Guide to Job-Seeker Skills Certificate Programme

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Contents

Introduction

A skills certificate programme is a labour market intervention that seeks to improve communication between job-seekers and potential employers by offering a formal and recognised evaluation of specific skills (e.g. numeracy, literacy, logical thinking). The programme also provides job-seekers with an insight into their skill set and good job matches.

There are three behavioural changes that such programmes aim to achieve:

1. Job-seekers will use skills certificates in job applications.
2. Local firms will use skills certificates when making hiring decisions.
3. Job-seekers may learn about their own skills from a certificate, and hence change the types of jobs for which they apply.

This guide offers actors within government agencies, non-governmental organisations (NGOs), donor agencies, and other institutions a flexible framework for delivering a skills certificate programme to improve earnings for participants and support local employers to confidently consider hiring young talent.

The programme is modelled on a skills certificate intervention tested by Carranza, Garlick, Orkin, and Rankin (2020) in Johannesburg, South Africa, in collaboration the NGO Harambee Youth Employment Accelerator, involving 6,891 18- to 29-year-old job-seekers.

The programme could be delivered as an add-on to existing programmes focused on increasing youth employment and earnings through work force initiatives, or as a standalone intervention in its own right, e.g. in schools.

The intervention in Carranza, Garlick, Orkin, and Rankin (2020) was tested rigorously in a randomised controlled trial in one context. The handbook also builds on evidence from other studies conducted in Ethiopia, South Africa and Uganda. The success of such a programme relies in part on how well it is adapted to local contexts. This guide offers a framework for planning, adapting and delivering a skills certificate programme that can be used in multiple contexts.

The Carranza, Garlick, Orkin, and Rankin (2020) study was possible thanks to staff at the Harambee Youth Employment Accelerator; the Abdul Latif Jameel Poverty Action Lab Africa Office; University of Oxford; Duke University; and Stellenbosch University.

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Part 1 Intervention overview

This section outlines some of the challenges faced by job-seekers and employers in LMICs and introduces the evidence base for the programme. This section may be useful for policy-makers trying to decide whether to implement the programme and when building support.

Background

Globally, 67.6 million people aged 15-24 were unemployed in 2019 (ILO, 2020a), and youth were three times more likely to be unemployed than adults.[1] Yet employers in low- and middle-income countries (LMICs) regularly say they struggle to find appropriately qualified employees. Moreover, research shows that if firms cannot find qualified workers, they may hire fewer people or pay lower wages.

Numerous studies have sought to better understand the role information about job-seekers' skills plays in the labour market. One way to increase the availability of information and potentially improve employment outcomes is by making more information about job-seekers' skills available. For instance, employers often use formal educational qualifications as a signal of a job-seeker's skills, but in LMICs, most entry-level job-seekers cannot afford quantifications beyond high school and it can be difficult for individual employers to develop assessment systems to test potential employees' skills.

Furthermore, young job-seekers may not have previous work experience or an established network to give them references, and they may also not know how to effectively communicate the skills they do have to employers, or how more abstract skills – like being a good communicator – could help them get a higher-paying job.

Employers may also struggle to fill gaps in their labour force. Employers may hire less, pay lower wages, or offer less desirable jobs to applicants, potentially discouraging them from searching and applying altogether.

The evidence base for skills signalling interventions

Research has found that helping job-seekers better recognise and communicate their skills to potential employers can improve their job outcomes and help firms hire more qualified candidates:

- A recent International Growth Centre (IGC) review of available evidence found that certifying skills is effective at helping job-seekers obtain higher-paying jobs.[2]
- An orientation session focused on CV writing, application letters, and job interviews in Ethiopia increased earnings of job-seekers who received the session four years after the session was conducted (Abebe et al., 2020). In Uganda, while both vocational training and firm-supplied training increased employment rates and earnings for young job-seekers, youth who completed vocational training had higher job mobility; i.e., were able to more easily move from one job to the next (Alfonsi et al., 2020).
- In South Africa, encouraging young people to include a reference letter with their job applications and providing them with a template increased employer callbacks for women (Abel et al., 2020).
- In Uganda, certificates on young job-seekers' soft skills (e.g. communication skills or trustworthiness) led to higher earnings for workers, conditional on workers finding a job (Bassi and Nansamba, 2020).

However, while research suggests that skills-signalling interventions could have positive effects for both employees and employers, they are often costly to implement and represent a significant investment for individual employers. The association of skills testing with discrimination has also made them a contentious method of signalling.

[1] *Job losses during the COVID-19 pandemic have disproportionately affected young people in many countries, exacerbating already high youth unemployment (ILO, 2020b). In South Africa in particular, 32.5% of the population aged 15-24 were unemployed before the pandemic and young South Africans were disproportionately likely to lose work during lockdown (ILOSTAT 2019, Ranchhod & Daniels, 2020).*

[2] *Filling the Gap: How Information can help Job-seekers. IGC, January 29, 2019. https://www.theigc.org/reader/filling-the-gap-how-information-can-help-job-seekers/introduction/.*

Part 1

Carranza, Garlick, Orkin, and Rankin (2020) and Harambee Youth Accelerator designed a low-cost, scalable skills certificate programme. They sought to test whether a skills certificate programme could improve programme participants' outcomes in the labour market by changing beliefs and behaviour of both job-seekers and employers.

Critically, Carranza, Garlick, Orkin, and Rankin (2020) found that providing job-seekers with skills certificates had positive effects on labour market outcomes, increasing employment by 17% after three to four months in urban South Africa. Weekly earnings increased by 34% and hourly wages increased by 20%. The rise in earnings reflects both higher employment and higher earnings conditional on having a job. They also found that the benefits of such a programme do not just accrue to high-skilled workers but were similar for workers with many different skill profiles. This study, as well as other studies of certificate or reference letters, finds that job-seekers without strong existing signals were most likely to benefit (e.g. people without tertiary degrees or who were less likely to be employed at the start of the intervention) (Abebe et al., 2020).

Furthermore, Carranza, Garlick, Orkin, and Rankin (2020) found evidence that skills certificates increased the likelihood of callbacks by firms.[3] This suggests that the effects of the programme on labour market outcomes were driven by a mix of employer and job-seeker reactions, a conclusion that is consistent with results from Abel et al. (2020).

[3] *For a full research summary visit the Mind & Behaviour Research Group website or follow the link here.*

Adapting research to local contexts

When considering this intervention, there are a number of factors that implementers may want to consider depending on their local circumstances.

All studies were conducted in urban areas with a sizable formal labour market. It is unclear whether the results translate to rural settings with less formal employment or across different country contexts. As such, when thinking about whether to adopt this programme, consider whether you have access to a large pool of unemployed young adults who are looking for work.

Moreover, while a skills certificate intervention aims to reduce frictions within a local job market, it does not aid in job creation. It is important to consider if you have a labour market where there is demand to hire young adults and jobs that young adults want to fill.

Improvements in matching rely, in part, on job-seekers wanting to take up jobs if they are offered. For instance, a programme in Jordan that matched college graduates to employers led to very few successful matches, largely because youth were unwilling to take the jobs that were available (Groh et al., 2015). Similarly, a job fair in Ethiopia did not improve employment rates for young job-seekers (Abebe et al., 2020). Firms reported that the candidates they met at the fair were less employable than other applicants, and job-seekers had unrealistic expectations of the wages firms would offer.

Implementers may want to consider the appetite of employers and job-seekers for skill-signalling interventions. These interventions are most likely to succeed when the new signals add information relative to existing signals. This depends on the new signals coming from a credible source. It is more likely when many existing job-seekers have limited or uninformative existing signals, perhaps because they lack work experience that can generate references or the schooling system does not provide standardised or credible assessments.

Implementers are also encouraged to consider the practical implications such as having operational staff at the ready to provide support and bandwidth for the programme, and the basic technical capabilities that could support both administering tests and automation of skills certificate generation.

Mindful of these factors, we have specifically designed this handbook to offer a framework that can be adapted to suit local contexts. Conducting a pilot intervention prior to rolling out a skills certificate more widely may also be a helpful way of testing impact and receptivity.

While recommendations on how to adapt the framework and engage local employers are given in further detail later in this handbook, we do not give specific recommendations on the skills tests that implementers could use as part of their programme. Skills testing and certificate programmes do carry positive benefits when engaged appropriately and ethically. However, skills tests have been misused for discriminatory purposes[4] and to further the exclusion of some job-seekers from the labour market. When selecting skills tests to be included within this intervention, implementers are encouraged to consult local and national guidance to identify validated skills tests and to be cautious of how these tests may be used to discriminate against some job-seekers.

[4] *History of Psychometric Testing in South Africa. JVR Africa Group, February 25, 2017. https://jvrafricagroup.co.za/blog/history-psychometric-testing-south-africa.*

Part 2 The Intervention

By the end of this section, implementers should have a clear picture of the different elements that are involved in a skills certificate programme, including an introduction to skills testing, the skills certificate, and an outline of the skills assessment day.

Introducing skills testing

Skills testing is a method for assessing a person's ability in a particular area. The structure and focus of the test depends on the skill being evaluated e.g. numerical ability versus teamwork. They can be done as abstract tasks, questionnaires or work samples. All tests should be validated to ensure that they measure the desired concept reliably and are ethically sound.

For employers, the value of skills tests is in helping to identify applicants that are likely to succeed in the advertised position. Readily available information on applicants' skills reduces uncertainty for hiring firms. This can make the hiring process cheaper and potentially increase firms' willingness to hire. From a job-seeker's perspective, skills testing offers an opportunity to showcase their ability and give potential employers tangible evidence of their skill set.

