

Off to learn:

Making offline digital learning work for vulnerable girls in Mauritania

Key messages

- **Blended learning – integrating digital learning in classrooms with non-digital activities – is a promising solution for boosting language skills among vulnerable girls.** Between 2020 and 2022, 160 adolescent girls, whose low proficiency in French put them at risk of dropping out of school, enrolled in a blended French course that integrated the use of the Akelius digital learning application. Despite some barriers to attendance due to transportation costs and seasonal flooding in the summer, preliminary evidence shows participants made encouraging progress over the three-month course. Learning gains were shared across all ages (11-16), with the largest gains among younger participants who had comparatively lower abilities than their older counterparts at baseline – especially in oral comprehension and writing.
- **To enable offline digital learning in low connectivity settings, utilize local area network solutions to update devices from a single tablet instead of downloading on each device individually, reducing logistical hurdles and data costs.** In Mauritania, utilizing the MeshNet function allowed the regular download of digital content onto the tablets used in the classroom. By allowing content to be loaded from a single tablet in an offline environment, it meant that only one tablet needed to be taken to an area with connectivity. In addition, as downloading of the content from the internet needed to happen on just one device, costs related to connectivity were reduced.
- **Make teacher training as hands-on as possible**, in order to build digital skills (including basic troubleshooting) as well as competences for developing blended lesson plans that are relevant to curricular objectives. Activity-based sessions, such as role-play simulations and mock lesson plans, are fundamental for building skills among teachers who have limited practical experience in this field.
- **Provide teachers with ongoing pedagogical support in the classroom**, with continuous training, coaching and supervisory visits to the classroom – to address challenges on a regular basis and improve the way that digital learning is blended into lessons.
- **Work with schools/learning centres to provide on-site technical and operational support to teachers.** Having an on-site focal point for troubleshooting technical issues and managing the devices, including charging and distributing them, reduces the burden on teachers and lets them focus on class delivery.
- **Embed a holistic gender-responsive package at the classroom level.** Vulnerable girls should be offered holistic support based on specific needs at the learning centres. Teachers (and their assistants) should receive specific training on gender-responsive pedagogy.
- **Further systematize the data collection system** to better track attendance (and reason for dropping out), document pedagogical good practices and challenges in the classroom, and measure learning outcomes.

1. Introduction

In 2000, the Mauritanian Government passed an education sector reform that introduced a bilingual system, with classes delivered in both French and Arabic for all children. However, many students face challenges in speaking and understanding the French language. According to the most recent census, less than 15 per cent of the population aged 10 and above spoke and wrote French ([Office National de la Statistique, 2015](#)).¹ A review of the current three-year Action Plan for Education found that already low French literacy levels were deteriorating, with more than two out of three third-year secondary school students achieving only weak proficiency in reading and writing in French (Ministère des Affaires Économiques et de la Promotion des Secteurs Productifs, 2022). Similarly, teachers have difficulties with one of the two languages, which is most often French (UNICEF, 2021). This trend is alarming, as all science and maths courses in secondary schools are taught in French. Overall, almost 95 per cent of children leaving primary school are in learning poverty, meaning that they cannot read or write a simple sentence in French (World Bank, 2019).²

Since 2018, UNICEF Mauritania has partnered with the Akelius Foundation to support French language acquisition through a blended learning approach, in which digital and non-digital activities are combined in the classroom to enhance learning of foundational skills, while developing digital skills. In Mauritania, this blended model integrates the use of the Akelius digital learning application³ on tablets in French language lesson plans and classes. The Akelius digital learning application has been adopted in three learning centres in the Mauritanian capital, Nouakchott, to support learners with different needs:

- Approximately 300 out-of-school children from severely marginalized families
- Over 2,000 teachers and young adults who struggle with the French language
- 160 adolescent girls at risk of drop-out from school.

The research brief presents findings on the use of blended learning in Mauritania for adolescent girls enrolled in formal school but at risk of drop-out, between 2021 and 2022. The analysis focuses on the experience of the SAFIA Center for adolescent girls, a multi-purpose facility located in the Dar Naim neighbourhood (Nouakchott-Nord municipality), where poverty, gender-discriminating social norms and inadequate school facilities (access to running water or separate toilets for girls) jeopardize young women's chances to continue their education. Placement tests conducted upon enrolment at the centre showed that participating girls had only basic knowledge of the French alphabet, a major hurdle to progress in school within the new bilingual system. In Nouakchott-Nord, only 8 per cent of women aged 15-49 have completed secondary school, compared with 12 per cent of men ([Office National de la Statistique, 2022](#)). Nationwide, one out of four girls of lower-secondary school age was out of school in 2019 (UNESCO UIS, 2019). The purpose of the French course is to help girls achieve minimum proficiency (B1) to keep up with the school curriculum but also to make these vulnerable adolescents more autonomous in their daily life through using French. The French course, in addition, is part of a more holistic support package delivered by the SAFIA Center to vulnerable girls, encompassing career coaching, vocational/entrepreneurship training, psycho-social support, health services, and sport and recreational opportunities.

