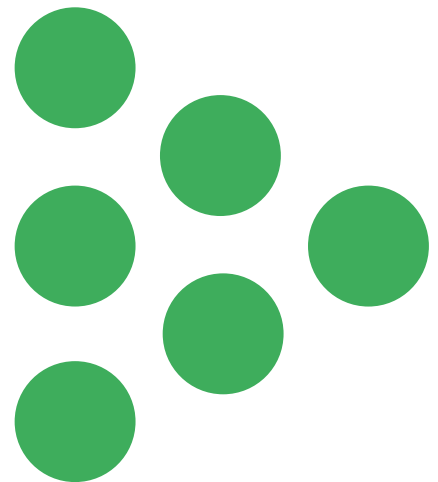# NFER
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Learning Partnership for the PEAS-DES Inspect & Improve Programme

Case Study Brief: The use of digital tools and platforms in Inspect & Improve programme

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Use of Digital Tools and Platforms: Case Study Brief

Juliet Kyoshabire Kotonya and Katarzyna Kubacka

Abbreviations and Acronyms

I&I	Inspect and Improve project
KII	Key informant interview
MoES	Ministry of Education and Sports, Uganda
NFER	National Foundation for Educational Research
PEAS	Promoting Equality in African Schools
SIP	School Improvement Plan
SMC	School Management Committee
VfM	Value for Money
WMS	World Management Survey

Contents

1   Introduction

The purpose of this Learning Brief is to synthesise findings from a case study on the use of Digital tools and platforms in Inspect and Improve programme. This learning brief will also include recommendations for the programme implementation team. This study is one two case studies that formed part of the Learning Partnership for the Inspect and Improve Programme (I&I).

As the piloting of digital inspections tools is still underway, this was a formative study as we were unable to examine the relative impact within the study timeframe. We examined the piloting of digital inspections tools as part of I&I, as well as the way in which programme delivery shifted to digital platforms and remote activities in response to school closures and travel restrictions imposed by Covid-19. The study examined the uptake and perceived comparative benefits of using digital tools as well as the use of digital platforms and remote activities as a mechanism through which I&I operates. Furthermore, it explored the relative costs and perceived values of different elements of the I&I programme being delivered in digital mode.

2   Study Design

The basis for data collection for the case study was semi-structured interviews of approximately 60 minutes. These consisted of interviews guided by open-ended, semi-structured topic guides to work with respondents with in-depth and specialist knowledge of a digital tools, platforms, and processes. For stakeholders from PEAS, we elected to conduct group interviews.

Sample Size	Sampling Criteria
22 Key Informants	Purposive sample from key stakeholders. i. 05 school leaders of Phase 1 schools that participated in digital pilot ii. 09 School leaders of Phase 2 schools that participated in the digital pilot iii. 04 Inspectors in the Directorate of Education Standards (DES) iv. 4 PEAS staff engaged in finance and project management for I&I.

The study was designed to address the following research questions:

- RQ3: How did DES inspectors and head teachers in pilot schools engage effectively with digital tools for inspection and monitoring processes?
- RQ4: How did the intervention demonstrate the observed impact and what worked (and did not work) to improve the quality of leadership and management in intervention schools?
- RQ5. How much did the intervention cost to deliver, and what were the relative costs and benefits of different mechanisms of school inspection and school support?

2.1 Limitations

There are some limitations to our methodological approach to the case study.

- Although we explored the question of value for money (VfM) with regards to the digitalisation study, we were unable to conduct a full VfM or cost-effectiveness analysis, as this requires data on outcome measures, which has not been available during the study period. Similarly, studies of this nature would require disaggregated cost data to be available from the programme. Costs/resource use was estimated through discussions with PEAS programmatic and finance staff in order to make estimates of the relative costs of the digital and non-digital approaches.
- Our qualitative case studies are unable to take into account final outcome measures for I&I Phase 2 and thus will be unable to examine the overall effectiveness of the programme. This instead will be considered as part of the final WMS Endline Dashboard and Summative Learning Partnership Report, which will be completed in Q4 of 2022.
- As with the I&I pilot baseline and endline evaluations, our research design does not draw upon impact evaluation methods which allow us to attribute causality. While our pilot evaluation used a comparative case study approach to draw inferences about causal attribution, in the Learning Partnership, we instead use an exploratory approach which allows detailed learnings on the topics.

