Education Rigorous Literature Review

What Works to Promote Children's Educational Access, Quality of Learning, and Wellbeing in Crisis-Affected Contexts

Dana Burde
Ozen Guven
Jo Kelcey
Heddy Lahmann
Khaled Al-Abbadi

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Executive Summary

Objectives

This study is a rigorous review of evidence found in the literature that shows which interventions promote educational access, quality of learning, and wellbeing among children who live in crisis-affected areas, and those in settings where a crisis has just ended.[1] We define *crisis* as an emergency caused by violent conflict, natural disaster, or both; *educational access* as "the opportunity to enrol, attend, and complete formal or nonformal education programmes" (INEE, 2010, p. 115); *quality of learning* as relates to both academic achievement and attitudes (e.g., tolerance); and *wellbeing* as holistic health, including physical, emotional, social, and cognitive characteristics. Our primary goals are threefold: (1) to assess the strength and quantity of the existing evidence of effective practices and programme interventions in countries and regions affected by crises; (2) to identify relevant and robust evidence of effective interventions in high-, middle-, and low-income countries to serve as a point of departure for future research; and (3) to develop conceptual models that suggest pathways and mechanisms to test in future research. We highlight programmes that appeared innovative when we encountered them, but note that, given the scarcity of literature that assesses the effectiveness of interventions in these contexts, there likely are many innovations that the empirical literature does not capture.

Methods

We identified thousands of academic articles through multiple database searches using relevant key terms. We narrowed our search using a purposive sampling approach and a manual review of references of relevant articles, which yielded a total of 251 articles. We selected grey literature through a search of well-known websites, such as the Abdul Latif Jameel-Poverty Action Lab (J-PAL) and the World Bank, both of which are a source for many experimental studies. We also reviewed articles collected by the International Rescue Committee (IRC) for its database of experimental research (149) and systematic reviews of literature (16) relevant to education in emergencies. Finally, all members of the Interagency Network for Education in Emergencies (INEE) steering group and listserv were invited to send research to be included in the review. The total number of studies included in this review is 184. (See chapter 2 for a detailed description of methods and a list of key search terms.)

All literature included here meets a minimum standard of rigour based on DFID's 2014 guidelines. Accordingly, we prioritised research that employed experimental or quasi-experimental designs. We also gave greater weight to evidence published in top-tier peer-reviewed academic journals than to those published elsewhere, and to papers that offered a detailed and thorough discussion of their research methods (quantitative or qualitative) rather than to those published elsewhere, rather than to those that did not explain their methods clearly.

The subfield of education in emergencies covers all types of education programs (e.g., teacher training, learning, media, psychosocial interventions in schools). Reviewing literature

[1] The lead researcher and four of her PhD students conducted this review part-time over approximately nine months during fall 2014 and spring 2015.

from crisis-affected countries that relates to most of these categories is possible because the evidence base is so limited. Many questions about the impact of interventions related to education in these contexts are similar to questions that have already been investigated in stable, low-income countries, or in high-income countries such as the US or the UK. Although the different contexts introduce a complex dimension that most other research does not consider, robust findings from research conducted on similar questions in the West are useful for hypothesizing about programme effects elsewhere. Still, understanding the tension between universality and specificity is an important issue in any programming and may be even more important when working in unstable contexts. As a result, however, we include rigorous studies and reviews conducted in Western, or low-income but stable contexts as a point of departure in understanding the effects of these programmes more fully and to consider their implications in crisis-affected contexts.