Implementers are strongly advised to explore validated and nationally approved skills tests and to pilot them before implementing a programme at scale. For instance, in South Africa, the National Qualifications Framework (NQF) levels are supported by the South African Qualifications Authority (SAQA). The Health Professions Council of South Africa (HPCSA) has a few skills tests (e.g. Conceptual Foundations test) registered with it. The validated tests and scales used in Carranza, Garlick, Orkin, and Rankin (2020) are below:[5]

Problem-Solving Inventory

- Hepner, P., and Petersen, C. (1982): "The Development and Implications of a Personal Problem-Solving Inventory", Journal of Counseling Psychology, 29(1), 66-75.

Grit Scale

- Duckworth, A., Peterson, C., Matthews, M., and Kelly, D. (2007): "Grit: Perseverance and Passion for Long-term Goals", Journal of Personality and Social Psychology, 92(6), 1087-1101.

Planning Task

- Burks, S., Carpenter, J., Goette, L., and Rustichini, A. (2009): "Cognitive skills affect economic preferences, strategic behavior, and job attachment", Proceedings of the National Academy of Sciences, 106(19), 7745-7750.
- Gneezy, U., Rustichini, A., and Vostroknutov, A. (2010): "Experience and insight in the Race game". Journal of Economic Behavior and Organization, 75(2), 144-155.

Learning Potential

- Taylor, T. (2013): "APIL and TRAM Learning Potential Assessment Instruments", in Psychological Assessment in South Africa, ed. by Laher, S., and Cockroft, K., Wits University Press, 158-168.

Introducing the skills certificate

A skills certificate is an easily read document that communicates or verifies an individual's proficiency in any skill. It aims to provide new information to employers by communicating areas of strength for an applicant that are difficult to assess during recruitment.

In a labour market context, the purpose of the skills certificate is two-fold:

1. It gives job-seekers an insight into their areas of strength and weakness with regard to a few of the skills that employers value. This insight can help direct job searches, but also help job-seekers signal these skills to potential employers in a meaningful way.
2. It provides employers with a validated tool for evaluating potential candidates' skills and a practical means of comparing applicants through standardised scoring.

[5] *Please note that inclusion of these scales as examples does not reflect endorsement for use. Implementers should carefully consider the appropriateness of these measures for their context.*

What content should be in a skills certificate?

While some information should be consistent, the skills certificate may need to be adapted to the local context. This adaptation may include adding relevant, local content or making design changes to appeal to employers. This may be to include additional, relevant local content or with regard to the design to make it more appealing to employers.

The following details should be included: the participant's first and last name, a brief description of the skills tests used, what skills and the participant's results. Results may be presented relative to peers who have also completed the skills tests so employers can see how individual candidates performed in relation to others.[6]

The intervention: skills certificate programme delivery

An overview of the programme assessment day, as conducted by Carranza, Garlick, Orkin, and Rankin (2020), is included below as an example. However, there are different ways to approach the assessment. For instance, rather than being delivered in person, it could be hosted remotely using online platforms.

1. Participants arrive and are briefed by a member of the staff supporting the delivery of the programme. The brief should include an overview of what the programme involves, why it is a valuable thing to do, what participants can expect from the assessment day, and what happens next.
2. Participants perform several skills tests. In the Carranza, Garlick, Orkin, and Rankin (2020) study, tests were administered via computers to make collecting scores easier, but this could in principle be done on paper. If multiple tests are administered, consider adding a break halfway through in order to minimise fatigue of test-takers. Staff should be on hand to troubleshoot any technical problems or answer any questions from job-seekers related to the test questions.
3. Staff generate candidate certificates and printed versions are put into envelopes for participants to take away.
4. Trained staff members review how to interpret certificates and scores with participants and answer questions. Ideally, this should happen first as a group and then, if possible, individually. In some countries there will be legal requirements about who can deliver information about assessments. For example, in the study conducted by Carranza, Garlick, Orkin, and Rankin (2020), it was completed by psychologists.
5. Participants are given printed copies of their certificates (as well as an additional 20 copies) and depart.
6. Staff members distribute digital certificates. Distribution channels may vary depending on local contexts. A bulk email method or other platforms such as WhatsApp could be used to share copies of the report depending on what technology candidates prefer or have available to them. Sharing a digital copy offers candidates the opportunity to print more copies if needed.

Incorporating breaks

It is up to the programme management team whether they want to or can provide refreshments for candidates during the break or whether this is the time other activities are hosted. From a programme perspective, this is time for the facilitators to produce, review, and print the certificates before talking through with candidates later in the day. If you are working with an NGO or charitable organisation, this can be the time for them to host another activity.

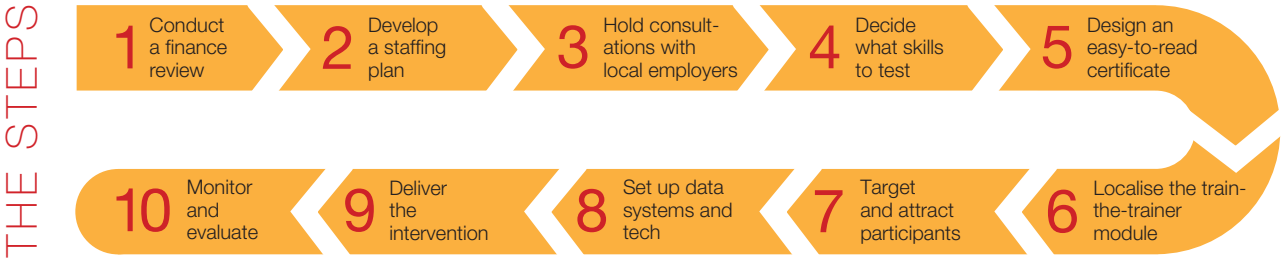
[6] *Visit Appendix G for further information about guidance on how to provide information on job-seekers' performance on skills assessments relative to others taking the same assessments.*

Part 3 Preparing to deliver and adapting a skills certificate programme to your local context

This section is focused on helping policymakers prepare to deliver the intervention, adapt to local contexts and mitigate potential risks. It also includes recommendations for monitoring and evaluating the programme.

For the Carranza, Garlick, Orkin, and Rankin (2020) study, planning started three months prior to implementing the intervention.

The steps below are based on the experience gained during the study. However, they do not necessarily need to be completed in this order:



Step 1
Conduct a finance review:

While this programme has been designed to be cost-effective, it does require some financial investment. During this step, calculating all direct and indirect costs may help provide clarity around financial constraints that could impact design and implementation decisions.

The average earnings gain in the first three months after certificates were given to participants was $130 (PPP). A cost analysis of the Carranza, Garlick, Orkin, and Rankin (2020) study showed these effects were 5.6 times the average variable cost of simply providing printed certificates and 2.3 times the average variable cost of providing both tests and printed certificates.[7]

Advice to implementers: Mapping out likely costs for each phase of activity is recommended before committing to delivering a skills-signalling intervention. A few suggestions for how to approach this are shared below:

- Budget annually with budget refreshers happening at the start of each fiscal year.
- For accuracy, budgets should benchmark to local markets and utilise an organisation or agency's historical financial data.
- Ingredients to incorporate in budgeting include both fixed costs and variable costs. Read Appendix B for basic understanding of the types of "ingredients" or expenditure types in the programme.
- If this programme will be added onto an existing social protection programme, budget owners should define costing methodology used to account for the use of overlapping resources. See Appendix C for details of the costing methodology of the Carranza, Garlick, Orkin, and Rankin (2020) study.

[7] *See full details of the costing analysis in Appendix C. The analysis showed a per participant cost of $23 (PPP) to provide printed certificates and $57 (PPP) to both administer tests and produce printed certificates that signal test results to potential employers. It should be noted that both figures include a $10.32 (PPP) transport subsidy to each participant to cover the cost of travel to and from the office of Harambee in Johannesburg, which may not be a necessary cost of the programme. All costs are reported in 2016/17 PPP USD terms and are averaged over the 2,247 candidates who received the intervention.*

Step 2
Develop a staffing plan

This step should include allocation of existing staff, whether new hires need to be made, and what training is needed during design and execution. Technical specialists will be needed for all technology roles to ensure proper codes and systems are put in place to automate certificate generation. Those implementing the programme should decide whether hiring a trained psychologist is an option based on available resources and country legal requirements.[8] For more details, see Appendix D for a detailed staffing grid and basic job descriptions for staff needed.

Advice to implementers: Staffing needs will vary greatly depending on context, but some general guidance can be given.

- Consider one member of support staff for every 30 participants receiving a skills certificate. This role involves administering online tests, answering questions from job-seekers during test-taking, and packaging all printed materials.
- At least one manager, or supervisor, for every five support staffers is recommended. The manager oversees support staff, ensures programme quality is met, and acts as a liaison between higher level management and employees who directly interact with job-seekers.
- A useful addition to the team may be someone who can handle data issues and certificate generation – like a junior technical manager. They could then oversee daily certificate generation, troubleshoot any technical issues that arise, and work directly with support and management staff to ensure certificates are produced on time. Additional technical staff needed will depend on the scale of the programme and technical capabilities of implementers.
- Ideally, each job-seeker would receive a one-hour counselling session taking them through their results and how to use their report. This could either be done by a trained staff member or psychologist.
- If a follow-up is planned to ask participants questions after the programme for monitoring and evaluation purposes, consider the ratio of call centre agents to participants needed as this may vary widely depending on the scale of the programme and timeliness.
- It is worth accounting for a percentage of oversight needed from shared services, such as technology director, operations director, and administrative officers. This should include individuals who are familiar or accredited with skills testing and local regulations.

