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# The state of evidence on the impact of transferable skills programming on youth in low- and middle-income countries

September 2015

Scoping  
Paper 4

Education



International  
Initiative for  
Impact Evaluation

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## **About this paper**

This paper provides an assessment of the state of evidence for transferable skills programming directed at youth in low- and middle-income countries. The assessment combines a supply analysis using an evidence gap map with a demand analysis using feedback from experts participating in a roundtable event. The paper was prepared as part of a project on secondary education and transferable skills funded by the MasterCard Foundation and MacArthur Foundation.

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Suggested citation: Brown AN, Rankin, K, Picon, M and Cameron, DB, 2015. *The state of evidence on the impact of transferable skills programming on youth in low- and middle-income countries 3ie scoping paper 4*, New Delhi: International Initiative for Impact Evaluation (3ie)

Executive editors: Emmanuel Jimenez and Beryl Leach

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Cover design: John McGill

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# **The state of evidence on the impact of transferable skills programming on youth in low- and middle-income countries**

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**3ie Scoping Paper 4**  
**September 2015**



## Acknowledgements

The work for this paper was funded by grants from the MasterCard Foundation and the MacArthur Foundation. A companion piece, 'Youth and transferable skills', is available as part of 3ie's Evidence Gap Map Report series.

3ie staff and independent consultants prepared the paper under the direction of Annette Brown and Kristen Rankin. Jennifer Ludwig organized the secondary education and transferable skills roundtable event, which contributed to this paper. Lindsay Booth assisted with the roundtable and wrote the summary report from that event. Jane Burke provided excellent research assistance.

We thank the staff of the MasterCard Foundation and MacArthur Foundation who participated in the workshop to build the evidence gap map framework. We also thank all the participants at the secondary education and transferable skills roundtable on 31 March and 1 April 2015. These participants provided useful information about their programmes and research and gave valuable feedback on the evidence gap map. We have incorporated that feedback into this paper. These participants are Annie Alcid, Rachel Blum, Barry Burciul, Clemencia Cosentino, Luis Crouch, Steve Cumming, Raoul Davion, Isy Faingold, Ana Flórez, Raj Gilda, Clare A. Ignatowski, Emmanuel Jimenez, Shubha Jayaram, Kim Kerr, Laura Lippman, Changu Mannathoko, Isaac M. Mbiti, Branka Minic, Kristen Molyneaux, Milena Novy-Marx, Godswill Obioma, Harry Anthony Patrinos, Daniel Perlman, David Post, José Romero, David Rosas and Melanie Sany.

## Executive summary

Young people make up the majority of the world's population, and the majority of those young people are in the developing world (USAID 2012). Continued growth and increased prosperity will depend on young people's ability to obtain livelihoods and to live well. Educators recognize that the skills a person needs to succeed in today's world are more than just reading, writing and arithmetic. As the world becomes more complex, transferable skills become more important as the skills that enable people to adapt and solve problems and gain the confidence to do so.

Transferable skills are higher-order cognitive and non-cognitive skills that individuals can use to succeed in different situations in work and life. Experts and organisations working on improving the prospects for youth use many terms that overlap with our definition of transferable skills, including soft skills, character skills, personality traits, non-cognitive skills, 21st-century skills and life skills. A few recent publications that have reviewed research on the importance of transferable skills to academic, employment and well-being outcomes have found that transferable skills do predict a 'wide range of life outcomes' (Kautz *et al.* 2014, p.23).

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Transferable skills are higher-order cognitive and non-cognitive skills that individuals can use to be successful in different situations in work and in life.

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As international agencies and governments increasingly fund and implement programmes to build transferable skills for youth, more high-quality evidence is needed to inform those designs so that programmes meet the demands of employers and benefit development. This scoping paper explores the state of evidence for interventions in low- and middle-income countries (L&MICs) aiming to build transferable skills.

## Methods

The core of the paper is an evidence gap map that catalogues impact evaluations of youth-and-transferable-skills interventions and maps them according to intervention and outcome categories for which the evaluations provide impact measurements. We developed the youth and transferable skills evidence gap map framework – the matrix of interventions and outcomes – based on documents from major funders and implementers and through a roundtable workshop with specialists from the MasterCard and MacArthur foundations. The matrix includes 24 intervention categories arranged in 7 groups and 15 outcome categories arranged in 3 groups, and captures information on 4 crosscutting themes: long-term outcomes, gender, cost-effectiveness and early school leavers.

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An impact evaluation is a study that measures a net outcome attributable to an intervention. Impact evaluations use experimental or quasi-experimental methods.

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Using a formal search strategy, we searched 21 indices and databases, 34 websites and 4 research registries. We screened the search results by evaluation method, intervention type and country of study and then coded the included studies. To analyse the demand for evidence, we gathered information at the secondary education and transferable skills roundtable event, which brought together more than two dozen experts in the field.

## Findings

From more than 9,600 initial search results, we identified 90 completed impact evaluations of youth and transferable skills intervention in L&MICs. These 90 studies produce more than 600 occurrences of evidence, meaning that each study measures the effects from multiple intervention categories or for multiple outcome categories in the framework.

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There are 90 impact evaluations of interventions incorporating transferable skills for youth in L&MICs. These studies produce more than 600 occurrences of 'evidence', meaning that each study covers multiple intervention or outcome categories.

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Analysis of the evidence gap map, along with the information coded from the studies about topic and programme type, yields the following conclusions about the evidence prevalence and gaps according to the intervention categories:

- There is a large amount of evidence about the effectiveness of skills courses inserted in the formal education setting. The vast majority of these evaluations are health-related, meaning that the courses focused on health topics or the evaluation focused on health outcomes. In turn, there is limited evidence about courses in the formal education setting on other topics, such as work readiness and prevention of violence.
- There is a noticeable gap in evidence for interventions designed to increase teaching of transferable skills in formal education institutions, aside from evidence on inserted skills courses.
- An evidence base is forming for stand-alone transferable skills courses and stand-alone technical vocational education and training (TVET) programmes that intentionally incorporate transferable skills elements. These two categories are quite different; most of the evidence for stand-alone transferable skills courses comes from health-related interventions in Sub-Saharan Africa, whereas most of the evidence for combined TVET and transferable skills relates to livelihood skills, split between Sub-Saharan African and Latin America.
- There is a growing body of evidence on the effectiveness of interventions to build transferable skills using alternative learning pathways, such as community centres or civil society groups and peer-to-peer learning. These programmes are quite heterogeneous, however, and often include elements that cover multiple intervention categories in the evidence gap map. The topics of these interventions are mixed, with a majority being health-related but several studies in each intervention category on livelihoods and work readiness or other non-health topics.
- A little more than half of the studies evaluate a pilot or experimental intervention, and a little less than half evaluate programmes. None of the impact evaluations studies policies. Health-related studies are more likely to be of pilot or experimental interventions, and the livelihoods and work readiness studies are more likely to evaluate programmes.

- Just over half of the studies evaluate interventions in Sub-Saharan Africa, with the other half spread across Latin America and the Caribbean, South Asia, East Asia and the Pacific, the Middle East and North Africa and Europe, in that order of prevalence.

With respect to the outcomes measured, the analysis of the evidence base yields the following conclusions:

- The majority of measured outcomes in these impact evaluations are at the individual level, especially for individual beliefs and attitudes, measured transferable skills and health and safety behaviours. We also find several studies that measure employment and earnings-type outcomes, primarily for interventions in the skills training group, which are stand-alone skills training programmes.
- There is an evidence gap for the effectiveness of interventions on academic and schooling outcomes. Only four studies measure effects using indicators in this category.
- There is also an evidence gap for the effectiveness of interventions on outcomes for institutions, including educational institutions, private sector institutions and societal and political institutions.
- Roughly half of the studies include one or more indicators intended to directly measure transferable skills. Almost all of these measurements come from self-reported information, often compiled into indices.

Analysis of the information gathered on the crosscutting themes yields the following conclusions.

- More than one-third of the studies measure long-term outcomes of programmes. These measurements range from three months to three years after the end of a programme.
- One third of the studies measure a separate effect of transferable skills interventions on women or men. About half of these are from programmes targeting livelihoods and work readiness; more than half are from programmes targeting health.
- There is very limited evidence on the cost-effectiveness of interventions to increase transferable skills among youth in L&MICs. Only eight studies provide any kind of information on cost that can be compared with an intervention effect size.
- Only 10 studies measure outcomes specifically for early school leavers.

We also examine the descriptions of the skills the evaluated interventions are targeting. We find that the studies cover a wide range of transferable skills that can generally be placed in three categories (personal, interpersonal and cognitive) of the life-skills typology designed by UNICEF. There appears to be a greater focus on personal and interpersonal skills, but this finding could be biased by our search strategy, which did emphasise non-cognitive over cognitive skills. All the studies in the evidence gap map

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This lack of specific information about which transferable skills are targeted means that while the studies provide evidence related to transferable skills, it may be hard for users to disentangle the evidence.

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include some mention of a transferable skills element to the intervention, the emphasis placed on learning specifically about transferable skills varies greatly across studies. In fact, details on the specific skills, how they fit into the theory of change and how they are addressed by the interventions are often missing. This means that although these studies provide evidence related to transferable skills, it may be hard for users of the studies to disentangle the evidence specific to transferable skills.

The small number of completed systematic reviews (studies that synthesize evidence from multiple studies through systematic search and screening) that have some overlap with the evidence gap map in terms of intervention, age and location find that TVET programmes have, if any, a small impact on some employment indicators, although they are more likely to have an impact for women than men. School-based HIV programmes have a positive and statistically significant impact on self-efficacy and initiation of sex. There is weak evidence that sports-based programmes can improve self-efficacy and communication.

The evidence gap map reveals several evidence clusters: skills courses in schools, stand-alone transferable skills combined with TVET, community centres and civil society groups, and peer-to-peer learning. If the interventions within a cluster have similarities, the cluster may indicate a promising question for future systematic review research. Our analysis suggests that the 'skills courses in schools' and stand-alone 'TVET and transferable skills combined training' intervention categories both offer promising questions. The 'skills courses in schools' studies are almost all health-related, and most of the courses evaluated in these studies involve teachers in some capacity, suggesting additional similarity across interventions. The 'TVET and transferable skills combined training' studies include programmes focused on improving traditional TVET by adding transferable skills and programmes that add TVET to other interventions in order to strengthen health outcomes. A systematic review focusing on these combined programmes would complement the more general systematic review conducted by Tripney and Hombrados (2014).

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Our analysis suggests that two intervention categories – skills courses in schools and stand-alone TVET and transferable skills combined training – offer promising questions for systematic review research.

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The other two clusters include a wide variety of programmes that often combine elements of community and civil society engagement or peer learning in larger interventions with multiple components employing complementary mechanisms for building and reinforcing transferable skills. The heterogeneity of the programmes means that it would be difficult for a systematic review of these studies to produce results specific to the interventions in question.

## Conclusions

The analysis of the evidence gaps, combined with the information on stakeholder demand gathered at the roundtable event, allows us to identify some priorities for future investment in impact evaluations:

- One priority is formal education interventions outside of inserted skills courses. There is great demand and little evidence for interventions designed to reform curricula and train teachers to build transferable skills generally, provide teachers with incentives or help them to network or build institutional management and other capacity.

- There is also a gap in evidence about whether learner-centred approaches are effective for teaching transferable skills, which was a concern among many roundtable participants.
- Overall, participants want to see more studies of transferable skills programmes focused on non-health objectives, such as livelihoods and employability, and on general well-being.
- Similarly, there is a need for future impact evaluations of youth and transferable skills programmes to measure outcomes further along the causal chain; that is, for outcomes such as health, income, employment and livelihoods and, where applicable, institutional change.

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## **Abbreviations and acronyms**

EDC	Education Development Center, Inc.
GED	General Educational Development
L&MICs	Low- and middle-income countries
NGO	Non-governmental organization
R4D	Results for Development Institute
RCT	Randomised controlled trial
STI	Sexually transmitted infection
TVET	Technical vocational education and training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development

# 1. Introduction

Young people make up the majority of the world's population, and the majority of those young people are in the developing world (USAID 2012). Continued growth and increased prosperity will depend on young people's ability to earn a livelihood and to live well. Educators recognize that the skills a person needs to succeed in today's world are more than just reading, writing and arithmetic. As the world becomes more complex, transferable skills become all the more important as the skills that enable people to adapt, solve problems and gain the confidence to do so.

The simplest definition of transferable skills is those skills that can be used in multiple situations. These skills differ from technical and vocational skills, which relate directly to specific occupations. In this paper we also distinguish transferable skills from basic cognitive skills such as knowledge and comprehension and from foundational skills such as literacy and numeracy. Rather, transferable skills are higher-order cognitive skills and non-cognitive skills that are transferable between situations. Examples include communication, self-regulation and problem-solving. While many organisations focus on transferable skills for livelihoods and employment, we also emphasise life skills – those transferable skills that contribute to happy and healthy lives.

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Transferable skills are higher-order cognitive skills and non-cognitive skills that individuals can use to be successful across different situations in work and in life.

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Experts and organisations working on improving the prospects of youth use many terms that overlap with our definition of transferable skills, including soft skills, character skills, personality traits, non-cognitive skills, 21st-century skills and life skills. As international agencies and governments increasingly fund and implement programmes to build transferable skills for youth, more high-quality evidence is needed to inform those designs. There is a growing body of evidence on the effectiveness of transferable skills interventions in developed countries, but the existing literature identifies only a small number of rigorous evaluations of interventions in L&MICs.<sup>1</sup>

This paper explores the state of evidence for interventions in L&MICs aiming to build transferable skills. The core of the paper is an evidence gap map, which catalogues all the impact evaluations of such interventions and maps them according to intervention and outcome categories for which the evaluations provide impact measurements. The intervention categories in the map's framework emphasise mechanisms such as formal education and work programmes. This structure allows the map to reflect the theories of change underlying the interventions.

The primary focus of this paper is to describe the breadth, depth and features of the evidence base. We examine the themes of the programmes as well as the different mechanisms tested. The evidence gap map, available on 3ie's website, allows policymakers and programme managers to quickly access summaries of methods and results for the identified studies in the 3ie Impact Evaluation Repository.<sup>2</sup> In this paper, we analyse the

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<sup>1</sup> See, for example, Kautz *et al.* 2014; González-Velosa 2012.

<sup>2</sup> As of date of publication, the basic records for all included studies, along with links to the source locations are populated in the impact evaluation repository. Full summaries will be completed in the following months.

evidence base represented in the map to identify opportunities where further research can provide the greatest benefit to evidence-based policymaking.

A synthesis of the evidence for each cell of the evidence gap map is beyond the scope of this paper; there are more than 100 cells with two or more studies.<sup>3</sup> However, we do report findings from existing and related systematic reviews.

Inputs to this paper also include presentations and discussions from a roundtable event on secondary education and transferable skills, which 3ie hosted in conjunction with the production of the evidence gap map. The roughly three dozen participants representing more than 20 organisations and agencies presented information on the importance of skills, current research programs and examples of transferable skills programmes, among other topics. Booth (2015) provides a summary.

The rest of this paper is structured as follows. In section 2 we present a background discussion on transferable skills and the central theory of change. In section 3 we introduce the methods for the evidence gap map and present the map. In section 4 we describe the evidence base using the data in map. We also explore the mix of topics across the included studies and the different types of transferable skills targeted by the evaluated interventions. Section 5 summarises the scope and findings of the systematic reviews identified in the search. In section 6 we explore the evidence clusters in the map, and in section 7 we discuss the evidence needs going forward. Section 8 covers the limitations of this paper, and section 9 concludes.

## 2. Background

In this section we further define transferable skills as they relate to the literature on non-cognitive and cognitive skills and summarise the evidence for why transferable skills are important. We outline a few examples of interventions designed to improve transferable skills in L&MICs. We conclude with a simplified theory of change showing how interventions can lead to better livelihoods and improved well-being.

### What is an evidence gap map?

An evidence gap map is a matrix that displays how much impact evaluation evidence exists for a given sector or policy issue, according to the types of programmes evaluated and outcomes measured. The framework for the matrix has programme categories as the rows and outcome categories as the columns. Thus, a cell containing a large number represents a programme type for which there is a large number of impact evaluations that estimate the effect of that programme on that outcome. An empty cell means there are no impact evaluations measuring that effect. These are the evidence gaps. Some evidence gap maps present the quantity of systematic review evidence in addition to, or instead of, impact evaluation evidence.

By showing where we have evidence and where we do not, the map reveals opportunities for evidence synthesis to inform policy, as well as priorities for evaluation investment.

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<sup>3</sup> These syntheses would require quality coding of each study, extraction and standardisation of effect sizes and meta-analysis or other synthesis exercises for all the studies in each cell.

## 2.1 Concepts

Although we include cognitive and non-cognitive skills in our definition of transferable skills, it is common in the literature to use the terms ‘non-cognitive’ or ‘soft’ skills when discussing programmes with objectives similar to those we consider for transferable skills. For example, García (2014) recognises that the list of non-cognitive skills she advocates for education policy includes cognitive skills, but explains that many of the key contributions that she reviews use the ‘non-cognitive skills’ as an umbrella term.

One important distinction for our analysis is whether a skill is transferable – whether it can be used in multiple situations. Another important distinction is that the skill is a skill – something malleable that can, therefore, be taught or trained. Heckman and Kautz (2013) argue that character skills (one of their terms for transferable skills) include many concepts that were once thought of as personality ‘traits’, and thus fixed at birth, but which actually malleable and can be learned. They explain that skills are fixed across tasks at a given time, but change over time.

Even in the most recent reviews of the literature (García 2014; Kautz *et al.* 2014) there is no single, accepted definition of non-cognitive skills. García proposes instead to define the concept using a list of included skills. Her list includes emotional health, social skills, work ethic, community responsibility, self-control, self-regulation, persistence, confidence, teamwork, organisational skills, creativity and communication skills (García 2014, p.7). This list is not inclusive of those we see targeted in transferable skills interventions, but it provides a useful range of examples.

Cognitive skills included in transferable skills are easier to define than non-cognitive skills. We use Bloom’s 1956 taxonomy of cognitive skills, presented in table 1.

