Platform version 1 and training part 1

SIIS project - EQUALS

Contents

Introduction

The Government of Malawi through the Ministry of Education, (MoE) is implementing the Equity with Quality and Learning at Secondary (EQUALS) Project. Under Component 3 of the EQUALS Project, the MoE seeks to improve data collection, reporting and process monitoring through enhancement of standards of inspection in secondary schools.

In line with this EQUALS Project Component, the Consultant (Ron Staal and TechNix) will develop an Online Platform for Inspection and Advisory Service for Secondary Education intended to support Secondary School inspectors in their inspection process. The Online Platform for Inspection system will be based on the SIIS (School Improvement Information System) that was developed in 2017-2018 in the Acting together for Better Long-term Education (ABLE) project to support the inspection process for Primary School inspectors.

The Online Platform for Inspection system will adapt the SIIS to make it fit the Secondary Education inspection processes.

Change of planning
During the course of the last few weeks a change has been made to the planning of the project, to make it possible for DQAS to do the midline inspections in January. Therefor the training, which was originally scheduled for 4 days in March 2022, had to be split in 2 days in December 2021 and the remaining 2 days in March 2022. Also, the development had to be split into version 1 in December 2021 and version 2, the fully functional platform, in March 2022. As an implication, this report provides a combined description of the development of version 1 and the training part 1.

From working prototype to version 1 – software development
After the user tests, as described in the working prototype report, the team came up with a list of things to be changed to produce the version 1 which was used in the trainings, 8, 9 and 10 December, in Mponela. The changes that were made are described in Appendix 1, while other issues in the list had to wait until version 2 or later. See Appendix 1 for the details.

Project briefing, Training and Requirements validation

In the Mponela meeting, nearly all the inspectors of the 6 Education Divisions were present, as well as people from DQAS headquarters, ICT Department of the MoE, Department of Planning of the MoE, and the Consultant.

At the meeting, the first half a day was spent on the project briefing and the distribution of the tablets to the Inspectors. The next one and a half days were spent on the training, and the last half day was spent on requirements validation.

Project briefing

DQAS (John Mswayo) and the Consultant (Ron Staal) made presentations to the Inspectors, detailing the project goals and objectives, project scope, stakeholder roles in the project, current project status, as well as planned project activities. Refer to the presentations attached in Appendix 2. Also, the tablets were distributed, unpacked and the inspectors could work with them straight away.

Training

The beginning of the training went well, where the platform was introduced, but when it came to the hands-on training a major disruption occurred. It appeared that the Internet at the venue could not handle all the inspectors to access it; the connectivity was too poor to make a smooth running of the platform possible. Even the great help that the people from MoE ICT Department and TechNix provided, could not solve this issue. So, the afternoon session was a bit of a disappointment. Luckily the next day the people from MoE ICT Department discovered that at the other end of the building the Internet connectivity was better, so we moved to that side. After that, the Inspectors worked in Division groups and were able to go through the whole cycle of the inspection process, using the system. Starting from creating a 'New Inspection Visit', through describing 'Key Evidence' for the National Education Standards, determining 'Strengths, Weaknesses, Good practices and Other Observations', until generation of the 'School Visit Report'. Everybody was very relieved when that was achieved.

Requirement's validation

In the requirements validation on the last day, Inspectors commented on what they had experienced during their first use of the platform. A lot of recommendations and remarks were made as described in Appendix 3. The major recommendation which everybody agreed upon was the need to have an offline version of the platform. This was seen as a strong requirement!

In general, they were happy and satisfied about the way the platform supports their work. When the question was raised whether this was the way to go forward, the whole group of inspectors was unanimous in their answer that this is really what they want to gradually change their process into a digitized way of working.

All in all, the meeting was a success in the end, despite the hiccups caused by the poor Internet connectivity.

See Appendix 4 for some photographs of the meeting.