[8] *The Carranza, Garlick, Orkin, and Rankin (2020) study in South Africa required that test administration and reporting of test results were completed by psychologists based on legal requirements for administration of psychometric assessments in that setting.*

Part 3

Step 3
Hold consultations with local employers

Gauging the interest and needs of local employers will give an idea of whether the programme will be effective. For example, if local employers are not interested in the skills certificate as a recruitment tool, then the intervention is less likely to be useful for job-seekers in the area. By familiarising local employers with the programme, and reassuring them of the rigour with which it has been developed, the likelihood of a positive response increases. Involving them in the development process and tailoring content to their needs can be a good way of engaging them.

Advice to implementers: Before you implement the skills certificate programme, conduct interviews with local employers. During consultations, consider discussing what skills are most important to them and ask for feedback on potential design options for certificates.

Implementers should consider whether computer literacy could be a barrier to firms and be asked during discussions. Firms with low computer literacy rates will probably need printed reports versus digital-only. Questions to ask employer representatives during consultations about tech include:

Questions
Are your job applications available online?
Do you prefer printed or digital certificates in a job application?
Are your job applications hosted online or on paper?
Do your HR staff feel comfortable downloading digital attachments?

Discuss with firms what skills they value when assessing job candidates, including skills that are difficult to observe during recruitment. Questions to ask employer representatives during consultations about skills tests include:

Questions
What are you looking for in candidates?[9]
If you could observe one skill prior to hiring, what would you choose?
Would you trust a certificate that reports on assessments which measure this skill?

Show employers a few different certificate designs. Hold a discussion of what is likely to work best. Firms may also have preferences as to how they are presented information, e.g. graphically, verbally, or in numbers. Questions to ask employer representatives about certificate design include:

Questions
Which design format do you like best and why?
What design format is easiest to read?
What language(s) should certificate design be translated into?
Would you prefer to see absolute scores (e.g. based on individual performance) or to see how a participant performed relative to peers who also completed the skills assessment?

[9] *This question allows implementers to assess the current demand of skills.*

Step 4
Decide what skills to test

This step should build on local employers' preferences regarding valuable skills (e.g. reading comprehension, communication). See Appendix H for details on how researchers developed tests and additional resources to find accredited skills tests to use.

Advice to implementers: When deciding what skills to test, consider the skills that local employers want and that local job-seekers may want to demonstrate. Details on how researchers developed tests, as well as resources on how to find accredited tests to use, are provided in Appendix H.

The following questions may help understand the local context ensuring the skills tests are of value to both parties.

Questions	How to gather information
What skills do firms want?	Interviews and focus groups
What assessments do firms trust?	Interviews and focus groups
What skills can firms not observe well?	Interviews and focus groups
What skills can be measured reliably, cheaply and at scale?	Literature review and commercial solutions
What skills do job-seekers want to signal?	Focus groups
What skills are correlated with workplace success in any survey or employer data (if available)?	Publicly available data and prior research

Step 5
Design an easy-to-read certificate

It is important to design a certificate that is easy to interpret both for job-seekers and for employers. The certificates should include the job-seekers' name and assessment results. They should describe the type of assessments and be appropriately branded. How you generate the certificate partly depends on the resources available to you. A how-to guide based on the process followed by the Carranza, Garlick, Orkin, and Rankin (2020) team has been included in Appendix E. A guide for benchmarking candidates scores relative to others taking the same test is included in Appendix G. If you have any questions or need support to set up the certificate report generation process please contact mbrg@bsg.ox.ac.uk with the subject line "skills certificate implementation help".

Advice to implementers: Refine your design based on feedback from conversations with local employers. It may then be useful to follow up with a few local firms to confirm that the final design is readable, easy to interpret, and credible. It is worth planning for a few rounds of revisions before choosing a final design.

The following criteria matter when deciding on a skills certificate design.

Questions	How to gather information
Can employers interpret test results easily?	Interviews and focus groups
What language(s) should the certificate be in?	Interviews and focus groups
What are "visual cues"? (e.g. colours, lines) needed in certificates?	Interviews and focus groups
Are certificates the right length?	Interviews and focus groups
Should more information be provided to employers in skills certificates?	Interviews and focus groups

Part 3

Design process example: One implementing partner's experience

When considering a scale-up of the certificate programme in Rwanda, Harambee Youth Employment Accelerator held focus groups with both Rwandan employers and job-seekers to gauge whether they saw value in the certificate, which certificate they liked the most and why, and any other feedback they had on the layout or information provided. Three versions of the certificate were mocked up ahead of time (titled A, B, C). The certificates were similar to the three versions initially tested in the Carranza, Garlick, Orkin, and Rankin (2020) study. The main difference between mock-ups were in how skills assessment results were visualised on the page.

Feedback from the focus groups was then incorporated into design decisions.

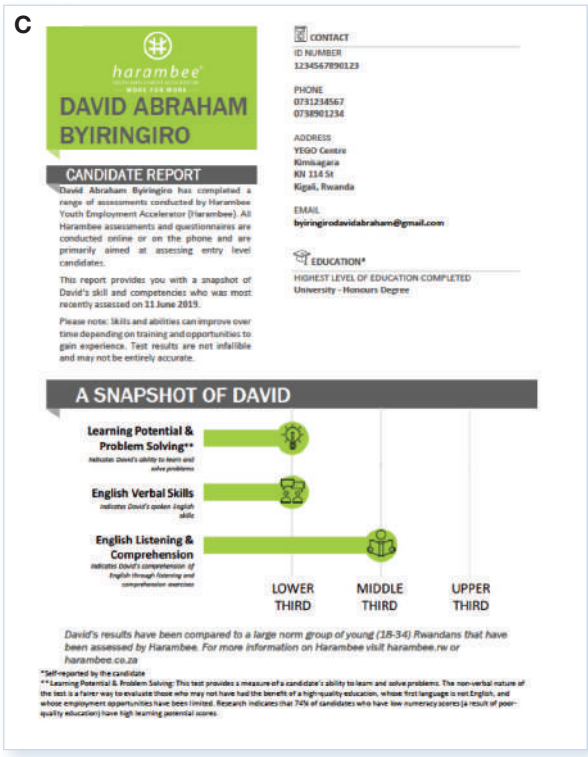
A

Certificate A visualises terciles in black text on the right side of the report.

B

Certificate B visualises terciles slighly less prominently in white text on the right side of the report.

C



Certificate C visualises terciles at the bottom of the report and larger than in Certificate A and B.

Step 6
Localise the train-the-trainer module

It is important to dedicate space in the programme to go over certificate information to ensure job-seekers feel confident using certificates. In Carranza, Garlick, Orkin, and Rankin (2020), candidates receive a briefing from a psychologist about how to search for jobs, what the assessments meant, how to interpret their ranking relative to others, and additional guidance on how to share this certificate with employers.

Advice to implementers: If resources prohibit the use of a psychologist, and legal requirements in the country allow, someone else can be used instead. A train-the-trainer template for this briefing is included at the end of this handbook. This step should be completed two to three weeks before launch. Additional advice includes the following:

- Content for all trainings should be drafted by a mix of support staff and managers. Technical trainings for skills certificate auto-generation should be performed by those in supervisor technology positions and given to more junior tech staff. See Appendix F for a train-the-trainer module for how to train staff on giving a skills certificate "briefing" at the end of the day. See Appendix E for materials to train junior tech managers on how to run codes needed for certificates to be customised and printed.
- Hosting trainings throughout the programme duration should be considered to resolve issues that may arise during the course of the programme.

Step 7
Target and attract participants

This programme was developed to be targeted at young job-seekers actively searching for job opportunities, as young people are new to the workforce and therefore may have less job experience to signal skills. Specifically, this programme was tested with individuals aged 18-29 who graduated from high school, are from low-income backgrounds, are currently unemployed, have limited formal sector work experience, and have actively searched for work in the past six months.

Advice to implementers: When identifying a target audience, consider job-seekers who may either have limited information about their skills, or have challenges communicating their skills to potential employers. While the Carranza, Garlick, Orkin, and Rankin (2020) study in South Africa focused on young job-seekers in an urban setting, skills-signalling interventions may be useful in other settings e.g. for recent migrants, refugees, women. There may be a local organisation who could provide further information on local job-seekers' and employers' needs. Additional advice includes the following:

- Implementers may want to think about what programme operations and marketing materials will be needed to have a steady in-flow of programme participants. For example, community outreach may be needed to attract participants or intake forms may need to be created to track walk-ins. Incorporating costs associated with targeting into the final budget ahead of implementation is recommended.
- Considering the barriers that could prevent candidates participating (e.g. childcare and/or travel costs), and whether the budget would allow some form of compensation, may help improve attendance.

Part 3

Step 8
Set up data systems and tech

At the most basic level, two systems are needed in order to deliver a certificate programme:

- Implementers will need to generate data on all programme participants who have taken tests.
- Implementers will need to print each participant a personalised certificate.

Advice to implementers: How implementers decide to set up systems will depend greatly on the size of the programme and existing technical infrastructure within an organisation or agency. Some general guidelines to follow:

- A secure database (e.g. pre-packaged or built) will be needed to track Personally Identifiable Information (PII) data on participants (e.g. names). Databases should comply with the country's data regulations and legal requirements for housing such information.
- Technical software will be needed to generate certificates using a mail merge approach, or a process by which mailings are automated.
- Appropriate staff members will need to be notified on their access level for data and host staff training(s) for any new technical system being implemented.
- Please note: The level of sophistication for data systems needed can vary widely depending on local context. For example, rather than running an automated approach to print certificates, a possible option could be filling in scores by hand.