The brief seeks to address the following three research questions:

1. What were the key implementation steps, including good practices, to bring blended learning to the classroom in low-resource settings?
2. What challenges were encountered when delivering blended learning and what actions were taken to resolve them?
3. How did French language skills improve through the contribution of blended learning classes using the Akelius digital learning application?

To address these questions, the brief builds upon the analysis of monitoring data, review of programme documents and qualitative interviews with UNICEF education programme staff. Quantitative data from the programme's monitoring system was used to complement qualitative information. However, quantitative findings should be interpreted with caution, as some methodological limitations apply. First, the overall sample size for learning data is relatively small (a total of 59 girls belonged to the cohort for which we had full data). Findings, in addition, rely on pre- and post-tests without a strong comparison group that would help to attribute learning gains to the use of the digital learning application itself, rather than to other French literacy activities in which beneficiary girls may have participated during the same period. While the triangulation of the different data sources helped to mitigate these concerns, efforts should be continued to strengthen data collection and analysis.

1 Arabic remains the main language in which the population (aged 10+) is literate, with one person in four reading and writing it ([Office National de la Statistique, 2015](#)). According to the same report, these results are similar to those of the pre-reform context, based on the census conducted in 2000.

2 The latest available Learning Poverty data for Mauritania is produced using national assessment data from 2004 – hence actual figures are slightly outdated. In addition, lack of data prevents comparisons of learning outcomes for boys and girls.

3 The Akelius Digital application is available at this link: <https://languages.akelius.com>.

2. Bringing blended learning to the classroom

The SAFIA Center offered French classes through a blended approach to girls aged 9 to 16 living and going to school in Dar Naim. Participating girls were enrolled in four Nouakchott-based schools. They were identified by the respective school principals as struggling with French literacy. The Ministry of Education played an active role in the recruitment process: its decentralized inspectorates connected with the respective school principals to produce and validate the lists of candidate participants.

The blended learning model used at the SAFIA Center is teacher-led and classroom-based, embedding the use of the Akelius digital application within regular instruction through individual self-paced activities and collaborative group work, depending on the lesson's specific goals. The Akelius digital learning application is used on tablets for a certain amount of time, in conjunction with teacher-led lecturing and other non-digital learning activities. The delivery model was therefore elastic; it did not fit within one single category but included elements of different blended learning models, including "Station Rotation" and "Flex."⁴ French classes typically took place over three months, with four weekly hours of after-class tuition in the afternoon under the supervision of a dedicated teacher. The three-month programme is based on the national curriculum and has been devised jointly by UNICEF staff and teachers to deliver remedial education to students having difficulties with the French language. Girls were grouped in classes of 15 students, with one tablet per student. All tablets were supplied by UNICEF Mauritania.

Upon enrolment, girls who have been selected to participate possess only basic knowledge of the French alphabet. Limited French proficiency puts these adolescents at a disadvantage in following instruction that is imparted in French, exacerbating the risks of dropping out of school in a context where adolescent girls are demanded to take on domestic work or are married at a young age (more than a third of girls are married before the age of 18, nationwide⁵). Their parents responded favourably to the programme and generally made arrangements for their daughters to participate.