Main findings and implications

1. **Absence of robust evidence:** Few rigorous experimental studies (5) or quasi-experimental studies (8) conducted in countries affected by crisis assess the effects of interventions on children's educational access (3), quality of learning (4), or wellbeing (6). Among these rigorous studies just a few (6) take context (disaster or conflict) into account in the research design.
2. **A large number of strong observational designs:** Given the absence of experimental designs, we rely on both observational studies in countries affected by crisis and robust literature from contexts not affected by crisis to suggest hypotheses and promising directions for future research. The observational studies presented here include both detailed ethnographic and case studies analysed qualitatively, as well as data collected via surveys, pre- and post-test designs, and analysed statistically.
3. **Access:** Many interventions are intended to mitigate the effects conflict has on education by improving access. Our review includes the following key findings.
    a. In countries or regions affected by acute or protracted conflicts: Where populations are living amidst conflict, strong evidence supports the use of community-based education to increase access to education, especially for girls at the primary level. Providing female teachers, girls-only schools, accelerated learning programmes, and approaches to distance learning for primary, over-age, and secondary students also show promise, but these findings are based on observational studies.
    b. Where conflict-affected populations have been displaced and are living in protracted or post-conflict environments, more research is necessary to determine the best way to expand access rapidly to large numbers of refugee children. Offering double shifts at existing schools, or opening schools within camps or tent settlements, are common approaches, but evidence that supports the effectiveness of these strategies is mixed and limited to observational studies.
    c. In countries or regions affected by disaster, rigorous research that assesses interventions to promote educational access is notably absent from the literature. Our search returned only one observational study, which assessed information campaigns and showed that planning for alternative learning sites in flood-affected areas was effective.
    d. A robust and consistent body of evidence exists in stable developing countries on the effectiveness of early childhood development and of conditional and unconditional cash transfers in improving access for primary and secondary school

students. Rigorous studies of the effects of retrofitting school structures with gender-segregated latrines (with a focus on girls), community monitoring, and school vouchers also find some positive effects on access. Contrary to expectations, however, information campaigns focused on increasing parents' and community members' awareness of education have mixed or no effects. This likely is because parental and community awareness is already very high.

4. **Quality:** This portion of our review includes studies that were designed to understand quality as it affects both academic achievement and attitudes (e.g., tolerance). Our review includes the following key findings.
    a. In countries or regions affected by acute or protracted conflict and where populations remain in their homes, strong evidence supports the use of community-based education and participatory community monitoring to increase academic achievement at the primary school level. Additional promising interventions include: tailored training for teachers with limited qualifications, and mobile phone technology and radio to deliver lessons/lesson plans. Computer-assisted learning has mixed results in stable developing countries and is unlikely to be easy to administer in crisis settings.
    b. Where populations are living in protracted or post-conflict contexts, peace education activities that require contact between groups show promise in affecting attitudes and perceptions positively in the short term. As for negative outcomes, emerging evidence shows that curricular content on negative history can contribute to underlying conditions for conflict. Promising observational evidence shows that equal educational access and greater national levels of educational attainment may limit participation in militancy or extremism, but these results are mixed. Two rigorous studies show the positive impact of "multiple perspective history" teaching, which either increases openness to out-group perspectives of the history of intergroup conflict, or promotes positive intergroup relations. No robust evidence shows the best ways for education to counter violent extremism.
    c. Robust evidence from stable, developing countries shows the importance and effectiveness of early childhood development programmes in improving children's cognitive and behavioural outcomes.
5. **Wellbeing:** Many interventions in countries and regions affected by crises attempt to support children, youth, and their families by helping to mitigate risk, and promote psychosocial wellbeing and resilience. Although robust evidence from research conducted in the US shows the effects of a wide range of interventions on children's wellbeing, research conducted in countries affected by crisis is limited primarily to observational studies. We draw the following conclusions from this work.
    a. In countries or regions affected by acute conflict, there is promising evidence to support community negotiations to protect schools, students, and teachers from attack.
    b. In countries or regions where populations are living in protracted, post-conflict, or disaster contexts, there is strong evidence to support creative arts and play therapies, early childhood development, and the provision of extra services to the most vulnerable (especially girls and younger children) as ways to improve wellbeing. Emerging evidence also suggests that children and youth affected by conflict respond less well, and sometime adversely, to therapies that focus on trauma rather than on daily stressors. Emerging evidence shows that for the majority of children and youth affected by conflict or disaster, school routines improve mental health and resilience.

   c. Robust evidence from stable high-income countries shows that a positive classroom environment and peer-to-peer learning have positive effects on wellbeing.
6. **Girls**: Although many studies disaggregate findings between boys and girls, none of the studies that were returned in our search were designed to focus explicitly on girls. Still, one strong intervention emerges from the literature: community-based education improves girls' access. In contrast, mental health and similar interventions for girls appear to have mixed effects. Much more research is needed to understand how girls and boys respond differently to interventions that promote access, quality of learning, and wellbeing.
7. **Youth:** Very few studies conducted in crisis settings focused explicitly on youth (3 wellbeing, 10 quality, 1 access). Those that did mainly concentrated on quality and mainly relate to the violence and peace education findings noted above. Research on access to secondary school and vocational training for youth is extremely limited. More research is critical.
8. **Children with disabilities:** Our searches returned no studies on children with disabilities conducted in crisis settings or with children affected by crises that met our methodological standards for inclusion. This is striking given the rates of exposure among children in crisis contexts to physical and emotional risk.
   Refugees: Although there is strong emerging evidence on how to provide psychosocial support to refugee children and youth (described above), there is very limited evidence on the best ways to improve access.