Step 9
Deliver the intervention

There are a number of steps involved in the execution of the assessment day. They include:

- Administering tests via computers;
- Generating certificates and printing;
- Packaging and handing out printed certificates;
- Hosting training sessions with job-seekers on how to interpret certificates and use certificates during job search; and
- Emailing digital copies of certificates.

Advice to implementers: Researchers strongly advocate that policymakers mimic this implementation as closely as possible when considering replication or scale. When deviations to implementation design occur, plan to A/B test when possible to minimise any jeopardy to achieve the desired impact (e.g. moving from printed certificates to digital-only).[10]

Checklist

Use this checklist to keep track of activities needed both in planning and implementation stages.
This checklist is in the order you need to do each task.

Activity	Completed	
	Yes	No
Draft budget for planned programme		
Decide on programmatic design based on local context		
Draft staffing plan on who is needed to support the programme. This includes making a decision about the recruitment of trained psychologists for programme		
Draft list of potential skills to test and corresponding tests		
Engage with local employers to see if they can participate in a focus group and/or consultative interviews		
Prep and host focus groups for interviews with firms: • draft key questions to ask employers about design of certificate and skills they value • identify a local facility to host consultation meetings for the event or set up technology to host virtual interviews • recruit facilitators for consultation meetings • design mock-up of two to three versions of the certificate for feedback		
Incorporate firm feedback into final certificate design and into decision on which skills to test		
Complete the train-the-trainer training (provided in this handbook) for implementation staff on how to brief job-seekers on certificates		
Review infrastructure available (e.g. internet access) and make adaptations to suit. Decide on software used to automate reports and what template to use		

[10] *A/B testing is a type of controlled experiment with variants randomised into two groups: group A and group B. Each group is identical except for the variation(s) being tested as a way to compare performance. The performance of group A is compared against the performance of group B in order to better understand the effects of the variation being tested. See Appendix I for more details.*

Part 3

Step 10
Monitor and evaluate

A rigorous data collection, monitoring, and evaluation plan should be put in place to ensure compliance and track impact. This includes a comprehensive list of questions to ask participants.

When devising a monitoring and evaluation plan, it is important for implementers to define success and decide how they will determine whether certain job-seekers' outcomes are caused by the programme. The Carranza, Garlick, Orkin, and Rankin (2020) study conducted a full randomised controlled trial to establish the causal effect of the intervention. This may not be feasible in all situations.

For more information on developing a monitoring and evaluation plan, including collecting primary data and developing questions, readers are encouraged to seek out resources available from JPAL. See Appendix I for more details on monitoring and evaluation.

Advice to implementers: Implementers should create a list of metrics and a plan to track metrics. Two types of monitoring should occur:

- Monitoring participants: questions asked to those who recently completed the programme to understand the programme's success.
- Monitoring the programme: data collected regarding the quality of how the programme is implemented.

Monitoring participants

Monitoring of participants will provide information on the outcomes of recipients of the programme, such as earnings, or job placement. Appendix I covers potentially useful information to collect from recipients:

- Specific questions about the participant (e.g. age, gender, employment status)
- Specific questions about the use of skills certificates (e.g. did the participant use the report in their job applications)
- Questions regarding job-seekers' beliefs
- Specific questions to job-seekers regarding earnings and wages, hours worked, payment timing, transportation, job search (networks, adverts, history, hours, rejected offers)

Check the mbrg.bsg.ox.ac.uk website for shared instruments used during the programme.

Monitoring programme delivery

Monitoring the programme and deciding what metrics to track. This should include:

- Planning the frequency of metrics monitoring (e.g. does data need to be checked daily, weekly, monthly, or bi-annually)
- Deciding what operational metrics should be used to assess programme performance
- Setting up systems that need to be in place for monitoring (e.g. data dashboards, periodic calls)

Some initial questions implementers should include in a follow-up programme to help monitor implementation:

- Is the certificate easy to interpret by both job-seekers and firms?
- Are the skills highlighted in the certificate valued by firms?
- Are certain skills valued higher than other skills by firms?
- Is important information highlighted prominently?
- Are programme participants and potential employers able to navigate computer technology easily?

Part 4 Conclusion

This handbook outlines a labour market intervention that aims to improve employment rates and earnings for programme participants and help local employers make accurate hiring decisions.

The aim of this handbook was to provide a practical and flexible framework that could be adapted to different contexts. It has tried to do this by drawing on lessons from the Carranza, Garlick, Orkin, and Rankin (2020) study, experience of the implementing partner Harambee Youth Employment Accelerator, a broad evidence base, and by offering advice on how to tailor the intervention to local contexts.

As a reminder, you should now be familiar with:

- The background to the original study.
- The evidence base for skills-signalling interventions.
- What skills testing is.

This should help you understand if the intervention is right for your local context, and help you gain buy-in from stakeholders and funders should you wish to progress.

You should also understand:

- What a skills certificate is, and how to develop one.
- How to deliver a skills certificate programme.
- How to adapt the programme to your local context.

As such, you should now have the information and confidence to plan, deliver, monitor and evaluate your programme.

As a reminder, the appendix provides tools to support you with this endeavour including a basic budgeting template, staffing structure, train-the-trainer materials, and guidance on how to provide information on job-seekers' performance on skills assessments relative to others taking the same assessments.

We wish you all the best with your labour market interventions and thank you for taking the time to read this handbook and engaging with the content.

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Part 5 Appendix

This section contains useful templates and reference documents to support the implementation of a skills certificate programme. It is broken up into the following sections:

- Appendix A: Theory framebook: mapping impact
- Appendix B: Basic budgeting template
- Appendix C: Costing Analysis: Work-seeker skill signalling report
- Appendix D: Staffing structure and job descriptions
- Appendix E: How to generate a skills certificate using mail merge
- Appendix F: Train-the-trainer for briefing participants on how to interpret certificates
- Appendix G: How to set terciles
- Appendix H: Test development and validation
- Appendix I: Monitoring and evaluation

Part 5

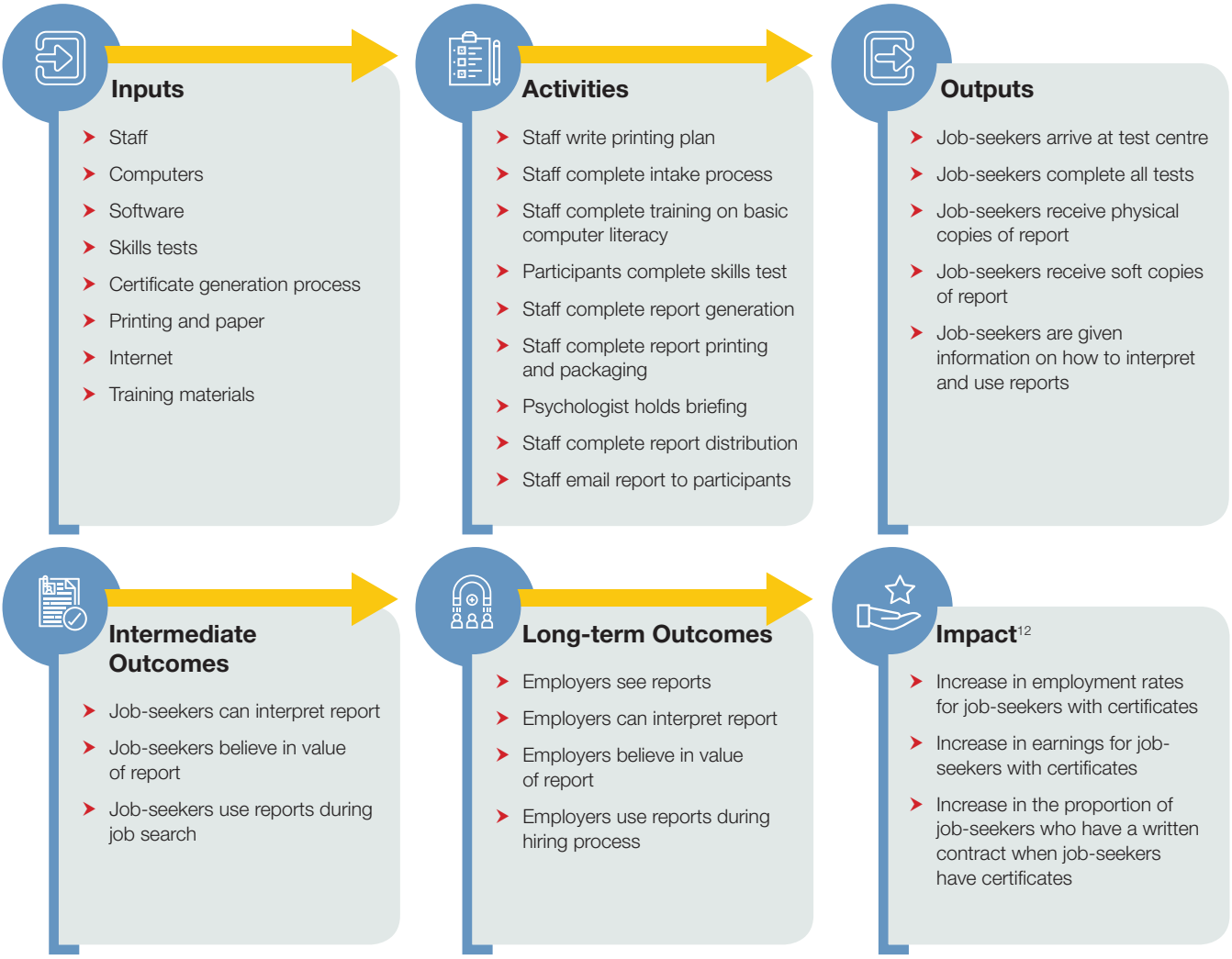
Appendix A - Theory framebook: mapping impact

When preparing to deliver your intervention, it may be useful to first develop a plan to explore how different inputs might affect the impact of your programme. Defining a map to impact for this programme will help identify key components to the programme's success and act as a helpful guide when deciding what activities to monitor. A few key questions to ask yourself are below.

