extrinsic motivation is the use of feedback. From classroom observations, feedback was always encouraging and supportive. The most usual form of feedback observed was teachers asking the group to thank a learner for their work with a single whole-class clap. In classroom observations we also looked at the specificity of feedback and whether modelling was used as a feedback tool. These elements of feedback were seen to a lesser extent and present an area for possible improvement. Specific feedback is the difference between, 'You've done a great job, well done' and 'You've formed that letter well but the tail needs to be a bit longer.' This kind of feedback was seen occasionally, mostly when monitors joined the class and gave feedback on how learners were writing in their exercise books. It was not seen when learners wrote on the board. Giving specific feedback, then modelling the correct way to perform a task before asking the learner to try it again would scaffold learner development more effectively.

## Active learning

Active learning refers to educational contexts in which learners are required to be participants, rather than passive recipients in the learning process. Active learning allows the learner to construct their own mental representations of new material by linking new content with existing knowledge. In the 2021 evaluation we highlighted the many ways in which the Teachers' Guide promotes active learning. For example, teachers are told to ask learners to write on the board, to think of their own examples, to read aloud, and to respond to questions.

In class, we looked for students being supported to actively participate, and this was observed in every village. During interviews with teachers, we asked why they thought active learning was important. Teachers gave insightful and thoughtful responses to this question, including "to help learners memorise the information"; "their actions, our interactions make us understand that this learner is grasping it, that we are together with this learner"; "to get them involved and encourage them" and "it helps them listen and it shows that they're focused". However, this is an area of the project that could also be developed more. The following are examples of active learning that were observed infrequently during the field trip which could be included more consistently and systematically across the project:

***Group work***. Working in groups or pairs allows learners to engage more deeply with materials and work at their own pace. This approach to learning was observed a few times when there was a new learner in class and others were encouraged to support them. In one class, two students were asked to engage in a simple counting competition to encourage rapid responses and increase engagement. On the whole though, group or pair work was not regularly observed. There are some points during classes when this approach could be integrated quite easily. For example, asking students to swap exercise books after completing a writing task and giving each other feedback; or asking two students to come up to the board and see who can write five legible letters most quickly. The integration of pair or group work is something that the team might consider consulting current teachers about to ensure it is culturally and socially appropriate; we are aware that some aspects of andragogy highlighted as best practice in the literature are drawn from research within more individualistic cultures.

***Active recall*.** The 2021 evaluation discussed the importance of active recall, where learners are asked to recall information themselves rather than being given it, thereby actively supporting new learning (Karpicke & Grimaldi, 2012). During classes we observed a clear pattern here; although learners were frequently asked to recall new information, they were almost always asked to do so

with a model available. This was particularly clear with respect to writing, with learners never being asked to write letters or words from memory, but always with a model written on the board. Asking learners to write without a model and to read new words before the teacher has read them would support the more rapid acquisition of new knowledge and skills.

***Extending content***. At one point in the class plan, learners are asked to think of their own examples - specifically during the phonemic awareness exercises, learners are asked to think of other words containing the lesson's target sound. This was seen in every class, but to varying degrees: sometimes, learners were only asked for one additional example. All the examples observed involved the target sound being at the start of a word. This exercise could be considerably extended with more examples, including examples where the target sound is in the middle or at the end of words.

***Unanticipated recall***. During the *contrast* task the majority of teachers mixed up the order in which they pointed to syllables on the board for the class (or one volunteer) to read out loud - that is, they did not pursue the usual left to right, up and down, order but pointed to syllables at random. This visibly challenged learners, who made frequent errors when faced with the recall of unanticipated material, and then often self-corrected. This type of challenge adopted as part of other exercises would stretch and challenge learners and make their learning more flexible, allowing easier translation and application to other situations.

## Course content

With respect to the content of lessons, the 2021 evaluation was fairly comprehensive. What the field trip allowed us to do was see that content in action. As mentioned above, we visited during the late stage of courses, meaning that some groups had worked through the whole primer already and were engaged in revision lessons. In these lessons, teachers followed the lesson plan set out in the Teachers' Guide fairly faithfully, reproducing the same lessons they had followed the first time around. In interviews, learners reported that while early on classes were very difficult, by the time we observed them, they found the content simple. This suggests that these revision classes represent an opportunity to support learners more purposefully on their journey toward reading fluently and reading for meaning. The following are some suggestions about how the team might approach this task, with a focus on extending learners' abilities beyond the examples given in the Yao Primer and to novel contexts.

### Suggestions for revision classes

- Learners could be exposed to more examples of words that contain specific target sounds. For example, the teacher could write several words on the board that contain the target sound and ask learners to read them out loud before the teacher does so. The development of supplementary materials for teachers to support them in this task (such as lists of words for each target sound) would be an efficient and cost-effective way to extend learners' knowledge without asking teachers to spend more time preparing for class.
- Learners could say aloud their own examples of words, then come to the front and write them on the board.
- Learners could be given a word containing the target sound and asked to write a short sentence in their exercise books. They could then read the sentence out to the class, or give it to a partner to read.
- Learners could do the silent reading task with passages from the Yao story booklets (booklets of short stories and passages developed by the LWA team and already available to learners to support continued development towards the end of the course). Teachers could then ask several questions that require understanding of the content of those passages as well as asking learners to make inferences, all before reading the content aloud. The longer passages in these booklets would challenge learners to read for meaning and to hold more information in memory.

These changes could represent a real opportunity for improving the course design and supporting learners' development towards fluent literacy.

## Metacognition

Metacognition refers to the act of thinking about thinking. Metacognitive tasks can be valuable tools for learning as they encourage and support learners to reflect on their learning. One category of metacognitive activities is 'metalinguistic', that is, activities that require learners to think about language. The phoneme awareness activities which are already a prominent part of the LWA course are an example of metalinguistic activities. This is already a great strength of the project, but could be developed even further.

### Morphological awareness

The rich use of prefixes and suffixes in Bantu languages to indicate grammatical and semantic features means that learners could be made aware of the morphology of their language as well as

the phonology. Morphological awareness can be very helpful for learners beginning to write and spell words, as well as for learners beginning to read for meaning. For low literate adults in America, awareness of morphology is a stronger independent predictor of passage reading than even phonological awareness (Tighe & Binder, 2015).

In classroom observations we looked out for examples of how the rules of language might be made explicit for learners. This was arguably seen on one occasion where a teacher described the formation of a syllable from a consonant and a vowel. As we did not necessarily list this as an area of interest for our interpreters, it is possible that this aspect of classes was happening but we were unaware of it. It is also possible that this kind of activity occurred towards the beginning of the course rather than the point at which we observed classes. On the basis of our observations though, we identify this as an area for development.

## Developing fluency

In the 2021 evaluation we discussed the development of fluent reading as being crucial to the success of the LWA project. We cited a UNESCO report from 1976 estimating that even among those adults who completed literacy courses and passed them, 50% subsequently dropped back into non-literacy (UNESCO, 1976). Clearly falling back into non-literacy would nullify any success of the project. The importance of supporting fluency lies in the fact that when readers can read fairly quickly and easily they are more likely to find reading a pleasurable activity, and are therefore more likely to use their skills and further practise them. The team should note that the 1976 UNESCO report needs updating, and that data from the LWA project could amply fill that space if published.

During our field trip to Mangochi in 2022, we considered ways in which the project supports the development of fluency both during classes and after classes finish in October. Specifically, we thought about speed and accuracy of both reading and writing, as well as how learners are supported to read for meaning.

### Developing fluency *during* the course

### Fluency of reading

During classes learners are given many opportunities to practise reading single letters, words, sentences and paragraphs. Beyond the changes suggested for revision classes, the Teachers' Guide sets out a commendable schedule for supporting learners to move towards fluent reading. It was observed, however, that teachers could do more to model fluent, expressive reading. The Teachers' Guide states that teachers should read each passage of text aloud after the class has read it, in order

to model fluent reading. This reading was observed in all classes, but for the most part was slow and without due consideration of emphasis or expression, with prosody emphasising the syllables in the text rather than the stress pattern of words as they would be spoken in conversation. This is an opportunity for teachers to model reading that conveys expressive, fluent reading.

The Teachers' Guide describes features of the lesson plan which actively support the establishment of reading for meaning, such as asking learners to silently read a passage of text then asking questions about the text that require both understanding of the content and ability to make inferences beyond it. This was observed, but often there was only one question that required learners to make an inference or demonstrate knowledge beyond what was presented in the text.