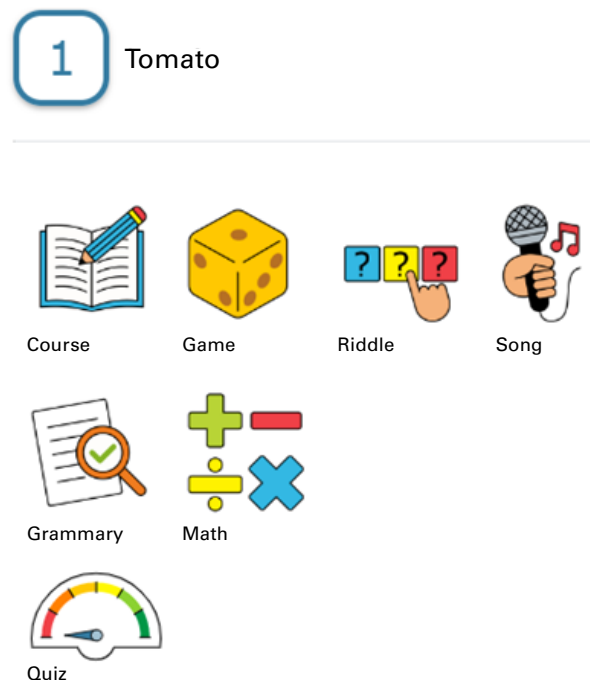
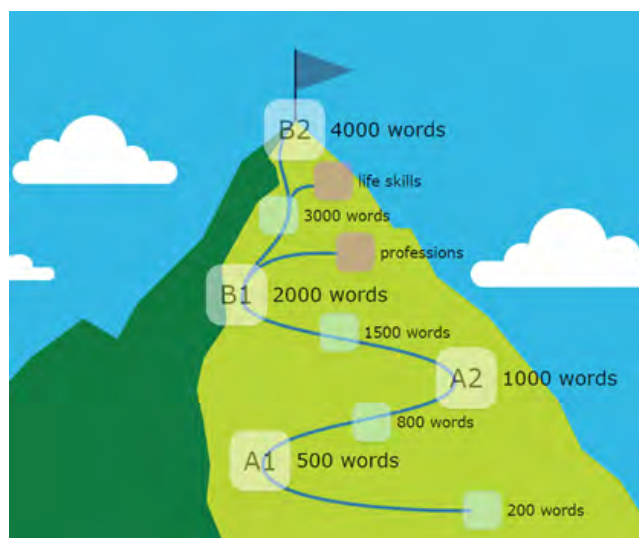
2.1 The value-added of the Akelius app: lexical approach through multimedia

As French proficiency was very weak at enrolment, the main pedagogical goal of the Akelius digital learning app has been to provide multimedia and interactive content to boost foundational skills in oral and written comprehension, speaking and writing. Content is structured in 10-minute modules that can be easily combined with traditional teaching. Each module focuses on a specific communication-grammar goal, leveraging a mix of interactive video lessons, flash cards, reading and listening passages, quizzes with instant feedback as well as songs and gamified tests (see Figure 1). Written texts can be played, which allows users to work on their oral and written comprehension. At the end of each lesson, students can evaluate their progress through a gamified test or quiz. Learners receive instant feedback in the app and can repeat the assessment until they pass, allowing them to practise and then correct their previous mistakes.

Figure 1. The Akelius digital app in action.

a) The overall learning pathway of the French Akelius app.

b) An individual 10-minute lesson with its different interactive tasks and tests.



4 For an overview of models of blended learning, see for instance: [Models - Blended Learning Universe](#).

5 See UNICEF and Office National de la Statistique (2017).

To improve French literacy, the app relies on the lexical approach, which builds the learner's vocabulary in the foreign language to teach its grammar (Lewis, 1997). By listening to and repeating words and sentences, of progressive difficulty levels, students learn everyday basic communication at the same time as grammar structures. Students follow a progressively difficult learning pathway: the basic literacy level starts with around 200 words, and reaches about 1,000 words at A1 and up to 1,500 words at B0 level.

2.2 Leveraging offline solutions for the classroom

Implementing teachers and UNICEF staff underlined how digital content on the Akelius app enabled multimedia support that boosted students' engagement and motivation, helping to turn students from passive to active learners. However, meeting the challenges of bringing blended learning to the classroom in low-resource settings required adequate planning and resources. While some of its spaces have electricity, the SAFIA Center does not have an internet connection, and using a hotspot mobile network did not allow simultaneous access to digital content in online mode on all the 15 tablets. Therefore, to be effectively used in the SAFIA Center, the application and content need to be pre-downloaded on tablets to be utilized offline without access to the internet.

2.2.1 Utilizing a Mesh network (MeshNet) to allow effective implementation without the internet

In Mauritania, limited reach and stability of connectivity even in urban and suburban areas, alongside the high cost of data bundles, represented a major barrier to accessing digital content online. Pedagogical content on the Akelius digital application was therefore made accessible offline in the classroom. Using the Akelius app in offline mode required that all its content be pre-downloaded onto the tablets, at a venue with stable internet connectivity. Even with a restricted number of devices (about 15 per class), pre-loading content on each tablet proved time-consuming and required that all tablets be transferred to an internet-connected venue and back to the centre. Both content and platform, in addition, required periodic updating, be it to add a new lesson or to fix a bug. Outdated content on one or more tablets during class caused an immediate loss of focus among learners and disruptions to the lesson plan.