- **Inputs:** What ingredients do you need for the policy programme? This category should include all materials, equipment, and labour needed for the programme.
- **Activities:** What actions should be taken during implementation of the programme? This category should include the series of actions taken during the programme each day.
- **Outputs:** What are the deliverables of the programme? This category should be quantifiable and within the control of programme implementers.
- **Outcomes:** What are the overall goals of the programme? This category should include results needed for the programme's success intermediate and long-term.
- **Impact:** What are the long-term consequences of the programme? This category should include broader changes within society as a result of measured outcomes.

Keeping this framework in mind will help keep the purpose of the intervention when you are planning what needs to be in place for a successful skills certificate programme.

The below graphic is an example of mapping inputs to impact for a skills certificate programme.[11]



[11] *For further details on a guide to building your own theory of change, visit Innovations for Poverty Action (IPA) to find a theory of change toolkit.*

[12] *These are the impacts of the intervention in the Carranza, Garlick, Orkin, and Rankin (2020) study, but impacts may vary depending on the context.*

Appendix B - Basic budgeting template

The following expense types and notes could be used as a guide when drafting a budget for the skills certificate programme.

Expense type	Details	Notes on how to calculate in budget
Staff	Staff salaries, fringe benefits	• In cases where only a portion of existing staff time will be used for a programme, a percentage of time will need to be allocated to certain staff (e.g. operations director, technology director)
Allowances	Participants' travel reimbursements to office (roundtrip)	• Calculate by benchmarking to local transport costs
Equipment	Computers or tablets, printer, smartphones	• If administering tests on a computer, assume enough laptop computers to allow for sufficient hours of testing per day per participant • Smartphones will be needed for call centre staff or staff conducting follow-up monitoring
Telecommunications	Internet, phone	• Data needs for participants to take online tests • Phone call costs will need to be covered for staff, particularly if follow-up monitoring is through calls
Software	Systems software	• Needs and costs will vary substantially depending on in-house technical capabilities and the organisation's set-up
Materials	Paper, envelopes	• Paper will be required for printing hard copies of the skills certificate for each participant. The number of copies will depend on the budget available • It is recommended that each participant receives at least one envelope to store hard copies of their certificate
Facilities	Office, utilities	• Facility and utility spend are likely to be a sunk cost if the programme is included as an add-on to an existing social protection operation
Travel	Airfare, taxis, lodging, per diem	
Consumables	Food, beverages	• Benchmark to standard rates of consumables per staff member for organisation
Training	Venue	• Plan for two trainings ahead of implementation • Plan for a refresh training with all staff every three months to discuss outstanding operational issues
Indirects	Shared costs	• All other indirect costs associated with programme implementation

Part 5

Appendix C - Costing Analysis: Work-seeker skill signalling report

This costing analysis provides clarity around the investment involved and highlights the cost effectiveness of the intervention: the research study had earnings gain 2.3 times the average variable cost needed to deliver the skill certificate programme.

Background

Between 2016 and 2017,[13] Carranza, Garlick, Orkin and Rankin (2020) tested whether providing printed certificates that detailed young work-seekers' skills proficiency[14] had an effect on employment and earnings by reducing the information frictions that affect both sides of the labour market in a developing country setting.

Researchers partnered with **Harambee Youth Employment Accelerator**, a social enterprise in South Africa focused on reducing youth unemployment through work-readiness programmes and by connecting employers with first-time work-seekers.

At the time, part of Harambee's operating model involved young work-seekers participating in an in-person job-readiness programme, which included taking a number of skill proficiency tests. On top of this existing programme, researchers provided over 2,000 work-seekers with printed certificates[15] to hand to firms when applying to jobs.[16]

The study results showed that the average earnings gain in the first three months after participants were given printed certificates was $130 per participant (PPP). A cost analysis shows a per participant cost of $23 (PPP) to provide printed certificates and $57 (PPP) to both administer test assessments and produce printed certificates that signal test results to potential employers.[17]

With average earnings gain 5.6 times the average variable cost of administering printed certificates to study participants, and 2.3 times the average variable cost, when including Harambee's test assessments costs and printed certificate costs, the intervention tested in this study has been found to be cost effective.

About Our Implementation Partner

At the time of the study, Harambee Youth Employment Accelerator served roughly 100,000 unemployed youth annually.

Currently, Harambee has supported a network of over 700,000 work-seekers and partner with 500 businesses for job placement.

Harambee targets a population where information frictions may be important: unemployed or underemployed youths from low-income backgrounds with limited post-secondary education, formal sector work experience, and access to referral networks.

[13] *Carranza, E., R. Garlick, K. Orkin, and N. Rankin (2020) "Job Search and Hiring with Two-Sided Limited Information about Workseekers' Skills". Policy Research Working Paper 9345; Impact Evaluation Series Washington, DC: World Bank Group.*

[14] *In the Carranza, Garlick, Orkin and Rankin (2020) study, printed certificates were defined as an easily read document that communicated a study participant's proficiency across several skills. In this study, the skill tests and scales used included tests on problem-solving, grit, planning, numeracy, and literacy. For further details on the Carranza, Garlick, Orkin and Rankin (2020) study, visit the Mind & Behaviour Research Group website: https://rb.gy/qonr6v.*

[15] *In this context, certificates are defined as easily read document that communicated a study participant's proficiency in several skills.*

[16] *For a step-by-step guide on how to implement a programme like the one tested in the Carranza, Garlick, Orkin and Rankin (2020) study, visit the Mind & Behaviour Research Group website: https://rb.gy/8k1gs0.*

[17] *All costs are reported in 2016/7 PPP USD terms and are averaged over the 2,247 candidates who received the intervention.*

Key takeaways on cost analysis

- **This intervention has a lower incremental cost per unit compared to the incremental effect.** The average cost per participant who received reports was approximately $57 (PPP), when including costs associated with test assessments and costs attributed to printed certificates. Costs in this calculation can be broken down into two main activities needed for the tested intervention: $34 (PPP) in costs to administer skill proficiency tests and $23 (PPP) costs to generate, print, and administer 20 printed certificates given to each study participant. The list of costs for certificates include all supplies, software license fees, website hosting fees, programme support staff to prepare the reports and conduct briefings, and user costs needed for the running of the intervention. The list of costs to administer skill tests include existing infrastructure costs like facility rental, computer rental, data and internet costs, and the time needed by existing NGO employees to administer tests. This cost excludes three months of pilot set up costs[18] before implementation, which are viewed as one-time costs. ●

- **Costs related to infrastructure were the biggest drivers of cost.** Facility and computer rental costs were the largest costs making up roughly 40% of total costs of tested intervention. Facility and computer rental costs were the largest line items for the assessment cost, jointly accounting for $23. Given this, net benefits will vary depending on the market where implementation will occur. ●

- **Overall costs included a $10 (PPP) transport subsidy to each participant to cover the cost of travel to the Harambee office to downtown Johannesburg.** How far a participant needs to travel can affect net benefits of the intervention and should be factored in when considering if and how to implement a work-seeker signalling programme. For this cost calculation, user costs were benchmarked to Harambee's round-trip transportation subsidy per work-seeker[19] and then independently compared to Johannesburg's Metrobus fares to ensure a reasonable rate was used.[20] Where a study participant lives in relation to Harambee's Johannesburg office could change a participant's earnings gain by a factor of up to 2.8 times variable costs.

- **Important exogenous factors that could impact how we can generalise cost findings include geography in places of implementation.** The pilot programme targeted young unemployed people in the city of Johannesburg. This cost analysis does not reflect programme implementation costs outside of dense, urban areas. This cost analysis also assumes a large pool of unemployed work-seekers looking for work. For this reason, it is difficult to generalize net benefits outside of this context where a number of fixed and variable inputs may change (e.g., costs of targeting).

[18] *Set-up phase included test development costs, costs associated with focus groups, and staff and donated venue time associated with training.*

[19] *This is about what a round-trip fare would cost from Zone 8 (one of the farthest bus zones) to the Central Business District where Harambee's office is located.*

[20] *For more on fare structure, see link here: https://www.joburg.org.za/departments_/Pages/Link%20pages/MetroBus/Bus-Routes,-Fares-and-.aspx and http://mbus.co.za/images/July_2018_Fare_Structure.pdf.*

Part 5 Appendix C

An example of a costing breakdown in 2019 USD per participant (PPP) - Skills Certification Programme.

Costing full breakdown - Skills Certification Programme[21]			
This example covers 2,247 work-seekers over a 7 month period using one venue			
Expense type	**Details**	**Cost per participant (2016/17 USD)**	
		Nominal	PPP
Costs incurred in administering skill proficiency tests		**$ 14.42**	**$ 34.03**
Occupancy	Testing site occupancy fees	$ 5.48	$ 2.92
Equipment	Computer rental fees	$ 4.56	$ 10.77
User	Round-trip transport to testing site	$ 4.38	$ 10.34
Costs to generate, print, and administer 20 printed certificates		**$ 9.46**	**$ 22.33**
Supplies	Printing fees, photocopy fees, envelope fees	$ 1.74	$ 4.12
Software	Software costs; firm-facing website maintenance	$ 0.44	$ 1.04
Telecoms	Internet data costs	$ 3.65	$ 8.61
Staff	Direct costs of administering the intervention incurred	$ 3.63	$ 8.56
Indirect costs			
Country Management	Senior staff and staff within shared services	$ 0.38	$ 0.90
Average total PPP unit cost per participant (2,247)			**$ 57.26**

Costing approach and methodology

Cost collection was done by examining programme documents as well as through a series of interviews over a one-year period both with research partner, Harambee Youth Accelerator, and research implementation partner, J-PAL South Africa, so as to understand all categories of cost incurred. In-person programme observations of Harambee day-long assessment programme were also conducted to uncover any potential cost unknowns.