### Fluency of writing

The LWA project is designed to support the development of both reading and writing, although class observations made it clear that the balance between the two is skewed towards reading. Principles of motor learning could help inform some small but effective changes that might help learners feel more confident in writing, without making big changes to the course content. For example, at the start of each class, learners are encouraged to find their names written on a card; this activity could be levelled up by transitioning to writing their names at the start of each class (after the first month of classes, say) without a model available. Although some students had written their names in their exercise books, this activity was not observed as having been instructed or encouraged in classes; it easily could be.

Whenever writing was observed in class, it was slow and laborious, for both learners and teachers (in fact, times when teachers were writing were often those when songs spontaneously erupted). The reason for teachers' models being very deliberate was often so they can talk learners through every movement needed to produce each letter. This approach could be balanced by additional examples of writing the same letter at a more natural pace so as to model a writing speed that would be sustainable and functional. If learners were encouraged to form letters more quickly, they could fit multiple repetitions into the same length of activity. This is true of writing on the board, writing in exercise books and even writing in the air. In order to learn any new motor skill, multiple repetitions are key. With repetitions of an action, motor variability reduces (Muller & Sternad, 2009), and fine motor control of the hand and wrist becomes smoother (Shmuelof et al., 2012).

We noticed that one class used coloured chalk, which helped differentiate guide lines on the board from letters. This could be a simple, low-cost change that could result in a notable perceptual

advantage. Currently the white guide lines merge with the written letters, so every 'l' for example, appears to become a 't', an unnecessary complication.

### Developing fluency after the course

We heard repeatedly from learners and teachers in all villages how enthusiastic everyone was to keep learning after the end of the official classes. The project team has already implemented changes to support learners on their continued journey along the literacy continuum, through the introduction of 'post-literacy' classes. The term *'Improving literacy'* classes might better acknowledge the on-going nature of learning. After the end of the 2021 classes some financial support was made available to teachers to enable them to keep supporting learners after the end of the course. As a result, 56 of the 60 classes that ran that year persisted after the course, with the majority of learners continuing to attend. The recommendation made by BSM was that learners should continue to meet at least once a week for a further month or two, stopping by the time the farming season begins. Reportedly, learners met more often than that and for an extended duration. After the end of the 2022 classes, teachers will continue to be paid for an additional month in order to more formally support improving literacy classes. A programme of suggested activities for these classes has been devised by Ari Vitikainen of FiBS, with supporting activities from Elisabeth Gerger. This suggested plan focuses on fluent reading from booklets and creative writing.

### Lessons on improving literacy from learners in Taliya and Rashid

While in Mangochi, we met with a group of learners from the villages Taliya and Rashid. We had noted from the 2021 quantitative data analysis that learners from these villages made the most consistent improvement in reading ability between endline and follow-up. We were keen to collect qualitative data to complement and extend these quantitative findings. The model these learners adopted for improving literacy beyond the course included the following key features:

- The women in each village meet each week, from 2pm to 5pm on a Saturday, and have done so since the end of classes, even through the farming season, so there has been no gap in their learning since the course began.
- The teachers from both villages are present during these meetups. The presence of teachers is very important for learners, and teachers reported feeling "very comfortable in our hearts" to see the learners continuing to do what they have taught them to do.
- Since the two villages are only 3km apart, the teachers themselves also meet to discuss activities and share ideas.

- The role of the teachers is to ask each learner to choose a different page of the practice booklet or primer that covers a letter they find difficult. In the weekly group they go through each selected page, with the teacher helping whenever a problem appears.
- This group of learners reported that they only rarely practise reading at home, though they do help their children with school work, and use their literacy skills functionally. They spoke with pride about how they are now able to write their names and not just use their thumb print, so when the government comes to the village they can read government leaflets and actively participate in local civic processes. They also said that they can now read healthcare instructions (such as how to take medicines) which they have been given, often for their children, during hospital visits.

The data showed that this group of women had, objectively speaking, improved the most in their literacy skill between endline and follow-up time points. However, when we asked them if they felt they were continuing to improve, they strongly felt that they had not improved since classes stopped. They talked positively about the course "opening their minds," but suggested that they could not improve since they only had access to the same materials as they had used the year before. So this focus group provided valuable information about the positive, tangible improvements that can be made by improving learners on the course, but also how a lack of materials continues to hold women back from achieving their goals.

It is of note when thinking about suggested activities for continuing learners that we asked the focus group whether they ever write stories for each other to read and they responded "we could try" in a very unsure way. This indicates that the suggested activities for improving literacy currently outlined are perhaps a little ambitious, and that past learners could be involved in the development of a set of activities that are pitched at a suitable level of complexity.

Notably, when we looked at the data from 2021, reading level at follow-up was predicted by how often learners reported practising their skills across a range of activities[2] (e.g., 'reading my children's school wok'; 'reading with friends'...) . This emphasises the importance of regular practise after the end of formal classes.

[2] B = 0.043, SE = 0.009, t = 4.766, p <0.001

## *Practicability*

We now move on from considering effectiveness to look at other APEASE criteria. First, we consider practicability, where we ask if the intervention can be delivered as designed, through the means intended, to the target population. Practicability was assessed through analysis of the 2021 quantitative data along with classroom observations and interviews with a range of stakeholders from the 2022 field trip. Some specific barriers to the implementation of the programme were assessed through interviews with current and past learners as well as current teachers.

The LWA team have put great deal of thought into ensuring classes are practicable for learners, through consultation with village chiefs, understanding of local needs (e.g., seasonal requirements for agricultural work; cultural/religious considerations such as not having classes on Fridays in Muslim villages; and general quotidian needs for the time taken for classes not to exceed what is feasible alongside learners' childcare and household responsibilities). The fact that teachers are drawn from hyperlocal populations (most often being resident in the same village as their classes) also offers many opportunities both to monitor and improve practicability. For example, we heard several reports of teachers checking in at the homes of absentee learners, organising additional catch-up classes and suggesting compromises (such as partial attendance) to learners for whom attendance was particularly difficult. Class monitors also give practical support to teachers within classes, for example assisting with marking learners' written work.

There are some remaining challenges. For example, classes are not available to everyone who wants to attend - such as in villages where the demand from those wanting to learn to read and write exceeds the practicable maximum class size. As it is, there are classes which are full beyond capacity, for example, in Tula, there were 44 learners- many more than could fit under the small thatched shelter and also more than could properly see the single small blackboard (see Figure 3). In several classes observed, the blackboards were small, low down and insufficiently stable. This presented difficulties for learners, both in being unable to sufficiently see the detail of letters written by others, and in being able to reproduce letters themselves (see Figure 4).

***Figure 3.*** *Blackboard difficult for many of the learners to see properly*

***Figure 4.*** *Small, unstable blackboard means it is difficult to write comfortably.*

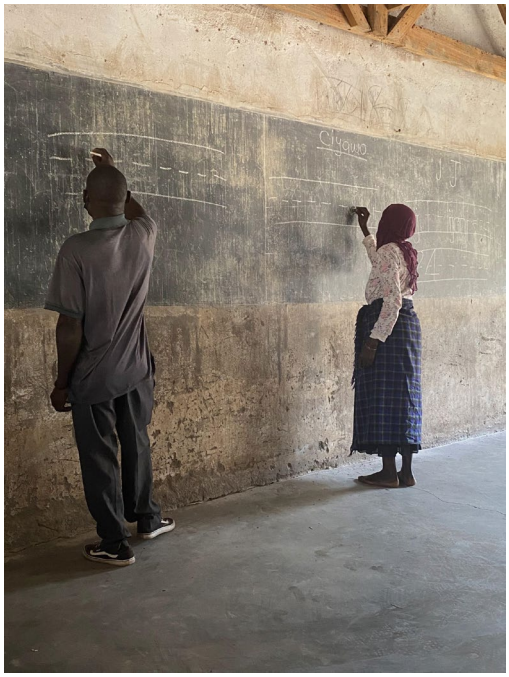


***Figure 5.*** *Large, solid blackboard makes it easy for 2 learners to write simultaneously.*

**Monitors and supervisors**

One ongoing check on practicability (as well as on the effectiveness of delivery of lessons) is the excellent 'Supervisor visit form' (see Appendix B) which includes detailed questions on how classes are being taught as well as on practicalities such as whether teachers and learners arrive on time and are comfortable and engaged. During our field visit, however, we found that this form was not used consistently by monitors visiting classes; in some cases an older, less detailed form was used. We would suggest that consistent use of the correct form could provide a thorough check on the fidelity of classes (i.e., that they are being delivered as intended).