To improve the pre-loading and updating process, a 'MeshNet' function was embedded in the Akelius digital learning application which allows devices to be connected wirelessly on a local network without the internet. Using the MeshNet feature, implementers were able to transfer the content from a single tablet, typically the one used by the teacher, to all the other tablets without internet connectivity. This reduced the need to physically move all devices to a venue with stable internet connectivity for updates, while also driving down data costs – since content is downloaded only onto the teacher's tablet and subsequent transfers to students' tablets occur offline. The same feature was utilized in Lebanon, where the Akelius digital app helped to boost language skills among refugee children; during school closures, field officers visited communities and helped parents update content using the 'MeshNet' function (Dreesen et al., 2021). Leveraging this type of technology for offline transfer of content will be important for any programme's scale-up plans that will necessarily involve a larger number of tablets and multiple content types.

MeshNet is compatible with most Android devices, including older ones that may be commonly used in low-resource settings. Its key advantage is that it allows peer-to-peer connections and does not require additional hardware, such as routers, switches, etc. It also allows the addition of a local network at no extra cost. However, programme managers noticed that the main inconvenience with MeshNet was the lower speed compared to active Wi-Fi connections.

While MeshNet worked well in this case study, serving about 2,500 users across the three learning centres in Mauritania, other technological solutions to access digital content offline may be more appropriate in other contexts. Programme managers should therefore explore other solutions, including ad-hoc networks or use of nano servers that are adapted to, among others, the number of users to be served, the types of content to be hosted and the technological equipment that is available in schools.

2.2.2 Implementing protocols for managing the tablets

Additional operational aspects related to technology had to be considered for the successful delivery of classes. To streamline the charging of tablets, as well as their secure storage, self-contained charging stations were purchased by UNICEF Mauritania and placed behind locked doors in the SAFIA Center Director's office. Headsets had to be purchased and maintained for each girl that allow simultaneous use of the key audio features of the application in the classroom.

Teachers were responsible for picking up and returning the devices to the office after use, which sometimes entailed delays in the delivery of the class. The Centre de Renforcement de l'Enseignement des Langues Vivantes (CREL) was identified as the responsible agency for the maintenance of tablets. However, no ICT support was provided to teachers for troubleshooting technical issues in the classroom or during the preparation (charging, pre-loading, updating) of tablets before each class. This resulted in some disruption to class time, as teachers focusing on troubleshooting and device management took time and energies away from class delivery. The importance of providing teachers with this operational support is often underestimated during the planning phase. Several reports have documented how practitioners mitigated this recurring challenge in various Akelius settings, including in Greece (Karamperidou et al., 2020), Lebanon (Dreesen et al., 2021), Italy (Poleschuk et al., 2023) and Bosnia and Herzegovina (Poleschuk, Soldo & Dreesen, 2023).

Teachers clarifying rules and instructions, before the class, on how to use the technology helped to minimize disruptions. Additional lessons learned on how to support teachers in integrating technology into their teaching practice are explored in the next section.

3. Supporting teachers in integrating technology in the classroom

Training and pedagogical supervision was a critical step towards delivering blended learning. Being a novel approach to the vast majority of teachers in Mauritania, blended teaching using technology was intimidating for new adopters. Trainers carefully presented the Akelius digital learning application as a supplementary tool that augments traditional teaching approaches to achieve curricular goals, rather than as a way to replace teachers. Clearly explaining the benefits for learners and teachers helped to reduce concerns about the use of technology, and fostered buy-in among teachers.

3.1 Involving teachers as co-designers of the digital content

During the early stages of the programme, implementing teachers provided feedback on the application to the developers through a dashboard (hosted on a team collaboration software, Trello) to signal bugs and content-related issues as they came up in the classroom. This facilitated direct communication between teachers, UNICEF and the software developers, enabling the easy tracking of troubleshooting and change requests. This iterative process allowed the resolution of application-related bugs and the addition of contextualized content to the Mauritanian context. Contextualization ensured appropriate vocabulary items and images, as well as relatable visual appearance of the characters that feature in the app's activities. Initially, only two chapters were available on the app. Thanks to the feedback provided by the teachers, several additional modules were added for grammar, alongside more interactive materials such as games and songs. UNICEF education staff oversaw the use of the platform, consolidating and coordinating feedback between the various stakeholders.

Similar co-design processes were successfully employed in other Akelius-implementing countries. In Greece, co-designing with teachers, students, linguists and UNICEF education staff helped to ensure the digital app fitted with the learning needs of migrant and refugee children, aligning with the national curriculum (Karamperidou et al., 2020).