While McEwan (2012) argues one way to calculate full intervention costs would be to estimate the value of the contributed services by using secondary data (e.g., such as a household or market wage survey), in this costing we opted to reflect costs provided by our local research and implementing partners. While the trade-off of this decision could be the introduction of cost bias (e.g. discounted costs given to NGOs by local implementing partners), we believe this method was more relevant for real-world decisions in-country, specifically around whether our partner NGO should scale this intervention.

Details on costs calculations

NGO and implementing partner costs. For this model, we followed JPAL's cost guidelines related to "overlapping" ingredient uses both for fixed and variable costs to calculate costs at the margin (Dhaliwal et al. 2012; J-PAL Costing Guidelines, 2020). In this method, a proportion was applied to certain resources (e.g., computer rental fees and data usage) based on hours needed for trial implementation. For facility use, a proportional cost of use of office space was applied. For direct labour costs both for Harambee and JPAL staff, daily salaried costs were multiplied by percentage of time staffers were in use for intervention implementation. Fringe benefits were included in all salary costs to accurately reflect the true cost of employees.

[21] *Carranza, Garlick, Orkin and Rankin (2020)*

Shadow prices. Shadow prices were not used during this cost calculation as we believe all costs incurred were an accurate reflection of the cost and were readily available in most markets. There was also no belief that intervention would affect or distort the market enough to raise prices (Levin and McEwan, 2001).

Inflation and GDP deflator. Inflation calculations were conducted using Dhaliwal et al. (2012) proposed method, a methodology also cited in Evans & Popova (2016): deflating cost to their base year value, converting to USD using year-specific FX rates, and using USD inflation rates to inflate to year of analysis. Cost values were placed in a common USD currency using World Bank Gross Domestic Product (GDP) deflators. For this costing, we used average GDP deflators rather than consumer price index (CPI) for measurement, as argued in Dhaliwal et al. (2012), because deflators cover a wider range of goods and services used in most poverty reduction programs.

Limitations of input costs

Cost gathering was conducted after the pilot and not as implementation occurred, which may have limited the accuracy of cost calculations. When possible, actuals and cost expenditures were used to calculate spend. However, often primary document review was not possible, or expenditures did not clearly communicate incremental costs associated with the pilot programme. For this reason, costs for personnel were attained through meetings with budget managers at JPAL and Harambee to understand payroll costs. Interviews were then held with key staff to obtain a percentage rate of incremental time allocated to programme implementation.

We recognise this method can introduce underestimates due to recall error bias on costs of expenditures and limit the reliability of net benefit estimates, as Evans and Popova (2016) caution against. When possible, scenario analysis was conducted to stress test assumption range. Evans and Popova (2016) argue “pilot bias” is a concern when conducting cost analysis, which can impact benefit estimates in both directions. While this cost analysis was for a pilot-at-scale (with over 2,000 participants), those considering implementation of the project were aware of potential biases that occurred during the data collection process.

A note on costs not included

Fixed costs. The average variable costs in this cost analysis exclude fixed costs such as licenses for the assessment tools, market research into firm preferences over assessments, and senior management fees. For these costs we either cannot calculate a meaningful average fixed cost or cannot reliably separate Harambee’s total fixed costs for developing the assessment program from its costs of other activities.

Targeting costs. This cost analysis assumes an existing infrastructure to supply a steady pipeline in finding young work-seekers. Without these, additional variable costs would have to be included to account for increased targeting efforts.

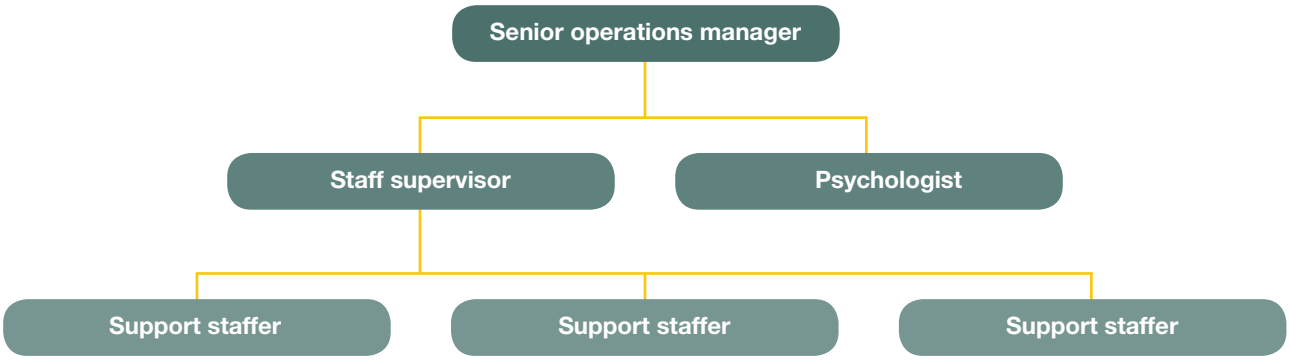
Country management costs. This cost analysis does not include costs associated with senior country management for the NGO Harambee. As mentioned above, we cannot reliably separate Harambee’s management costs for developing the assessment program from its costs of other activities. As researchers have no reason to believe the intervention would need considerably higher overhead rates, any removal of these costs would also be in keeping with the methodology proposed by Dhaliwal et al. (2012).

Part 5

Appendix D - Staffing structure and job descriptions

Organisational Chart

Note this is an example of one possible staffing structure.



Support staff: the people who will interact directly with the programme participants. Staff support team members monitor computer labs (if applicable), answer questions participants have about tests, package printed certificates and hand them out to participants at the end of the day.

Staff supervisor: the person overseeing support staff. A staff supervisor will typically float between computer lab rooms (if applicable) or meet with support staff at the beginning and end of each day to resolve issues or act as a bridge between upper managers (e.g. operations or tech) and support staff. Each staff supervisor can typically oversee four to eight staff support team members, though it will vary from organisation/agency to organisation/agency.

Senior operations manager: the person overseeing all staff members helping administer the skills certificate programme. Typically, an operations director will fill this role within an existing team.

Psychologist: the person briefing all participants on how to interpret the skills certificate and how to use it when searching for jobs. Briefings should typically happen once a day for one hour. For this reason, psychologists will be needed for approximately 10% of any given workday and contracted psychologists (vs. salaried staff) should be seriously considered. Depending on local context and legal requirements, a licensed professional may or may not be needed to deliver this briefing.

Junior technology manager: the person in charge of running production of certificates based on assessment results each day and resolving any data issues that pop up with participants (e.g. lost certificates, issues with skills tests). This is likely to take anything from half- to full-time employees to perform job functions.

Technology director: the person overseeing the system set-up and/or technical build required for automatically generating certificates so that each programme participant receives a personalised report. This person also oversees the translation of the desired design of the skills certificate into the automated template. Only a percentage of time is needed monthly from the technology director to resolve any large issues with automated certificates, with a larger percentage of time needed in the first three months for systems set-up.

Appendix E – How to generate a skills certificate using mail merge

The generation of skills certificates will require a level of technical proficiency. Ideally, a technical director should be responsible for overseeing the technical set-up of certificate generation, though the responsible party will probably vary depending on the organisational structure of those implementing the programme. Testing of software and scripts should happen a few weeks prior to programme implementation in order to uncover potential errors.

Software needed for certificates can vary as there are a number of ways to generate skills certificates. Researchers in the Carranza, Garlick, Orkin, and Rankin (2020) study used a mail merge approach with a skills certificate template. Stata scripts were set up to do the following:

- Produce a dataset that contains all relevant candidate information, including any identity numbers and their test scores.
- For each candidate, calculate which tercile of the distribution of test scores the candidate was in for each assessment (see Appendix G), generate a graph, and save that graph as an image file with a unique ID.
- For each candidate, fill out a template – like mail merge – and "print to pdf", saving each as a pdf with a unique identifier.

From Stata, researchers used MarkDoc and TeX for generating dynamic work-seeker reports.[22] An example of a file used can be found here. To replicate the above approach, you need to have installed the following:

- On Stata: MarkDoc, Weaver, Statax, Pandoc, wkhtmltopdf (install in this order)
- On computer: MiKTeX. Optional install: Texmaker (always install it after installing MiKTeX)

When installing, always make sure you have connection to the internet. MarkDoc is otherwise slower to run. When installing, be sure to pause Dropbox syncing.

Alternative approaches

While this was in Stata during pilot implementation, this process can be reproduced more easily and efficiently with R and R-Markdown, especially if automating emailed reports. For more on other approaches, see creating an R Markdown template or R and R Markdown links.

It is also possible to implement the approach in a less technically demanding way. The process involves:

a. a template report with variable fields (i.e. "name", "surname", "score 1", "score 2", etc.),

b. a spreadsheet, or dataset, or database that contains information on these fields (i.e. "xxx", "xxx", "5", "4", etc),

c. a process for filling these fields for all candidates in the spreadsheet, or dataset, or database. In principle, this can be done with mail merge in Microsoft Word and Excel.

As mentioned in Part 3, the level of sophistication for data systems needed can vary widely depending on local context. For example, rather than running an automated approach to print certificates, a possible option could be filling in scores by hand.

Need more help?