3 Findings

3.1 Stakeholders' experience with (i) Digital Inspection tool, (ii) WhatsApp support groups and (iii) Virtual training platforms

Overall, stakeholders agree that digital tools and platforms in I & I are user-friendly and functional

All respondents recognised the digital inspection tool's transformational capabilities that enables users to generate inspection reports promptly and efficiently. Furthermore, stakeholders highlighted the options of generating comparative analysis, allowing decision-makers convenient access to synthesized school level data based on a wide range of parameters including gender, geographical location, and inspection indicators.

> "You can be able to compare how school A is faring compared to school B how region A is faring compared to region B. it can also give you the performance by indicator" [DES inspector]

When asked about WhatsApp support groups, several school leaders noted positive experiences from fostering knowledge exchange and interaction in a semi-formal environment. Examples cited included sharing of guidance on provision of psychosocial support during Covid-19 related disruptions, as well as benchmarking on management strategies to address emerging issues, such as lack of school meals and recovering lost learning following school reopening. The majority of interviewees observed that PEAS programme personnel were easily accessible for support as they moderated school leaders' WhatsApp groups. Stakeholders from DES mirrored similar views based on their engagement with a WhatsApp group moderated by the developers of the I&I digital inspection tool.

> "There is a lot of information we share on, like the success stories. And it is always easy to be in touch with the supervisors. Even the school improvement plan, we send it using digital communication." [School Leader]

In addition, most school leaders acknowledged the 'ease of access to professional development resources via I&I's virtual training platform OpenLearn. This allows school leaders to refresh their knowledge by reading the content from previous training workshops or by downloading material that they in turn share with other teachers.

Absence of offline functionality emerged as the key gap across all user experiences

The challenge of using I & I digital tools and platforms in rural areas with unreliable internet connection was the most frequently mentioned gap among school leaders, DES inspectors and PEAS staff. Moreover, they also identified a few missing features and capabilities. All Inspectors and PEAS staff noted that the current version of the digital inspection tool has flaws in user functions such as, difficulty with uploading photos, editing information and some glitches in retrieving reports from the MOES server. Namely, the system did not always correctly inform about whether a report was sent or not, as one DES official elaborated.

> *"It shows you that you have submitted a report successfully, but in the server at headquarters, you find it is not there." (DES Official)*

When asked to reflect on desirable features missing from I & I digital tools, several interviewees suggested the inclusion of tracking via geo-location as part of the terms and conditions of the digital inspection tool. Furthermore, two DES officials found the use of laptops 'distracting' to children during classroom observations and compared this to their experience of using tablets which they described as discrete.

> *"when it came to classroom observation, we would leave our laptops in the offices, go with the hard copies then come back and enter information because it was distracting; immediately you open the laptop everyone's attention now comes to you."*[DES official]

3.2   Enablers of digital tools, platforms uptake

Positive attitudes among users and access to technology infrastructure are key factors that facilitate engagement with digital tools and platforms

Findings from the stakeholder interviews suggest that meaningful access to technology infrastructure is an important factor which facilitates the use of digital tools and platforms. In particular, the convenient, user-friendly design of I&I digital tools & platforms was mentioned by all PEAS stakeholders and DES officials interviewed. Most school leaders highlighted the availability of laptops provided by PEAS and DES, and individual ownership of internet-enabled phones as enabling factors. Two of four PEAS staff interviewed cited the complementary efforts by the Government of Uganda to expand internet connectivity for rural schools and rural electrification programmes as another factor that supported engagement with the digital tools. This view is echoed by all other stakeholders, who acknowledged that in I &I's digital pilot is a timely intervention that falls within articulated government priorities for digital transformation and expansion of technology infrastructure at national level.

At individual level, responses from 10 stakeholders suggest that positive attitudes and willingness to learn is essential for meaningful engagement with digital tools and platforms. This was echoed across school leaders, PEAS staff and DES officials. More than half of the school leaders interviewed associated their meaningful engagement in I&I digital platforms with having foundational digital skills. Two PEAS staff substantiated this view, noting that the school leaders' exposure and interaction with Zoom workshops allowed them to develop transferrable skills that will be applicable in other digital pilot activities. All four DES officials mentioned relevant experience with using tablets for primary school inspections as part of a previous pilot launched by MOES in 2016.