Priority recommendations

1. Invest in rigorous research to learn more about the best interventions for supporting educational access, quality of learning, and wellbeing for refugee children and youth, for girls, and for children with disabilities.
2. Invest in programming and rigorous research on reducing disaster risk in middle- and low-income and conflict-affected countries.
3. Invest in conducting a systematic review of existing education in emergencies programme *interventions* in countries and regions affected by crises in order to identify the most common programmes in a given context, map where there is a dearth or preponderance of programme data, and (continue to) fund practitioners and academics to work together to conduct rigorous research in these locations.
4. Invest in research on mobile phone teaching and learning platforms and other distance learning innovations that show promise and are likely to be particularly important to highly mobile, hard-to-reach populations affected by conflict and crisis.
5. Continue to invest in early childhood development and community-based education (CBE) programmes that are well-structured and well-managed; continue to conduct research on these programmes to understand variations among early childhood development (ECD) programmes and the long-term effects of CBE.

1. Introduction

1.1 Overview

Since the end of the cold war, humanitarian agencies have struggled to expand their activities to include support to education in countries affected by conflict and natural disaster. The need is great. Over 50 million children live in countries affected by conflict (Save the Children, 2013) and even more live in regions affected by disasters and extreme weather. Many government aid agencies (e.g., DFID, NORAD, USAID) provide funds for targeted interventions to support education in these circumstances. Many seek to support the most effective interventions with these funds.[2]

This rigorous review surveys research on education in emergencies, including academic and some grey literature, to assess "what works" to promote access, quality, and wellbeing for improving learning outcomes in acute and protracted crises, as well as in post-crisis contexts.[3] The review team conducted a systematic search of existing library databases, solicited grey literature from international organisations directly and through the Interagency Network for Education in Emergencies (INEE), and reviewed open source databases to gather articles published since 2000. We reviewed this literature for rigorous and robust empirical research to present evidence of effective practices and programme interventions. The review generated a list of (1) most robust findings (strong), (2) emerging evidence (promising), and (3) future research questions (gaps) with regard to access, quality, and wellbeing. We highlight areas of consensus on mechanisms that indicate strong and promising results, and those that should be tested with future research.

In addition to literature from crisis-affected contexts, we include research from stable, low-income countries, as well as from developed countries, as a point of departure. Given that the majority of the most rigorous education research has been carried out in non-crises contexts—either developed or low-income—and given that many of these studies provide robust answers to similar questions, it is important to consider the ways in which these existing findings may apply to different contexts. We use these studies of interventions from stable countries as a point of departure to consider how this research may translate into testable hypotheses in areas of conflict and natural disaster.

Although we identify promising innovations where possible, we are limited to our review of literature that focuses on research outcomes and typically omits detailed descriptions of interventions. In addition, space constraints and this review's primary focus on evidence further limit what we can say about both innovations and interventions.

This assessment of "what works" is based exclusively on *existing evidence*. This does not include questions that we and our practitioner colleagues believe *should* be asked in the future, but have not yet been studied. The prominence of particular programmes reported

[2] This current review builds on two previous reviews: (1) Burde, D., Kapit, A., Wahl, R., Guven, O., and Skarpeteig, M. (under review) Education in Emergencies: A Review of Theory and Research, commissioned by the Norwegian Aid Agency. (2) Burde, D., Kapit-Spitalny, A., Wahl, R., and Guven, O. (2011). *Education and conflict mitigation: What the aid workers say*. Washington, DC: US Agency for International Development, Education Quality Improvement Program 1.