### Classrooms

Classrooms themselves are of highly variable levels of comfort. In several villages there is no shelter at all, with learners seated on the ground outside, often with babies on laps or backs. In others, there is a simple thatched covering for shelter. In the most comfortable, classes take place in existing primary schools with seats, desks, and large blackboards attached to walls rather than on stands, all of which facilitates learning. Large blackboards (as in Figure 5) are particularly helpful, since they not only mean everyone in class has a good view of written work but they also offer the chance to present multiple writing examples without taking additional class time.

## Reasons for stopping attendance

### Lessons from 2021 learners who stopped coming to classes

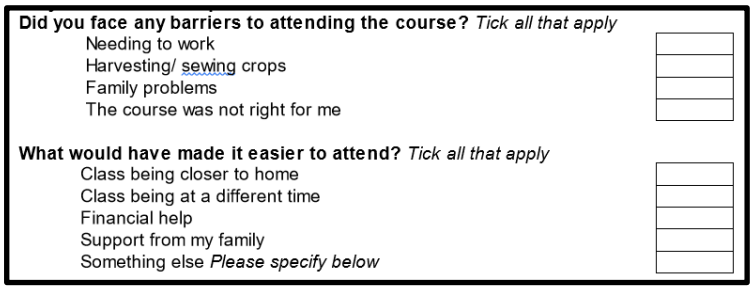
As part of the evaluation, we interviewed a group of learners who had stopped attending classes in the 2021 session, to find out whether issues of practicability had been important in their reasons for stopping. It seems that these were not the main reason. Rather, almost all reasons for stopping concerned grave life events (deaths of loved ones, including partners who shared childcare responsibilities; divorces, serious family illnesses) which made the already delicate balance of time to attend classes and competing responsibilities no longer tenable. None of the former learners cited the timing, location or scheduling of classes as barriers to their attendance (and indeed some current learners specifically commended the convenient timing of classes). Their view was that there would always be difficulties in making time for classes, because the weight of other responsibilities means there is always a shortage of time, but that the specific logistics were not the barrier.

One issue, mentioned in different ways by several learners, was the language they were learning. At first, they were very pleased to discover that they would learn Yao, because they had assumed that classes would be taught in the Malawi national language, Chichewa. As one said, of learning Yao, "When we are at home, we speak the language, when we are in class we speak the language. It is simple because it is our mother tongue language." However, there were also downsides of learning a local rather than national language. One former learner cited the language choice as being behind her reason for stopping since she was mocked by her children for learning Yao and not Chichewa. She described how, when she got her books out at home, her children said, "Mama what is this that you have written?...If you keep doing it you'll have no job that you can get." They said she should be learning Chichewa, as they do in school. When asked if she would have continued had the classes been in Chichewa, she said yes.

All the learners who had stopped coming to classes expressed regret that they had had to stop. As one put it, "Our hearts are not happy. We did not become what we wanted to become." They all said that they would take up another opportunity to learn if one was available.

**Lessons from 2021 quantitative data**

Another source of evidence on the practicability of classes for learners comes from an assessment of the 2021 endline data. 1306 learners were asked, on course completion, about barriers they had faced in attending classes, and about what might have made attendance easier (see Figure 6).


**Did you face any barriers to attending the course?** *Tick all that apply*

- Needing to work ☐
- Harvesting/ sewing crops ☐
- Family problems ☐
- The course was not right for me ☐

**What would have made it easier to attend?** *Tick all that apply*

- Class being closer to home ☐
- Class being at a different time ☐
- Financial help ☐
- Support from my family ☐
- Something else *Please specify below* ☐

***Figure 6.*** *2021 endline questionnaire data relevant to practicability.*

In terms of barriers, we will discuss those concerning work needs below (see *Affordability* section). In addition to the nearly 60% who cited farming conflicts , 15.9% said family problems were a barrier and 6.4% said that the course was not right for them. These data suggest that the barriers are primarily extrinsic (i.e., they concern problems faced by learners in their lives outside classes) than intrinsic to the course itself. They reinforce qualitative data from interviews with learners past and present, suggesting that while course attendance is difficult given learners' many work responsibilities, it is possible because they prioritise it.

2021 data about what would have made class attendance easier, point to some issues of practicability. Learners said that classes being closer to home (17.5%) or being at a different time (11.8%) would have made attendance easier for them. Although these numbers are not negligible, the fact that the vast majority did *not* cite these barriers suggests that location and timing are working for most learners. Given there is unlikely to be a solution that is perfect for all (classes will always be a greater distance from some homes, and variable personal schedules make it unlikely that there is a single perfect time of day), it might be unavoidable that some will not be completely happy with classes at fixed times and locations.

As mentioned before, the main reason learners gave for what would have made things easier was economic; indeed 46.3% said that financial help would have made attendance easier. 20.4% said that support from their family would have helped.

In interviews with teachers we asked how they address absenteeism. They said how, when they see that someone has been missing classes, they make home visits to find out what the problem is, encourage learners to return, offer small incentives such as pencils and exercise books, and above all remind them of the value of learning to read and write.

### *Acceptability*

Here we assess the extent to which the intervention is judged to be acceptable by relevant stakeholders, including current learners, their families, village chiefs and other community members, and teachers. Our evidence here comes from the 2022 field trip, through observations of classes, interviews with project managers, teachers and learners, as well as from earlier written reports considered in the 2021 evaluation.

Thanks to the thorough pre-class 'sensitisation' (see under *Equity*) the existence of literacy classes is broadly acceptable to and welcomed by local communities. Importantly, village chiefs are very supportive of classes taking place in their villages and act to facilitate this, for example by providing suitable premises for classes, recommending individual community members to become teachers, and promoting classes to members of their local community. Learners and teachers themselves see the classes as acceptable. In fact, 'acceptable' seems a meagre word for the passion and enthusiasm with which both of these groups talk about their classes, and the opportunity that learning to read and write represents for them, as suggested in Figure 7.

***Figure 7.*** *Learners singing and waving their literacy primers in anticipation of class*

***Figure 8.*** *Learners finding their name cards at the start of class*

***Figure 9.*** *Learners concentrating on handwriting*

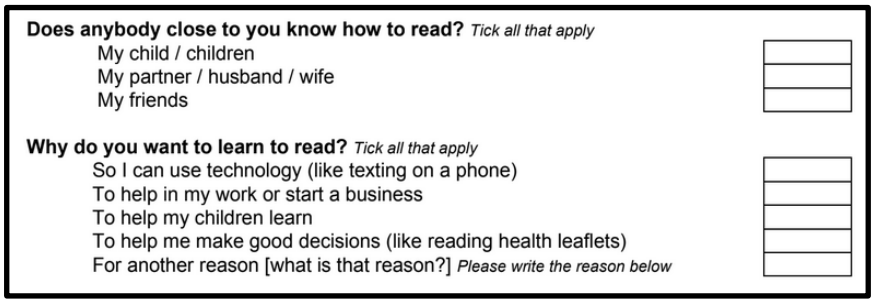
In the wider community, not everyone is so wholeheartedly positive, according to reports from learners and teachers in 2022 interviews. Teachers, asked about the reasons why learners stopped attendance, said that 'peer pressure' was often the reason - that is, a lack of support from other community members, friends and family and scepticism about the benefits of learning literacy in adulthood. Notwithstanding the support and encouragement of village chiefs, others in the community sometimes mock those who attend classes, telling them their learning is pointless, because there are no opportunities for work, or because they are learning the wrong language (Yao rather than Chichewa). As mentioned above, one former learner spoke of her own children mocking her, though generally speaking the responses of learners' children were described as much more positive and encouraging. Our field trip interviews focused on learners and teachers who were currently or had been personally involved in literacy classes. We did not speak directly with those not involved in literacy learning who might hold negative views about classes, but rather heard these accounts second hand.