**Table 1. Classification of cognitive skills**

Category	Definition	Related Behaviours
Knowledge	Recalling or remembering something without necessarily understanding, using or changing it	Define, describe, identify, label, list, match, memorize, point to, recall, select, state
Comprehension	Understanding something that has been communicated without necessarily relating it to anything else	Alter, account for, annotate, calculate, change, convert, group, explain, generalize, give examples, infer, interpret, paraphrase, predict, review, summarize, translate
Application	Using a general concept to solve problems in a particular situation; using learned material in new and concrete situations	Apply, adopt, collect, construct, demonstrate, discover, illustrate, interview, make use of, manipulate, relate, show, solve, use
Analysis	Breaking something into its parts; may focus on identification of parts, analysis of relationships between parts or recognition of organizational principles	Analyse, compare, contrast, diagram, differentiate, dissect, distinguish, identify, illustrate, infer, outline, point out, select, separate, sort, subdivide
Synthesis	Reading something new by putting parts of different ideas together to make a whole	Blend, build, change, combine, compile, compose, conceive, create, design, formulate, generate, hypothesize, plan, predict, produce, reorder, revise, tell, write
Evaluation	Judging the value of material or methods as they might be applied in a particular situation; judging with the use of definite criteria	Accept, appraise, assess, arbitrate, award, choose, conclude, criticize, defend, evaluate, grade, judge, prioritize, recommend, referee, reject, select, support

Note: Source is Bloom (1956).

We can think of transferable skills as the last four categories. The cognitive processes underlying the application, analysis, synthesis and evaluation categories require the adaptation of concepts to new situations or analysis of different pieces of information to inform a decision or action. These processes, particularly critical thinking, problem-solving and decision-making, are transferable to a wide range of situations.

The United Nations Children’s Fund (UNICEF) presents a useful and simple typology for classifying transferable skills (2012). Although UNICEF’s typology is for what they call life skills – as separate from livelihood skills – it works equally well for what we call transferable skills. The typology divides the skills into three broad categories: interpersonal, personal and cognitive (UNICEF 2012). Interpersonal skills include those related to communication and negotiation and would include social skills and teamwork from García’s list. Personal skills are related to self-awareness and management and would include skills such as persistence

and confidence from García's list. Cognitive skills include critical thinking, problem-solving and others related to Bloom's higher-order cognitive skill categories.

Some organisations focusing on employability add to the list of transferable skills more specific skills related to getting and keeping jobs or to entrepreneurship, such as financial literacy and interview skills. UNICEF (2012) calls these livelihood skills. We can think of these employability skills as combining aspects of knowledge with more generic transferable skills. So, for example, financial literacy combines knowledge of accounting concepts with cognitive skills, and interview skills combines knowledge of how interviews are conducted and what questions are likely to be asked with interpersonal communication skills.

The United Nations Education Scientific and Cultural Organization's (UNESCO's) 2015 Education for All Global Monitoring Report describes transferable skills as 'the broader range of skills that can be transferred and adapted to different work environments, and allow people to retain employment. They also include the capabilities to analyse problems, reach creative solutions, communicate ideas, and exercise collaboration, leadership and entrepreneurship' (p.112). The association of transferable skills with employability alone, however, is rather recent. The further we go back in time, the more authors we find who present the importance of transferable skills (or the alternative names used to define them) beyond the objective of getting and keeping a job. Considering university education, for example, Harvard *et al.* (1998) and Gibbs *et al.* (1994) describe skills that students need to become successful learners and practitioners, and succeed in other aspects of life.<sup>4</sup>

## 2.2 Importance

A few recent research publications have reviewed the evidence for the importance of transferable skills to academic, employment and well-being outcomes (Kautz *et al.* 2014; Farrington *et al.* 2012).

Kautz *et al.* (2014) review three kinds of evidence – correlational studies, General Educational Development (GED) evaluations, and employer surveys – to demonstrate the importance of non-cognitive skills. Numerous correlational studies explore the relationship between skills, measured using personality typologies from psychology, and outcomes, such as job performance and mortality. These studies conclude that stronger skills lead to better outcomes. GED evaluations use the comparison of individuals who have high school diplomas from attending school with those who have a GED diploma that early school leavers can acquire by taking a test. The expectation is that those who stay in school have more transferable skills, either because the skills helped them to stay in school or because they acquired the skills during schooling. These evaluations show that traditional high school graduates in the United States indeed do better in terms of outcomes such as employment, health and criminality, whereas GED recipients have outcomes similar to dropouts. Finally, employer surveys in the United States and the United

*'A substantial body of evidence shows that non-cognitive skills predict a wide range of life outcomes, including educational achievement, labour market outcomes, health, and criminality'* (Kautz *et al.* 2014, p.23)

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<sup>4</sup> UNESCO also provides a useful glossary of terms related to education at: [http://www.ibe.unesco.org/fileadmin/user\\_upload/Publications/IBE\\_GlossaryCurriculumTerminology2013\\_eng.pdf](http://www.ibe.unesco.org/fileadmin/user_upload/Publications/IBE_GlossaryCurriculumTerminology2013_eng.pdf).

Kingdom identify several personal qualities and non-cognitive skills considered vital for successful employees.

Results for Development Institute (R4D) surveyed a wide variety of employers in Africa and Asia to determine which skills are important. They find a convergence across regions of the importance of non-cognitive skills alongside basic cognitive skills and technical skills for employers. They also find a 'crucial importance of non-cognitive skills for the informal economy' (R4D 2013, p.15) for countries in these regions. Research presented by Child Trends and Future World Consulting at the 3ie roundtable event also shows that employers in L&MICs value transferable skills. In particular, Child Trends' research, which includes interview information from more than 40 stakeholders and a literature review of more than 380 reports, identifies 3 key soft skills and 2 supporting soft skills that are important for youth workforce success. These are social skills, communication skills and higher-order thinking skills supported by self-control and positive self-concept.

Farrington *et al.* (2012) review the evidence more specific to the importance of non-cognitive skills and educational outcomes. They find the strongest evidence for the relationship of academic behaviours, mind-sets and learning strategies to academic performance. They also find a correlation between perseverance and academic performance, although causality is hard to assign.

### **2.3 Programmes in low- and middle-income countries**

Governments and donors in many L&MICs have begun to focus interventions on transferable skills. R4D catalogues a large number of employability programmes implemented by a variety of organisations in Africa, South Asia and Southeast Asia (R4D 2013). We offer a few examples that focus on transferable skills for youth.

Through the Educate! programme in Uganda, recent graduates from local universities mentor students in their last two years of secondary school. The mentors help students develop leadership and business skills so they can become entrepreneurs. Mentors work directly with the students to build self-confidence and communications skills and teach a two-year entrepreneurship and leadership course. Educate! maintains a strong alumni network and provides support after graduation.

The Intel Education Initiative in India is an after-school programme that implements a project-based curriculum, the Intel Learn Program, for youth in communities with no access to technology. The programme is designed to build their technology skills while enhancing their creativity.

In Vietnam, Catholic Relief Services implements an information technology training programme providing technical training, soft-skills training and business linkages for youth with disabilities. The soft skills participants develop through the programme's training modules include teamwork, communication, problem-solving and confidence-building. The programme also works with employers to facilitate the employment of graduates once they have finished the programme.

We also learned about some excellent examples of transferable skills programs for youth at the roundtable event. The Education Development Center (EDC) recently completed a five-year *Akoze Kanoze* ('Job Well Done') project in Rwanda. *Akoze Kanoze* was a work-

readiness intervention that incorporated EDC's standard work-readiness curriculum, an entrepreneurship curriculum, technical skills training, on-the-job experience and mentoring and support into youth training programmes delivered outside of schools.

The Government of Nigeria initiated the Senior Secondary Education Curriculum in 2011. The curriculum combines four general subjects with a requirement for each student to learn one of 34 trades. Although the trades mostly reflect technical and vocational skills, the intent of the curriculum is to also provide youth with learning and life skills. A study of the trade subject tracks shows that only the carpentry, printing and decoration courses specifically include transferable skills, the most prevalent being communication, organisation and planning, teamwork, conscientiousness, ability to ask for help and adaptability.

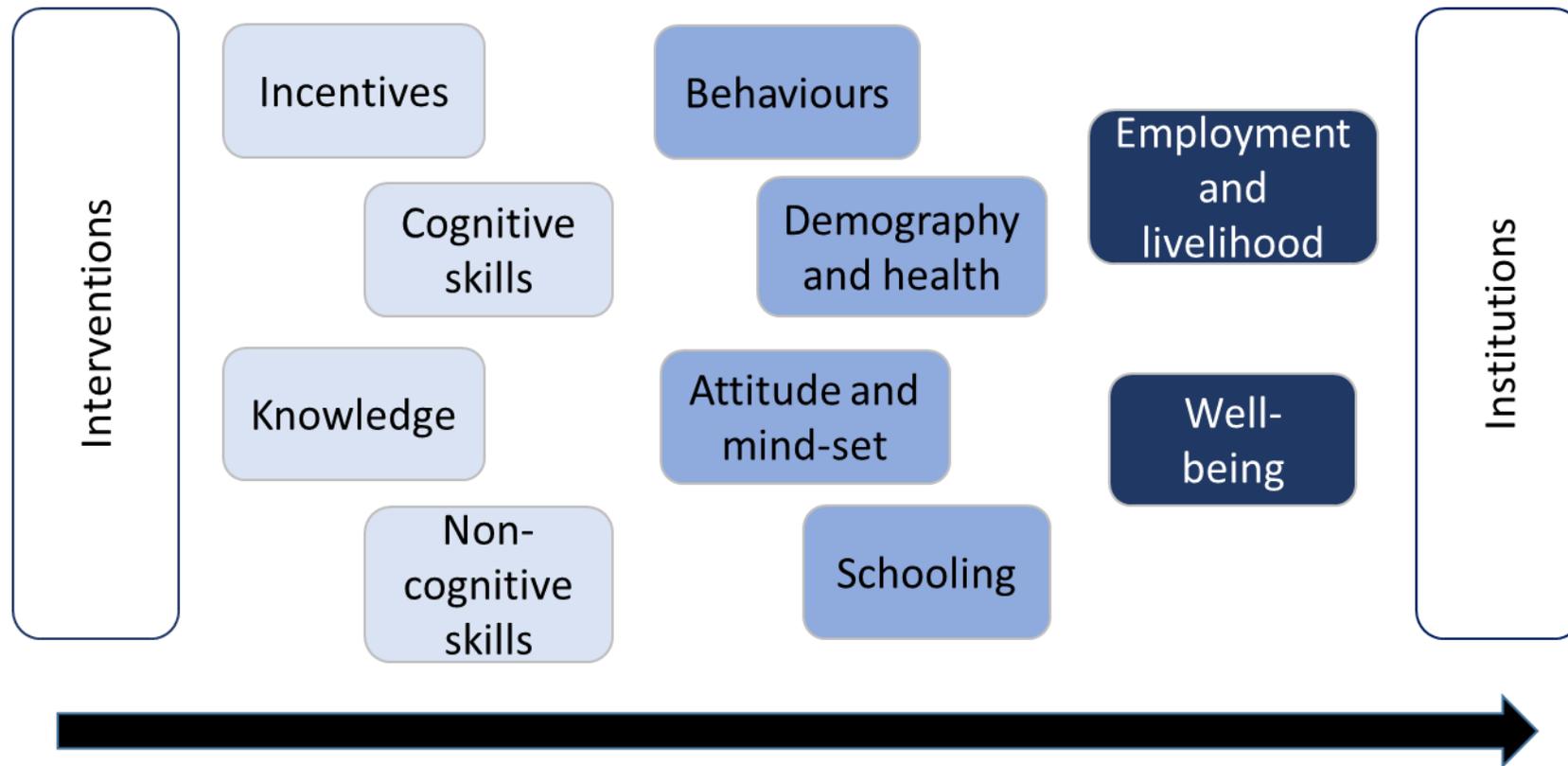
*'Every senior secondary graduate should have been well prepared for higher education as well as being self-reliant with appropriate life skills on completion of schooling.'*

Nigerian Senior Secondary Education Curriculum philosophy (Obioma 2015)

## **2.4 Theory of change**

We can think of evidence for intervention effectiveness as being organised along three dimensions: the interventions, the skills they intend to generate or strengthen and the desired outcomes, which stretch along the results chain. The wide range of skills considered for this youth and transferable skills analysis means that many different programmes' theories of change are covered. However, there are some common patterns. Figure 1 presents a simplified theory of change that shows the order of outputs and outcomes along the causal chain. The figure does not include arrows between the boxes because different interventions work in different ways. Rather, the boxes are ordered according to how the features would typically appear, with the implication that arrows would generally go from left to right, but might also go up or down.

Figure 1. General theory of change for youth and transferable skills



We use the example of the Centre for Girls' Education in Nigeria, presented at the roundtable event (Booth 2015), to show how one intervention fits in the theory of change. Girls attend the centre outside of school, first learning to read and write and then receiving training in skills such as communication and decision-making. They also learn about reproductive health. Looking at the figure, we see that this intervention contributes directly to knowledge, cognitive skills and non-cognitive skills. The programme intends the combination of the knowledge and skills to help build the girls' confidence, which would be an arrow to the 'Attitude and mind-set' box. From here we would draw an arrow to the 'Behaviours' box; behaviours are clearly changing as we see measurable outcomes in demography and health (an increase in the age of marriage) and in schooling (increased enrolment) – outcomes that are staggered to the right of behaviours and mind-set. These combine to improve both employment and livelihoods (there is an expectation in the programme that the girls eventually contribute income to their families), as well as well-being. For this programme, there is no expectation of change at the institutional level, so there would not be an arrow to the right-most box.

Other programmes may be founded on simpler theories of change. For example, the curriculum changes designed for the National Agenda for Competitiveness in Peru combined knowledge, cognitive and non-cognitive ('emotional') skills training to increase secondary students' employability (Booth 2015). Here we do not see the emphasis on demography and health, or even on schooling (net attendance has already been increasing in Peru), but more on the skills that lead to changed behaviours (and perhaps attitudes) in order to improve employment and livelihood outcomes.

Most of the interventions for which we found impact evaluations are based, or appear to be based (when the theory of change is not well-specified), on a theory of change that can be drawn by adding arrows to Figure 1. Many of the health-related programmes focus on combining knowledge with non-cognitive skills, such as self-efficacy, in order to change behaviours that have an impact on demography and health. Many of the more employability-focused interventions train cognitive and non-cognitive skills for an impact on employment and livelihood, sometimes with expected measurable outcomes in attitudes and mind-set. The excerpts we have provided in this section are general examples.

### **3. The youth and transferable skills evidence gap map**

#### **3.1 Evidence gap maps**

Evidence gap maps are thematic collections of information about studies that measure the effects of international development policies and programmes. The maps present a visual overview of existing and ongoing studies in a sector or sub-sector in terms of the types of programmes (or interventions) evaluated and the outcomes measured. The maps include hyperlinks to summaries of included studies. Evidence gap maps have two main objectives:

- To facilitate evidence-informed decision-making in international development policy and practice by providing a user-friendly tool for accessing evidence and thereby enabling policymakers and practitioners to quickly and efficiently explore the findings and methods used to arrive at those findings for the existing evidence on a topic; and

- To facilitate strategic use of scarce research funding and enhance the potential for future evidence synthesis by identifying key ‘gaps’ in the available evidence, thus indicating where future research should be focused.

A key feature of the evidence gap map is the framework of interventions and outcomes developed based on a review of the policy literature and consultation with stakeholders. The rows of the framework represent the key interventions in a particular sector, and the columns cover the most relevant outcomes, structured along the causal chain from intermediate outcomes to final outcomes, and cost effectiveness. The framework is designed to capture the universe of important interventions and outcomes in the sector or sub-sector covered by the map.

The 3ie evidence gap map approach draws on the principles and methodologies from existing evidence mapping and synthesis products. A full overview of the methodology can be found in Snilstveit *et al.* (2013).

## **3.2 Methods**

The process for developing an evidence gap map begins with determining the scope of the map. We developed the framework – the matrix of interventions and outcomes – based on documents from major funders and implementers interested in transferable skills amongst youth, including UNESCO, UNICEF and the World Bank. We also conducted a workshop, hosted by the MasterCard Foundation, to brainstorm the items in the framework. We then grouped the interventions by mechanism and setting. We shared several iterations of the framework with staff at the MasterCard and MacArthur foundations and received valuable feedback. After we began coding the studies in the framework, we decided to further refine the framework to better reflect the interventions, as described in the studies.

We revised the framework again in response to feedback from the 3ie roundtable. The last revision focused on better labelling and ordering of the interventions and outcomes and so did not require an updated search.

### ***3.2.1 Interventions***

The scope of an evidence gap map is defined by the intervention and outcome categories and the types of studies selected. Table 2 presents the intervention categories for each group, along with the code in the evidence gap map.

**Table 2. Intervention categories**

Formal education	
FE1	Teacher training programmes and curriculum reform
FE2	Teacher networking and support
FE3	Teacher incentives
FE4	Skills courses at school
FE5	Institutional management and capacity building
Extracurricular activities	
EC1	Student clubs, groups and associations
EC2	Career counselling and job fairs
Pedagogy	
PM1	Learner-centred teaching
PM2	Experiential and participatory learning
Skills training	
ST1	Transferable skills training
ST2	TVET and transferable skills combined training
ST3	Foundational and transferable skills combined training
Work placement	
WP1	Job-matching, apprenticeship and internship programmes
WP2	Public and community services programmes
WP3	Military-style programmes
Alternative learning pathways	
AL1	Media and edutainment
AL2	Community centres and civil society groups
AL3	Distance learning
AL4	Mentoring, tutoring and coaching
AL5	Peer-to-peer learning or peer encouragement
AL6	Parent or family involvement
AL7	Therapy and transferable skills
Financial support	
FS1	Education-related financial support and services
FS2	Job-related financial support and services

The first grouping of intervention categories covers programmes that take place in the context of formal schooling. In the first category, ‘teacher training programmes and curriculum reform’ (FE1), we include continuing education and professional development programmes that are meant to improve teaching methods and enable the reinforcement of transferable skills as part of the regular curricula. We do not include all the programmes that include some element of training trainers only to deliver the programme’s curriculum. Curriculum reform here means that schools adopt a comprehensive transferable skills curriculum as part of their regular programme; for example, a social development curriculum. Peru’s new curriculum, described in section 2.4, is an example of a curriculum reform intervention. The second category, ‘teacher networking and support’ (FE2), includes interventions that are meant to increase teachers’ ability and motivation to reinforce

transferable skills by increasing their peer engagement and support. The third category, 'teacher incentives' (FE3), includes interventions that are designed to increase teachers' motivation to build their own capacity and to teach transferable skills by offering them incentives.