If you have questions or require further technical assistance on skills certificate generation, please email mbrg@bsg.ox.ac.uk with "skills certificate programme" in the subject line.

[22] *Date created was March 2016. Last update was March 2017.*

Part 5

Appendix F – Train-the-trainer for briefing participants on how to interpret certificates

The below session was developed for the Carranza, Garlick, Orkin, and Rankin (2020) study. It was developed for psychologists who delivered the training to study participants.

Goal of the session

The goal of this session is for psychologists and staff to:

1. Know how to interpret assessment skills certificates themselves.
2. Gain familiarity with the materials used in training sessions.
3. Know how to interpret certificates to participants.

What you need:

- Copy of training script
- Powerpoint
- Projector
- Projector screen
- Laptop with connection cable

Adaptation for low-tech settings: Materials and equipment will probably need adaptation if internet or technical equipment are a constraint. Implementers should feel free to swap PowerPoint presentations for posters and pictures. All training sessions must have a copy (printed or digital) of the skills certificate, as well as the necessary information on the skills being tested.

Outline of training session

This training session will be approximately 60 minutes long. See below for agenda:

- **5 MINUTES:** Start with getting a sense of knowledge in the room. Ask your audience, "What do you know about our skills assessments?" "What do you want to learn during the course of this session?"
- **10 MINUTES:** Give an overview of skills-signalling certificates. Include the following:
  - The number of assessments administered.
  - Assessments are meant to help job-seekers understand their abilities.
  - It is important that candidates give certificates to firms if they feel that doing so will help their job search.
  - A research evaluation that showed candidates who used certificates were more likely to be employed and earned more on average.
  - The training the psychologists will administer will happen at the end of the day so candidates know how to read certificates. Distribution of certificates will happen at the end of training.
- **30 MINUTES:** Distribute printed scripts trainers will use during their sessions with programme participants. Turn on PowerPoint so you can follow along with the script. Read aloud and walk through the script with trainers. Allow for questions to be asked as you go. Make sure you follow along with the corresponding PowerPoint, so trainers know which section of the script goes with which slide.
- **15 MINUTES:** Have trainers pair off and role-play the script. Tell trainers each will present one slide to the person he or she is paired with. The person listening to the presentation should then provide feedback to the presenter at the end. Feedback can include:
  - Did the person stick to the script? Did he or she miss any key points?
  - How was the person's presentation style? Were they nervous? Confident?
  - Did the person understand the content of the presentation?
- **5 MINUTES:** Have the group come back together. Debrief the role-playing exercise. Wrap up on what you've learned during the training and next steps needed.

Appendix G – How to set terciles

Why we set terciles

Following focus groups and interviews with job-seekers and employers, the Carranza, Garlick, Orkin, and Rankin (2020) study team found that participants thought it was easier to interpret relative scores than absolute scores.

As such, candidates' test results were reported relative to 5,000 South Africans aged 18-34 years (the benchmark population) who had also completed the skills assessments. The scores of the benchmark population were then split into three groups, or terciles: those who scored most highly on a test were in the top tercile, followed by a middle tercile. Those who scored lowest on a particular test were in the bottom tercile. An individual candidate's score was evaluated relative to this benchmark group. By providing relative scores, the programme provides employers with context for an individual's test results.

Below is an example of the graphic used to display results for an individual's report. The x-axis indicates what assessment the score is for. The y-axis indicates the tercile and how a candidate performed relative to the benchmark population. Colours and labels were also used to aid comprehension.

Interpreting graphs and scores

In the example below, the first column shows the job-seeker's numeracy score. In this example, the numeracy score falls in the middle third. This means that relative to the benchmark population they performed better than the bottom third but worse than the top third. The second column shows the candidate's communication score. This candidate's score falls in the top third indicating that they performed better than at least two-thirds of the candidates in the benchmark group. The third column shows the candidate's concept formation score. The candidate scored in the lower third and performed at a lower level than at least two-thirds of the candidates in the benchmark group.

An alternative approach: learnings from Ethiopia

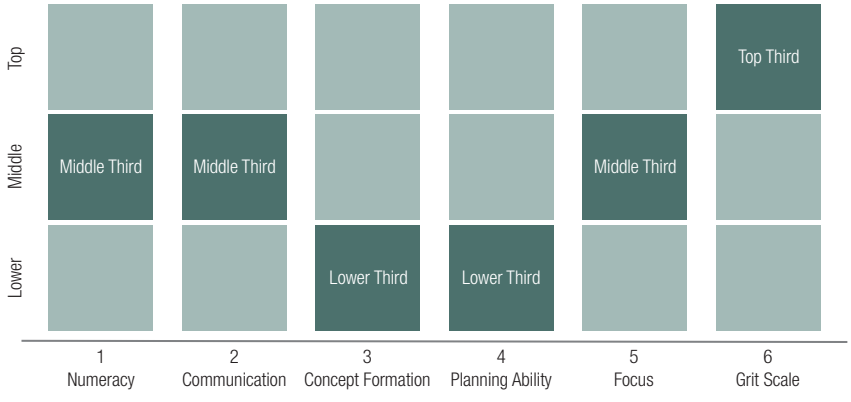
Grouping programme participants into terciles is one way to highlight a job-seeker's performance, but it is not the only way. For an alternative method, we can draw on the implementation approach taken by the Abebe et al. (2020) evaluation in Ethiopia, which studied the effects a job fair and certificate had on job-seekers.

In this study, certificates explained the nature of the tests taken and reported the relative test grades of the individual, and an aggregate measure of performance. But instead of reporting as terciles, the Ethiopia study used different bands to report performance: a band for the bottom 50% of the distribution and then separate bands for individuals in the upper deciles of the distribution: 50-60%, 60-70%, 70-80%, 80-90%, 90-100%.

Implementers should consider which method best suits their target audience and recognise certain trade-offs when making decisions about how to construct categories. Using fewer, larger categories (e.g. terciles) rather than more, smaller categories (e.g. deciles) means that assessments provide less information but lowers the risk that some participants will get certificates that make them look unappealing to employers.

Implementaters should carefully weigh these trade-offs during the design phase of the programme. Additionally, using focus groups or consultations with employers and job-seekers to discuss the approach can be a great way to ensure certificates are clear and valued.

Typical results graphic for an individual's report.



Part 5 Appendix G

Providing job-seekers' assessment scores relative to the scores of other similar job-seekers who took the assessments

The benchmarking process includes the following steps:

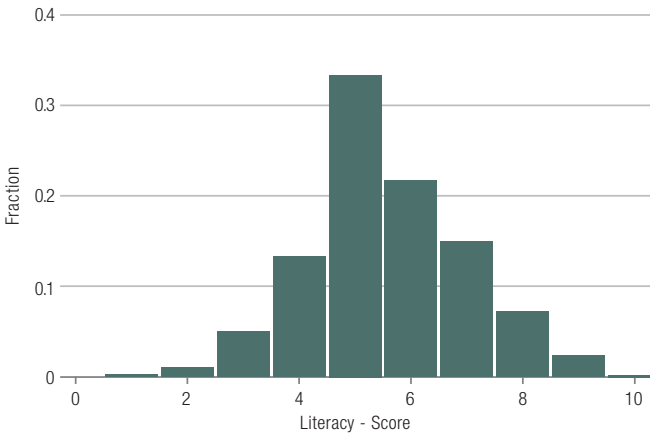
1. identifying your sample
2. gathering data
3. setting terciles and cut-offs
4. explaining terciles in reports
5. building systems to maintain quality

- **Identifying your sample:** In order to gather information to set effective benchmarks, you will need at least 300 job-seeker candidates. Candidates should have the age, gender, educational background, and employment status of a typical candidate. Anything smaller than 300 candidates risks getting an unrepresentative sample by chance.
- **Gathering data:** Candidates in the benchmark group should sit the tests you will be administering for all candidates. You could use the benchmark group as a test group to pilot your intervention. If you are unable to run a pilot (e.g. due to time constraints or resources), it may be possible to use pre-existing historical data to set benchmarks.[23]
- **Setting terciles and cut-offs:** After scoring all assessments, you now have your data ready. If you are splitting scores into terciles, aim to get the size of the group within each tercile as equally balanced as possible (i.e. as close to 33% of the total population as possible). After cut-off scores are set, you are now ready to group candidates into terciles.
- **Providing explanations in the report:** When designing reports, include a disclaimer that describes what the terciles are illustrating. You do not need to describe the process or methodology of benchmarking, but it is useful for candidates to know what their scores are being compared against. Here is the language used during the Carranza, Garlick, Orkin, and Rankin (2020) study: *"[Name]'s results have been compared to a large benchmark group of young (age 18-34) South Africans assessed by Harambee. All candidates have a matric certificate and are from socially disadvantaged backgrounds. The benchmark group is 5,000 for cognitive skills and 400 for soft skills."*
- **Maintaining quality assurance:** Given the importance of terciles, you should review the benchmark scores to ensure relative scoring is accurate. A good rule of thumb is to rerun a benchmark pilot every 12 months (roughly). Without any type of quality assurance system in place, the credibility of the report could be jeopardised.

How to set cut-offs

When setting terciles, a common problem is if the scores of your given sample size do not distribute equally (e.g. skewed distribution). In the example below, you can see that researchers faced this problem with candidates with a score of 6 on the Literacy assessment.

Example of skewed distribution of scores.