3.3 Barriers to uptake of digital tools, platforms

Negative attitudes towards technology, low levels of digital skills and low internet connectivity were the key barriers to engagement with digital tools and platforms

In analysing the factors that have impeded meaningful engagement with digital tools and platforms in I&I, our case study identified (i) negative attitudes among users, (ii) low levels of digital skills and (iii) the lack of access to reliable electricity as well as internet connectivity. Negative attitudes among individual personnel were specifically identified by two DES inspectors and all four PEAS staff. For instance, one interviewee recounted the experience of conducting an inspection during the pilot with a colleague that declined to open the their laptop throughout an inspection, despite undergoing training. One DES official explained that such attitudes impede changes in practice.

> *"Some head teachers and teachers even though you carry out inspection you give them a report you highlight the issues that need improvement some of them just become adamant. And don't act on the inspection report even fail to generate the school improvement plan"* DES official

Reported challenges with access to reliable power supply and internet connectivity mostly emerged from school leaders, although this was echoed in the responses from PEAS staff as well. However, PEAS staff also reported that I & I's app developer is currently in the process of making the digital inspection tool available offline, to enable scale of the tool in areas with limited connectivity.

3.4 Key changes in Inspection Practice

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School inspectors were able to improve on the timeliness and quality of reporting processes and compliance to inspection standard operating procedures

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There was consensus across case study respondents that there are positive changes in the way Inspectors deliver on reporting process. This was illustrated in the timely submission of reports, reducing the waiting period for stakeholders to access key recommendations. Respondents reported that before I&I's digital pilot, the average processing periods for generating inspection reports varied from one month to five months. Following the use of digital inspection tool, which was associated with real time transmission of inspection data, this average processing period has been reduced by an estimated 97%[1]. The user-friendly model of the digital inspection tools and perceived efficiency in the reporting process was regarded as key driver of motivation and enthusiasm among inspectors. Additionally, respondents reported that the digital tools supported inspectors' ability to comply with quality standards and operating procedures. One inspector elaborated on how the real-time nature of reporting on the tool increased the likelihood of compliance in practice.

> *"In the past, some colleagues would want to go and complete the hard copy reports while in hotels. This one forces you to do it there and then. There are those who had unprofessional conduct would go to about four or five schools in a day, and yet this tool requires you to go to only two schools"* [DES inspector]

The real time scoring also played a key role in the creation of objective reporting. This real time data entry helped enhance consistency in the inspection reports, by minimising the biases in making judgements on indicators.

One inspector elaborated that before the introduction of digital tools, there would be delays between observing the changes during the inspection and drafting the report. This consistency was even harder to attain with the previous inspection practice that involves collecting data from more than two schools in a day. With the digital tool the risk of inspectors misremembering information gathered has been reduced.

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[1] Based on a conservative estimate that it took 60 days previously and now it takes 2 days, hence resulting in 58 days decrease.

3.5 Observed changes in school leadership and management practice

School leaders were able to improve on data-driven planning, peer collaboration and knowledge sharing on best practices

In examining observed changes in school leaders' management practice, case study respondents reported positive improvements in the way data is used for planning. This was supported by convenient data management processes that respondents associated with access to laptops as well as the prompt provision of feedback from the enhanced inspection cycle.

Furthermore, school leaders' participation in WhatsApp support groups contributed to adoption of education best practice. All stakeholders cited the knowledge exchange in a moderated community of practice as an illustration of peers fostering changes in practice and giving new opportunities for peer discussion. They also mentioned strategies to promote student welfare, safeguarding and remedial learning as other examples of best practices that the WhatsApp groups made easier to share. School leaders' communication with DES inspectors and PEAS staff was also reported to be strengthened through interactions in the digital platforms. School leaders reported that they found it easy to build on the rapport that was established in the regional WhatsApp groups and increasingly reached out to PEAS personnel.

3.6 Cost implications of adopting digital tools and platforms

Stakeholders agreed that improvements brought about by I&I justified the costs of adopting digital tools and platforms

The adoption of digital tools and platforms has resulted in additional costs for the programme and individual stakeholders. However, there were also cost savings that emerged from increased efficiency across the inspection cycle. For instance, school leaders and PEAS staff observed that participating in virtual trainings cut down on travel costs, while attaining comparable outcomes. Some additional costs include initial developing costs, staff training costs, procurement of devices as well as maintenance costs for IT infrastructure. At individual level, school leaders and inspectors reported that they incur costs of internet data and charging electronic devices. Some PEAS staff reported that they had underestimated the costs of training personnel as part of the digital pilot, and that this resulted in new costs. Despite this, the consensus across respondents is that the investments made in digital tools demonstrated value for money and helped address key gaps by adding efficiency to the inspection process and supporting timely enhancement of strategies at school level.