The fourth category in the formal education group, 'skills courses at school' (FE4), includes all special-topic, limited-time courses or workshops that are taught at school during regular school hours. These courses may include a significant information component, but also seek to build transferable skills. One example is a tobacco prevention program in India. The program sought to 'change multiple intra-personal factors (such as knowledge, meanings, skills) and social-environmental factors (such as social norms) known to be related to tobacco use among urban Indian youth' (Stigler *et al.* 2011) using classroom activities, posters and peers. The fifth category, 'institutional management and capacity building' (FE5), includes interventions designed to introduce transferable skills into schools through school management capacity building or institutional reform. These programmes work with administrators, whereas those under the first category work with teachers.

The next group of interventions includes extracurricular activities that have transferable skills-building as one objective. Interventions in these categories take place in schools for students but are extracurricular in two ways: they happen outside of regular school hours and they do not have a structured curriculum. They may have a teacher, trainer or counsellor who facilitates, but no curriculum; programmes that happen at schools outside regular school hours and do have a curriculum would fall under skills training programmes. The first extra-curricular category (EC1) encompasses student clubs, groups and associations. The second category (EC2) captures interventions that provide career counselling or job fairs in a school setting.

The third group in the map includes two pedagogical methodologies. Most, if not all of the studies coded here should be cross-coded in at least one other intervention category, since these pedagogies are not program types but rather methods used within programmes. 'Learner-centred teaching' (PM1) makes students active agents in choosing their curriculum or activities. The focus is more on the process of learning than on the specific curriculum. 'Experiential and participatory learning' (PM2) emphasises learning by doing but, in contrast to learner-centred teaching, uses a predefined curriculum. Students learn and practice behaviours and skills using activities such as classroom presentations, group work, role-playing and field trips. This category includes the Vivian Paley 'storytelling curriculum' approach.

We created these two intervention categories to capture studies of programmes that highlight one or the other pedagogy as a key element of its approach. For example, Pulerwitz *et al.* (2015) test a group education component, which includes several experiential learning methods, and a community engagement component of an intervention to change gender norms and reduce intimate-partner violence in Ethiopia. We do not include here every programme that uses one of these pedagogies. In fact, a large share of the programmes use some aspect of experiential or participatory learning. Rather, we code a study here when it focuses on the pedagogical approach of the intervention.

We created the 'skills training' grouping to capture the large number of programmes – primarily implemented by non-governmental organizations (NGOs) – that provide structured

training outside of the classroom. These programmes can benefit students, early school leavers and young adults who have finished school. The first category, 'transferable skills training' (ST1), includes interventions outside of schools that are focused exclusively on building transferable skills. An example is the Stepping Stones programme to improve sexual health in South Africa, which used participatory learning to build communication skills, awareness and critical reflection (Jewkes *et al.* 2008). The second category, 'TVET and transferable skill combined training' (ST2), encompasses interventions that address both transferable skills and specific vocational training. Bandiera *et al.* (2014), for example, tested a women's empowerment program in Uganda that combines training on income-generating activities with life-skills training. The third category, 'foundational and transferable skills combined training' (ST3), reflects interventions that target both transferable and foundation, or academic, skills. For example, the Questscope training product teaches traditional academic subjects combined with teaching techniques such as democratic decision-making meant to build transferable skills (Morton and Montgomery 2012).

We divide the work placement group in three categories. 'Job-matching, apprenticeship and internships programmes' (WP1) are those in which participants are placed in some kind of work in order to gain transferable skills in a work setting. 'Public and community service programmes' (WP2) are those that include some kind of public benefit, where the volunteer or public service element is part of the mechanism for learning transferable skills. We also include a category for military-style programmes (WP3). An obvious example is the Reserve Officers' Training Corps in the United States. As with the vocational and technical categories, we include studies only if the interventions they evaluate specifically include a transferable skills element. One could argue that all work placement programmes provide experiential learning that builds transferable skills. We are interested in evidence about more direct mechanisms, however. An example of an included study is the de Azevedo *et al.* (2013) evaluation of *Ninaweza*, the Kenya Youth Empowerment Program, which included information and communication technology training, life-skills training and internships.

The next grouping brings together a variety of alternative learning pathways. These use a mechanism different than those used in other categories (such as 'media and edutainment' [AL1] or 'distance learning' [AL3]) or engage a third party, such as mentors, peers or parents. Some interventions coded in one of these categories also appear in other rows. For example, the Ethiopia programme evaluated by Pulerwitz *et al.* (2015) works with community groups and provides a transferable skills training programme. Even though both categories use one-to-one interaction, we separate 'mentoring, tutoring and coaching' (AL4) from 'peer-to-peer learning or peer encouragement' (AL5) because researchers describe the mechanisms differently. To be coded as a 'parent or family involvement' (AL6) intervention, the programme needs to directly involve members of the youth's household. We include a final category, 'therapy and transferable skills' (AL7) to capture the large number of interventions based on psychosocial therapy but where the stated objectives include building transferable skills.

The final grouping covers interventions that include some kind of financial support or services. These include matched savings accounts, group-based microfinance and stipends. We have divided these into interventions that support education or training (FS1) and interventions that support employment (FS2).

We designed the framework to differentiate interventions by mechanism rather than by topic or type of skill. The purpose is to allow the user of the map to easily examine evidence according to theories of change about whether and how certain mechanisms achieve certain outcomes.

### 3.2.2 Outcomes

Table 3 lists the outcome categories that form the columns of the evidence gap map.

**Table 3: Outcome categories**

Learning and behaviour	
LB1	Individual knowledge
LB2	Individual beliefs and attitudes
LB3	Observed transferable skills
LB4	Social participation and interaction
LB5	Health and safety behaviours
LB6	Livelihoods and employment behaviours
LB7	Criminality
Employment, livelihoods and demography	
EL1	Demography and health
EL2	Academic and schooling outcomes
EL3	Employment
EL4	Wages, income and assets
EL5	Other livelihoods measures
Institutions	
I1	Educational institutions
I2	Private sector
I3	Societal and political

The knowledge, beliefs and attitudes categories are fairly typical. Examples of knowledge measures from a drug-use prevention study (Guo *et al.* 2010) are ‘knowing types of drugs’ and ‘understanding drug use consequences to health’; an attitude indicator is ‘attitude to drug use’. We use the ‘observed transferable skills’ category (LB3) to capture the indicators – whether self-reported or observed – that reveal something about having acquired a skill instead of changing a belief. Many of these are indicators of self-efficacy; for example, ‘confidence in condom application’ or ‘comfortable asking my partner to use a condom’.

Individual behaviours, typically self-reported, are included in several of the learning and behaviour categories. We might see behavioural outcomes in ‘social participation and interaction’ (LB4), ‘health and safety behaviours’ (LB5), ‘livelihoods and employment behaviours’ (LB6) and ‘criminality’ (LB7). Examples for each in order are attendance at community group meetings, engaging in risky sex, saving money and hours spent in illicit activities.

In the second group of outcome categories, we include indicators that reflect the impacts of the learning and behavioural outcomes. ‘Demography and health’ (EL1) includes measures of the outcomes of health behaviours; for example, whether young women become pregnant

or whether participants test positive for drug use or for a sexually transmitted infection (STI). 'Academic and schooling outcomes' (EL2) includes measures of academic outcomes, such as grades or test scores, and schooling outcomes, such as attendance.

'Employment' (EL3) encompasses indicators of whether someone is employed as well as the type of employment; for example, in the formal or informal sector. 'Wages, income and assets' (EL4) includes indicators of these financial outcomes. An 'other livelihoods measures' (EL5) outcome example is the food security indicator in the Dunbar *et al.* (2014) study.

The final group includes categories in which all the outcomes are measured at the institutional level. For example, the third category in this group, 'societal and political' (I3), captures indicators of social change at a group or community level, whereas the behavioural category 'social participation and interaction' (LB4) would capture an indicator of an individual's participation in a community group. The first category, 'educational institutions' (I1), includes school performance-type indicators.

### 3.2.3 Crosscutting themes

On the right-hand side of the map, we coded information for crosscutting themes. In the interests of space, the evidence gap map presented in Figure 3 does not include the four crosscutting columns. We present the columns as a separate table (Table 4).<sup>5</sup> We include these columns so that users can easily understand the size of the evidence base related to these areas and find the relevant studies. The first column, 'measurement of long-term outcomes' (CC1), includes studies that measure some outcome after the endline of the intervention. We did not choose a cut-off for the length of time after the completion of the intervention. Instead we include studies here if they measure at endline and then measure again sometime after the endline. The gender-specific analysis (CC2) covers two possibilities: studies of interventions targeting only young men or young women; or studies that report analysis separately for women and men. We do not include here studies that simply include a gender 'dummy' variable to control for possible gender effects. Rather, we include studies where the analysis is conducted separately for young women and young men.

The cost-effectiveness analysis (CC3) column reveals how many studies provide information on cost effectiveness. To be included, a study must have some information about programme cost that can be compared with one or more of the measured net impacts. Finally, stakeholders involved in developing the framework were interested in identifying programmes targeting early school leavers (CC4), possibly with an intention to get them back in school or to make up for missed school, as distinct from other non-students.

### 3.2.4 Study methods

This evidence gap map includes impact evaluation studies, defined as programme evaluations or field experiments that use experimental or observational data to measure the effect of a programme relative to a counterfactual that represents what would have happened to the same group in the absence of the programme. Impact evaluations may also test different programme designs.

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<sup>5</sup> The Microsoft Excel workbook for the evidence gap map includes these columns on the primary worksheet.

For this evidence gap map, we also searched and screened for applicable systematic reviews. Systematic reviews have three characteristics: they report at least how the authors searched for included studies, state that the search was intended to be comprehensive and state the inclusion criteria used to judge which studies are included or excluded. We identified a small number of systematic reviews that overlap with cells in the framework, and ultimately decided not to code these studies into the map – although we summarise them in section 5. In no case did the identified systematic review present evidence that exactly fit in a cell. In some cases, the reviews covered populations outside the bounds of our map (children or adults). Other ‘mismatches’ were interventions including transferable skills and reviews including studies from high-income countries. Mapping overlapping but mismatched reviews onto the framework would give the impression of more evidence than actually exists.

### *3.2.5 Search and screening*

The next step for developing an evidence gap map is to search a chosen set of resources and screen the results in order to determine which studies to include. Our search strategy included 21 indices and databases, 34 websites and 4 research registries, which are listed in Rankin *et al.* (2015). We searched for general terms connected to skills and youth, such as youth development, socio-emotional, life skill or non-formal education and adolescent, young adult or after school.

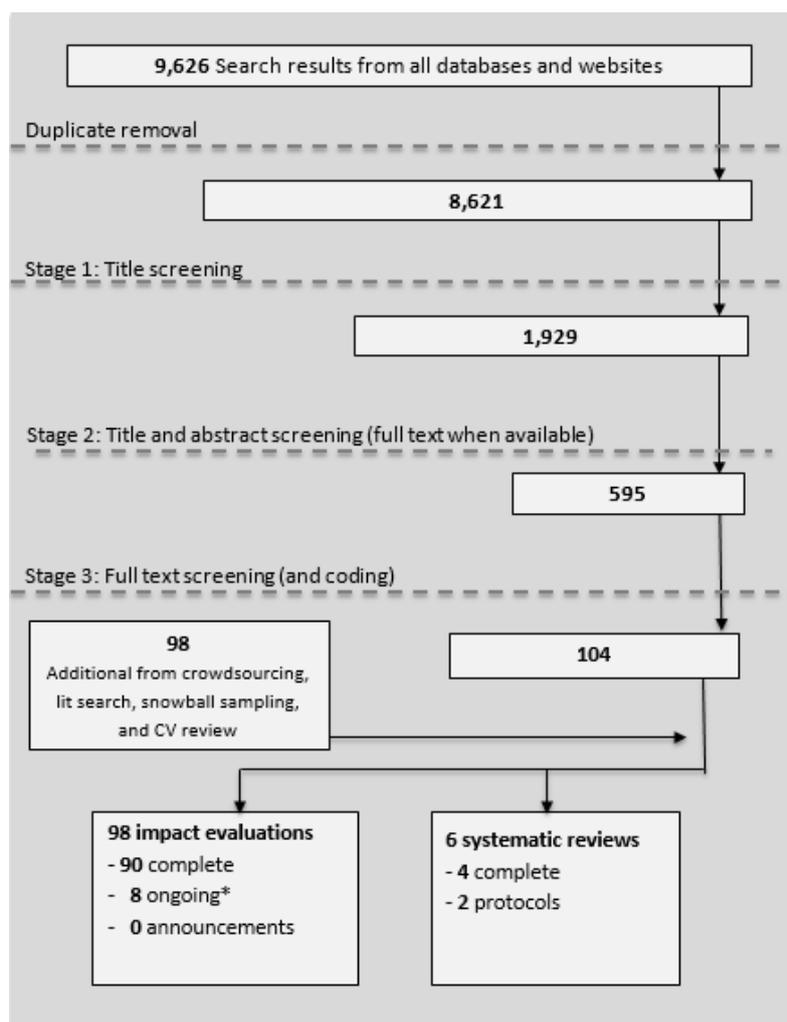
After we cleaned the search results of duplicates, we used the screening protocol to first screen results by title and abstract and then screen the full text of the articles. We conducted title and abstract screening in EndNote, using keywords to facilitate the search. Section 4 presents our search and screening results.

The next step is to code the included studies and populate the map. Coded information includes bibliographic details for the study, interventions (from the framework) the study evaluates, outcomes (also from the framework) the study measures and crosscutting themes. At least two researchers verified the inclusion and coding of each study.

## **3.3 Results**

Figure 2 presents the search results.

**Figure 2. Youth and transferable skills search results<sup>6</sup>**



Source: Author Constructed

In addition to the online searches, we conducted a peer recommendation search by sending requests to a number of researchers, donors and implementers for their suggestions of existing impact evaluations and systematic reviews related to the theme, as well as for information on ongoing studies.

We also conducted backward and forward snowball searches. The backward snowball search involved screening the references of included studies. The forward snowball search involved checking the online curricula vitae and website of authors with at least one included study. We did the latter to increase the likelihood of finding draft papers or other documentation for ongoing studies. Due to the large number of health studies captured in our search and the preponderance of HIV-related studies that mention 'life skills' or other terms without necessarily addressing them, we did not place as great an emphasis on the snowballing process for these studies as we did with others.

<sup>6</sup> Ongoing impact evaluations were available in early draft format, as preregistrations, or with pre-analysis plans. Announcements were noted on primary authors' personal websites or in their curricula vitae.

The search and screening process resulted in 90 completed impact evaluations (a study is deemed completed if there is a complete report publicly available). Rankin *et al.* (2015) present the bibliography of all the included impact evaluations, the ongoing and announced impact evaluations and the completed and protocol-stage systematic reviews.

We present a picture of the evidence gap map as Figure 3.<sup>7</sup> The format shows the number of studies that provide evidence for each cell. Darker cells represent those with more evidence. The flags in the corner of the cells reflect the underlying comment boxes that list the short title, author, year of publication and country for each study appearing in the cell.

The map only shows where there is evidence, not what the evidence says, so it is incorrect to interpret a dark cell as meaning that there is a lot of evidence supporting a positive impact of the intervention on the outcome. The evidence may show negative effects or null effects, or be inconclusive. A dark cell does mean that there is a deeper base of evidence for the effect of that intervention on that outcome.

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<sup>7</sup> The workbook and online presentations of the evidence gap map show the short titles, author, year of publication and country for each study in each cell. In addition, those presentations include hyperlinks for each of the studies to the 3ie Impact Evaluation Repository, which provides bibliographic information and a link to the original source. These resources can be found at <http://www.3ieimpact.org/en/publications/3ie-evidence-gap-map-report-series/3ie-evidence-gap-map-report-1/>.

Figure 3. Youth and transferable skills evidence gap map (minus the crosscutting columns)

Intervention categories		Outcome & impact measurement categories															
		Learning & behaviour							Academics, employment, livelihoods & demography					Institutions			
		LB1 Individual knowledge	LB2 Individual beliefs & attitudes	LB3 Measured transferable skills	LB4 Social participation & interaction	LB5 Health & safety behaviours	LB6 Livelihoods & employment behaviours	LB7 Criminality	EL1 Demography & health	EL2 Academic, schooling outcomes	EL3 Employment	EL4 Wages, income & assets	EL5 Other livelihoods measures	I1 Educational institutions	I2 Private sector	I3 Societal & political	
FORMAL EDUCATION	FE1 Teacher training programmes & curriculum reform	2	2	2		1											
	FE2 Teacher networking & support																
	FE3 Teacher incentives																
	FE4 Skills courses at school	23	29	22	2	25		2									
	FE5 Institutional management & capacity building																
EXTRA-CURRICULAR ACTIVITIES	EC1 Student clubs, groups & associations	1	1	1	1	1						1					
	EC2 Career counseling & job fairs																
PEDAGOGY	PM1 Learner-centred teaching																
	PM2 Experiential & participatory learning	11	13	11	2	13		5		1	1						
SKILLS TRAINING	ST1 Transferable skills training	8	11	8	4	11		6		2	2	1			1		
	ST2 TVET & transferable skills combined training	5	9	8	6	7	4	2	5	2	13	15	5				
	ST3 Foundational & transferable skills combined training	1	1	1	2	1	1	1	2		2	1					
WORK-PLACEMENT	WP1 Job-matching, apprenticeship & internship programmes	2	3	5		2	2		3		10	9	4				
	WP2 Public & community service programmes		2	2	2	1	1		2	1	1	2	1				
	WP3 Military-style programmes																
ALTERNATIVE LEARNING PATHWAYS	AL1 Media & edutainment	2	2	2		2											
	AL2 Community centres & civil society groups	10	11	5	3	9	2		4	2	2	1	1				
	AL3 Distance learning	1	1			1											
	AL4 Mentoring, tutoring & coaching	2	4	2	2	5	1	1	3	1	5	5	2				
	AL5 Peer-to-peer learning or peer encouragement	11	13	10	2	9	1		3			1					
	AL6 Parent or family involvement	4	6	4	2	2	1		1	1		1					
	AL7 Therapy & transferable skills			1	2				5								
FINANCIAL SUPPORT	FS1 Education-related financial support & services	1	4	1	1	2			2		2	4	2				
	FS2 Job-related financial support & services	2	3	3	4	3	2	1	3		6	7	5		1		

When populated in the map, the studies produce 609 occurrences (each cell in which a study appears). So, for example, if a study looks at a programme that includes community centres and peer-to-peer learning, and the study estimates the programme effects of both (separately or together) on outcomes measured with indicators belonging to individual beliefs and attitudes, social participation and interaction, and demography and health categories, then there are six occurrences of the study. This appears in six cells in the gap map. We can think of this as meaning that it reports six different types of evidence. There should be at least one distinct outcome indicator for each outcome category listed, but if a programme has multiple components that cannot be isolated for the evaluation, then one piece of evidence (the effect of the programme on a particular indicator) will appear for each intervention type that makes up the intervention.