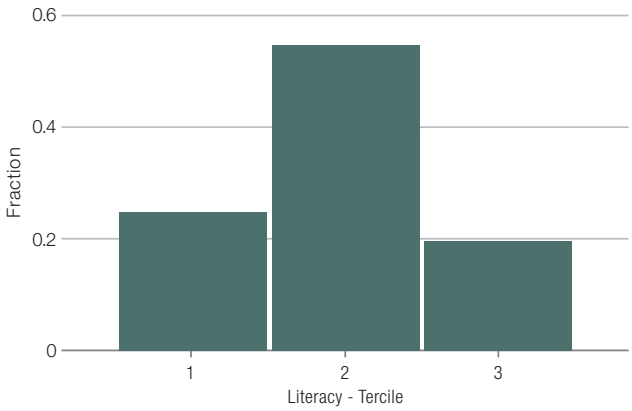


[23] *In this case, ensure your historical dataset is considered representative of the population you are targeting, with specific attention paid to changes to targeting (e.g. requirements for educational attainment, geographic requirements).*

Should individuals with a score of 6 be in the top tercile or middle tercile? Given an uneven distribution, arguments could be made for either setting the cut-off at 7 or 6. A cut-off score of 7 would rank candidates who scored 6 in the middle tercile (we sometimes call this *erring on the side of exclusion*), whereas a cut-off score of 6 would mean candidates with this score would be in the top tercile (we sometimes call this *erring on the side of inclusion*).

When implementing, you may need to manipulate score cut-offs in similar ways. You can see in the below figure 3, researchers set the cut-off at score 7.

Manipulation of scores to achieve a fairer outcome.



Did researchers make the right call on this cut-off? Debatable! When setting cut-offs, you should weigh what benefits a candidate as well as employers who will be using the reports with what jeopardises the “credibility” of the report.

Part 5

Appendix H – Test development and validation

Given the difficult and complicated history of psychometric testing, implementers are generally advised to administer "off-the-shelf" tests that are validated for their local context. This section aims to shed light on the validation approach researchers took in the Carranza, Garlick, Orkin, and Rankin (2020) study. Many complex issues will arise for implementers to consider in regards to test development and validation. Please note that this section is intended as a brief introduction on the topic of test validation and is not a comprehensive guide.

Process to develop measures

When developing new tests (also called measures), researchers psychometrically validated results for two reasons:

1. To ensure questions accurately reflected the concept tested.
2. To ensure they captured sufficient variation.

Broadly speaking, the process to develop measures and validate them is as follows:[24]

1. Look at the existing literature on what underlying concept the questions are meant to measure and whether they have been used in similar contexts before. The Science of Behaviour Change Research Network has a database of validated measures here from which researchers and organisations can draw.
2. Develop a questionnaire based on this review and run a small pilot (e.g. 150 individuals) from a representative population of those who will eventually be using the measures developed.
3. Apply statistical methods on results of the pilot that confirm the validity of questionnaires.
4. Make sure measures correlate with behaviour in the way it was predicted in the literature (predictive validity).
5. Ensure you are achieving a distribution with a sufficient spread of answers to the set of questions used.

Validating psychological measures with scales

One set of measures developed by researchers relied on a "scale" (e.g. "strongly agree" to "strongly disagree"). For these measures, statistical methods were used by researchers based on a small pilot of a representative sample population.

Researchers must check that the scale is consistent and reliable. To understand whether the questions in the questionnaire all reliably and consistently measure the intended skill set, further analysis must be done. There are two methods to do this:

- **Cronbach's alpha:** this measures whether respondents answer different questions that are supposed to measure the same content in a consistent manner. High values are an indication of the quality of the measurement instrument. Values above 0.7 are generally taken to be a sign of sufficient quality.
- **Concord statistic:** this measure compares measurements made at different points of time with the same instrument. A value of 1 means the measurements taken at different times are exactly the same. A value of 0 means there is no relationship between the measurements taken at different times. Values close to 1 are an indication of a higher quality measurement instrument.

Researchers used a sample size of around 200 young (age 18-34) South Africans for validity testing. For an example of how to validate scales and tasks for a specific country, see Esopo et al. (2018).

[24] *Please note that this list should be taken as a general guide and implementers should ensure they are complying with specific country legal frameworks.*

Validating skills measures with games

The planning ability assessment measured how candidates behave when faced with complex, multi-step problems. This assessment was from background literature and featured a so-called Hit15 game against a computer. Researchers ran an internal validation process focused primarily on getting to a normal distribution from answers. Adjustments were then made on certain questions to ensure the test wasn't "too easy" (e.g. every question was answered correctly) or "too hard" (e.g. most questions were incorrectly answered).

Given the nature of the test, researchers only administered games once to candidates during the measure testing phase. Testing the same candidate twice could skew results if candidates learn how to do the task better the second time.

Measures not validated during evaluation

Researchers in the Carranza, Garlick, Orkin, and Rankin (2020) study did not develop assessments in concept formation, numeracy, and literacy. These measures were validated when partner NGO Harambee first developed them. We encourage all organisations to work with experts when developing these types of measures.

Part 5

Appendix I - Monitoring and evaluation

It is critical to monitor the skills certificate programme to measure the labour market outcomes of participants. Depending on programme structure, monitoring can be performed by field officers, call centre agents, or programme supervisors. Data should be collected through programme implementation, including follow-up after a participant has finished with the programme.

By asking participants questions, implementers gain a greater understanding of programme performance.

Creating a plan for participant data

The frequency of participant data collection will depend on each individual programme and context. When devising a participant monitoring strategy, implementers should consider the following questions:

- How will data be shared and stored?
- What informed consent needs to be collected by each party to make data sharing possible?
- What government regulations should be complied with when sharing certain types of data?
- What are the security standards (e.g. encryption strength) that everyone needs to adhere to?
- What metrics will be used to benchmark success of the programme?

Monitoring participant data

The below monitoring questions were asked during the skills certificate programme for job-seekers during the Carranza, Garlick, Orkin, and Rankin (2020) study.

Example questions	Yes	No
Did you receive a work-seeker report from Harambee at the end of phase 2?		
Did you use the work-seeker report as part of a job application or in a job interview?		
How many applications did you submit with the report included?		
Think about those job applications where you included the report. How many did you get interviews with?		
Of these [number] job applications that you heard back from, how many job offers did you get?		
Do you have any reports left?		
Did you scan, copy, or print more copies of the report?		

Consider an impact evaluation

The Carranza, Garlick, Orkin, and Rankin (2020) paper reports on a randomised controlled trial conducted to evaluate the causal effect of the certificate programme. Participants were randomly assigned either to be assessed and receive a certificate or just to be assessed (the "control" group). Surveys were performed before and three months after distribution of certificates to track the labour market outcomes of candidates. The labour market outcomes of candidates with certificates could be compared to control group candidates and any differences between the groups could be attributed to the intervention. When adapting this programme, readers should seriously consider a third-party impact evaluation to evaluate the success of the programme.

This is particularly recommended if your programme design deviates from the design (e.g. removal of one of the programme steps), or if your context (e.g. high-income country setting, rural setting) or the target or demographics of programme participants (e.g. not young job-seekers, college-educated job-seekers) are significantly different.

The power of A/B testing

If adaptations are required based on organisational need or local context, implementers should strongly consider how changing an output could affect the desired impact of the intervention. Running an A/B test will help you to understand potential changes to desired impact and mitigate any negative risks.

Changes to the "core" programme that could be A/B tested include:

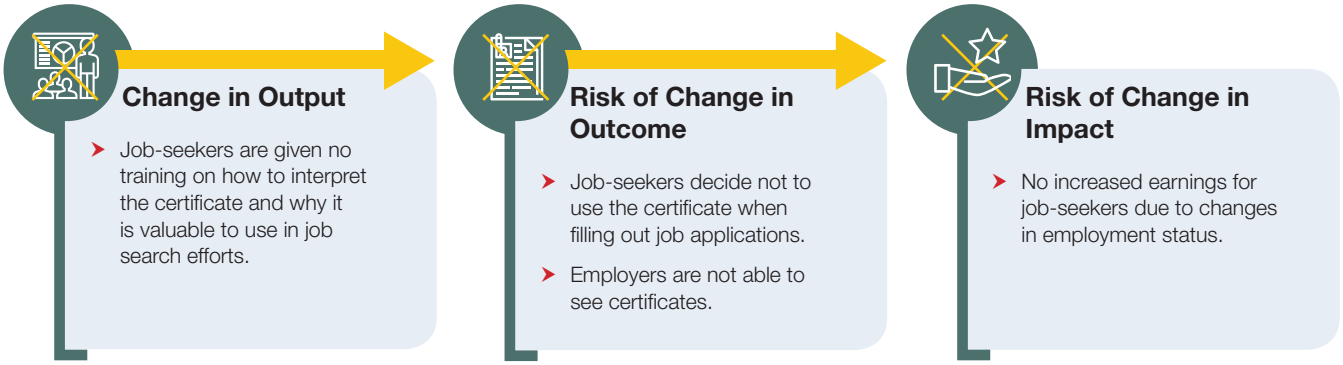
- Significant changes to skills certificate content, e.g. significant visual changes to structure or style
- Significant changes to certificate mechanism, e.g. moving from hard copies to digital copies only
- Significant changes to training modules, e.g. not providing training on how to use certificates

Further advice on how to conduct an A/B test is available here. For more information on publicly available instruments used in the Carranza, Garlick, Orkin, and Rankin (2020) study, visit the Mind & Behaviour Research Group website at www.mbrg.bsg.ox.ac.uk.

Monitoring to identify potential risks to the programme

Implementers should use monitoring as a way to mitigate potential risks to the success of the programme, especially when adapting to local context, as adaptations could affect the desired impact.

For example, removing training on skills certificates could risk job-seekers' use of certificates and therefore would affect the impact of the programme. If implementers are considering removing training from the programme, monitoring certificate use and whether employers have seen certificates can be a way to track whether any changes jeopardise desired impact.



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