[3] By grey literature we refer to "unpublished or informally published work…" (Mertens, 2014: 88).

here is a result of the state of the evidence; it is not a statement on the types of programmes we believe should be prioritized. In other words, for example, when we devote space to discussing conditional-cash transfers (CCTs) it is because significant evidence exists to show the effects of these programmes, not because we believe these programmes should receive more attention (or funding) than others. In fact, it is quite likely that there are many interventions that have as strong or stronger effects than CCTs, but there are no studies to show their effects. In many cases, researchers may not be aware of these interventions since research on education and protection in these contexts lags dramatically behind programme innovations.

There are many questions that existing research does not yet address. We attempt to capture the promising programmes and gaps in the literature by discussing emerging evidence and future research questions throughout each section. We summarise future research questions in the conclusion. (Appendix D provides a map of the available evidence across mechanisms, settings, population, and study type.)

1.2 Education in emergencies financing

A full review of the financing of education in emergencies (EIE) is beyond the scope of this paper (for a recent review, please see Nicolai and Hine, 2015). Yet since questions of effectiveness invoke consideration of returns to investment, we provide a brief overview on financing for EiE interventions below. In addition, because several studies included in this review were also assessed for cost-effectiveness by JPAL, we have included that assessment in Appendix A.

EiE is chronically underfunded even though humanitarian funding has increased as a proportion of Overseas Development Aid (Burde, 2014). This is despite the fact that overall official assistance provided by states rose from 2.1 billion USD in 1990 to 18 billion USD in 2011 and even though the corresponding proportion of this amount dedicated to humanitarian aid also increased from 5.83 per cent in the early 1990s to 30 per cent in 2000 (Burde, 2014). Indicative of this, of the total amount of aid provided to global humanitarian interventions in 2012 (a total of 12.8 billion), only 1 per cent was dedicated to the education sector. This lack of funding sets up a negative cycle. If interventions receive limited funding, rigorous research and evaluation will receive even less.

Assessing the cost-effectiveness of education interventions is complicated owing to several interrelated factors. First is the need to establish what exactly is being measured. For example, the decision to include "user costs as a cost of the program will depend on whether the objective of the policymaker or implementer is to maximize cost-effectiveness of the implementer or of society as a whole" (Dhaliwal et al., 2012, p. 4). Second, key factors such as determining how to measure costs, what constitutes impact, and how to measure a reported impact are all subject to debate. Finally, cost-effectiveness is difficult to establish in a review of literature because most articles—academic or otherwise—do not report sufficient data to conduct such an analysis.

In education in emergencies literature, the degree to which interventions offset the likelihood of conflict reoccurring over the medium and longer term are difficult to causally attribute to education, thus further complicating measurement. Thus in a recently published report on investment in education in emergencies, Nicolai and Hine note that while it is clear that emergencies disrupt education, it is difficult to say by how much. Nevertheless, estimates suggest that in spite of gaps in the evidence, the longer-term costs of emergencies

on education systems are likely to run into the hundreds of millions of dollars (Nicolai and Hine, 2015). Related to this is the lack of comparability regarding the ways in which impact is measured across interventions in different emergency contexts. Where analysis does exist it points to returns to education considered in economic, human capital or psychosocial terms.

Case studies conducted by Nicolai and Hine (2015) suggest that funding for education in emergencies is erratic even when education is among the highest of priorities for crisis-affected communities, as it often is. Moreover, the fact that cost-effectiveness is not systematically considered in studies related to EiE points to the relevance of including cost in impact evaluations. To begin to address these gaps, Nicolai and Hine (2015) offer the following observations, among others, for researchers studying the financing of education in emergencies:

(1) The importance of researching not only the returns to investment in primary education but also secondary and higher education in emergency contexts;
(2) The need for research into the economics of education in emergencies (not just low income countries) and in particular the value of a more systematic analysis of the costs of emergencies to education systems and the impacts on non-monetary returns;
(3) A differentiation between public and private returns across different levels and types of education;
(4) The importance of looking beyond humanitarian funding sources and to also considering the role of domestic budgets, household expenditure and development aid as well as the interactions between these sources;
(5) Research into the incentives of different actors to prioritise education in emergencies, which may help address questions of why the sector remained underfunded.

We concur with and endorse Nicolai and Hine's call for further research into all angles of funding for education in emergencies. We turn next to the research questions that guide the current study.