The large number of occurrences relative to the number of included studies indicates that many programmes comprise different types of intervention and that many impact evaluations measure programme impact on multiple outcome types. For example, the Ibarraran *et al.* (2012) study on life skills and employability training in Dominican Republic measures the impact on outcomes in six different categories.

In analysing the map, we want to ensure that the gaps visible in the evidence gap map reflect clear theories of change. If the causal change is too indirect, the effects of an intervention cannot be confidently attributed to an outcome. For example, institutional management and capacity building in the formal education system could conceivably have an effect on students' individual knowledge, but it is unlikely that researchers would attempt to measure this effect. Therefore, we insert cross-hatching into the cells for which the connection between the intervention and outcome categories is weak or very indirect. We base these choices on information from our consultation events, literature reviews and our knowledge of programming. This does not mean that there could not be a theory of change between the two, but simply that the lack of evidence does not reflect an important gap in research.

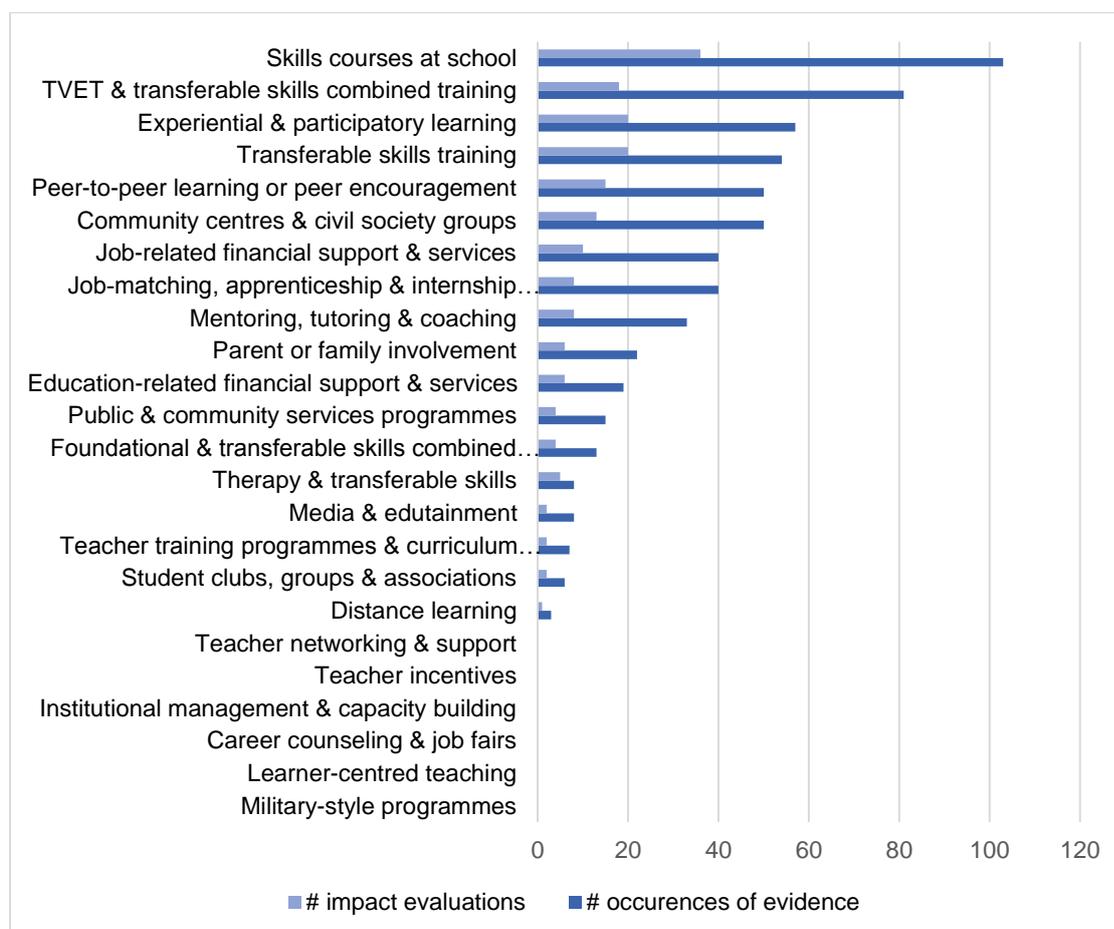
## **4. Features of the youth and transferable skills evidence base**

This section presents our analysis of the impact evaluation evidence base for youth and transferable skills in L&MICs. We start by looking at the clusters and gaps using the data from the map. We also provide additional information on the 90 impact evaluations. We then describe some features of the programmes evaluated, including the topics studied and the skills targeted. We discuss the evidence from the systematic reviews in section 5.

### **4.1 Impact evaluations in the evidence base**

Figure 4 displays the volume of the evidence base by intervention category.

**Figure 4. Amount of evidence and number of impact evaluations by intervention category**



The ‘# occurrences of evidence’ bar in these figures counts each time a study appears in any cell in that row. For the entire map, there are more than six times as many occurrences of evidence than studies. In this figure and the next, the multiple occurrences of studies for each category means that, on average, each of the studies evaluating an intervention in that category reports effect sizes in several different outcome categories.

The intervention category with the most evidence, both in terms of number of studies and occurrences of evidence, is ‘skills courses at school’ (FE4). These reflect transferable skills sessions, courses, or workshops added to the regular school curriculum. As we see in section 4.2, the majority of the programmes evaluated in these studies are health-related courses. Other intervention categories in the formal education grouping have very few studies and occurrences of evidence.

The category with the next-highest prevalence of evidence is ‘TVET and transferable skills combined training’ (ST2). Although, the search returned a much larger number of hits for studies looking at labour market and TVET interventions, we include only those that specifically state that teaching or imparting transferable skills is a part of the intervention. The fourth intervention category with the largest amount of evidence is ‘Transferable skills training’ (ST1).

The third-highest category is 'experiential and participatory learning' (PM2), which we include to capture studies that explore these pedagogies. The evidence gap map shows a large number of studies that test the effectiveness of experiential and participatory learning. The specific programme types evaluated in these studies may be very different.

There are six intervention categories for which we did not find any impact evaluations: 'teacher networking and support' (FE2), 'teacher incentives' (FE3), 'institutional management and capacity building' (FE5), 'career counselling and job fairs (EC2), 'learner-centred teaching' (PM1) and 'military-style programmes' (WP3). The first three of these are in the formal education grouping. We thus find the greatest number of studies about courses delivered at schools that include transferable skills components, but the least amount of evidence for other types of transferable skills programmes in secondary schools.

Figure 5 shows the same counts of studies and occurrences of evidence, but using the same order as the evidence gap map, so that it is easier to see the distribution of studies and evidence across the groupings of intervention categories. This figure clearly shows the predominance of impact evaluations for 'skills courses at school' (FE4) in the grouping for formal education.

**Figure 5. Amount of evidence and number of studies by intervention category, ordered as in the evidence gap map**

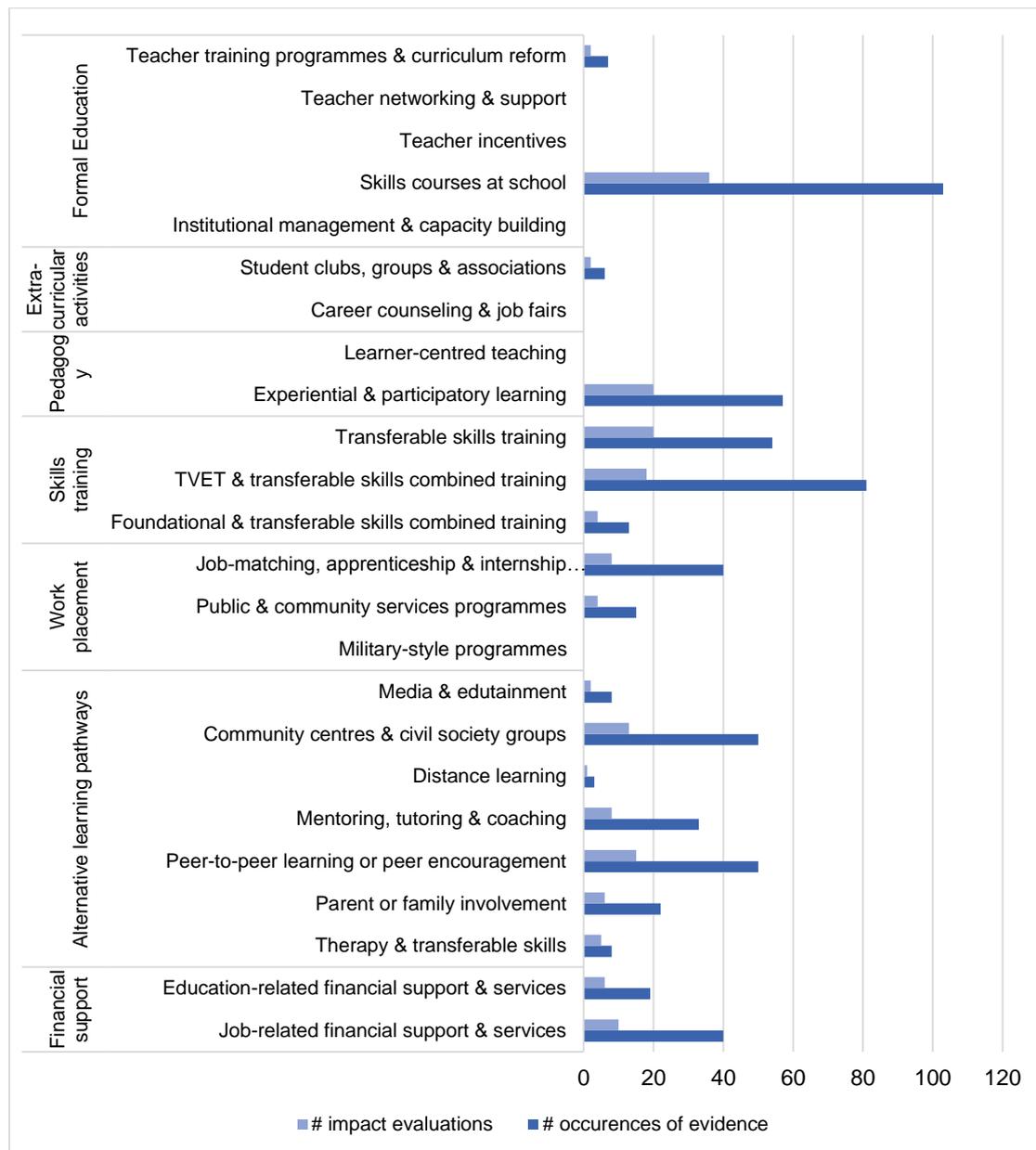


Figure 6 shows the volume of evidence by outcome category. Strikingly, only one study measured outcomes at the institutional level. Groh *et al.* (2012) measured the effects of an employability skills training and job voucher provided to the employer on firm-level outcomes such as number of women employed by a business.<sup>8</sup> It is often harder to measure outcomes at these higher levels with impact evaluations for which the data collection is at the individual level, particularly in order to have a large enough sample size to test hypotheses. Nonetheless, impact evaluations in other fields of international development often do measure outcomes at the community, school, or firm level.

<sup>8</sup> The specific results for these outcomes were not provided in the working paper. We reached out to the authors for further details and they kindly provided us with these additional data.

**Figure 6. Amount of evidence and number of impact evaluations by outcome category**

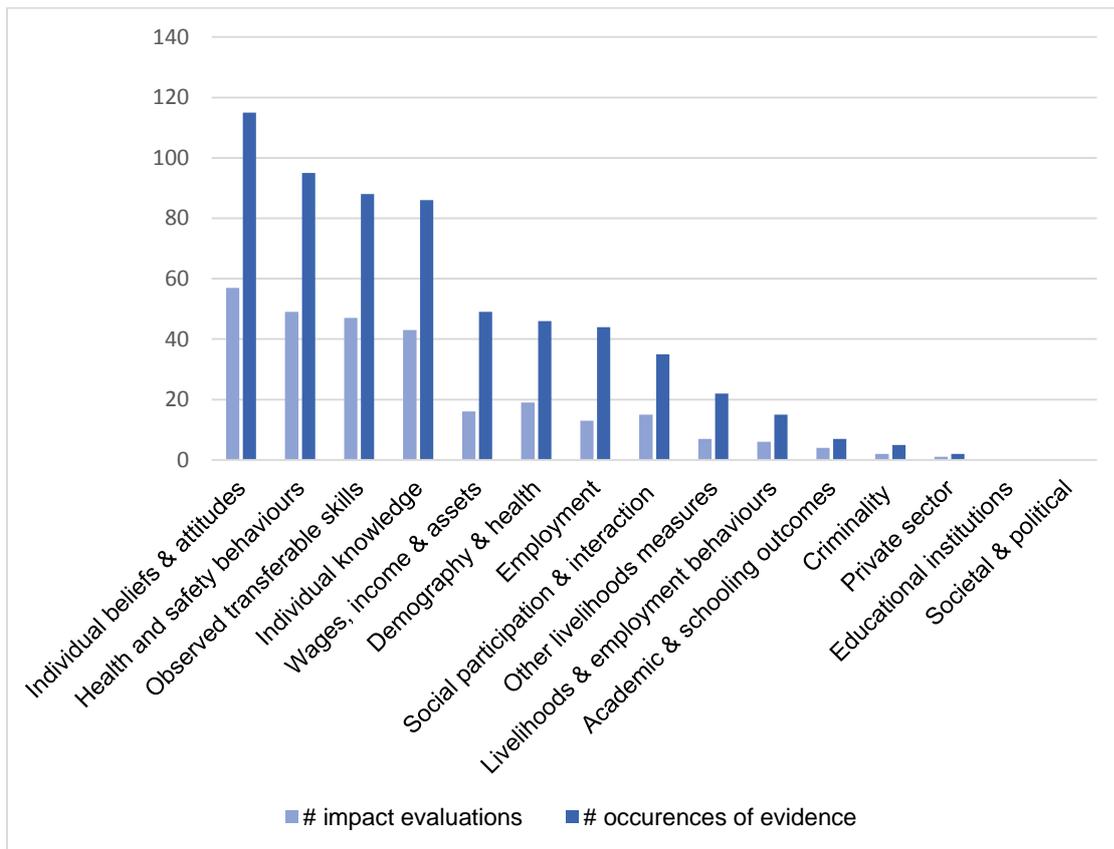
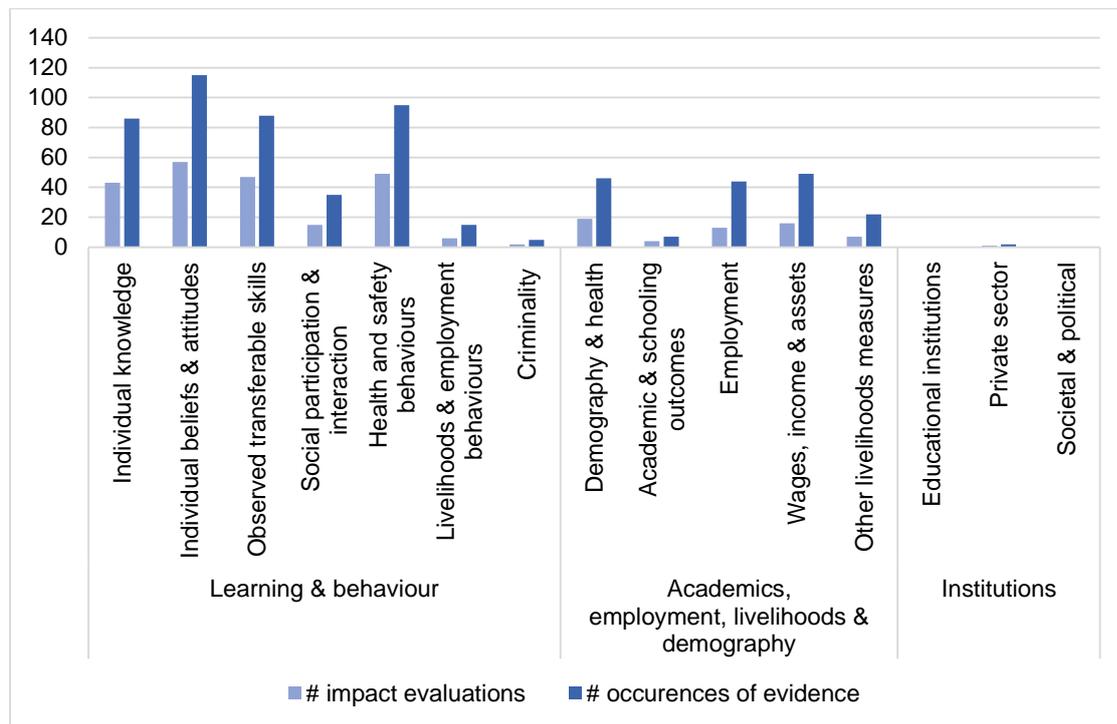


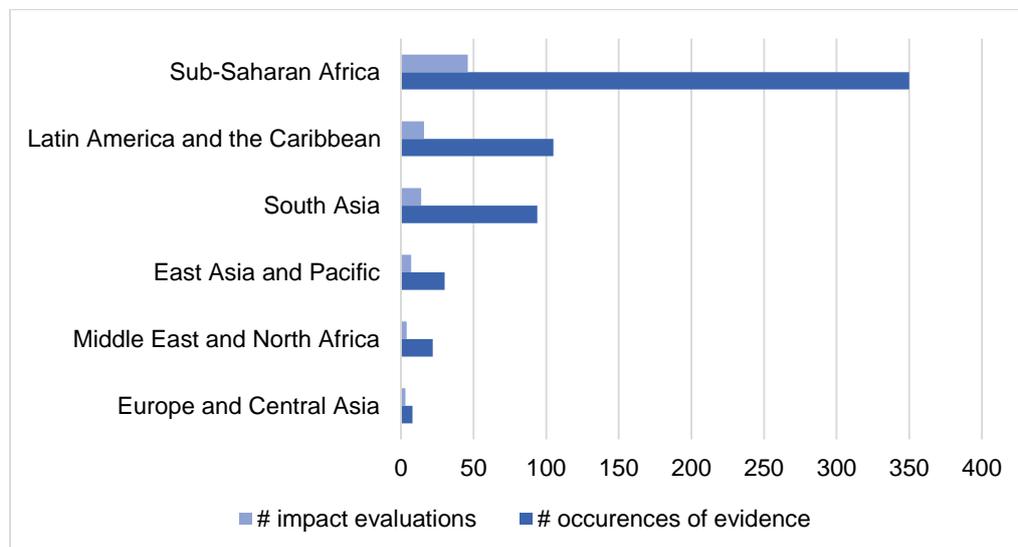
Figure 6 shows the largest number of studies and the greatest quantity of evidence for ‘individual beliefs and attitudes’ (LB2), followed closely by ‘health and safety behaviours’ (LB5), ‘observed transferable skills’ (LB3) and individual knowledge’ (LB1). In fact, many of the studies measure several indicators in each of these categories, particularly under knowledge and beliefs and attitudes. We observed that most of these outcomes, particularly those on learning and behaviour, are self-reported. Transferable skills were often measured using a composite index of questions given to participants.