Appendix 1. Changes made from working prototype to version 1

OUTCOMES AND RECOMMENDATIONS BASED ON THE USER TEST MEETINGS HELD WITH THE DQAS/ICT TEAM (MoE) AND TECHNICAL CONSULTANTS IN THE EQUALS-SIIS PROJECT	*What to do with the remark*
A. General	
- There is an upcoming mid-term inspection in January by the Inspectors.	
- The SIIS should be used, and project plan will have to change a bit.	Done ☑ Project plan has been changed
- The development team should concentrate on the iterations for the inspection process.	

- There will be a 3-day meeting with the inspectors and all stakeholders in December 2021 at Mponela. During the meeting 1 day has been allocated for Project briefing / requirements validation and tablet distribution and 2 days will be for preliminary trainings as a preparation for the mid-term inspection.	Done ☑ Requirement's validation will bring up changes in the final requirements
- Feedback from the mid-term inspection will be fed into the requirement validation phase.	And the requirements will be used to create the Fully functional platform – version 2
B. INSPECTION VISIT AND IT'S OPTIONS	
- DQAS proposed the following:	
a. Based on the old SIIS system, the Headmaster, Lead Advisor, Address, Email, and contacts (like phone nr) should also be manually captured by the inspectors	Done ☑ - This will be possible only if it's not already in the database to avoid data duplication
NOTE: Their worry on the automated capturing of the fields above is that EMIS can take too long to be updated, hence they can't depend on it unless there is assurance for instant updates and synchronisation of the two platforms. Therefore, DQAS should be given the privilege to variable fields.	Done ☑ - In the interim, we will have to manually fetch the data already in the EMIS. Also, we will have to add the details on registration
b. The 'government board chair' should be renamed the 'Board of Governors Chair' at the specific school	Not yet done – this was an omission which will be corrected
c. The sector field should be renamed to sub sector field	Done ☑
d. The critical issues should be "Other observations" (Pending discussion)	Done ☑
e. There should be more options for the inspectors' fields (Lead Inspector plus 2 extra ones as mandatory, and then 2 optional ones)	Done ☑
f. For the Key Evidence form: Comment should be called Evidence	Done ☑

g. Besides, an additional field should be added for NES based recommendations based on the observations at the school.	To be done in version 2
h. On the graphs under Key evidence, the total axes should be renamed to level achieved	Done ☑
NOTE: There was a misunderstanding based on observation for the 0.N where N is a number such $0<N<1$. However, it was later noted that the graphical numbering is dynamic based on the number ranges for the level achieved.	----
The levels and therefore the figures on the axis should be fixed: 0, 1, 2, 3, 4	Done ☑
i. The Strengths and Weaknesses should be preceded with the Major word: Major Strengths, Major Weaknesses. (Good Practices and Other Observations stay as they are)	Done ☑
j. Remove connections to NES and instead only attach them to the Key evidence.	Done ☑
k. For the previous options, the Name field should be changed to Description.	Done ☑
NOTE: All comments/descriptions are based on lesson, school level and other observations done per agreement by all of visiting the inspectors.	---
l. The recommendations should be split into major and minor recommendations. The minor recommendations are based on the key evidence per NES, and the major recommendations are the overall ones, which will have action plans attached to in the Advisory process.	Will be done in version 2, see point g
- **ICT MoE**	

a. When editing the visit options there is an issue with the one character which can't be replaced	Done ☑
b. There is an issue with the recommendation. That is, we add one and the same is replicated four times	Done ☑
c. The school visits should be filtered based on the division (already fixed). Order school visits from the newest, for currently logged in user	Done ☑
d. On edit and delete buttons, there should be a provision for time limitation/validity of the actions after inspection, and ten after that it should be based on recommendation from top management.	Later
e. The report should be accessible to all stakeholders	Later
f. For the report, the + or – status were confused with the zoom functionality but after discussions it was resolved to maintain them.	---
g. The reports should be more and be sent to the right government departments for actions	Later
NOTE: It was discussed that there should be a clearly defined workflow from the client and its ICT Team so that the developers should not work based on assumptions. Besides, the design architecture for systems that will be integrated should be made available.	**NOTE: the upper three and the lower three remaks from ICT MoE are very good suggestions for further development. Given the tight time schedule towards the December version, we will look what to do with them after January.**
h. For the action plans, the notification should be added when the due dates approaches, and nothing has been done on the actions. Meanwhile, the reporting be at a higher level	Later
i. Need for real time analytics for the schools being inspected	Later