1.3 Research questions

The following research questions frame this study:

- What evidence exists on the effectiveness of education in emergencies practices and programme interventions in promoting children's educational access, quality of learning, and wellbeing?
- Where is there consensus on mechanisms that could be tested in future research, including literature from stable, developing and developed countries as a point of departure?
- What is emerging evidence that indicates the promising trends in innovations for education in emergencies programming?
- What should be tested in future research? How may research from non-crises contexts translate into testable hypotheses in areas of conflict and natural disaster?

The report is structured in the following way. We start with a brief discussion of terms, a "theory of change" for effecting educational outcomes, evidence, and the methods we used to review the literature presented here. We then divide the review into three sections: access, quality, and wellbeing. In each section, (1) we present a brief overview of the studies included in the section and the theory of change that guides that section; (2) we discuss a review of the most robust empirical research available in the education in emergencies

literature in order to present evidence of effective practices and programme interventions; (3) based on the existing evidence and feedback from practitioners, we identify promising trends in innovation and offer recommendations for future research; and (4) we highlight findings in relation to key questions from non-crises contexts that could be tested in areas of conflict and natural disaster.

1.4 Audience

We hope that practitioners, policymakers, and academics will read and use this review. We have made an effort to keep technical terms to a minimum, and we provide extensive definitions in Appendix B.

We welcome comments and questions on any part of this paper.

2. Key terms and theory of change

In this section we define our key terms relating to education in emergencies and present our theory of change. We also discuss and define evidence using DFID's *How to Note: Assessing the Strength of Evidence*. Finally, we review the methods we used to identify and select articles.

2.1 Key terms

What is education in crises? There is a lack of clarity in the use of key terms and concepts in both academic and grey literature on humanitarianism. Terms such as "humanitarian crisis," "crisis," "emergency," "conflict," "fragility" are often substituted for each other without noting differences in meaning.

2.1.1 Origins and debates

We use both terms "education in (humanitarian) crises" and "education in emergencies" interchangeably to refer to the rapidly developing subfield that focuses on understanding better the issues and interventions related to increasing access to quality education in countries affected by conflict and disaster-related crises (e.g., earthquake, flood).[4] These terms, particularly education in emergencies, emerged from the field of humanitarian action in the mid-1990s. In keeping with humanitarian injunctions to remain neutral and apolitical in the face of crisis, EiE programmes have historically emphasized efforts to provide support to education service delivery in much the same way that other aid is provided during humanitarian crises, with little attention to politics. The benefits to using such language include, first, close alignment with humanitarian response, thereby demonstrating the importance of including education in the humanitarian aid paradigm. Second, notions of emergency or crisis are intended to elicit rapid responses from funders, policy makers, and practitioners. However, the fact that humanitarian crises often endure for years sits awkwardly with the language used to describe them. Phrases such as "protracted crises" are intended to accommodate this reality, at the same time maintaining emphasis on the importance of rapid response and a view of these circumstances as aberrations.[5]

The phrase "fragile states" became prominent after September 11th to address the political aspects of crises and security that the humanitarian language omitted. Although this language has been widely taken up by Western governments and their bilateral aid organisations (e.g., USAID, AusAid), it has been criticized both by aid recipient countries for the perceived stigma attached to it and by others for insufficient parsimony and its link to Western security interests (e.g., Novelli, 2011; Rwanda Ambassador Speech at the UN, March 2009, unpublished; Winthrop & Matsui, 2013). Many humanitarian organisations avoid using it.

[4] In keeping with widespread conventional use, we refer to these incidents as "natural disasters," or simply "disasters."

[5] Please see Burde, 2014, chapter 2, for a detailed discussion of the relationship between humanitarian action and education, and Burde et al., under review, for a discussion of different approaches to education in emergencies.

Much of the consternation surrounding education in emergencies terminology results from the fact that the phrases described above are most relevant for outsiders engaged in identifying populations that require aid and delivering it to recipients. With the exception of responses to natural disasters, the same programmes that aid agencies refer to as "education in emergencies" or "education in fragile states" are typically considered simply education or social welfare programmes by the countries or regions in question.[6] As the field expands in the coming decades and as more actors—both local and international—launch programmes and research on education in crises, the field will likely split into subfields that are both similar and different from the diverse topics that currently exist in the West (Burde et al., under review).