Figure 7 shows the same data, presented in the same order as the evidence gap map. In this figure we clearly see that there is more evidence on the interventions’ impact on learning and behaviour than on outcomes further down the causal chain, including things like health outcomes and employment. Figure 8 shows the distribution of evidence across the regions with L&MICs.

**Figure 7. Amount of evidence and number of impact evaluations by outcome category, ordered as in evidence gap map**



**Figure 8. Amount of evidence and number of studies, by region**



We see that there are as many studies for programmes in Sub-Saharan Africa – and far more evidence from Sub-Saharan Africa – as there are for the rest of the regions combined. We can account for some of the volume for Sub-Saharan Africa by the large number of impact evaluations of HIV and AIDS-related programmes. The evidence gap map report (Rankin *et al.* 2015) includes a figure showing the amount of evidence by country.

Figure 9 presents the columns from the evidence gap map that provide information for the four crosscutting themes. The first category captures studies that measure outcomes at endline and at some point after endline. We find evidence for outcomes measured beyond

endline for more than one-third of the studies, particularly in the same categories where we see a generally large number of studies. Our criterion here is fairly weak, however. 'Long-term' is defined only as some point after endline, and the long-term indicators in the studies range from three months to three years after the end of the interventions. It is less clear how much evidence there is on the effects of transferable skills programmes long after an intervention is completed.

One-third of the studies measure gender-specific outcomes. Some are programmes targeting only young men or young women; sometimes the data for a single program are analysed separately for men and women. For the third crosscutting theme, cost-effectiveness, there is a dearth of evidence. Only eight studies provide some estimate of cost compared with the estimated effect size. Although this is not unique to this sector of development programming, it is unfortunate, as it limits policymakers' ability to design and select cost-effective programmes. Finally, we found only 10 studies that looked at early school leavers as a target group. Half of these evaluate programmes that combine TVET with transferable skills.

**Figure 9. Amount of evidence by crosscutting theme**

Intervention categories		Cross cutting themes			
		CC1 Measurement of long-term outcomes	CC2 Gender- specific analysis	CC3 Cost- effectiveness analysis	CC4 Early school leavers
FORMAL EDUCATION	FE1 Teacher training programmes & curriculum reform	1			
	FE2 Teacher networking & support				
	FE3 Teacher incentives				
	FE4 Skills courses at school	16	8	1	2
	FE5 Institutional management & capacity building				
EXTRA-CURRICULAR ACTIVITIES	EC1 Student clubs, groups & associations	1	1		
	EC2 Career counseling & job fairs				
PEDAGOGY	PM1 Learner-centred teaching				
	PM2 Experiential & participatory learning	12	10		2
SKILLS TRAINING	ST1 Transferable skills training	9	8	2	1
	ST2 TVET & transferable skills combined training	8	10	5	5
	ST3 Foundational & transferable skills combined training	2	3		1
WORK-PLACEMENT	WP1 Job-matching, apprenticeship & internship programmes	2	4	3	3
	WP2 Public & community service programmes		2		
	WP3 Military-style programmes				
ALTERNATIVE LEARNING PATHWAYS	AL1 Media & edutainment				
	AL2 Community centres & civil society groups	3	5	1	3
	AL3 Distance learning	1		1	
	AL4 Mentoring, tutoring & coaching	4	4	2	1
	AL5 Peer-to-peer learning or peer encouragement	5	1		
	AL6 Parent or family involvement	2	2		
	AL7 Therapy & transferable skills	3	2		
FINANCIAL SUPPORT	FS1 Education-related financial support & services	2	1	2	1
	FS2 Job-related financial support & services	4	7	3	2

Note: The flags in the corner of the cells reflect the underlying comment boxes that list the short title, author, year of publication and country for each study appearing in the cell.

#### 4.1.1 Summary

Despite a large amount of evidence about the effectiveness of skills courses inserted in the formal education setting, there is a noticeable gap in evidence for other interventions in the formal education setting. An evidence base is forming for stand-alone transferable skills courses, as well as for stand-alone TVET programmes that intentionally incorporate transferable skills elements. There is a growing body of evidence about the effectiveness of interventions to build transferable skills using alternative learning pathways such as community centres or civil society groups and peer-to-peer learning. In fact, half of all studies included in the evidence gap map evaluate interventions that use some element of

alternative learning pathways. Slightly more than half of the studies evaluate interventions in Sub-Saharan Africa.

The majority of the outcomes measured by the evaluations in the map are at the individual level, especially individual beliefs and attitudes, measured transferable skills and health and safety behaviours. Roughly half of the total studies use one or more indicators intended to directly measure transferable skills. Almost all of these measurements come from self-reported data. We also find a notable number of studies that measure employment and earnings-type outcomes, primarily for interventions in the skills training group. The big gaps in evidence, in terms of types of outcomes measured, are for academic and schooling outcomes and for institutions.

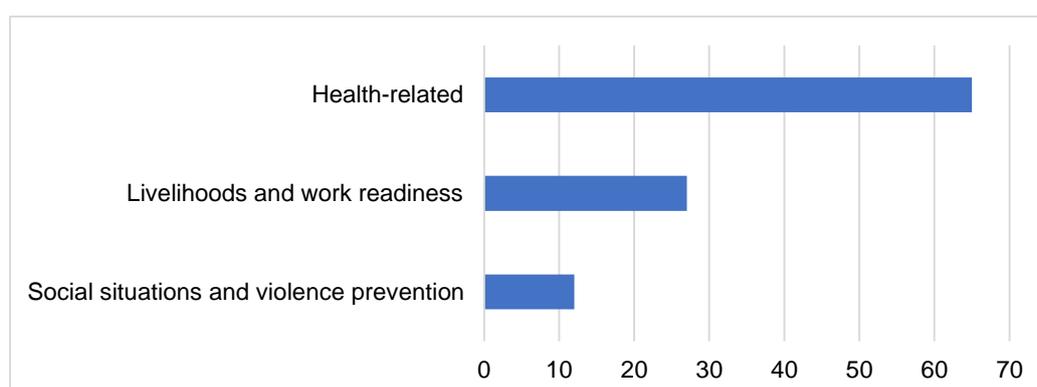
There is very limited evidence on cost-effectiveness. Only eight studies provide any information on cost that can be compared with an intervention effect size. More than one-third of the studies measure long-term outcomes of programmes. One-third of the studies measure an effect of transferable skills interventions separately for women and men. Only 10 studies measure outcomes specifically for early school leavers.

## 4.2 Features of programmes in evidence base

In this section we examine the evidence first by topic and then by the type of programme being evaluated. To better illustrate the evidence base, we coded each of the 90 impact evaluations for the study's topic – the overall frame of reference from which the researchers approach a study. In most cases, the topic of the study corresponds to the topic of the courses or training being evaluated, but this is not always the case. For example, Dunbar *et al.* (2014) test the addition of vocational education, micro-grants and social support to a life-skills and health education programme to see whether these additional employment-related elements cause the programme to have a greater impact on HIV prevention outcomes. We coded this study under the topic of HIV and AIDS, not under livelihoods and work readiness. We cross-coded studies that emphasise multiple topics. For example, Pham *et al.* (2012) place similar emphasis on general sexual health and on HIV prevention, so we coded this study under both topics.

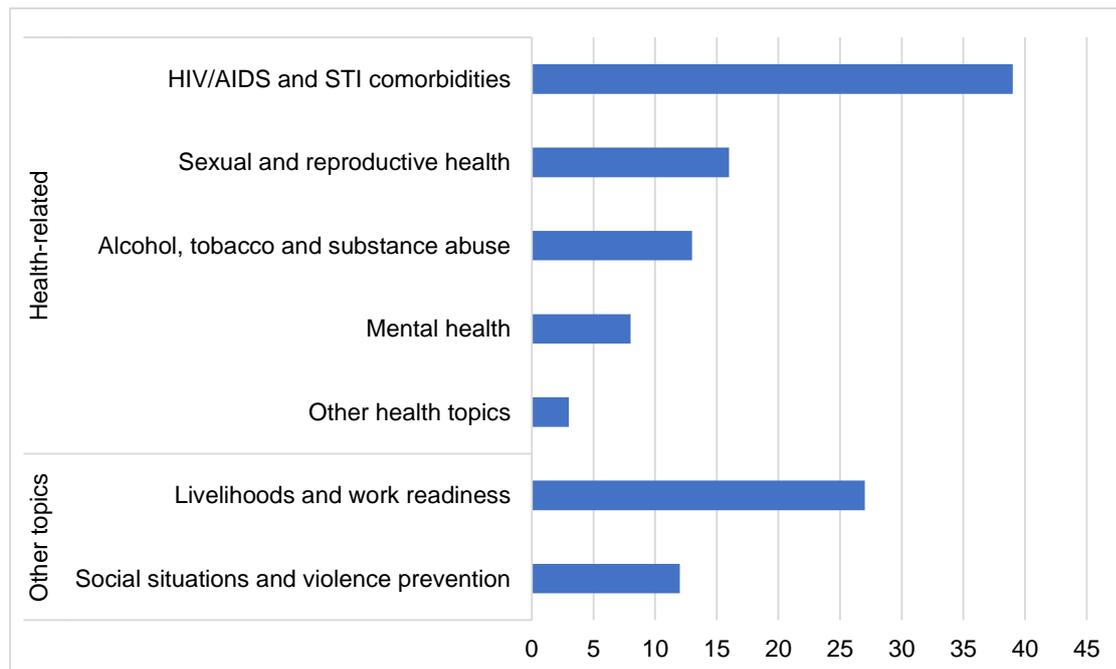
Figure 10 shows the distribution of studies by topic, with health-related studies combined under a single category. The 'social situations and violence prevention' category covers multiple topics including social interactions, female empowerment and violence prevention at home and at school.

**Figure 10. Number of studies, by topic**



Although our search strategy focused more on education and employment literature than on health literature, we found a large number of health-related studies, around two-thirds of the total. Many relate to HIV and AIDS or sexual and reproductive health; others are related to tobacco, alcohol and other drug use. Figure 11 disaggregates the health-related category. We find that more than half of the health-related studies focus on HIV and AIDS and STI comorbidities, followed by general sexual and reproductive health and alcohol, tobacco and substance abuse. The mental health topic primarily encompasses issues related to post-conflict settings, such as post-traumatic stress disorder.

**Figure 11. Number of studies by topic (disaggregated health topics)**



When we explore whether there is a connection between topic and teaching or training mechanism by looking at the distribution of topics across the intervention categories in the map, we find that the topics are spread fairly evenly across the categories. As one would expect, many of the studies that focus on livelihoods and work readiness are evaluations of interventions that fall under the skills training or work-placement category groups, but otherwise there is not a strong correlation between topic and intervention type.

We also explore the regional dispersion of studies in the map according to the high-level topic categories. Figure 12 shows that health-related studies outnumber the other categories, even in Latin America and the Caribbean, although in that region the number of livelihoods and work-readiness studies comes close. Only in the Middle East and Northern Africa do we see no health-related studies of transferable skills interventions.

**Figure 12. Number of studies by topic and region**

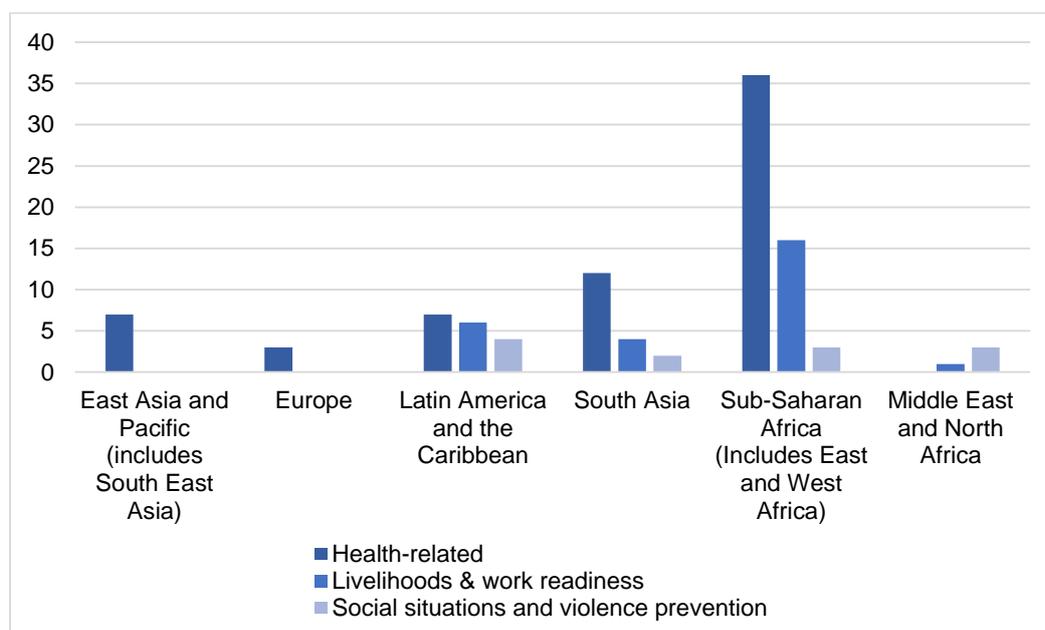
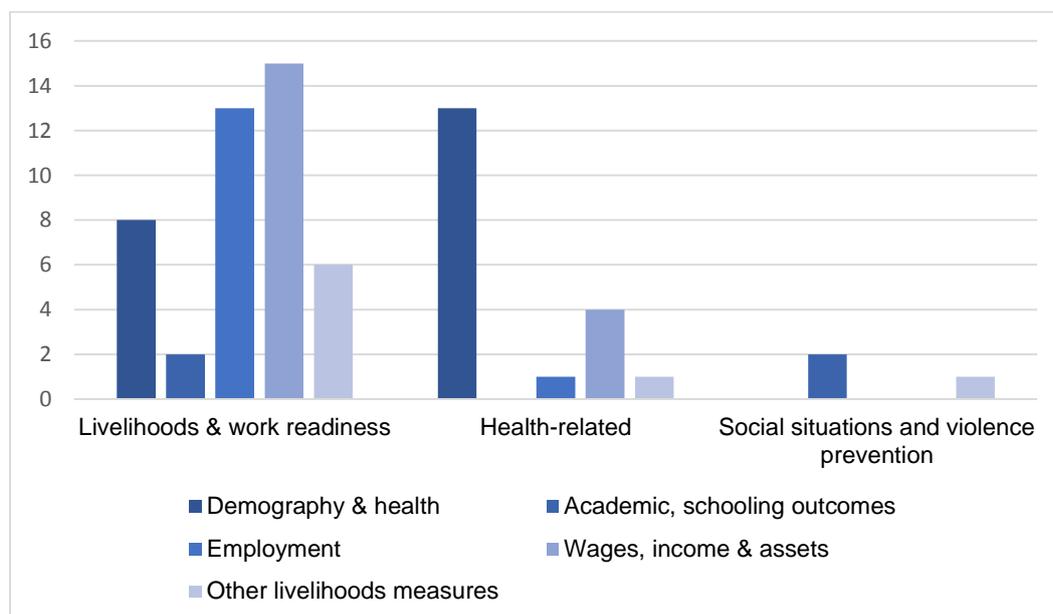


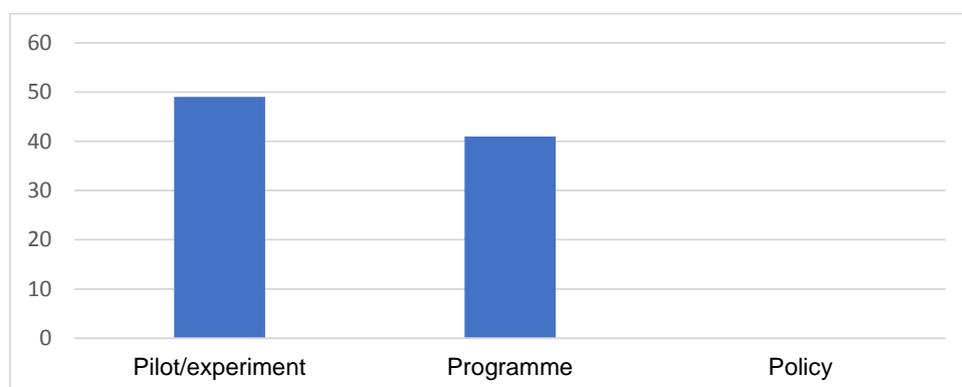
Figure 13 presents the outcome measures used by studies of different topics, focusing on the outcome categories in our middle grouping on the map. We can think of the outcome categories in this group as being the *results* of learning and behaviour change. We find, not surprisingly, that the health-related studies primarily measure demographic and health outcomes when they measure outcomes in this grouping, but that they are less likely to measure any outcomes in this grouping. The studies looking at livelihoods and work readiness, on the other hand, are more likely to measure outcomes in this grouping, and they use a greater variety of outcome indicators in this group. Adoho *et al.* (2014), for example, measure the impact of a girls' employment program on pregnancy rates and household size.