j. Decisions have to be made on how to handle or channel system notifications	Later
C. General Comments on the Prototype	
- DQAS	
a. Good platform and user friendly.	---
NOTE: Prototype accepted but we should work on the remarks.	
b. Good progress but let us keep each other connected (communication within the team)	---
- ICT MoE	
a. The application can be used by DQAS with easiness. However, the developers should work on the continuous feedback from all stakeholders	Done ☑
b. The landing page should include a password reset link	Done ☑ Although at this moment the link is not active. This will be done in version 2
c. The password policy should be defined by the ICT department together with the DQAS team (i.e., number of characters and format)	This will be done in version 2
d. Proposed a joint team meeting There should be a well-defined protocol for communication with the top stakeholders and communication should be open always	This will be done in version 2
Comments from TechNix team	
a. Comprehensive report: need for change of the basic text especially chapters 1 and 2 where there are figures that we don't offer as input fields. They should come from EMIS, or be typed in by inspectors, but in essence they are not relevant for the purpose of the system.	Done ☑

b. Editing Key Evidence: how it should be finally (in the Fully functional platform) is an editing functionality where the user is presented with the partial result (some requirements filled in) and when the user edits, he is able to change what is already there AND add extra requirements in the same edit-form.	Done ☑
c. Comprehensive report: call it School visit report	Done ☑
d. Remove the Inspection Progress report from control panel	Done ☑
e. After every Delete action, the message popup should indicate Delete and not OK!	Done ☑
f. Once the user decides to see 20, 50 or 100 rows, keep that value, even after the screen refreshes	Later

Appendix 2. Presentations project briefing

John Mswayo – DQAS

Development of a platform for Online inspection

Overview

- Background
- Challenges
- Conceptualisation
- Benefits

Challenges

- Late production of reports
- Some information is lost
- Data processing challenges
- Late transmission of reports

Background

- Inspection is a core function of DQAS
- Through inspection the nation is able to determine the status of education provision
- It is a legal requirement for the inspectorate to update the Minister of Education on the status of education in the country
- A lot of delays in making information available to prepare briefings
- Leads to stale information

Conceptualisation

- Thought of a better way of operating
- Learnt valuable lessons from the pilot project in primary subsector
- Believe the online platform will greatly improve the directorate's efficiency
- Needed to have an easy/efficient way of feeding information in the EQUALS framework
- Will closely work with EMIS to operationise the innovation
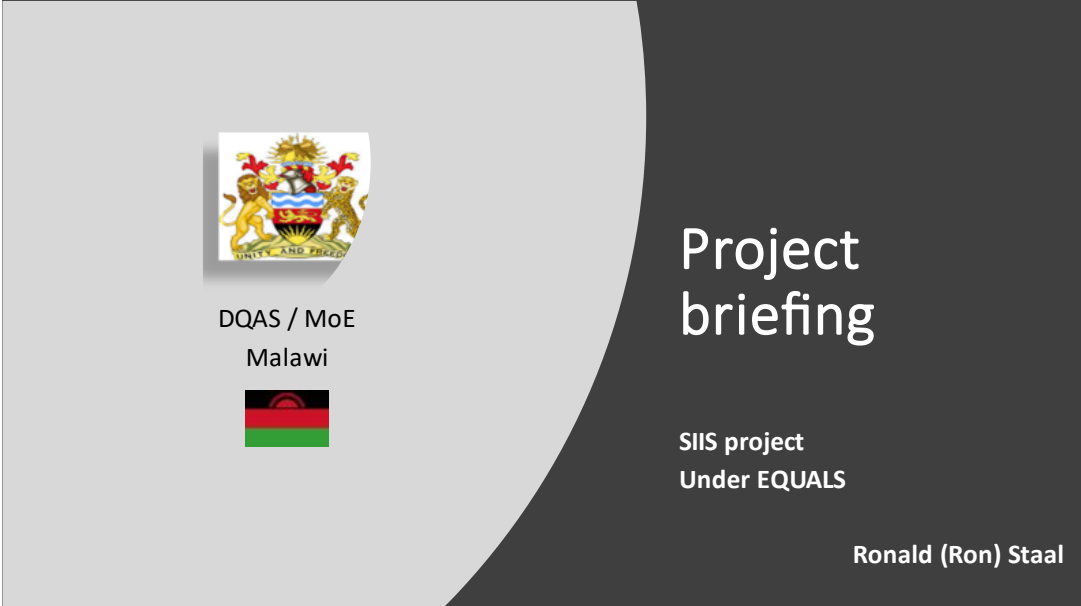- Inspectors should move with times