4   Conclusions and Recommendations

4.1   Conclusions

The following section summarises the findings about how I&I utilised digital tools and platforms and how can it be strengthened by reflecting on the research questions of the learning partnership.

RQ3: How did DES inspectors and head teachers in pilot schools engage effectively with digital tools for inspection and monitoring processes?

DES inspectors and headteachers overcame some infrastructural and individual challenges to successfully engage with the digital tools and platforms available in the I&I programme. Inspectors had the least amount of engagement with digital tools at the time of the study as the digital pilot had only been implemented for 5 months, while the majority of school leaders had interacted with digital platforms for over one year. Overall, there were no marked differences between the user experiences of school leaders from phase 1 schools and school leaders from phase 2 schools.

RQ4: How did the intervention demonstrate the observed impact and what worked (and did not work) to improve the quality of leadership and management in intervention schools?

The study found promising improvements in leadership and management practice as a result of the incorporation of digital tools and platforms in the delivery of the I&I programme. These positive changes were also matched with improvements in inspection practice. Digital tools contributed to these changes through the introduction of a more convenient, efficient inspection process, the creation of a semi-formal sphere that fosters knowledge exchange, and through the timely provision of feedback, enabling leaders to act quickly on recommendations. For the majority of inspectors, the digital inspection tool has so far had more impact compared to other digital tools and platforms. Similarly, the WhatsApp support groups in I&I were perceived to be more impactful by school leaders.

RQ5. How much did the intervention cost to deliver, and what were the relative costs and benefits of different mechanisms of school inspection and school support?

Although the programme encountered new cost drivers as part of the digitalization efforts, across the spectrum of training and inspection activities, the additional cost is justified by the improvements that I&I offers at both the school and systems-level. In comparing a scenario of delivering these activities via non-digital mechanisms, project stakeholders and school leaders all agreed that investments made demonstrated value for money. The additional costs in the short-and medium-term were justified by the complementary cost reduction emerging from process efficiencies, time, and travel savings as well as benefits of digital literacy skills in the longer term.

4.2   Recommendations

The findings of the study suggest that the I&I programme can strengthen the benefits of the digital tools by considering the following recommendations.

I&I can further its impact and reach by building on the momentum of the virtual learning platforms established as part of the adaptation to Covid-19. This should be done by exploring efficient pathways to support the institutionalisation and transfer of knowledge from individual school leaders to a wider group of education personnel at the school level. However, this should be accompanied by incorporation of strategies that provide training participants receive sufficient formative feedback. Conversely, I & I should continue to collect feedback on what training topics are most valuable for the various categories of education personnel.

I&I should triangulate this study's data on user experiences, with feedback that the developers collate through inspectors' WhatsApp support group to create an accurate snapshot of the current state of the digital inspection tool. This can be the basis for determining and prioritizing improvements through the remainder of the Phase 2 project implementation.

In future improvements to the digital inspection tool, PEAS and DES should maintain a focus on supporting integrity of inspection processes. This can be done by exploring ways to incorporate functionalities within the tool- to enhance transparency and principles of accountability. One suggestion emerging from DES officials, is adding geo-location tracking when inspectors are using the application. This would contribute to enhancing validity of inspection reports as the location data (indicating the inspectors presence in the schools) would be available in the report. In considering this suggestion, I & I should consider the relevant data privacy policies and guiding frameworks.

I&I should build on increasing visibility of the programme as an advocacy platform to advance system-wide support for school improvement. Given that the digital inspection tool has been used in inspections across an estimated 600 government secondary schools, the scale and impact of the digital pilot will likely raise the profile of the programme.

In future iterations of the programme, PEAS and DES should consider the feedback on Inspectors' experiences with laptops during inspection as well as a systematic cost benefit analysis. Given that all future inspections in the programme are expected to be conducted with the hybrid digital inspection tool, user experiences presented in this study maybe useful for this.

References

Annexes

Interview Guides- DES	![Word icon] DES Interview Guide_PEAS2 Digitaliz
Interview Guides- HTs	![Word icon] Headteacher Interview Guide_Digit
Interview Guides- PEAS	![Word icon] PEAS STAFF Digitalization Study_ (

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