**Figure 13. Number of studies by topic for different outcome categories in the results group – outcomes that result from learning and behaviour changes**



We also coded the studies by type of programme – pilot, programme or policy – to understand the broader context in which these interventions are being conducted. Figure 14 displays the number of studies coded in one of the three categories: a pilot or experiment, for which interventions were conducted with the distinct goal of testing and evaluating their effects; a programme operating separately from the evaluation study; or a government policy. Forty-nine studies evaluate pilots or experiments. The SHAZ! project in Zimbabwe, for example, was designed to test the effects of a combination of life-skills education, reproductive health services and economic opportunities on long-term HIV infection and unintended pregnancy rates among adolescent female orphans (Dunbar *et al.* 2014). Evaluators compared this full intervention to control groups providing only life-skills training or only reproductive health services, with the hope that SHAZ! could be a model for future HIV prevention initiatives. These pilots or experiments are often implemented by research-oriented institutions and organizations.

**Figure 14. Number of studies by type of programme**

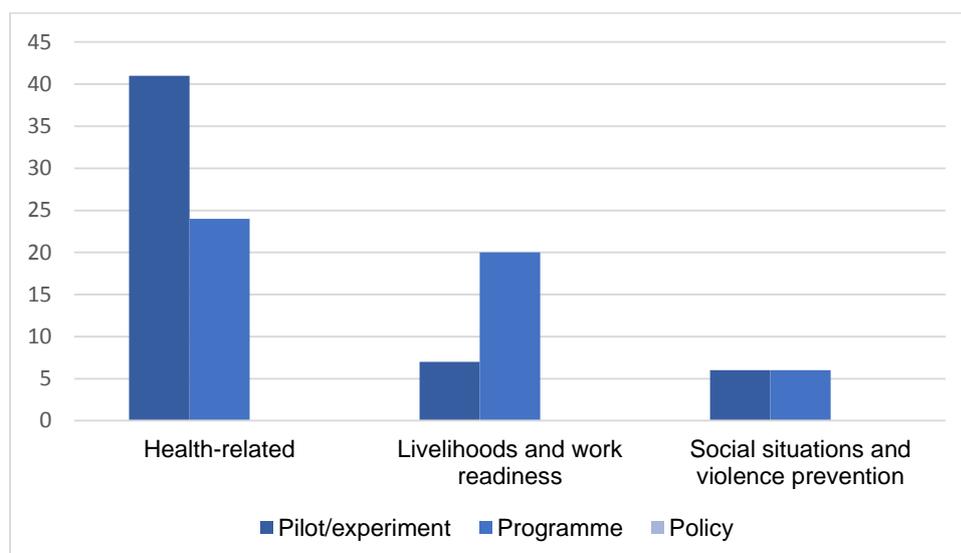


Forty-one studies evaluate a programme that exists independent of the study; these are often longer-term endeavours implemented by NGOs. *Akazi Kanoze*, for example, implemented and evaluated by EDC (Alcid 2014), began in 2009, was evaluated in 2014 and continues today with renewed funding from the U.S. Agency for International Development (USAID). Several of these programmes were implemented or managed by governments but were not, at the time, formal policies. For instance, the Economic Empowerment of Adolescent Girls and Women skills training programme was implemented by the Government of Liberia, which subcontracted the work to four NGOs. The World Bank, a major funder, conducted the evaluation (Adoho *et al.* 2014).

No study evaluates an existing government policy. While it is possible to use impact evaluation methodologies to evaluate government policies, it can be more challenging and is done less frequently, even in high-income countries. so this finding is not surprising.

We look at the type of programme, in terms of topic, in Figure 15. Of studies with health-related topics, nearly twice as many evaluate a pilot project or experiment than a programme. On the other hand, among studies related to livelihoods and work readiness, more than three times as many evaluate programmes, as compared with pilots or experiments.

**Figure 15. Number of studies for each topic area, by type of programme**



#### **4.2.1 Summary**

The majority of the impact evaluations for youth-focused interventions with transferable skills elements are focused on health, with HIV and AIDS studies forming the majority. We find studies from all three topics – health, livelihoods and work readiness, and social situations and violence prevention – in Latin American and the Caribbean, South Asia and Sub-Saharan Africa. In East Asia and the Pacific and in Europe, we find studies only on health, and in the Middle East and North Africa we find studies only on livelihoods and work readiness and social situations and violence prevention, although the total number of studies in the latter three regions is quite small.

If we focus our attention on outcomes that are the result of learning and behaviour change, we find that the studies of livelihoods and work readiness are more likely to measure these results and measure them across the different outcome categories, with the exception that only two of these studies measure academic or schooling outcomes.

Just over half of the studies evaluate a pilot or experimental intervention, whereas just under half evaluate programmes. None of the impact evaluations study policies. Health-related studies are more likely to be of pilot or experimental interventions, and livelihoods and work readiness studies are more likely to evaluate programmes.

### **4.3 Skills in the evidence base**

In this section, we discuss the transferable skills represented in the evidence base, including the range covered, how they can be categorised, how the researchers incorporate the concepts into their studies and how they are (and are not) measured.

#### **4.3.1 Categories of skills**

In general, the skills addressed in these studies fall into non-cognitive and cognitive spheres of transferable skills. The studies cover non-cognitive skills such as communication skills, self-efficacy, self-regulation, refusal skills, negotiation skills, tolerance and empathy. The studies also address cognitive skills that fall into the final categories of Bloom’s taxonomy, including decision-making, problem-solving, entrepreneurial skills and basic financial skills.

To better understand the range of skills found in these studies, we use UNICEF's three 'life skills' categories. We find that these three general categories – personal and interpersonal (both in the non-cognitive realm) and cognitive skills – fit well with the skills found.

*Personal skills* are internally focused and include self-regulation, confidence, adaptability, resilience, self-efficacy and self-esteem. Self-regulation, according to Adoho *et al.* (2014) allows a person to 'formulate a goal, make a plan, stay on course despite setbacks, modulate intense emotions, and so on'. Resilience is an important indicator for Jordans *et al.* (2010) to measure in post-conflict Nepal, as it indicates that participants of a classroom-based psychosocial program are able to cope with emotions and situations and that they can exhibit prosocial behaviour. Ssewamala *et al.* argue that self-concept and self-esteem 'may play a critical role in promoting mental health and buffering distress' (2009, p.2), particularly amongst children orphaned by the AIDS epidemic.

Several of the studies on sexual and reproductive health and HIV prevention in the map include condom-use self-efficacy as a targeted skill. While this may seem like a rather specific skill, Li *et al.* (2011) describe self-efficacy as the perceived ability to give an adaptive response to external threat. O'Leary *et al.* (2012) discuss how self-efficacy plays a role not only in condom use but also in avoidance of other risky situations connected to sex. We thus include the measurement of program effects on condom self-efficacy as evidence occurrences for measured transferable skills.

*Interpersonal skills* include those that help a person interact with others. The most common interpersonal skills found in the evidence base are those that help people advocate for themselves. Mostly found in the health-focused studies, they include communication, negotiation and refusal.<sup>9</sup> These skills are most often connected to communicating about sex, negotiating condom use, and refusing alcohol, tobacco or other drugs. These skills are often trained via participatory approaches. In Lotrean *et al.* (2010), for example, Romanian youth discussed how to best refuse cigarettes in peer-led groups. Beyond negotiation skills in terms of condom use, a recent pilot programme by Innovations for Poverty Action tested a hypothesis that negotiation skills 'can lead to a more favourable allocation of resources to the girl, which will better allow her to develop her human capital and make decisions that protect her health' (Ashraf *et al.* 2013, p.2). Other programmes targeted assertiveness, leadership, tolerance (often in post-conflict situations or specific to people living with HIV and AIDS) and empathy.

*Cognitive skills* are not as common in the evaluations, but we do find decision-making, critical thinking and problem-solving. Seal *et al.* (2006) tested a life-skills programme that taught problem-solving and decision-making in terms of preventing tobacco and drug use amongst Thai high school students. Bustamante and Chaux (2014) tested the effects of two intervention strategies, with the goal of stopping moral disengagement in adolescents in order to increase prosocial relationships and peaceful approaches to problems. One intervention strategy focused on critical thinking and social regulation, with the hypothesis that critical thinking skills may enable youth to 'question beliefs or justifications that make it easy for people to resort to the moral disengagement process' (Bustamante and Chaux,

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<sup>9</sup> For a detailed discussion of the impact of skills on specific health outcomes, see the World Health Organization document, 'Skills for health: Skills-based health education including life skills: An important component of a Child-Friendly/Health-Promoting School', available at: <http://www.unicef.org/lifeskills/files/SkillsForHealth230503.pdf>.

2014). Several other studies looked at basic business and financial skills. We consider those that are not specific to a vocation (for example, accounting) to be transferable to a wide range of personal and vocational situations. BRAC Uganda's Empowerment and Livelihood for Adolescents program, for example, provides training on skills such as budgeting in addition to life skills and specific vocational skills (Bandiera 2014).

Although we screened studies on whether we could determine that the intervention was meant to somehow teach or train one or more transferable skills, we find that many of these studies do not include focused analysis of the transferable skill or skills included in the intervention. The studies provide very little discussion of what specific skills are targeted, how they fit into a theory of change for the intervention and how they are addressed by the intervention. For example, the curriculum of one programme noted a main aim of 'providing students with sexual negotiation skills' (Hayes *et al.* 2005, p.435). Although the study provides details of the lessons, it does not explain the intended links between the participatory activities and the main goals of the curriculum. It is therefore difficult to determine which activities targeted negotiation skills and what the actual effects of this skill generation were.

Other studies give multiple examples of skills but do not define them or provide a broader context, as in statements such as '[life skills training] included a broad range of topics: from preparing CVs to family planning' or 'the life skills component addressed areas such as self-awareness, emotional intelligence, problem solving, goal setting, job searching, and health practices' (Alzua *et al.* 2007, p.5; de Azevedo *et al.* 2013, p.3). The authors provide no further details on the curricula or the importance of life-skills training.

While most of the identified studies do not have transferable skills as their main research question, a few exceptions exist, such as the Krishnan and Krutikova's 2012 study, 'Non-cognitive skill formation in poor neighbourhoods of urban India'. As another example, Hazavehei *et al.* (2008) tested the effects of an educational intervention on the skill of asserting oneself amongst high school boys. For most studies, however, the skills are mentioned as an element of the intervention but not its primary objective.

#### 4.3.2 Skill measurement

Of the studies that attempt to measure skills directly, most use a type of index measure or model to aggregate proxy behaviours, attitudes and other characteristics to observe a potential change in skill level. Chhabra *et al.* (2008) assess the refusal skills of youth (focusing on sexual encounters) by asking a series of questions around a respondent's confidence in 'being able to refuse their friends in order to avoid an uncomfortable or risky situation.' Hazavehei *et al.* (2008) use a BASNEF) model (assessing beliefs, attitudes, subjective norms and enabling factors) and other behavioural models to measure the ability to assert oneself, providing participants a series of questions related to each BASNEF characteristic. Adoho *et al.* (2014) measure two types of non-cognitive skills – self-regulation and entrepreneurial skills – designating composite indicators for each. To measure self-regulation, researchers gave participants 11 statements about themselves related to goal setting, sticking to a plan and managing intense emotions; each participant indicated if she agreed with each statement.

The vast majority of these skills and skill-related questions are self-reported. Many studies that aim to measure self-efficacy and related skills provide a series of statements and ask

participants to reply how confident they feel about them. We see these measures in health studies and in those focused on employability and livelihoods. Atwood *et al.* (2012), for example, asked about participants' confidence to ask to use a condom during sex. Adoho *et al.* (2014) asked participants how well they felt they could perform six tasks related to starting and running a business.

Slightly more than half of the studies do not include any indicator intended to measure transferable skills directly. Some studies that do not measure skills do emphasise their role in the intervention's theory of change. Such studies are primarily health-related, measuring outcomes such as condom use and HIV prevalence. They discuss the role of transferable skills in the framework of sexual health, such as how communication, negotiation and refusal skills can mitigate social pressures around sexual behaviour (Walker *et al.* 2006). One example is Jewkes *et al.* (2008) who evaluated the Stepping Stones programme, which trained on skills such as risk awareness and communication using participatory learning approaches to change sexual behaviour and reduce the incidence of HIV and the herpes simplex virus. The authors measured indicators for the final outcomes without directly measuring acquisition of the skills, but nevertheless highlight the importance of the skills in the programme's theory of change.

#### **4.3.3 Summary**

We find that the studies cover a wide range of transferable skills that can be generally divided into three categories (personal, interpersonal and cognitive) of the life-skills typology designed by UNICEF. Although all the studies in the evidence gap map include some mention of a transferable skills element in the intervention, the emphasis on learning specifically about transferable skills varies greatly across studies. In fact, details on the specific skills, how they fit into the theory of change and how they are addressed by the interventions are often missing. This means that although the studies provide evidence related to transferable skills, it may be hard for users of the studies to disentangle the evidence specific to transferable skills.

#### **4.4 Anticipated new evidence**

As part of the search and screening process for the evidence gap map, we also searched for information on ongoing impact evaluations that would be included in the map as way to predict the current direction of research. Figure 16 presents a map of the eight ongoing studies for which there was enough public information that we could map them in the framework.

Figure 16. Evidence gap map of ongoing studies

Intervention categories		Outcome & impact measurement categories														
		Learning & behaviour							Academics, employment, livelihoods & demography					Institutions		
		LB1 Individual knowledge	LB2 Individual beliefs & attitudes	LB3 Measured transferable skills	LB4 Social participation & interaction	LB5 Health & safety behaviours	LB6 Livelihoods & employment behaviours	LB7 Criminality	EL1 Demography & health	EL2 Academic, schooling outcomes	EL3 Employment	EL4 Wages, income & assets	EL5 Other livelihoods measures	I1 Educational institutions	I2 Private sector	I3 Societal & political
FORMAL EDUCATION	FE1 Teacher training programmes & curriculum reform	1	1	1		1		1	1	1	1					
	FE2 Teacher networking & support															
	FE3 Teacher incentives															
	FE4 Skills courses at school															
	FE5 Institutional management & capacity building															
EXTRA-CURRICULAR ACTIVITIES	EC1 Student clubs, groups & associations	1	1													
	EC2 Career counseling & job fairs															
PEDAGOGY	PM1 Learner-centred teaching															
	PM2 Experiential & participatory learning															
SKILLS TRAINING	ST1 Transferable skills training		2	3	1	2	2		1	2	1					
	ST2 TVET & transferable skills combined training	2	1	2		1	2			3	3			2		
	ST3 Foundational & transferable skills combined training															
WORK-PLACEMENT	WP1 Job-matching, apprenticeship & internship programmes			1						1	1			1		
	WP2 Public & community service programmes			1	1	1					1					
	WP3 Military-style programmes															
ALTERNATIVE LEARNING PATHWAYS	AL1 Media & edutainment		1	1			1			1						
	AL2 Community centres & civil society groups															
	AL3 Distance learning															
	AL4 Mentoring, tutoring & coaching	2	2	3		1	3			4	3			2		
	AL5 Peer-to-peer learning or peer encouragement															
	AL6 Parent or family involvement															
	AL7 Therapy & transferable skills															
FINANCIAL SUPPORT	FS1 Education-related financial support & services															
	FS2 Job-related financial support & services	2	1	2		1	2			3	3			2		

Although we found sufficient information for only eight studies, we can see some differences in trends between the existing studies and new research:

- In comparison with the completed studies, a greater proportion of the ongoing studies are more directly focused on transferable skills, with topics such as psychosocial support, soft skills in connection to pregnancy and work, socio-emotional learning and school-based financial education.
- Six of the eight studies plan to measure transferable skills directly, including business skills, socio-emotional skills, psychosocial skills and non-cognitive skills.
- Two of the new studies intend to measure outcomes at the institutional level. Jakiela and Ozier plan to measure the effects of a girls' empowerment project on job creation and labour supply, and evaluators of the Kenyan Youth Empowerment Project aim to measure business creation, business survival and the degree of formalization of businesses.
- Four studies aim to evaluate interventions that fall into the 'mentoring, tutoring and coaching' category (AL4). For example, El-Mashrou3, an edutainment programme in Egypt, is combining mentorship for new business start-ups with a reality TV show (Barsoum *et al.*)
- One study includes an intervention that falls into the 'teacher training programmes and curriculum reform' category (FE1), for which there are only two completed impact evaluations. Gertler and Kudo are evaluating a programme that targets socio-emotional learning for at-risk students in an urban school in Lima, Peru. This programme involves a curriculum developed by the Ministry of Education and the World Bank and incorporated into the formal school curricula. Teachers receive one year of training on socio-emotional learning at a university (Gertler and Kudo).

Although it is difficult to tell from this snapshot, we speculate that the focus on transferable skills is growing. Increasing numbers of studies that focus on this topic have been completed or begun in the past few years.