3.2 Providing ongoing teacher training and support to teachers

To support teachers in the transition to a new way of teaching, multiple rounds of teacher training, coupled with ongoing pedagogical supervision in the classroom, were implemented. This ongoing support helped teachers to overcome their initial resistance to change and sustain the adoption of new teaching practices. Teachers first received a three-day, in-person training delivered by UNICEF education staff on the Akelius digital learning application's environment and on ways to contextualize it in the Mauritanian teaching and classroom context. This was followed by three rounds of training delivered by an external provider with a mix of in-person and remote sessions. This additional training, which was delivered by the Lebanon-based Ana Aqra Association, focused more specifically on blended teaching pedagogy.

UNICEF education staff provided ongoing supervision during regular visits to the classrooms, during which actionable feedback to teachers was provided based on direct observation of how the application was integrated in class, and guidance was given based on teachers' questions. Close field supervision hence became an opportunity for continuous training for teachers embarking on blended learning.

3.3 Mapping digital learning content to curriculum eases lesson planning for teachers

Teacher training not only presented the content of the Akelius application but also, most importantly, it focused on *how to embed it* in a lesson plan. Having learnt how to log in and navigate the different types of content on the platform, teachers received guidance on designing lesson plans that incorporate the use of the tablets. The digital content on the Akelius application was mapped against the specific learning goals of different French lessons, which are aligned with the national curriculum and the ability level of learners. This systematic mapping meant teachers knew in advance which modules and activities of the Akelius application they could use for each class.

3.4 Focusing training on practical experiences in the classroom

Given the lack of experience with blended teaching of many trainees, practising how to design blended lesson plans was crucial. About 80 per cent of the time allocated by Ana Aqra to training was dedicated to hands-on, practical sessions. One of these, for instance, included a role-playing simulation, in which trainees delivered a mock blended lesson to their colleagues. Role-play in a simulated classroom environment enabled teachers to see the classroom from the students' perspective and test how the different types of digital content (video lessons, flash cards, games/songs, etc.) could be mixed to make the lesson more engaging and interactive.

UNICEF trainers provided guidance on how to identify a suitable time for using the tablets in the classroom based on the specific goals of the class – at the beginning of a class to introduce a new subject, or in the middle/towards the end of the class to complete or reinforce previously presented content.

3.5 Developing routines to use digital learning in classrooms and back-up plans when technical issues occur

As highlighted by the Akelius experience in Italy (Poleschuk et al., 2023), blended pedagogy is more effective when teachers provide students with clear instructions on how to use the app in the classroom, including through basic tutorials on how to navigate the application at the beginning of a class. In Mauritania, teachers were instructed to keep tablet time within boundaries to avoid tablet use becoming routine which would reduce interest among learners. The lesson plan should include clear indications of how much time each digital activity should take to complete. Timekeeping and providing students with clear instructions on completion time were important to keep students of all levels occupied and focused, as well as finish classes on time. For example, teachers would provide similar guidelines to their students:

“Please take the tablet, go onto Chapter 1, open Lesson #1. You’ll have 10 minutes to complete the activity. If you finish before your classmates, feel free to listen to a song or play a game. Once the 10 minutes are over, we will talk about the vocabulary that you have learned.”

Technical issues with the tablets or the digital learning app often created disruptions and loss of focus. Given that no readily available ICT support was provided for in the class, the training also emphasized the importance of devising back-up plans. Back-up plans hinged on non-digital activities that could be rapidly deployed in case of technical issues.

3.6 Utilizing digital learning to enable quality teaching practices such as differentiated instruction

Digital skills and capacity to progress through the content typically vary across course participants, with those with lower digital or foundational language skills more likely to lag behind. In order to ensure inclusiveness, the training emphasized differentiation (e.g., through splitting the class into small groups of learners working on different language competences and activities, depending on their needs) and individualized support (e.g., by organizing the classroom space so that the teacher can move around the class easily and provide one-to-one support).

4. Making progress in the French language through blended learning

UNICEF Mauritania helped to set up a monitoring system with the SAFIA Center and the teachers delivering the French course. This has offered indications on key outcomes, including on attendance and learning gains in the French language. As mentioned above, the methodology of this brief relies on a mixed method approach, combining quantitative programme monitoring data with qualitative insight from teachers and UNICEF programme managers. No counterfactual could be established; this means that any progress made in the French language by participating girls cannot be directly attributed to using the Akelius digital app. That said, qualitative evidence (feedback from teachers and programme managers) and the fact that participating girls did not reportedly have access to other French literacy programmes in the monitoring period mitigate those concerns and help disentangle the contribution of using blended learning to boost French proficiency.