**Language of instruction**

The question of language instruction is also relevant to the acceptability of classes. The issue is complex. On the one hand, many stakeholders spoke of their surprise and pride that they would be taught to read and write their own mother tongue and some learners said they felt more confident because they were learning in their own language. On the other hand, several questioned the usefulness of learning a local language and felt that 'progressing' to Chichewa towards or at the end of the course would offer more opportunities. In fact, some learners said that when they were first

told of classes from their village chief, learning to read and write in Yao was presented as a 'gateway' to learning in Chichewa, as if this were a prerequisite for learning the national language.

Another source of information on the acceptability of learning to read and write comes from the 2021 questionnaires. At baseline, when learners were starting courses, they were asked about their motivations for learning and about whether others close to them knew how to read. At the end of classes (endline) they were asked whether they would like to continue learning to read and write (see Figure 10).


**Does anybody close to you know how to read?** *Tick all that apply*
My child / children
My partner / husband / wife
My friends

**Why do you want to learn to read?** *Tick all that apply*
So I can use technology (like texting on a phone)
To help in my work or start a business
To help my children learn
To help me make good decisions (like reading health leaflets)
For another reason [what is that reason?] *Please write the reason below*

***Figure 10.*** *2021 Baseline questionnaire items relevant to motivation*

**Acceptability lessons from 2021 quantitative data**

The 2021 data show that at the outset of learning, most learners had close family members already able to read and write: 77.5% said their children knew how to read and 78% said their spouses did. Just 0.5% said their friends knew how to read and write, a finding that speaks to the 'missed generations' of women who were denied educational opportunities as children. Broadly, these data suggest that reading and writing is recognised and accepted within families.

Perhaps the strongest endorsement of the acceptability of classes comes from an endline question which asked learners whether they would like to continue to learn to read. A huge 94.9% of learners said that they would.

Asked for their specific reasons for wanting to learn to read, learners cited, in order of magnitude: helping their children learn (42.6%), helping to make good decisions (37%), helping in work or business (36.7%), and using technology (32.7%). There were some differences between these quantitative data and the main reasons given in field trip interviews, in which all learners interviewed were asked about their reasons for wanting to learn to read and write. By far the most common response was that it would mean they would no longer have to 'use their thumb' when required to give their signature, something that they considered shameful. (Previously the only alternative they had to escape this shame was to pay others to write their names on their behalf, which one learner poignantly described as having to "pay for our ignorance.") Not being able to

write can carry direct economic costs; a bald example we were given was a government subsidy for fertiliser (considered essential to communities for their agricultural work), which reduced the normal cost of 70,000 Kwacha (about 70 Euros) to 5,000 Kwacha (about 5 Euros) but only to people who were able to sign their name to receive it. We mention these points here to demonstrate that *not being able to read and write* is felt by many to be unacceptable - something which hugely boosts the acceptability of literacy classes.

**Acceptability lessons from 2022 field trip interviews**

In interviews, learners were asked about other specific aspects of the acceptability of classes - for example, the level of difficulty, the teaching method, and teachers themselves. Here there were very high levels of agreement: the early weeks of courses were very tough, as learners tried to get to grips with the act of classroom learning, mostly for the first time. The encouragement of their teachers and their peers as well as their own strong intrinsic motivation to learn was what kept them going. One learner said, "If we hadn't been eager to learn we would have left because it was so hard." As classes progressed, things became less difficult and many experienced the sort of positive feedback that enhances motivation. One learner said, "I showed my children what I had done and they were so proud to see what I had written. That made me very happy. Now I encourage them to go to school and they encourage me."

Again, all learners said that they enjoyed classes and found them interesting. Some things they particularly appreciated were the use of stories, the pictures in their primers (particularly early on to help decipher words), the guidance, care and encouragement of their teachers, positive feedback - both from their peers (such as when everyone claps) and from the teacher (e.g., putting a tick in their exercise books). Learners also talked about the group singing that was a feature of every class we observed. One learner described how singing helped: "It motivates and encourages us but it also speaks to others outside the class and shows them we are happy. The people come outside to see what's going on so it encourages them too." All these factors help to make classes acceptable to learners.

## Sustainability

By sustainability, we mean local communities having the means and motivation to be responsible for the continued literacy of their populations in the long term. The FBS specifically write about a *sustainability strategy* rather than an *exit strategy* when considering the period at the end of funding for the project to emphasise the importance of self-sustaining local literacy development for the

achievement of the project goals. What does the sustainable route to literate communities look like and what does it require to make it a reality?

Our field visit interviews suggested a strong current reliance on the external project. For example, when learners were asked what they needed to continue to practise and improve their reading and writing ability, they nearly all expressed the need to work with their existing teachers, and many described what was essentially a continuation of the classes as they exist during the course. There was a sense of the literacy project coming into a particular village for a fixed period of time, coupled with the fear of it going out again.

In practice though, there are many aspects of classes and teacher and learner habits which are real assets to sustainability. All current learners interviewed described how they practise reading and writing outside of classes - either (mostly) on their own or with their children at home in the evening or (more rarely) in small informal groups with fellow learners. The fact that teachers are drawn from local populations means that in general they continue to live in the same village as learners, and our interviews suggest that they are as eager to carry on teaching as the learners are for them to do so. In fact, it was clear from talking to them that, just as learning to read and write represents progress for learners, learning to teach represents progress - in social and personal terms - for teachers. One teacher talked about how, being recognised as a teacher, she would be addressed as 'Madam' in the local market. This dual motivation of teachers and learners, and the practicability of their geographical proximity, appears to facilitate longer term literacy habits.

### Improving literacy

So-called 'post literacy classes' have become a feature in most (90%) villages. They are organised to run during November and early December (i.e., following directly on from the main course until the farming season begins) but in reality most continue beyond this. The teachers and monitors are also the same, in terms both of being the same individuals and in terms of the same approach to teaching and monitoring. A key difference is in their payment: while teachers are paid for one extra month for their post-literacy work, in practice most continue assisting learners beyond this. So after the initial month, they are essentially working on a voluntary basis. The fact that teachers are trained members of hyperlocal communities is a huge asset in terms of sustainability - since communities have their teachers on their doorsteps - but this is only likely to be sustainable if teachers are in some way remunerated for their work.

**Need for materials**

As discussed (in developing fluency in *Effectiveness)* a finding across nearly all our field visit interviews was the desire from teachers and learners, past and present, for more materials with which to practise and develop literacy skills. We know from conversations with Mr Gondwe that there is work already well underway to produce more story booklets, levelled both to give more variety at a lower reading level and to allow more skilled readers to advance. Specifically, this year, three more booklets are being developed at the three difficulty levels (1,2,3) and next year there will be three more. There are also plans to create more books at the lower levels (level 1). All these booklets would benefit from the inclusion of comprehension questions at the end, to test simple understanding as well as inferential understanding of the text.

Development of the booklets requires a writers' workshop involving six women from villages drawn from different communities, monitors, supervisor, a language specialist who knows the orthography and the SIL consultant. There is specific attention to gender training and appropriateness within written materials and Bloom software (https://bloomlibrary.org/page/create/downloads) is used to ensure clear grading at different levels (font size, words per sentence etc).

Although production of these materials is time-consuming and costly, they are clearly needed. Development of local language materials is also in line with UN Sustainable Development Goal 4 ("inclusive and equitable quality education and promote lifelong learning opportunities for all"; United Nations Millennium Declaration, 2000) where 'inclusive' and 'equitable' are taken to mean promoting the use of mother tongue learning wherever possible (Human Rights Council, UN General Assembly, 2020). We suggest that investigating possible partnerships or collaboration with the University of Malawi or other institutions with an interest and remit to preserve and protect local languages, might be a fruitful way forward.

**Use of technology**

Another factor relevant to sustainability is the use of technology, since mobile phones and other digital technology offer potential for learning outside of traditional classes. Our data (both 2021 questionnaire data and 2022 interview data) suggest that most learners do not have access to mobile phones or computers of any kind. As of recently, there has been some limited use of simple mobile phones to facilitate secure payment (see *Affordability)* and we suggest that in future, there might be potential for these to be deployed to improve the project - both through encouraging teachers to communicate and share ideas with each other through text messaging, and to allow simple communication from project organisers to teachers (e.g., reminders of particular activities). We also learned from an interview with Mr Gondwe, that there are discussions about the possibility

of introducing tablet devices to some villages. One possibility under preliminary discussion is the use of tablets to allow learners to access a literacy programme called 'AlphaTiles' developed by SIL International (AlphaTiles is a basic level literacy app which comprises 22 literacy games including 100+ words). https://www.sil.org/resources/archives/93178.) The benefit could be improved access to literacy learning in remote areas, potentially as an adjunct or alternative to having a teacher present. There are issues of budget, development of the games for the Yao language, maintenance of devices, electricity supply for charging, as well as new training needs, which would all need to be carefully considered, in addition to a proper evaluation of effectiveness through rigorous data collection, if and when the time comes.