## 5. Evidence from systematic reviews

The youth and transferable skills evidence gap map exercise identified six systematic reviews: four completed reviews and two with completed protocols. A systematic review is a study of studies based on a systematic search and screening of the existing literature about a specific question. The methods for search and screening in a systematic review are similar to what is presented here for evidence gap maps and in the accompanying evidence gap map report (Rankin *et al.* 2015), including a detailed pre-specified search strategy and a screening protocol. These search and screening methods to reduce bias in the selection of included studies distinguish a systematic review from a typical literature review. Systematic reviews synthesise the evidence from included studies using a variety of methods, but ideally include a statistical meta-analysis of the intervention effect sizes. We used a version

of 3ie's quality appraisal checklist<sup>10</sup> to assign low, medium, or high confidence in findings for the screened systematic reviews.

To be included in our study, a systematic review needed to have inclusion criteria that overlap with L&MICs, with young people aged 13–24 years and with interventions that include transferable skills components, and be rated as medium to high confidence. The most difficult to assess was whether the review really covers interventions with transferable skills components. We checked for this by looking at how the interventions are described and which outcomes are meta-analysed.

When we tried to code the identified systematic reviews onto the map, we found that no review fit exactly into any cell. Mismatches include cases where the review is broader (for example, it includes interventions with no transferable skills component) or narrower (for example, it includes only sports-based interventions). Therefore, although we do not include the reviews in the map, so as not to misrepresent the evidence base, we summarise them here, as the findings may still be relevant for many.

## 5.1 Employability and labour market outcomes

Two systematic reviews (one completed, one ongoing) look at programmes for youth employment in L&MICs. Tripney and Hombrados (2013) claim to be the first systematic review of TVET programmes that 'specifically focus on TVET for youth in LMICs, have computed effect sizes for the included studies or examined variability in effects by study, participant or intervention characteristics' (p.2). We rate their systematic review as having high confidence in findings. They use UNESCO's definition of TVET as 'a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life' (UNESCO 2010). Hence, a programme classified as TVET may include elements directly targeted at building transferable skills, but does not necessarily do so.

*"The overall mean effects [of TVET] on overall paid employment, formal employment, and monthly earnings were small, positive and significant; however, significant heterogeneity was observed."*

(Tripney and Hombrados 2013, p.1)

Tripney and Hombrados' inclusion criteria require that studies measure at least one quantifiable indicator of employment or employability. Thus, the 26 interventions reviewed – three randomised controlled trials (RCTs), two natural experiments and the rest quasi-experiments – are strongly aimed at providing job-specific skills. Because of this, it is difficult to identify which of (or whether) the reported effects in the systematic review are directly linked to the development of transferable skills. Only 6 of the 26 studies in the review appear in the evidence gap map with the rest focusing only on TVET.

Tripney and Hombrados find that overall, the interventions they include in the meta-analysis have a statistically significant but small effect on some labour market indicators, the largest

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<sup>10</sup> See:

[http://www.3ieimpact.org/media/filer\\_public/2012/05/07/quality\\_appraisal\\_checklist\\_srdatabase.pdf](http://www.3ieimpact.org/media/filer_public/2012/05/07/quality_appraisal_checklist_srdatabase.pdf). Also in Snilstveit *et al.* (2013).

effect being on indicators of formal employment.<sup>11</sup> They also report that TVET programmes seem to work better for women than men at increasing the number of hours at work, but they acknowledge that they have limited statistical ability to detect moderating effects of gender due to a relatively low number of studies in the meta-analysis and differences between the studies. Women have positive and statistically significant treatment effects on hours per week, whereas men have effects not statistically different from zero (Tripney and Hombrados 2013, p.7).<sup>12</sup> They also find that the quality of a study matters for the size of the estimates in that study, with lower-quality studies having larger estimates.<sup>13</sup>

An ongoing systematic review currently in protocol form (Kluve *et al.* 2014) is more detailed in its analysis of active labour market programmes for youth, a concept broader than TVET. Active labour market programmes encompass all social expenditure (other than education) aimed at improving prospects of finding gainful employment or increasing earnings capacity. Kluve *et al.* cluster active labour market programmes under four categories: training and skills development, entrepreneurship promotion, employment services and subsidized employment.

Of those four categories, the first (training and skills development) is the one that includes interventions designed to develop transferable skills directly. In particular, Kluve *et al.* look at 'behavioral, life skills or soft skills training' with the potential to improve decision-making skills, communication and teamwork, increasing self-management and self-esteem, and improving physical and mental health. Over time, such outputs are expected to increase employability, reflected in access to better and more stable jobs that allow for increased earnings and consumption. The activities of active labour market programmes under 'business skills training' aim to improve management skills and understanding of business mechanisms, with expected outcomes similar to the ones described above, plus improving business performance.

The document identified for the evidence gap map, Kluve *et al.* (2014), is a systematic review protocol. Thus, it does not provide effect sizes for relevant types of interventions. José Romero, a member of the Kluve *et al.* team, presented some preliminary results at the youth and transferable skills roundtable. At the time of the roundtable, the team had identified 87 programs in 31 countries, with about half of these programs focusing on soft skills (Booth 2015).

## 5.2 Urban violence and gangs

The rest of the identified systematic reviews explore preventive interventions. Higginson *et al.* (2013), for example, are conducting a systematic review (currently in the protocol stage) of evaluations of programmes aimed at youth involved in or at risk of joining a gang. Preventive programmes in this area focus on capacity building and social prevention and are designed to work proactively to stop gang-related crime before it occurs, either by preventing

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<sup>11</sup>  $g=0.199$ ; 95% CI [0.055, 0.344]. For readers familiar with statistical meta-analysis, we report in footnotes the relevant Hedges'  $g$  statistics and confidence intervals from the systematic reviews we summarise. The Hedges'  $g$  is a weighted combined standardised effect size reported in units of standard deviation. CI is the confidence interval, also in units of standard deviation, for the effect size estimate.

<sup>12</sup>  $g=0.16$ ; 95% CI [0.04, 0.28];  $g=-0.09$ ; 95% CI [-0.2, 0.01]

<sup>13</sup> Systematic reviews use quality-rating tools, analogous to what we use to rate the systematic reviews, to rate each of the included studies. Criteria include things like risk of bias and sample size.

youth from joining gangs or by rehabilitating gang members outside of the criminal justice system. Higginson *et al.*'s inclusion criteria overlap with the youth and transferable skills evidence gap map in terms of focusing on youth and being limited to programmes in L&MIC countries. Their criteria include whether the study reports on youth gangs and assesses a preventative intervention. The second criterion should point to programmes that overlap with our intervention categories, particularly as these prevention programmes focus on capacity building.

Higginson *et al.* will conduct meta-analysis if they find at least three studies of sufficient quality that report effect sizes.

### 5.3 Reproductive health education

We find more systematic reviews in the health sector, particularly in relation to reproductive health and HIV and AIDS. Fonner *et al.* (2014) focus on school-based sex education for HIV prevention, finding 64 interventions across 17 countries in Latin America, Africa, South Asia and East Asia, of which 55 offer comprehensive sex education. Twenty-five studies use RCT or cluster RCT design; others use quasi-

experimental, before-after, or cross-sectional designs. Fonner *et al.*'s analysis includes three major types of intervention that comprise some type of transferable skill transmission – role playing and participatory learning, interactive and media-based discussions, and skill-based sessions, all in schools. We rate the systematic review as having high confidence. Ten of the studies in Fonner *et al.* appear in the evidence gap map. The remaining studies in the systematic review evaluate programmes without transferable skills elements or do not use impact evaluation methods.

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Fonner *et al.* (2014) find large and statistically significant effects of school-based sex education interventions on self-efficacy based on eight studies eligible for meta-analysis.

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Fonner *et al.* are able to meta-analyse eight studies for the outcome of self-efficacy, which can be considered a non-cognitive skill, focusing on self-efficacy to refuse sex or use a condom during sex. They find large and statistically significant effects of the school-based sex education interventions on self-efficacy.<sup>14</sup> They are able to include six studies in the meta-analysis for the effects on initiation of first sex – a demography and health outcome – and find a statistically significant reduction in the odds of initiating first sex during the study follow-up period. While these two findings are encouraging, the authors caution that given the nature of the outcomes, a key limitation of the study is its reliance on self-reporting, with potential social desirability bias and memory error.

Speizer *et al.* (2003) review interventions covering all types of reproductive health and using a variety of mechanisms with a specific focus on adolescents. The mechanisms include school-based programmes, mass media interventions, community-based interventions, workplace-based programmes, and health facility-based programmes. Speizer *et al.* include 41 'level 1' studies, which they define as using impact evaluation methods or other methods to reduce bias. We rate the review as having a medium degree of confidence.

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<sup>14</sup>  $g=0.25$ ; 95% CI [0.14, 0.36]

Due to the heterogeneity of the mechanisms, Speizer *et al.* do not conduct statistical meta-analysis. Nonetheless, they conclude, 'What appears to be important is that youth be provided consistent, accurate messages and information; the "life-skills" needed to protect their health and well-being; social support; and access to contraceptives and appropriate health-related services (as needed)' (2003 p.345). They suggest that the clearer conclusion is that much more rigorous evaluation is needed. Only 2 of the 41 studies included in the review are in the evidence gap map, because the majority focus almost exclusively on HIV and AIDS knowledge and access to health services and condoms without targeting transferable skills.

*'Conducting high quality program evaluations is difficult irrespective of setting, but the incremental costs and difficulties faced in developing country settings are not sufficiently large to justify not assessing the impact of programs on which significant resources are being expended.'*  
Speizer et al. (2003, p.346)

#### 5.4 Sports interventions for HIV

Finally, Kaufman *et al.* (2013) focus on sport-related interventions for HIV prevention. To explain their focus, they cite Dr Peter Piot, who explains how the sports-based approach incorporates transferable skills development in the quote from Grassroot Soccer in the text box.

*'Soccer offers an exciting platform for intensifying HIV prevention efforts across Africa helping promote self-esteem and supporting the development of protective communication and life skills.'*  
(Grassroot Soccer 2008, p.1)

Kauffman *et al.* identify 21 studies across 12 countries in Africa, Latin America, and the United States – none an RCT and none measuring biological outcomes. Although we rate the review as having a high degree of confidence due to the methods employed, the review authors rate the included studies as having very low quality on average, although seven of the studies do use a quasi-experimental design to look for causal impact. Based on five studies for each outcome, the meta-analysis finds positive and statistically significant effects of sports-based programmes on self-efficacy and communication, among other positive outcomes.<sup>15</sup> No studies from Kaufman *et al.* are included in the evidence gap map, largely because transferable skills were not an explicit goal of the programmes. For those that did incorporate life skills, the studies do not use impact evaluation methods.

#### 5.5 Summary

The small number of completed systematic reviews that have some overlap with the evidence gap map in terms of interventions, age and locations find that TVET programmes have, if any, a small impact on some employment indicators, although are more likely to have an impact for women than men. School-based HIV programmes have a positive and statistically significant impact on self-efficacy and first initiation of sex. There is weak evidence that sports-based programmes can improve self-efficacy and communication.

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<sup>15</sup> RR=1.22; 95% CI [1.02, 1.41] and RR=1.24; 95% CI [1.06, 1.41]. The weighted pooled effect size statistic reported in this review is relative risk instead of Hedges' g.

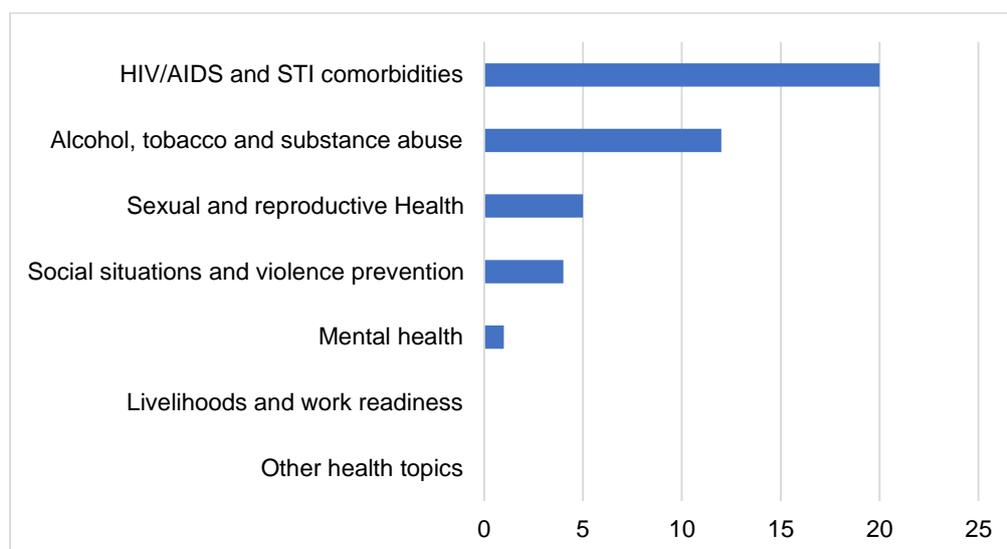
## 6. Evidence clusters

We can think of a spectrum for how evidence from impact evaluations can be used to influence programmes and policies. On one end, a specific study has a high degree of relevance for the programme it evaluates, and the findings can be applied directly to that programme or to very similar programmes in the same place. At the other end, we need a large number of studies to synthesise the evidence and understand whether an intervention works across different contexts or what the heterogeneous effects may be. In the middle of the spectrum, analysts need to review the existing evidence, paying careful attention to context, similarity of interventions and quality of studies to decide which evidence applies to their decision. In this section we discuss the largest clusters of evidence in the evidence gap map and analyse whether systematic review and synthesis might be possible or whether additional impact evaluations are needed to yield a critical mass.

The promising clusters are those cells or rows in the evidence gap map in which there is a large number of studies indicating that fruitful meta-analysis may be possible. In 3ie evidence gap maps, we call these promising questions for systematic reviews. Whether meta-analysis is possible depends on the homogeneity of the studies in the cluster, particularly whether the studies evaluate programmes that are relatively similar and measure outcomes in ways that can be standardised and aggregated. We explore several clusters in this evidence base, including ‘skills courses at school’ (FE4) and ‘TVET and transferable skills combined training’ (ST2) outside of the classroom. We also look at the large clusters of evidence for ‘community centres and civil society groups’ (AL2) and ‘peer-to-peer learning or peer encouragement’ (AL5).

The intervention category with the most evidence is ‘skills courses at school’ (FE4), specifically in terms of individual knowledge, beliefs and attitudes, transferable skills and health and safety behaviours. We see in Figure 17 that none of these studies focuses on livelihoods and work readiness. The vast majority are health-related, particularly for HIV prevention. Some address other topics, such as peace education. For example, a programme evaluated by Biton and Salomon (2006) addressed cooperative and other interpersonal skills, with the overall topic being peace education for Palestinian and Israeli youth.

**Figure 17. Number of studies, by topic, for skills courses at school**



We see several common mechanisms among ‘skills courses at school’ (FE4). First, nearly all of the interventions directly involved teachers in some capacity. Some interventions, such as in Huang *et al.* (2008), were peer-led and the teachers were simply used to identify leaders and help facilitate the process. In many other studies, teachers delivered the content in a classroom setting. Many interventions occurred solely in the classroom; others employed different approaches at the school. The DramAIDE project in South Africa, for example, conducted HIV and AIDS-related drama workshops with teachers and large groups of students from multiple classes (Harvey *et al.* 2000). The project then held a final celebratory day for the full school, presenting dramas, songs, dances and posters created by the students.

The majority of studies under ‘skills courses at school’ (FE4) were conducted in Sub-Saharan Africa, with a handful in Asia and a few others in Latin America. Although the variety of approaches and mechanisms assessed in these studies would need to be addressed, the theories of change are similar and there is a possibility of exploring these school-based skills training programmes through systematic analysis. A systematic review could focus on the approaches and mechanisms used for skills generation, which would be a valuable complement to the topically focused reviews on sexual and reproductive health.

Another promising cluster, ‘TVET and transferable skills combined training’ (ST2), has studies across Sub-Saharan Africa, Asia, and Latin America. Some studies focus on an employability-related theory of change, taking a TVET-focused intervention and adding a transferable skills component to strengthen the employability of youth. *Juventud y Empleo* in the Dominican Republic, for example, was assessed in Ibarra *et al.* (2012). The programme provided specific vocational training and an internship, and added 75 hours of basic life-skills training to ‘strengthen trainees’ self-esteem and work habits’ (Ibarra *et al.* 2012, p.6). Other programmes with end goals connected to health add vocational training and other income-generating activities as a means to address the social determinants of a specific health issue (see, for example, Bandiera *et al.* 2014). A systematic review focusing only on TVET programmes that incorporate transferable skills would complement the Tripney and Hombrados (2013) review and could test whether certain kinds of TVET

programmes produce more encouraging results than Tripney and Hombrados found for TVET in L&MIC overall.

### Study highlight: an arts-based TVET intervention

Calero *et al.* (2014) evaluated *Galpão Aplauso*, a programme that targeted at-risk youth in the *favelas* surrounding Rio de Janeiro, Brazil. With goals of increasing employment and earnings and reducing risky behaviours, this programme incorporated traditional TVET with exercises to increase academic, language and life skills. Implementers used an arts-based pedagogy to effectively target life-skills development. The life-skills component focused on civic engagement and 'social harmony' to encourage the advancement of socio-emotional concepts including ethics, respect and honesty.

Evaluators used an RCT to evaluate the programme. At-risk youth who met certain eligibility criteria were randomly assigned to a programme or control group. Random assignment helped ensure a representative sample of the at-risk youth population and ensure the programme group and control group were comparable. The authors measured outcomes related to beliefs and attitudes, transferable skills, health and safety behaviours, and employment and income. Results based on the sub-sample (for which the long-run follow-up survey was complete at the time of writing) suggest that the intervention has positive impacts on employment outcomes. These impacts appeared four to five months after the end of the intervention.

There are clusters of evidence for several alternative learning pathways at the learning and behaviour outcome level, specifically in terms of community-based interventions ('community centres and civil society groups' [AL2]) and 'peer-to-peer learning or peer encouragement' (AL5). The 'community centres and civil society groups' category includes groups and clubs that meet outside of the school setting, as well as initiatives outside of school that are connected to the broader community. As an example of the latter, an adolescent reproductive health program in India not only asked the community to help design the interventions, but also encouraged youth to interact directly with village development committees, thereby practicing critical communication and consensus-building skills (Malhotra 2005).