Benefits

- Easy collection of data
- Easy and fast generation of reports
- Generate accurate and reliable data
- Quick transmission of reports
- Improve image of directorate through improved efficiency

Ron Staal - Consultant

Project briefing

DQAS / MoE
Malawi

SIIS project
Under EQUALS

Ronald (Ron) Staal

Past → Present

DQAS / MoE

ABLE project
- DQAS and VSO - Online Platform for BE
- Pilot project – 40 schools in Lilongwe RW and Mzuzu
- Inspectors, PEAs, Head Teachers

2016–2018

SIIS project under EQUALS
- September 2021: SIIS project started!
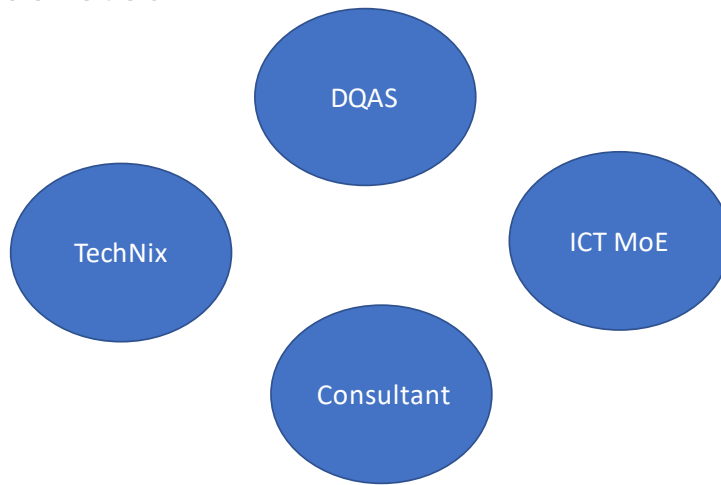- April 2022: project ending
- Inspectors

2021–2022

Aug. 2018
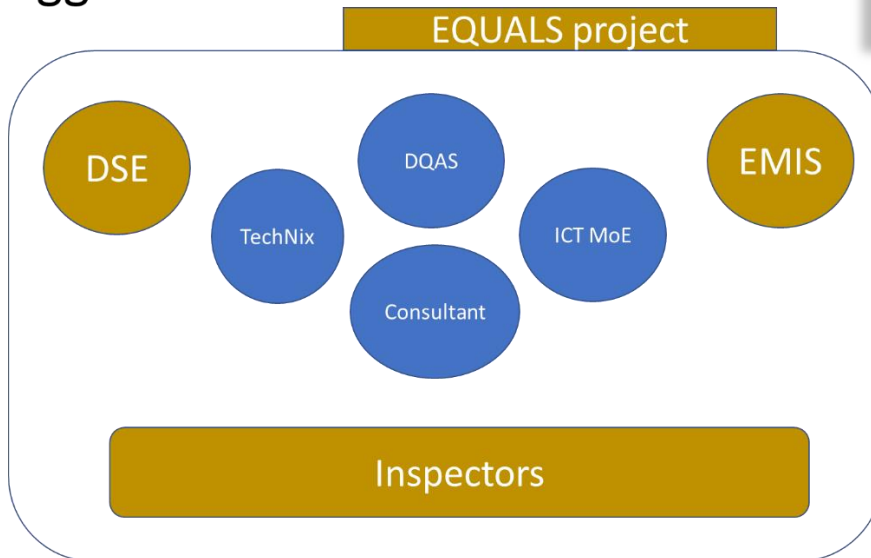
demo for MoE and World Bank (EQUALS)
- Project plan for same approach in Secondary Education