2.1.2 Context: Key terms and definitions

Education in emergencies/Education in crisis-affected contexts: We use both phrases, "education in emergencies" and "education in crisis-affected contexts," for this review to refer to educational practices and programme interventions in societies affected by conflict and natural disaster. We include research from contexts of protracted crisis into our use of these two phrases in this paper, but we specify the "protracted" nature of the context whenever it is noted and critical in the reported study (e.g., peace education programmes from Israel and the Occupied Palestinian Territories).

Crisis: We define the term crisis as a situation in which a community has been disrupted by armed conflict or natural disaster, thereby provoking not only the absence of stability but a situation of humanitarian concern. Crises may be acute or protracted. Although differentiating between the two is imprecise, they are typically characterized along two dimensions: time and intensity. Following convention among humanitarian agencies, we define them in the following way.

Acute: A crisis in which the events creating the disruption have occurred recently or have recently increased in intensity. This may refer to both the initial phase of a conflict or its worsening impact. In the case of conflict, for example, the commencement of active bombardment or shelling during what may otherwise be characterised as low intensity hostilities constitutes an acute phase. Effects may include increased deaths and injuries, mass displacement and the destruction of schools. In the case of natural disasters, the devastation during the hours and days following an earthquake or flood constitute an acute crisis when affected populations need to be rescued and given critical supplies (water, food, shelter, medical supplies).

Protracted: The United Nations High Commissioner for Refugees (UNHCR) considers emergencies involving groups of 25,000 people or more who have been in exile for over five years as having protracted status. However, they also note that this determination should not only rest upon humanitarian elements of the phenomenon, but also its political and strategic aspects (UNHCR, 2008). In keeping with UNHCR, we define a protracted crisis as one for which the conditions of the crisis have been present for five years or more and for which a large subsection of the population has been affected. Protracted emergencies are also sometimes referred to as "chronic" (UNHCR, 2008).

[6] For example, the Ministry of Education in Afghanistan refers to education programmes as primary, secondary, community-based, vocational, etc. It does not refer to support to education as "education in fragile regions," "education in emergencies," "education in crises," or even "education in conflict."

Acute or protracted crises are not necessarily mutually exclusive. Protracted crises are often punctuated by more acute events. Examples include the protracted circumstances of the Occupied Palestinian Territories, the situation in South Sudan, and the protracted food security emergency in the Sahel, which was punctuated by conflict in Northern Mali during 2012.

In addition to these contexts, we review literature from post-conflict and post-disaster settings, such as Northern Ireland and Haiti, and from stable, developed and low-income countries, for example the US and Kenya, when we think findings are relevant to crisis settings and should be explored in further research.

2.1.3 Research: Key terms and definitions[7]

Experimental: Experimental research designs (also called "impact evaluations," "intervention designs," "randomised designs," "randomised evaluations," and "randomised controlled trials" [RCTs]) have two key features. They manipulate an independent variable and they randomly assign subjects to either treatment groups (also called intervention groups), and control groups. If fidelity to design is maintained, these features increase the chances that any effect recorded after the administration of the treatment is a direct result of that treatment. Experimental research designs usually use quantitative analysis, and are useful for demonstrating the presence and size of causal linkages (DFID, 2014, p. 6).

Quasi-experimental: Quasi-experimental research typically includes one, but not both, of the key features of an experimental design. In other words, participants in the study are randomly assigned *or* the independent variable is manipulated. Such research designs may be used in cases where it is unethical or highly problematic to manipulate treatment deliberately. Instead, the researchers exploit other naturally occurring features of the subject groups to control for differences between subjects in the study (i.e. they "simulate" randomisation). An example of a quasi-experimental study is a regression discontinuity design. (DFID, 2014, p. 6).

Observational: Observational research displays neither of the key features of experimental designs. Instead it may be concerned with the effect of an intervention on a particular subject sample group, but the researcher does not deliberately manipulate the intervention and does not assign subjects to treatment or control groups. Instead, the researcher observes a particular action, activity, or phenomenon. Observational research design may include quantitative or qualitative methods. For example, quantitative may include cohort and/or longitudinal designs; case control designs; cross-sectional designs supplemented by quantitative data analysis, and large-N surveys. Qualitative methods may include, for example, interviews, focus groups, case studies, historical analyses, and ethnographies (DFID, 2014, p. 7).