It is beyond the scope of this evaluation, particularly given our relative ignorance of the cultural and social context in Malawi, to make firm recommendations about the sustainability of projects. However, we would re-emphasise that to reach any kind of fluency in reading and writing will typically take much longer than the hours spent attending the introductory literacy course, even given the amount of practice learners do at home and even including the additional 'post literacy' teaching. In our World Bank report, we estimated that children spend over 2,000 hours practising to read and write fluently (Thomas et al., 2019). We draw attention to the issue here given the broad stated aims of the literacy programme 'to reduce illiteracy among women and promote lifelong learning opportunities.'

## Affordability

In this section we consider whether the intervention is affordable to those it is designed for. The LWA programme is free to learners. However, this does not mean there are no financial implications for learners (actual or potential) since attending classes might have indirect costs (such as childcare costs), and attendance itself carries an opportunity cost of what would otherwise be done with that time. Here we look at whether learning to read and write has financial implications for learners and whether those implications are acceptable.

There are two main sources of evidence. The first is quantitative data from the 2021 endline questionnaire, which asked about practical and economic barriers to class attendance. The second is qualitative data from interviews with learners past and present, carried out in the 2022 field visit.

**Affordability lessons from 2021 quantitative data**

The most important point on affordability from the 2021 data is that 46.3% of learners who had completed courses said that 'financial help' would have made attending classes easier. This could mean either or both direct financial help (such as receiving payments for attending classes) and indirect financial help (such as greater flexibility to do paid work alongside classes). In addition, 23.7% of learners cited 'needing to work' and 59.6% 'harvesting / sowing crops' as being barriers to coming to classes. The data suggest that even though there are no direct costs of attending classes, that financial issues are nonetheless an important consideration for learners.

**Affordability lessons from 2022 field trip interviews**

Learners interviewed as part of the 2022 field visit made detailed references to these direct and indirect financial implications of attending classes. Several mentioned 'piece work', temporary initiatives by government or NGOs which give the opportunity for unskilled paid work in local areas (an example might be paying people to clear a particular piece of land by slashing vegetation in preparation for a new road). This opportunity for paid work typically only arises for a short period of time often with little prior notice, and many are reluctant to miss out on it. This means either they miss literacy classes to do the work, or they forego the work and miss out on the money. Sometimes, the benefits to learners of earning some additional money outweigh for them the perceived benefits of coming to class.

Direct financial implications of coming to classes were rarer; only one woman mentioned directly giving a small amount of money (50 Kwacha - about 5 cents) to someone to take care of her children while she attended class. More common is the sense that other work, whether paid or unpaid, would be squeezed into other times in order to protect time for lessons.

**Affordability for teachers and monitors**

Classes also need to be affordable for teachers and monitors. Teachers are paid an honorarium of $35 a month (to go up to $40). This is not a salary as they only do a few hours a week. For comparison, as primary school teachers, they would be paid $20-60 so the honorarium represents a reasonable wage. Teachers also benefit from coming to be seen as people of wisdom in the village. An issue which arose concerning payment of teachers - that chiefs sometimes asked for a percentage of their honorarium when they saw teachers being paid - has been largely overcome through paying teachers remotely and securely via phones which they own or can borrow.

All classes are regularly monitored for quality (at least once a month per class) by a team of monitors who are themselves former teachers. They are currently remunerated at $100/month. BSM is

currently wrestling with the dilemma that while they wish to increase this to $125/month, the change would mean monitors then become subject to taxation, and on their whole income, which would bring their overall pay *down.* There are additional costs for monitors to travel to visit classes, something of recent concern at the time of writing given the fuel shortage in Malawi which has significantly increased prices. This is primarily an issue for BSM rather than individuals, since this cost is borne by them.

Materials make up a significant proportion of the class costs for project organisers: the cost of producing and printing the main primer is approximately $4 per booklet. This seems a high unit cost and we wonder if cheaper options could be investigated. The lack of widely available materials in Yao means that creating additional new materials also takes a great deal of time and money - both to develop and to produce. Nonetheless, this cost is necessary given the need for a range of materials for developing learners to continue improving. Moving the language of instruction to Chichewa once Yao introductory classes have been completed would make many more materials available, but has significant other implications, including additional teacher training, adaptation of materials and possible negative effects on learner confidence.

## Equity

Here we ask to what extent the LWA Yao project works to actively reduce disparities between different sectors of society. The LWA programme is specifically designed to support equity through the provision of skills to women, because it is women who are most likely to have been denied education in childhood. There are additional equity considerations for people of religious minorities, something of particular relevance to the Mangochi region being evaluated, where the vast majority of residents are Muslim. There is evidence that girls, and particularly Muslim girls, have very low rates of primary school attendance (Castel et al., 2010).

In deciding where to implement literacy classes, the approach of BSM is to find the areas in most need of support (i.e., those with the lowest current literacy rates). District level data, which comes from the National Statistical Office of Malawi (2019), showed that the overall literacy rate, defined as the ability to read and write a simple sentence in any language, is 53% for the district of Mangochi, the lowest in the country, with 49% of females being literate and 57% of males. Notably though, these figures are for all citizens from the age of five. To find specific areas to target within Mangochi district, BSM use data from the Department of Social Affairs (which we do not have access to); they also use small scale surveys which involve directly asking villagers if they can read and

write. Finally, in deciding where to run classes, BSM also consider their catchment area and which villages it is feasible for the team of monitors and supervisors to reach.

A stated aim of the programme is to empower women locally and beyond to promote gender equality. This is seen directly in the constituency of classes, with the majority (94.6%) of learners being women; it is also seen in the efforts made to develop materials which are gender sensitive (e.g., through the employment of a gender consultant to improve and approve written materials). The majority of teachers are also women. Several women learners interviewed for the evaluation spoke of their increased confidence through learning, as well as the knock-on benefits to their children. One learner specifically said she wanted to read and write because, "I want to lead others." In one class observed, the female village chief was also one of the class teachers. There is anecdotal evidence that, although buy-in from chiefs is already very high, in villages with women chiefs, the pathway to implementing literacy classes tends to be even smoother.

**Religious considerations**

The Yao project has faced sensitive religious issues, with considerable potential resistance to a Christian organisation (BSM) delivering literacy classes to Muslim populations. BSM states on their website, "We serve the Lord Jesus Christ and His Church by translating, producing, distributing and encouraging the people to use Scriptures in their day-to-day lives" [https://biblesociety-malawi.org/] a statement which might justifiably prompt questions as to the motives behind literacy promotion.

By way of background, the 2018 Malawi Census estimated that, of the total population of 17.6 million, 77.3% were Christian and 13.8% Muslim. The remainder are Hindus, Baha'is, Rastafarians, Jews, Sikhs and those with no religious affiliation. While the Muslim population are nationally in the minority, there are two majority-Muslim districts, one of which is the district of Mangochi (72.6% Muslim; United States Department of State, 2019), one of two districts where the LWA programme operates and where this evaluation took place.

In practice, religious concerns appear to have been handled very sensitively, in large part through the work of Mr Gondwe and his colleagues in BSM, and the emphasis they have put on the shared, unifying goals of the development of villages, universal education and women's empowerment, rather than the divisions of religious affiliation. The work with village chiefs in preparation for literacy projects has been crucial in establishing trust, as has confirmation from those completing classes that there is no religious text in written materials nor any religious subtext in teaching more generally. The result of the efforts from both sides is a really positive example of fruitful

collaboration between different religious groups. In short, the project appears very successful in promoting gender equity and in reducing the effects of disparities based on religion.

## *Side effects*

Although neither funders nor evaluators anticipate concerns regarding unintended side effects or safety issues, they are still important to consider and were assessed in the field through interviews with current and past learners.

There is not a great deal to report in terms of negative side effects. As mentioned (under *Acceptability*), learners reported sometimes being teased or taunted by other village members for attending classes, and for believing that learning to read and write might make a difference to their lives. While this sounds potentially hurtful and upsetting, most women appeared to take such insults as a reason to double down on their learning rather than give up. The very strong sense of camaraderie and shared endeavour amongst classes of learners and their teachers seems to act as a strong buffer to critics.