4.1 Tackling persisting barriers to attendance

Overall, 160 adolescent girls signed up for the French classes in the SAFIA Center where the Akelius digital learning application was used from 2020 to 2022. Attendance sheets were kept at the class level but were not systematically digitalized and submitted onto a centralized system. As an example, available data from the November 2021–January 2022 cohort showed that girls attended between 71 and 85 per cent of all scheduled classes. In-classroom observation, which was conducted by UNICEF as part of its ongoing pedagogical support, confirmed that the use of technology sparked a high level of engagement and motivation among students.

While parents were eager to enrol their daughters in the programme, transportation costs constituted a barrier to attendance. A school bus system had been put in place by UNICEF to alleviate this hurdle but was subsequently discontinued to increase ownership of the programme by the Center and the families. According to UNICEF education staff, this discouraged some of the most vulnerable families and those that lived farther away from the Center. Absenteeism was also driven by seasonal factors. Flooding and heightened transportation problems during the rainy season meant that 19 out of 52 girls (36 per cent) dropped out of the July–September 2022 cohort. Travelling due to seasonal work or family reasons also reduced attendance during the summer months, when schools were closed.

4.2 Tracking learning gains in French

Although there is room for improving attendance rates, preliminary evidence from entry and end-of-programme tests showed that girls who completed the course made tangible progress in French. As shown in Figure 2, learning gains were shared across all ages (ages 11 to 16). Younger girls (aged 11-12) who started from the lowest baseline scores made the largest gains in French proficiency relative to older ones (see Figure 2). At the end of the course, the scores of 11- and 12-year-old girls improved by 156 per cent and 138 per cent, respectively, compared to the beginning of the course.

Qualitative evidence collected from students and teachers not only confirms the evidence of progress in the French language but also suggests that self-confidence improved and that students applied what they learnt during the course in their daily life.

“Thanks to the platform that the [SAFIA] Center made available, and thanks to the support I received, I have learnt plenty of words that I now use to speak French. That made me more self-confident and allowed me to pass my entry exams for secondary school. Without this teaching, I probably wouldn’t have succeeded.”

[12-year-old girl enrolled at the SAFIA Center]

Oral comprehension and writing were the competences that showed the largest learning gains (see Figure 3). Younger girls (aged 11) made the largest gains in these two competences, compared with older girls. In contrast, speaking was the least developed ability among participants at entry, and the slowest improving of all competences – although average test scores for speaking skills nearly doubled between the start and the end of the course. In particular, older girls (aged 16) tended to have lower initial scores in speaking French than younger ones and made slower gains during the course, still having the lowest score at the end of the programme. According to UNICEF education programme staff, this calls for more emphasis on verbal interaction and active communication in the target language in the classroom.

Figure 2. Average test scores in the French language at entry and end of programme, by age. Akelius cohort of November 2021–February 2022 (N=59). The maximum score achievable for the test was 80 points