The peer-to-peer learning category (AL5) contains some studies that included a peer-to-peer component as part of a strategy but do not specifically measure the effect of the approach. Some did, however. Sherman *et al.* (2009), for example, compares two approaches to reducing methamphetamine use among Thai high school students. The first was a standard knowledge-focused life-skills curriculum led by an adult, and the second was led by a peer educator, emphasizing communication with peer social networks (Sherman *et al.* 2009). Although there is a significant amount of evidence in this category, the approaches vary too widely to consider the option of meta-analysis in this particular category until more evidence is available.

## 7. Evidence needs

To explore what may be the priority research questions for future research on youth and transferable skills programming in L&MICs, it is important to analyse both demand and supply. The evidence gap map provides the supply-side analysis for identifying research

questions in this area. To get a sense of demand, we held multiple stakeholder consultation events, including a roundtable event for representatives from 21 organisations involved in youth and transferable skills. After revising the evidence gap map and analysis with feedback from the roundtable, we held another consultation event with FHI 360's international youth development and education teams.

Furthermore, it is important to remember that an absence of evidence in the map does not mean there is no programming in that area. There could be evidence that was not conducted with experimental or quasi-experimental methods. Alternatively, there could be impact evaluations for programmes where the age range did not align with ours (13–24 years). Although there is evidence that non-cognitive skills are more malleable in older children (Kautz 2014), other transferable skills programmes and evaluations in L&MICs exist at the primary school level. In the search for evidence, we found several highly relevant studies that targeted skills at younger age (see, for example, Bhana 2014, Opre 2013 and Pick 2007).

We can see in the map that, aside from impact evaluations of courses and workshops that are conducted in a school setting on an ad-hoc basis (and not incorporated into the permanent curriculum), there is a dearth of evidence of programming connected to the formal education system.

Specifically, there is little to no evidence on

institutional level changes and teacher-focused

interventions. As the formal education system is an easily accessible platform through which to effect change, this could be a large gap. In fact, the primary interest of this project's funders, the MasterCard and MacArthur foundations, was transferable skills programming in a secondary education context.

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As the formal education system is an easily accessible platform through which to effect change, the gap in evidence for interventions in this setting indicates a priority for impact evaluation investments.

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One possible reason why we see so much evidence for 'skills courses at school' (FE4) and not 'teacher training programmes and curriculum reform' (FE1) is that organisations and researchers prefer to test an approach in a pilot project, as a quicker and easier method that allows non-governmental entities to test approaches outside of the formal curriculum.

Programmes with positive results could very well have been incorporated into the curriculum and formal school system thereafter, but they have not been rigorously evaluated.

Stakeholders at the roundtable event and other consultations expressed disappointment that so much of the evidence on school-based training is specific to health, particularly HIV prevention and sexual and reproductive health. There was discussion of whether these studies should be excluded from the map, as the skills are less related to employability and general life skills. Eventually, participants agreed on two important reasons for considering the evidence from health-specific interventions. One is that the mechanisms tested may be relevant for other topics, even those that are less information-based and more skills-based than HIV prevention. The second is that the transferable skills developed through these programmes should indeed be transferable and thus benefit individuals in other aspects of their lives.

We see in the map that there is a complete lack of evidence on 'learner-centred teaching' (PM1) approaches. In this category we did not code all studies that employed participatory

approaches, but looked for authors to define their approach as a specific, learner-centred pedagogy. Interest in this pedagogical technique has increased recently, as expressed by implementers and funders in our consultations. Our findings do not mean, however, that no learner-centred approaches are being used or encouraged in L&MICs. In fact, Schweisfurth (2011) found 72 articles pertaining to this approach in L&MICs. Schweisfurth's definition seems to encompass a wide range of approaches, but programming is clearly being implemented with this approach. This review notes significant barriers to a wider and more sustainable uptake of this approach, noting the pervasiveness of traditional teacher-centred methods in educational culture, as well as other issues surrounding resources and training (Schweisfurth 2011).

Although we do not know from Schweisfurth (2011) how many of those studies were focused on youth in our target age range, we understand from feedback during our consultation events that this approach is often used at the primary school level, as opposed to the secondary school level. Metto and Makewa (2014), for example, explore the efforts and barriers surrounding the uptake of learner-centred teaching in Kenyan primary schools. In terms of skill acquisition, it is clear that existing programmes on learner-centred methods in L&MICs are not being evaluated with experimental or quasi-experimental methods. Participants at our consultation events made it clear that there is a strong demand for further evidence on this method in relation to youth and transferable skills.

We find several interesting trends when looking at the outcome columns of the evidence gap map, as opposed to the interventions. For example, there is a paucity of evidence around 'academic and schooling outcomes' (EL2). Some studies with academic outcomes were captured, measuring, for example, current enrolment, frequency of school attendance and test scores (Bandiera 2014, Nyirazinyoye 2011 and Bet 2014). Given the number of interventions conducted during the school day, we were surprised at the small amount of evidence that exists on the impact of this programming on school-related outcomes. This scarcity of formal education interventions on transferable skills is also reflected in high-income countries. A systematic review of school-based social and emotional learning found that only about 16 per cent of studies in the United States connect socio-emotional skills to academic outcomes (Durlak *et al.* 2011).

Additionally, while studies have been measuring employment and income outcomes, we see that fewer studies assess other livelihoods behaviours and measures. For example, Adoho *et al.* (2014) measure the impact of an adolescent girls' employment programme on household food security, Cho *et al.* (2013) measure household well-being via a composite index and Mensch *et al.* (2004) measure time spent on domestic chores.

Finally, we see very little evidence around outcomes related to 'criminality' (LB7), for which there seems to be a connection to skills surrounding self-control, civic education and interpersonal relationships, amongst others. For example, Rotheram-Borus *et al.* (2012) measured the frequency of delinquent behaviours including theft, threatening someone or starting a fight.

Participants at the roundtable pointed to the following areas as priorities for future research: distance learning, career counselling, social cohesion, mentoring for transferable skills, academic schooling outcomes, teacher training programmes and curriculum reform, learner-centred teaching, systems strengthening, global citizenship, community service and family.

## 8. Limitations

We searched all of the relevant indexes and databases to which we were able to gain access. However, in the interest of time, we had only one person conduct each search, with a single search specialist supervising and compiling the search work. Title and abstract screening were also conducted by only one person for each search hit. We may have missed some studies.

This search strategy was also challenging; we sought a wide range of interventions, and donors and implementers often use different terms for the same thing. Instead of running a search based on intervention terms, we focused on context and methods and did not exclude studies based on intervention or outcome until we were conducting the full-text screening and coding. When in doubt, we erred on the side of inclusion.

We did have two people code each of the included studies, with any discrepancies resolved through discussion or by a third person.

Due to the definitions of transferable skills we used at the beginning of the process, our search strategy had a heavier focus on non-cognitive skills than cognitive skills such as critical thinking, decision-making or financial skills. However, as discussed in the background section, many researchers use non-cognitive skills as a label for transferable skills, even though they recognise that some cognitive skills are included.

The studies identified include much less information on the actual skills targeted than we expected, so we are not able to describe the evidence base in terms of types of transferable skill. Participants at the roundtable expressed a desire for future research to prioritise specific transferable skills.

## 9. Conclusion

From more than 9,600 initial search results, we identified 90 completed impact evaluations of youth and transferable skills intervention in L&MICs. These studies produce more than 600 occurrences of 'evidence', meaning that each study measures the effects from multiple intervention categories or multiple outcome categories in the framework.

Analysis of the evidence gap map, along with the information coded from the studies about topic and programme type, yields the following conclusions about the evidence prevalence and gaps according to the intervention categories:

- There is a large amount of evidence about the effectiveness of skills courses inserted in the formal education setting. The vast majority of these evaluations are health-related, meaning that the courses focused on health topics or the evaluation focused on health outcomes. In turn, there is limited evidence about courses in the formal education setting on other topics, such as work readiness and prevention of violence.
- There is a noticeable gap in evidence for interventions designed to increase teaching

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There are 90 impact evaluations of interventions incorporating transferable skills for youth in L&MICs. These studies produce more than 600 occurrences of 'evidence', meaning that each study covers multiple intervention or outcome categories.

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of transferable skills in formal education institutions, aside from the evidence on inserted skills courses.

- An evidence base is forming for stand-alone transferable skills courses and stand-alone TVET programmes that intentionally incorporate transferable skills elements. These two categories are quite different; most of the evidence for stand-alone transferable skills courses comes from health-related interventions in Sub-Saharan Africa, whereas most of the evidence for combined TVET and transferable skills relates to livelihood skills, split between Sub-Saharan African and Latin America.
- There is a growing body of evidence on the effectiveness of interventions to build transferable skills using alternative learning pathways, such as community centres or civil society groups and peer-to-peer learning. These programmes are quite heterogeneous, however, and often include elements that cover multiple intervention categories in the evidence gap map. The topics of these interventions are mixed, with a majority being health-related but several studies in each intervention category on livelihoods and work readiness or other non-health topics.
- A little more than half of the studies evaluate a pilot or experimental intervention, and a little less than half evaluate programmes. Health-related studies are more likely to be of pilot or experimental interventions, and the livelihoods and work readiness studies are more likely to evaluate programmes.
- Just over half of the studies evaluate interventions in Sub-Saharan Africa, with the other half spread across Latin America and the Caribbean, South Asia, East Asia and the Pacific, the Middle East and North Africa and Europe, in that order of prevalence.

With respect to the outcomes measured, the analysis of the evidence base yields the following conclusions:

- The majority of measured outcomes in these impact evaluations are at the individual level, especially for individual beliefs and attitudes, measured transferable skills, and health and safety behaviours. We also find a remarkable number of studies that measure employment and earnings-type outcomes, primarily for interventions in the skills training group, which are stand-alone skills training programmes.
- There is an evidence gap for the effectiveness of interventions on academic and schooling outcomes. Only four studies measure effects using indicators in this category.
- There is also an evidence gap for the effectiveness of interventions on outcomes for institutions, including educational institutions, private sector institutions, and societal and political institutions.
- Roughly half of the studies include one or more indicators intended to directly measure transferable skills. Almost all of these measurements come from self-reported information, often compiled into indices.

Analysis of the information gathered on the crosscutting themes yields the following conclusions:

- More than one-third of the studies measure long-term outcomes of programmes. These measurements range from three months to three years after the end of a programme.
- One-third of the studies measure a separate effect of transferable skills interventions on women or men. About half of these are from programmes targeting livelihoods and work readiness; more than half are from programmes targeting health.
- There is very limited evidence on the cost-effectiveness of interventions to increase transferable skills among youth in L&MICs. Only eight studies provide any kind of information on cost that can be compared with an intervention effect size.
- Only 10 studies measure outcomes specifically for early school leavers.

We also examine the descriptions of the skills the evaluated interventions are targeting. We find that the studies cover a wide range of transferable skills that can be generally placed in three categories (personal, interpersonal and cognitive) of the life-skills typology designed by UNICEF. There appears to be a greater focus on personal and interpersonal skills, but this finding could be biased by our search strategy, which did emphasise non-cognitive over cognitive skills. All the studies in the evidence gap map include some mention of a transferable skills element to the intervention, but the emphasis placed on learning specifically about transferable skills varies greatly across studies. In fact, details on the specific skills, how they fit into the theory of change and how they are addressed by the interventions are often missing. This means that although these studies provide evidence related to transferable skills, it may be hard for users of the studies to disentangle the evidence specific to transferable skills.

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The lack of specific information about which transferable skills are targeted means that although the studies provide evidence related to transferable skills, it may be hard for users to disentangle the evidence.

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The small number of completed systematic reviews that have some overlap with the evidence gap map in terms of interventions, age and locations find that TVET programmes have, if any, a small impact on some employment indicators, although they are more likely to have an impact for women than men. School-based HIV programmes have a positive and statistically significant impact on self-efficacy and first initiation of sex. There is weak evidence that sports-based programmes can improve self-efficacy and communication.

The evidence gap map reveals several evidence clusters: 'skills courses at school' (FE4); stand-alone 'TVET and transferable skills combined training' (ST2); 'community centres and civil society groups' (AL2); and 'peer-to-peer learning or peer encouragement' (AL5). If the interventions within a cluster have similarities, the cluster may indicate a promising question for future systematic review research.

Our analysis suggests that the ‘skills courses at school’ and stand-alone ‘TVET and transferable skills combined training’ intervention categories both offer promising questions. The ‘skills courses in schools’ studies are almost all health-related, and most of the courses evaluated in these studies involve teachers in some capacity, suggesting additional similarity across interventions. The ‘TVET and transferable skills combined training’ studies include programmes focused on improving traditional TVET by adding transferable skills and programmes that add TVET to other interventions in order to strengthen health outcomes. A systematic review focusing on these combined programmes would complement the more general systematic review conducted by Tripney and Hombrados (2014).

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Our analysis suggests that two intervention categories – ‘skills courses in schools’ and stand-alone ‘TVET and transferable skills combined training’ – both offer promising questions for systematic review research.

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The other two clusters include a wide variety of programmes that often combine elements of community and civil society or peer learning in larger interventions. The heterogeneity of the programmes means that it would be difficult for a systematic review of these studies to produce results specific to the interventions in question.

Finally, the analysis of the evidence gaps combined with the information on stakeholder demand gathered at the roundtable event allows us to identify some priorities for future investment in impact evaluations. One priority is formal education interventions outside of inserted skills courses. There is great demand and little evidence for interventions designed to reform curricula and train teachers to build transferable skills generally, provide teachers with incentives or help them network, or build institutional management and other capacity. There is also a gap in evidence about whether learner-centred approaches are effective for teaching transferable skills, which was a concern among many roundtable participants.

Overall, participants want to see more studies of transferable skills programmes focused on non-health objectives, such as livelihoods and employability, and on general well-being. Similarly, there is a need for future impact evaluations of youth and transferable skills programmes to measure outcomes further along the causal chain; that is, for outcomes that are the result of changes in learning and behaviours.

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Appendix figure 1. Full youth and transferable skills evidence gap map

Intervention categories		Outcome & impact measurement categories															Cross cutting themes			
		Learning & behaviour							Academics, employment, livelihoods & demography					Institutions			CC1	CC2	CC3	CC4
		LB1 Individual knowledge	LB2 Individual beliefs & attitudes	LB3 Measured transferable skills	LB4 Social participation & interaction	LB5 Health & safety behaviours	LB6 Livelihoods & employment behaviours	LB7 Criminology	EL1 Demography & health	EL2 Academic, schooling outcomes	EL3 Employment	EL4 Wages, income & assets	EL5 Other livelihoods measures	I1 Educational institutions	I2 Private sector	I3 Societal & political	Measurement of long-term outcomes	Gender-specific analysis	Cost-effectiveness analysis	Early school leavers
FORMAL EDUCATION	FE1 Teacher training programmes & curriculum reform	2	2	2		1											1			
	FE2 Teacher networking & support																			
	FE3 Teacher incentives																			
	FE4 Skills courses at school	23	29	22	2	25			2								16	8	1	2
	FE5 Institutional management & capacity building																			
EXTRA CURRICULAR ACTIVITIES	EC1 Student clubs, groups & associations	1	1	1	1	1							1				1	1		
	EC2 Career counseling & job fairs																			
PEDAGOGY	PM1 Learner-centred teaching																			
	PM2 Experiential & participatory learning	11	13	11	2	13			5		1	1					12	10		2
SKILLS TRAINING	ST1 Transferable skills training	8	11	8	4	11			6		2	2	1		1		9	8	2	1
	ST2 TVET & transferable skills combined training	5	9	8	6	7	4	2	5	2	13	15	5				8	10	5	5
	ST3 Foundational & transferable skills combined training	1	1	1	2	1	1	1	2		2	1					2	3		1
WORK-PLACEMENT	WP1 Job-matching, apprenticeship & internship programmes	2	3	5		2	2		3		10	9	4				2	4	3	3
	WP2 Public & community service programmes		2	2	2	1	1		2	1	1	2	1					2		
	WP3 Military-style programmes																			
ALTERNATIVE LEARNING PATHWAYS	AL1 Media & edutainment	2	2	2		2														
	AL2 Community centres & civil society groups	10	11	5	3	9	2		4	2	2	1	1				3	5	1	3
	AL3 Distance learning	1	1			1											1		1	
	AL4 Mentoring, tutoring & coaching	2	4	2	2	5	1	1	3	1	5	5	2				4	4	2	1
	AL5 Peer-to-peer learning or peer encouragement	11	13	10	2	9	1		3				1				5	1		
	AL6 Parent or family involvement	4	6	4	2	2	1		1	1			1				2	2		
	AL7 Therapy & transferable skills			1	2				5								3	2		
FINANCIAL SUPPORT	FS1 Education-related financial support & services	1	4	1	1	2			2		2	4	2				2	1	2	1
	FS2 Job-related financial support & services	2	3	3	4	3	2	1	3		6	7	5		1		4	7	3	2

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Young people make up the majority of the world's population, and the majority of those young people are in the developing world (USAID 2012). Educators recognize that the skills a person needs to succeed in today's world are more than just reading, writing, and arithmetic. Transferable skills are higher-order cognitive skills and non-cognitive skills that individuals can use to be successful across different situations in work and life. As international agencies and governments are increasingly funding and implementing programmes to build transferable skills for youth, more high-quality evidence is needed to inform those decisions and designs. This scoping paper explores the state of evidence for interventions in low- and middle-income countries aiming to build transferable skills.

The core of the paper is an evidence gap map, which catalogues all the impact evaluations of youth and transferable skills interventions and maps them according to intervention categories and outcome categories.

The paper also analyses the demand for evidence from information gathered at the secondary education and transferable skills roundtable event, which brought together over two dozen experts in the field. The analysis of the evidence gaps combined with the information on stakeholder demand reveals that one priority for future impact evaluation investment is formal education interventions including interventions designed to: reform curricula and train teachers to build transferable skills; provide teachers with incentives or help them to network; or to build institutional management and other capacity. There is also a gap in evidence about whether learner-centred approaches are effective for teaching transferable skills, which was a concern among many roundtable participants.

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