Another possible side effect is more subtle: giving learners a sense of 'false hope'. Several village chiefs made pleas (in speeches given at the end of classes) that they not be forgotten once classes end. We interpret this as a sign of anxiety that villages might be abandoned once literacy tuition is 'complete', and would suggest this is as a reason to think and act carefully to facilitate and support the sustainability of the project (that is, gradually handing over control of learning from external parties to communities themselves). We also think there is an important issue here regarding the terminology used to describe learning, emphasising that literacy classes do not make 'illiterates' 'literate' but are rather a first step on a lifelong learning journey. For example, as mentioned, we would discourage such terms as 'post literacy classes' which suggest that literacy has happened in favour of terms such as 'improving literacy' or even 'advanced' or 'fluent literacy'.

**Positive side effects**

Side effects can be positive as well as negative. Several learners reported positive side effects of their learning on their children's education. There are various routes to this. One is through the mutual encouragement of children/parents to keep learning even when it is tough and a shared sense of pride which gives strong motivation. Another route is through directly practising reading and writing together - with either adults helping children, children helping adults or a combination of both. This potentially produces a strong positive side effect of classes, and is behind the idea that

teaching women can have a 'force multiplier' effect. This expression describes how empowering women, who in turn educate and empower their own children, particularly their daughters, brings about enduring improvements for future generations, and works to disrupt the status quo where there are perpetual 'missed generations' of uneducated women. This is a particularly important consideration in Malawi, where, according to a fairly recent report (Castel et al., 2010), just 3% of women aged 25-39 completed secondary education; dropout rates for teenage girls are particularly high, limiting later life learning and employment opportunities. This effect was not something that the evaluation set out to find, but supporting the next generation of women by encouraging girls to attend school is something that FIBS acknowledges in the Project Document (2020): an effect that speaks directly to the UN Sustainable Development goals: to 'achieve gender equality and empowerment of all women and girls' (United Nations Millennium Declaration, 2000). The only caveat is that there are sometimes issues that arise concerning different languages of instruction, since literacy classes are in local languages such as Yao and children mostly learn Chichewa at school.

## Conclusions and recommendations

Our COM-B / APEASE evaluation of the Literacy for Women in Africa Yao project concludes that this is an excellent, well-executed, well-conceived literacy project that achieves its goal to improve women's literacy levels. In the following section, we describe aspects of the project which we think are particularly strong, as well as areas where we think there is still room for improvement. We finally present some ongoing dilemmas and challenges for the project team to consider.

Our recommendations should be read in conjunction with the 2022 evaluation spreadsheet which describes and rates each individual project component. The spreadsheet has been updated with new traffic light ratings based on this evaluation, which is even more positive than the last evaluation. To give a sense of this, in the first evaluation, we gave 34 green, 34 orange and 17 red ratings; in this second evaluation, we have given 46 green, 27 orange and 12 red ratings. These improvements are explained by one of three things: first, that changes have been made to the project since the first evaluation, second, that we were able to evaluate some components which were ambiguous more thoroughly in this evaluation (particularly through the field trip) and third, that some of our evaluations based on written materials underplayed the strengths of certain project aspects compared to how they are delivered in practice.

## Examples of excellence

We had high expectations of certain aspects of the project, based on what we already knew from the first evaluation, and these high expectations were frequently met. Examples include the overall pedagogical approach; the quality of written materials such as the project Primer; the approach to literacy teaching in terms of understanding the importance of - and the means by which to solidify - phonological and orthographic knowledge; the use of retrieval practice and frequent repetition; the attention to active learning and the frequent testing and assessment of knowledge.

There were other aspects of the project where our field trip observations exceeded our expectations from the last evaluation. The first was the teachers - the **very high overall quality of teaching** and the quality of teacher training we could observe by proxy from the way in which teachers carried themselves in class, both in terms of the material they delivered, and, as importantly, how they delivered it. We had expected that the decision to opt for teachers from local communities (that is, to exploit the benefits of teachers being mother tongue speakers of local languages from village communities rather than emphasising teaching qualifications) would carry more of a compromise in terms of quality of teaching. We are pleased to report that we were wrong about this.

The second aspect which exceeded our expectation was the level of **motivation of learners**, something we had identified as a possible area for improvement. Instead, we were struck by the overwhelming enthusiasm for and engagement with learning, including learners' willingness and appetite to practise and learn outside of classes. This was particularly striking given the obvious logistical hurdles (chiefly, the daily struggle to earn money and take care of families) learners needed to overcome to attend classes. We also observed that this motivation is protected and nurtured through the very strong support structure which has been put in place around learners by the teachers, and also the monitors (themselves former teachers) who act to support and bolster both teachers and learners with encouragement and practical help. Notwithstanding the fact that the level of monitor involvement exceeded what is typical, with monitors attending more frequently due to the evaluation taking place, it was clear from the relationships of monitors with teachers and learners that their role is important and they themselves are greatly respected. Our expectations were exceeded then, in the sense of learners themselves being highly motivated, and this motivation being held and developed by the support of teachers and monitors.

We were also struck by the level of **involvement and commitment of the local community**, particularly village chiefs. Chiefs, or their representatives, came to all the classes we observed and strongly expressed the importance of the literacy project for their village (though we cannot speak

to whether the presence of village elders is a typical occurrence). In some cases, chiefs were directly involved in classes; in one village we observed, the chief was a teacher, in another, a learner. There was a strong sense that the local community was deeply invested in literacy learning, and that they saw this as an essential part of their long-term growth and development. Again this was a welcome surprise.

The final aspect which exceeded our expectations - indeed, where we had no expectations at all, was in the singing. This **whole class singing** was an integral part of classes observed. It is already working as a positive tool for maintaining motivation both individually and collectively, for boosting energy levels at key points in long classes and in signalling internally to the class and externally to the village, the pride of learning to read. We suggest that there might be even more benefit to be gained from thinking about how to use this uplifting and inspiring tool even more in the future.

### Recommendations

The recommendations made here are drawn from our own observations and ideas, as well as suggestions made by learners (both past and present), teachers and monitors. As highlighted throughout this report, the LWA project performs exceptionally well when compared with published literature on best practice, and as independent evaluators we have been consistently impressed with the quality of project design and implementation. In this section we pick out those few areas which could be further strengthened or optimised. Some of the recommendations are extensions of those made in the 2021 evaluation. Recommendations are grouped according to the COM-B components of behaviour change interventions as set out in the introduction.

## Capability

- Learners would benefit from the inclusion of materials and activities to promote morphological awareness in class. For example, learning to recognise prefixes and suffixes and how they change the meaning of words.
- As a general rule, the more examples learners are exposed to, the more rapid skill progression will be. This is true for: seeing multiple examples of letter forms on the board; hearing multiple examples of target sounds in different word contexts; and writing multiple letter forms on the board and in exercise books.

- Learners currently choose their name card from a set of cards at the start of class. After a period of time, learners could be further challenged by instead writing their name in their exercise books with no model available.
- Whenever possible, learners should read and write without a model available. The process of trying to actively recall material, receiving specific feedback, then trying again is much more beneficial than simply copying from a written model or repeating what the teacher has read.
- Teachers should model fluent reading and writing. Currently teachers often slow their reading and writing to demonstrate the process to learners; while this can be useful, it also encourages learners to work at that same rate. Teachers could repeat material using conversational intonation and pace, or a more fluent writing speed.
- Class activities could emphasise reading for meaning, particularly in revision classes. Currently, after silently reading a passage, learners are typically asked one question that requires inference. While progressing through the primer, the number of questions requiring inference could be increased, and during revision classes the reading materials could be expanded to include new unfamiliar passages from the Yao story booklets.