The coreteam

DQAS

TechNix

ICT MoE

Consultant

DQAS / MoE

The bigger team

EQUALS project

DSE

DQAS

TechNix

ICT MoE

Consultant

EMIS

Inspectors

DQAS / MoE

Activities

Requirements specification
- Taken from inspection process and experiences with primary education in previous project

Software (system) design and development
- Front end (interface) / back end (database)
- User tests (DQAS and ICT dept)

Trainings
- Preliminary (2 days) + Follow up (2 days)
- Inspections → feedback about requirements

Consultancy
- DEM, EDM, DQAS, DSE, MoE
- More functionalities and reports
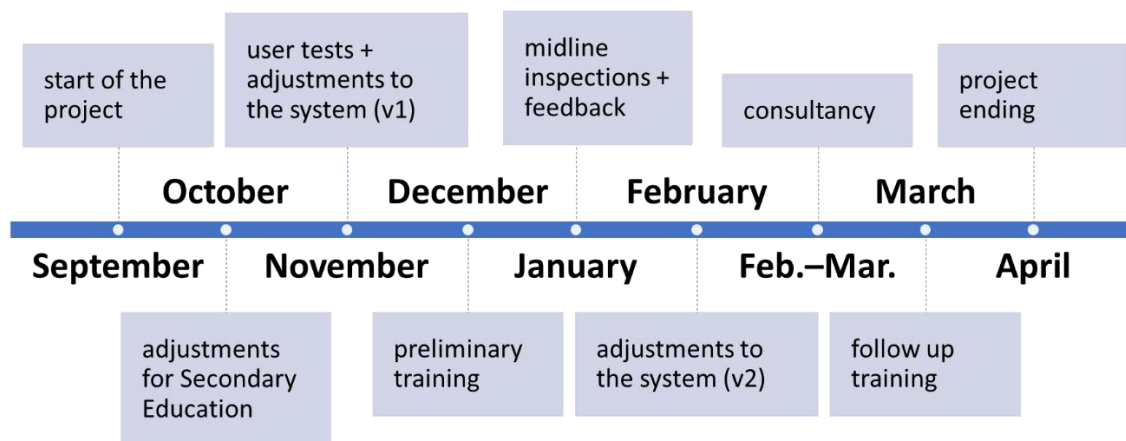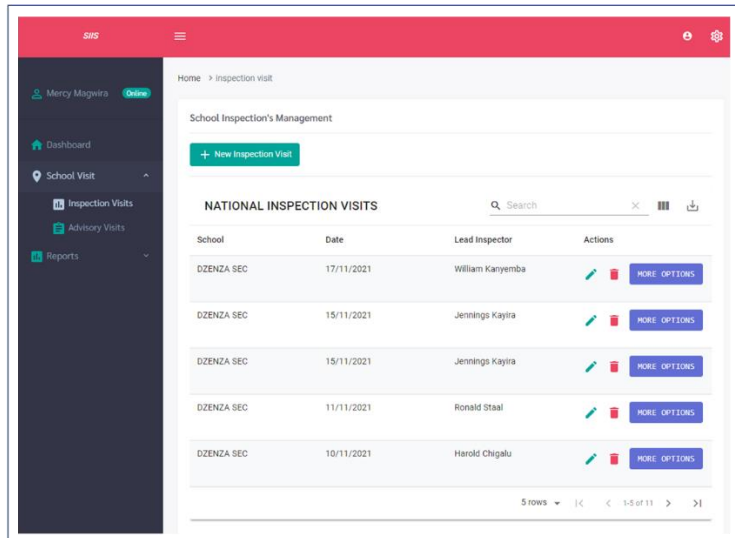- ICT dept – technical improvements