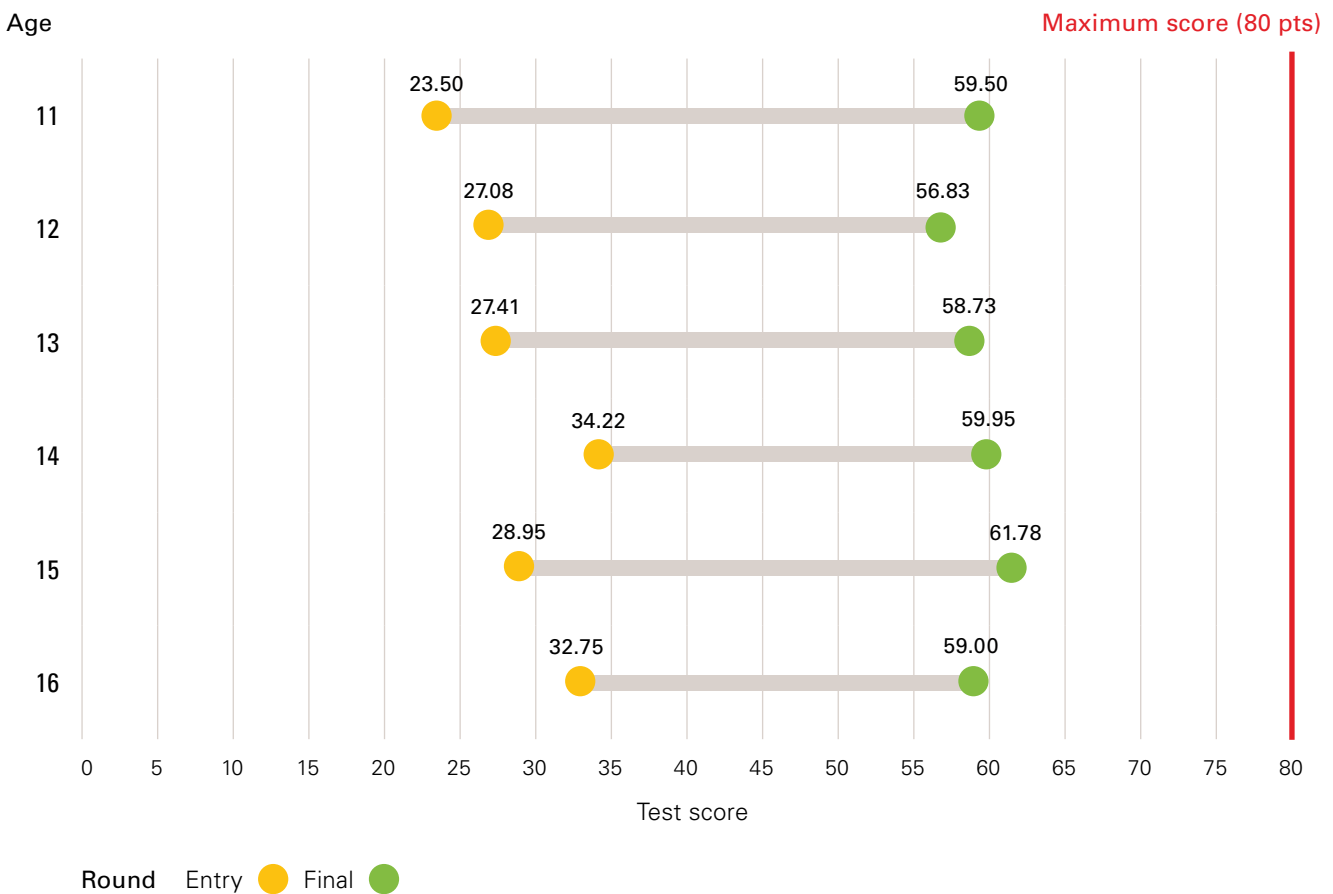
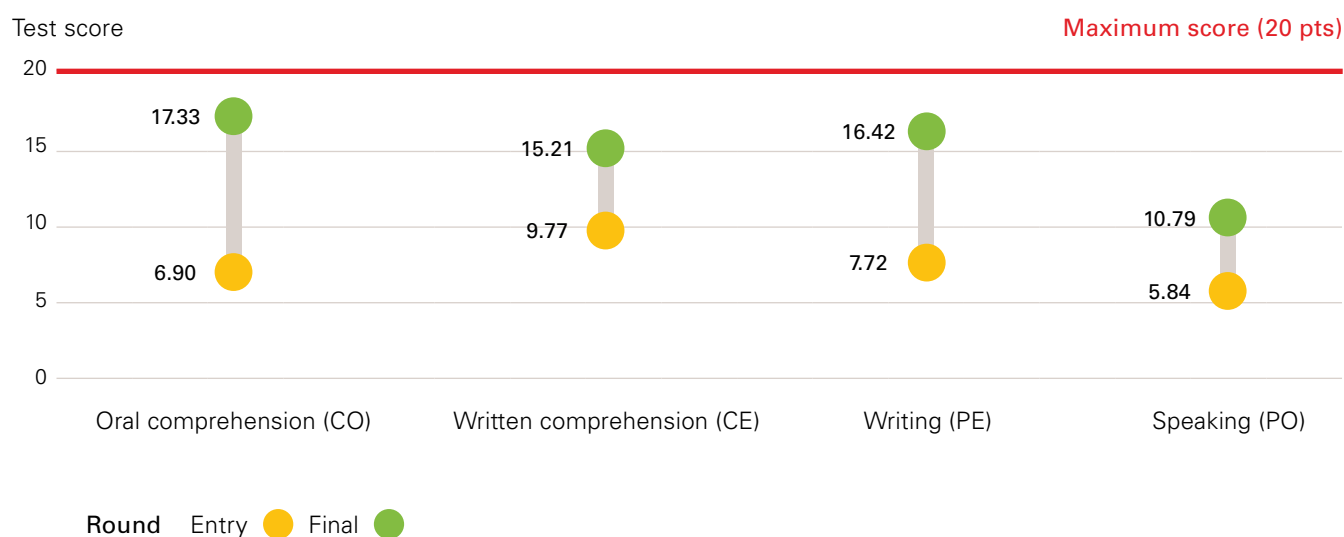


Figure 3. Average test scores in the French language at entry and end of programme, by competence type. Akelius cohort of November 2021–February 2022 (N=59). The maximum score achievable for each competence was 20 points



5. Lessons learnt in delivering offline blended learning

The experience of the SAFIA Center can teach practical lessons that are useful for the scale-up of the programme and for practitioners rolling out blended learning in low-resource settings. These are summarized below.