## Opportunity

- The request made most frequently when learners and teachers were asked what could improve the project, was more resources. Almost everyone interviewed said they needed more materials with which to practise and develop. The LWA team is aware of this and is currently working on the development of additional materials. The importance of this for learner development and the sustainability of literacy skills cannot be overstated. Additional materials could include more booklets in Yao (already under development), but also collections of short stories, leaflets (e.g., relevant to health, agriculture etc.), or children's books for women to share with their families.
- All classes have a chalkboard for teachers and learners to write on, but some are not big or stable enough. Ensuring that classes have appropriate equipment would ensure learners have the physical opportunity to develop skills and knowledge.
- Teachers felt that the training provided was of good quality, appropriately developing their skills and confidence. Over the duration of the course though, teachers would benefit from further learning and development opportunities as their confidence with the class activities

grows. This would help encourage greater variation and flexibility in revision classes. We recognise that it is costly and time-consuming to get all teachers together physically. Perhaps the fact that teachers can access mobile phones could offer opportunities that might be worth investigating now or in the future. For example, even through simple text messages, pairs or groups of teachers could share knowledge, experience and ideas to improve classes; they could brainstorm multiple examples of words with certain targets in them (and with target sounds in different word positions), share practices they have found beneficial in increasing opportunities for active learning, and come up with ways to make revision classes more interesting and engaging. Phones could also offer a simple, cheap means by which project organisers (e.g., monitors) could communicate reminders and other simple suggestions to teachers.

## Motivation

- Working more in groups or pairs could be an engaging and motivating change for learners. This working style could benefit learners of all ability levels, stretching more able learners by having them support those who are less skilled, and providing all learners with additional support. The benefits of peer-to-peer learning could also extend beyond classes, offering a model for the 'improving literacy' phase.

- The way that women use song to establish and maintain motivation is an exceptional component of classes. Monitors could listen out for local songs that could support other groups of learners. For example, have any classes developed songs to help learners remember difficult phonemes or morphological rules? Or indeed could such songs be developed by the team?
- We discuss the issue of transition to Chichewan orthography below in 'Challenges to consider'. However, the fact that learners were so consistent in requesting the extension of the project to include Chichewa suggests that it would be beneficial to develop materials to train learners in the differences between Yao and Chichewa. Such materials would be a key foundation for whatever degree of language transition might follow.

- The LWA team is currently formalising processes for continued learning after the end of the course. One suggestion we can add here is to change the language that is used around 'post literacy' to make it clear that the project is not designed to take 'non-literates' and make them 'literate', but rather is the first stage of a literacy journey. We suggest that using the term 'Improving literacy' is more accurate.

## Other

- We strongly recommend that the LWA project keep collecting data about the progress of their learners. We would add the suggestion that collecting a small, reliable data set each year from around ten villages would mean this could be used to understand more about how and why the project is effective, and to provide an opportunity to ask specific questions.
- The LWA project is an excellent example of educational neuroscience in practice. We suggest that the team consider ways in which they could share their approach and their data with others as a tangible way of expressing the extent to which it demonstrates best practice.

### Challenges to consider

In this section, we briefly outline some potential barriers to learners' success. These are aspects we believe are important to consider but for which we make no clear recommendation, either because we have insufficient information or because there is currently no obvious practical solution to them. Rather, we mention them here for completeness and to allow the team, who have far greater understanding of the cultural context of learners than we do, to reflect on.

***Indirect costs of classes***. It was clear from our interviews with learners that they face a constant difficult balance between time for literacy learning and time for competing responsibilities of childcare and work, either paid or unpaid. The fragility of this balance was apparent from the learners who had dropped out of classes when those competing responsibilities became too onerous. In our interviews, the main protective factor that kept learners coming was their high motivation. But there might be additional ways this difficult balance could be made easier.

***Sustainability***. We have talked at several points in this report about sustainability. (Indeed one of the initial motivations behind our original World Bank report was the question of why newly acquired literacy skills are not better maintained in the long term.) But there are questions which this evaluation itself cannot answer. In essence, what is the long term goal of BSM / FiBS? What is their ongoing role in adult literacy teaching in Malawi? Is it about educating a missed generation of women who lacked the opportunity to go to school (by implication, a temporary state of affairs) or something longer term? To what extent does literacy learning need to be organised and administered from outside agencies, versus being facilitated and embedded within local

communities? What happens to learners 1 or 6 or 12 months after literacy classes have ended and whose responsibility is this?

***Which language*****?** We have alluded to dilemmas regarding the choice of Yao vs Chichewa throughout this report, since it was an issue that was frequently referred to in interviews. Whilst we do not change our recommendation that the first language of learning should be mother tongue (Yao) since the evidence strongly supports this, where learners go next is a more complex question. It touches on issues of opportunity (are learners hoping for better work opportunities where Chichewa might help), of access to materials (there are many more existing materials in Chichewa than in Yao, something which carries cost implications), of communication and co-learning (since children are often learning in Chichewa rather than in Yao at school) as well as in broader questions about sustainable development. We do not have answers on this. In particular, we heard different reports of the extent to which learners are fluent in Chichewa, something that could profoundly affect outcomes (i.e., it is one thing to decode and read letters and words, but another to understand their meaning). We would say, however, based on the frequency with which learners and teachers raised this subject, that it would be worth a thorough consideration of the pros and cons of how and whether to move learners who have achieved functional literacy from Yao to Chichewa.

***Acceptance within local communities***. Whilst our observations suggested strong support for the project within villages, we are aware that we saw a biased sample. We did not, for example, interview anyone who was sceptical about or hostile to literacy classes, though we heard from learners and teachers that people with those views exist. We mention this here because we feel it might be helpful to understand more about these ideas, what they are based on and how mutable they might be.

***Technology*****.** There are two tech possibilities we mention here, both of which are relevant for future planning rather than possible current practice. The first is in the phones which teachers own or can access; the second is the potential introduction of tablet devices, even on a small experimental basis, at some point in the coming few years. We have previously made recommendations about the benefits of mobile phones to supplement learning outside classes, based on other programmes that use simple text messages to prompt frequent practice and retrieval and/or to bolster specific functional literacy objectives. We realise that this is currently unrealistic for learners since the rate of phone ownership is so low (33% based on endline data from 2021). We do however think that there is some potential for teachers here, to work with other teachers to share knowledge and ideas via simple text exchanges. In terms of the potential introduction of tablet devices, there are also potential benefits to learners. Two things will be important, in our view, to assess whether this

potential benefit is realised; the first is to carefully consider what problem it is that the technology seeks to solve and the second is to ensure that there is a robust system of measurement in place to assess whether it has succeeded.

## References


Castel, V et al., (2010), Education and Employment in Malawi, Working Papers Series N° 110 African Development Bank, Tunis, Tunisia.

Human Rights Council, UN General Assembly. (2020). *Education, language and the human rights of minorities*.

Karpicke, J.D., & Grimaldi, P.J. (2012). Retrieval-based learning: a perspective for enhancing meaningful learning. *Educational Psychology Review, 24*: 401–418

Michie, S., Atkins, L., & West, R. (2014). *The Behaviour Change Wheel: A guide to designing interventions.* Silverback Publishing, UK.

Muller H , Sternad D. (2009). Motor learning: changes in the structure of variability in a redundant task. *Advances in Experimental Medicine and Biology, 629*: 439–456

National Statistical Office of Malawi. (2019). *Malawi Population and Housing Census 2018*. Government of Malawi.

Shmuelof, L., Krakuer, J.W., & Mazzoni, P. (2012) How is a motor skill learned? Change and invariance at the levels of task success and trajectory control. *Journal of Neurophysiology, 108*: 578–594. DOI:10.1152/jn.00856.2011

Thomas, M. S., Knowland, V. C., & Rogers, C. (2020). The Science of Adult Literacy. Social Protection & Jobs. Discussion Paper No. 2001. *World Bank*.

Tighe, E.L., & Binder, K.S. (2015). An investigation of morphological awareness and processing in adults with low literacy. *Applied Psycholinguistics, 36*(2): 245-273. DOI: 10.1017/S0142716413000222

UNESCO/UNDP. (1976). *The Experimental World Literacy Programme: A Critical Assessment*. Paris: UNESCO.