Planning

| start of the project | user tests + adjustments to the system (v1) | | midline inspections + feedback | | consultancy | | project ending |

| | **October** | | **December** | | **February** | | **March** | |
| **September** | | **November** | | **January** | | **Feb.–Mar.** | | **April** |

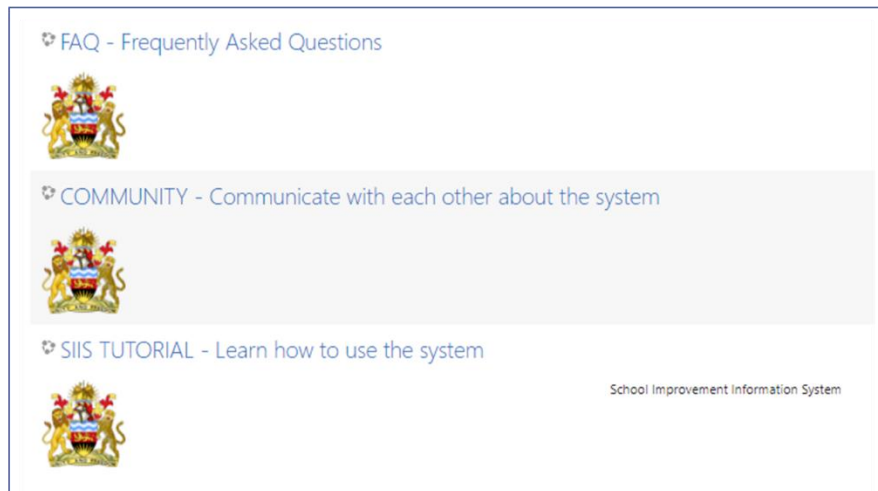| | adjustments for Secondary Education | | preliminary training | | adjustments to the system (v2) | | follow up training | |

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What does the system look like?

DQAS / MoE

The system is enhanced with a (Moodle) eLearning and Community environment

DQAS / MoE

Appendix 3. Results of the requirements validation

The participants were given a chance to give feedback on their experience of using the platform and how the system supports inspection.

Areas for improvement:

1. Include an offline version which can load the data entered once within reliable internet connectivity; this is a strong requirement (!) – to be less dependent on internet connectivity and to have the possibility of instantaneous entry of data
2. The system should check for double, identical entries in the school visit list
3. Including recommendations after every NES National Educational Standard
4. The Progress report to include progression for individual school, schools in the division and schools at national level over a period of time
5. System supports the work; this is the way to go forward – Report generation is well focused and the system has brought uniformity and objectivity in decision-making.
6. Auto saving: the system should have a possibility of saving frequently/autosaving when collecting data/ to avoid loss of data – will be solved with the offline version
7. Data be exportable to Excel so that it can easily be linked to EMIS database
8. Entering several Weaknesses in 1 text block - Modify the system to allow the user to enter all the recommendations at one go and then 'Create'
9. Faces should have different colours – red, green, yellow, blue
10. When all requirements of a NES are negative the system does nothing 🙁 - system fails to produce a graph/judgement. This has to be corrected
11. Bullets vs numbers: Recommendations be numbered all other points be bulleted in the report.
12. Cover page, zone/cluster → change to cluster
13. The idle time is less and users are logged off in the middle of filling system forms. It is desirable that when the user logs back in, the system should auto populate all data the user had entered so the user can seamlessly proceed accordingly.
14. Currently, 'Establishment' on school visit report is blank, this must be captured on the New Inspection form and should have options like for example: 'Form 1-2', and 'Form 1-4' as options. DQAS will provide the actual options that should be in the list
15. There were some typographic errors in the names and email addresses of the inspectors. They will be corrected.

Appendix 4. Photographs of the meeting