Technology in the class

- **Use contextualized technological solutions that do not require constant access to the internet to run digital learning in the classroom, including solutions that reduce the logistical challenges of pre-downloading content onto the devices.** In Mauritania, using the MeshNet feature, which allows the use of a single ‘host’ tablet to update and transfer content to others without use of the internet, reduces logistical hurdles and data costs. Once content is transferred to all the tablets via the ‘host’ one, no internet connectivity will be required to access content during classes.
- **Include teachers in the co-design of content and digital learning environment.** As the lead actors in the day-to-day delivery of blended learning in the class, teachers’ needs and opinions should be factored in to the design of the content and how it is presented in the digital application. A collaborative framework should be established to collect, track and address their feedback and requests for change.
- **Train teachers on basic troubleshooting and identify an ICT assistant who can provide on-site support to teachers for more complex issues,** as well as provide continued operational support for updating content, and for maintenance of devices and their charging. ICT support in the school will reduce the burden on teachers, allowing them to focus more on their lesson plan and less on troubleshooting.
- **Teachers should provide clear rules/guidelines to students on how to handle technology in the classroom.** This reduces challenges, limits the need for troubleshooting and gives the class some ownership and responsibility.

Teacher training and pedagogy

- **Centre the training on practical sessions for developing lesson plans,** after providing essential instructions on the digital learning software and the hardware (boosting overall digital skills for teachers). Hands-on sessions (e.g., delivering a mock lesson to colleagues, with feedback) and group exercises should constitute the bulk of the training.
- **Clearly map digital content against curricular objectives to facilitate the preparation of lesson plans for each class.** Teachers should have a clear understanding of which content is available for which lesson, to avoid improvisation and facilitate lesson planning (less burden on teacher).

- **Emphasize the importance of devising back-up plans**, using content that is non-digital. Teachers should be prepared if technology does not work, to avoid wasting time and losing the learners' focus.
- **Emphasize time and space management for inclusive pedagogy**. This includes timing the tasks or arranging seating places to accommodate for individual vs. group work. Inclusiveness can be promoted through individualized support (e.g., the teacher moving around the desks) or by grouping learners based on language learning needs.
- **Conduct refresher training sessions to sustain new pedagogical practices**, based on observations of teachers' skills and their feedback on training needs.
- **Rely on placement tests to group learners** into classes or form sub-groups within classes. Language levels should be regularly assessed – including through formative assessments – to ensure that groups or classes are homogeneous throughout the course and that students are taught to the right level.
- **Emphasize verbal interaction in French in the classroom**. Girls at the SAFIA Center showed slower progress in speaking. Establishing verbal communication routines in the classroom, including peer-to-peer speaking activities, will support students' speaking skills.
- **Plan for ongoing pedagogical monitoring in the classroom**. Providing ongoing support and advice to teachers on a regular basis is key. Building up the capacity of schools and government officers to do so will contribute to sustained pedagogical monitoring practices.

Gender dimension

- **Embed instruction within a broader, holistic support package for vulnerable girls**. This package should be grounded in the specific context and needs facing vulnerable adolescents. Support may target, for instance, digital skills, sexual and reproductive health, and empowerment.
- **Include training on gender-responsive pedagogy for teachers and assistants**.
- **Mobilize parents through appropriate information campaigns about the programme**. Girls' education is threatened by discriminating social norms against women. Involving parents in the recruitment and follow-up of the course may improve participation and stabilize attendance.
- **Provide support to households to incentivize attendance**. Facilitating transportation to/from the learning facilities, for instance, made it easier for girls to attend classes.

Evidence generation

- **Collect and analyse learning assessment data**, using validated measurement tools at entry and end of the programme that can document learning gains. Being able to disaggregate learning data across age, initial proficiency and other covariates is important to devise specific corrective actions for particular segments of girls.
- **Capture attendance data to better understand the reasons behind absenteeism and drop-out**. Collecting data on attendance for all classes and cohorts, and disaggregating data by attributes such as age or distance to travel, can lead to more tailored, evidence-based recommendations for action.
- **Systematize the data collection system on classroom observation data**, using formalized instruments, such as an in-classroom observation checklist, or by compiling notes taken during each observed class, on a regular basis.

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