UN General Assembly, Human Rights Council. (2020). *Education, language and the human rights of minorities*. Retrieved from:

https://undocs.org/Home/Mobile?FinalSymbol=A%2FHRC%2F43%2F47&Language=E&DeviceType=Desktop&LangRequested=False

United Nations. (2000). *United Nations Millennium Declaration*, United Nations,(A/55/L.2)

United States Department of State: Office of International Religious Freedom. (2019). International Religious Freedom Report for 2019. Retrieved from: https://www.state.gov/reports/2019-report-on-international-religious-freedom/malawi/

# Appendix A

## 2021 learner questionnaire responses

**Baseline: observations = 592**

| Question | Options | Data point |
|---|---|---|
| ***Demographics*** | | |
| **What is the sex of the learner?** (n = 591) | | Female = 94.6% |
| **What village is the learner from?** | | 70 villages represented |
| **How old is the learner?** (n = 577) | Youth (under 20) | 14.2% |
| | Young adult (20-40) | 59.8% |
| | Middle adult (40-60) | 23.6% |
| | Older adult (>60) | 2.4% |
| ***Skills*** | | |
| **All three letters (k,t,p) correct** | | 23.5% |
| **Single word 'naka' correct** | | 24.0% |
| **Sentence correct** | | NA |
| **Reading level** (n= 592) | 0 | 71.5% |
| | 1 | 10.8% |
| | 2 | 17.7% |

| | | |
|---|---|---|
| | 3 | NA |

***Background & motivation***

| | | |
|---|---|---|
| **Did you attend school as a child?** (n = 190) | | Yes = 65.8% |
| **How many languages do you speak?** (n = 509) | | Median = 2 |
| **Which of these do you see at least once a week?** Tick all that apply | Printed words (like books, leaflets or children's school work) | 42.6% |
| | Words on a screen (like texts on a phone) | 28.5% |
| | Words outside (like signposts, posters, adverts) | 25.7% |
| | | |
| **Does anybody close to you know how to read?** Tick all that apply | | |
| | My child / children | 77.5% |
| | My partner / husband / wife | 78.0% |
| | My friends | 0.5% |
| **Why do you want to learn to read?** Tick all that apply | So I can use technology (like texting on a phone) | 32.8% |
| | To help in my work or start a business | 36.7% |
| | To help my children learn | 42.6% |
| | So I can make good decisions | 37.0% |

**Endline: 1306 observations**

| Question | Options | Data point |
|---|---|---|
| ***Skills*** | | |
| **All three letters (m, c, s) correct** | | 88.8% |
| **Single word 'makala' correct** | | 91.8% |
| **At least one sentence right** | | 55.7% |
| **Reading level at the endline** | 0 | 6.7% |
| | 1 | 5.8% |
| | 2 | 33.8% |
| | 3 | 53.4% |
| ***Self-evaluation*** | | |
| **Would you like to continue learning to read?** (n = 1,277) | | Yes = 97.0% |
| **You told us at the start why you wanted to learn to read, do you now feel able to:** Tick all that apply | Use technology (like texting on a phone) | 46.6% |
| | Help in my work or start a business | 48.5% |
| | Help my children learn | 69.9% |
| | Make good decisions (like reading health leaflets) | 40.0% |

| | | |
|---|---|---|
| | | |
| **Do you own a mobile phone?** (n = 1,177) | | Yes = 33.0% |
| **Did you face any barriers to attending the course?** | Needing to work | 23.7% |
| | Harvesting/ sowing crops | 59.7% |
| | Family problems | 15.9% |
| | The course was not right for me | 6.2% |
| | | |
| **What would have made it easier to attend?** Tick all that apply | Class being closer to home | 17.5% |
| | Class being at a different time | 11.8% |
| | Financial help | 46.3% |
| | Support from my family | 20.4% |

**Follow up: 387 observations**

| **Question** | **Options** | **Data point** |
|---|---|---|

***Skills***

| | | |
|---|---|---|
| **All three letters (k, n, g) correct** | | 88.6% |
| **Single word 'masengo' correct** | | 88.6% |
| **Sentence correct** | | 77.6% |

| | | |
|---|---|---|
| **Reading level at follow-up** | 0 | 8.5% |
| | 1 | 7.0% |
| | 2 | 16.3% |
| | 3 | 68.0% |
| | | |

***Continued engagement with reading***

| | | |
|---|---|---|
| **How keen are you to keep getting better at reading?** (n = 364) | Not at all | 0.0% |
| | Somewhat | 0.5% |
| | Very | 99.5% |
| | | |
| **Was the literacy class as easy/difficult as you expected?** (n = 351) | Too easy | 43.6% |
| | About right | 48.4% |
| | Too difficult | 8.0% |
| | | |
| **Has learning to read and write changed your life?** (n = 378) | | Yes = 96.6% |
| **What literacy practice do you currently do?** | I attend a post-literacy reading group | 62.5% |
| | I attend an informal group with people in my village | 55.6% |

| | | |
|---|---|---|
| | I read at home | 66.2% |
| | I don't have opportunities to practice | 8.0% |
| | I would like more opportunities to practice | 39.8% |
| | | |
| **If you speak another language, would you take a class to learn to read and write it?** (n = 368) | | Yes = 96.5% |

| **How often do you read:** | *Never/ Rarely* | *Most weeks* | *Most days* |
|---|---|---|---|
| Texts on a phone | 49.1% | 6.7% | 44.2% |
| Books | 45.2% | 11.6% | 43.2% |
| Leaflets | 63.0% | 15.5% | 21.5% |
| Signs at the bus stop | 73.4% | 6.7% | 19.9% |
| My children's school work | 60.7% | 5.9% | 33.3% |
| With members of my family | 67.7% | 7.5% | 24.8% |
| With friends | 65.3% | 13.2% | 21.2% |
| With colleagues | 65.6% | 7.8% | 26.6% |

# Appendix B

## Classroom observation form for 2022 field evaluation

| | Rating | Comments |
|---|---|---|
| **Feedback** | | |
| Feedback is encouraging and positive | | |
| Feedback is specific | | |
| Feedback uses modelling | | |
| **Active and social learning** | | |
| All students have a chance to speak in a class | | |
| Students are encouraged to work in groups/pairs | | |
| Learners grouped according to ability | | |
| Learning is adaptive to changing levels | | |
| **Motivation** | | |
| Students appear engaged and interested | | |
| Quieter learners are encouraged to contribute | | |
| Learners are given choices during class | | |
| Motivations of learners established | | |
| **Meta cognition** | | |
| Explicit rules about spelling/grammar are articulated | | |
| Learners are encouraged to reflect on learning | | |
| **Content** | | |
| Learners frequently retrieve newly learned materials | | |
| Metalinguistic exercises are included (examples) | | |
| Multiple examples of new letters are presented | | |
| Materials are functionally relevant | | |
| Learners are encouraged to read for meaning | | |
| **Learning environment** | | |
| Learners are not stressed /fatigued | | |
| Student number | | |
| Classroom conditions are comfortable | | |
| A register is kept for numbers of learners | | |

# Appendix C

## Qualitative methodology for 2022 field trip

Interviews were conducted with learners and teachers from the classes observed, learners from the 2021 cohort who had stopped attending classes, and learners from the 2021 cohort whose literacy had continued to improve after classes ended. (Informal interviews were also conducted with project team members, particularly Mr Gondwe.) In all cases (except the informal interviews), the interviews were conducted with the help of an interpreter, one of the BSM team. Interviews were either conducted individually by Dr Knowland or Dr Rogers, or by both together.

The procedure was as follows:

- Once the purpose was explained to interviewees and their consent was given, all interviews were recorded, on a simple voice recorder
- During interviews, answers were put by the interviewer to the interviewees as a group. These questions were translated. Interviewees could answer if they wished, so the number responding to a particular question varied by question (that is, not every individual was called upon to respond)
- During interviews, the interviewer (or colleague when there were both of us) took real-time non-verbatim notes of responses, to record the main points
- After the interview, the recording was listened back to, in order to check that main points had been correctly and fully documented; to transcribe direct quotes where relevant; and to add nuance to main points
- This information was inputted to documents by grouping - e.g., class interviews, ex-learner interviews etc - summarising the main points by question and elaborating with detail and quotes
- A simple thematic summary was carried out for each topic, extracting commonalities and differences across all responses from that particular group (e.g., across current learners from different classes)

The themes from the interviews are written up in the report under the relevant section of the APEASE criteria.

# Appendix D

## List of abbreviations

| | |
|---|---|
| BSM | Bible Society of Malawi |
| CEN | Centre for Educational Neuroscience |
| COM-B model | Capability Opportunity Motivation Behaviour Model |
| FiBS | Finnish Bible Society |
| LWA | Literacy for Women in Africa |
| SILI-AA | SIL International Africa Area |
| UBS | United Bible Society |
| UN | United Nations |

PIPLiA.
FINNISH BIBLE SOCIETY

With support from
land's development
cooperation

Cover photo: Finnish Bible Society /Ari Vitikainen