In the absence of research focused on measuring impact through experimental and quasi-experimental design, this review makes reference to a host of observational studies, which remain the most prevalent type of research in the field. For the purposes of this literature review and its focus on the impact of interventions, such designs, when carried out well, provide the most robust evidence base (see also evidence below).

[7] Definitions in this section are quoted directly from DFID 2014.

Evidence: The overall "strength" of a body of evidence is determined by the quality (or "avoidance of bias") of studies that constitute it, as well as by the size, context and consistency of the body of evidence (DFID, 2014, pp. 15–21). It is necessary to appraise the quality of a study when considering the implications of evidence regarding a particular intervention. Since more than one study makes up the "evidence base" for any single set of conclusions, however, the ability to make evidence-based decisions rests upon an assessment of the strength of bodies of evidence that speak to a particular intervention. In this review, and in keeping with DFID guidelines (DFID, 2014), we have categorised the strength of available evidence in the following four ways.

Robust/Strong: A robust body of evidence requires the presence of high quality experimental and quasi-experimental studies that confirm or dispel the impact of a given intervention (analysed through assessing the impact of an independent variable on a dependent variable).

Emerging: An emerging body of evidence relates to that for which findings have not been ascertained through experimental research or evaluation, but for which quasi-experimental studies may exist and/or a coherent and high quality body of observational data is suggestive of a given impact.

Promising: Promising evidence relates to a small number of relevant observational studies that are suggestive of the given influence or impact of an intervention (measured through the observed effect of an independent variable on a dependent variable) but for which experimental or quasi-experimental research has not been conducted.

Mixed: In cases where the body of evidence points to mixed effects, we note and discuss implications with regards to gaps and future research for the field.

We use two additional descriptors for the articles that we review:

Rigorous: Although rigorous may be used across design type, for the purposes of this review we use "rigorous" exclusively to refer to the quality of data emerging from experimental or quasi-experimental designs.

Strong observational: As noted above, most of the studies included in this review are observational. Although they must meet a minimum standard of rigour in order to be included in the review, there remains variation in quality among the observational studies. At times we use the term "strong observational" to note that an observational study exceeds our bar.

We review our theory of change and methods below.

2.2 Conceptual framework: Theory of change

What is a "theory of change"? A theory of change is the phrase common to policy documents and impact evaluations that is used to describe the way in which certain programme components produce a particular outcome and the indicators that make up the way this outcome is measured. Although the phrase has been used for a number of years, it was popularized in international development work in the last decade as rigorous impact evaluations gained prominence and became institutionalized among bilateral agencies such as DFID. Developing a theory of change is an important step in conducting an impact evaluation because it illuminates key pathways through which a programme may have an effect. Many programmes require a complex chain of activities in order to achieve a hoped for result.

When evaluators develop accurate indicators to measure the effect of each activity along the way (or each intermediate outcome), they can identify points at which to intervene or modify an intervention in order to produce or enhance a desired result. They can also identify points where a programme may have failed.[8]

The theory of change for this review is based on the assumption that conflicts and disasters disrupt or undermine education by destroying infrastructure, forcing migration, and/or increasing psychological distress and/or intolerance among groups within a region or state. Programmes intended to support education in the context of these disruptions aim typically to intervene with additional *administration, infrastructure, and resources*, or to provide revised educational *content and practices*. Thus, in this theory of change, support to education takes many different forms. With regard to administration and infrastructure, for example, support for community-based schools may be intended to improve girls' access to education. In this case, enrolment figures or attendance rates may be indicators to show impact on the intended outcome, improved educational access. Infrastructure and resources may also contribute to improved learning outcomes, measured by test scores. With regard to content and practices, support to promote good quality education may include a revised curriculum that develops tolerance, or activities that promote psychosocial wellbeing. Although test scores are typically used as a concrete indicator of learning, they are likely to be irrelevant as an indicator of tolerance (or the absence of radicalisation). The outcomes here would include improved tolerance or prosocial behaviour. Therefore, in this paper, rather than a narrow focus on learning outcomes defined by educational achievement in test scores, we consider a broader set of outcomes that include increasing enrolment and educational achievement, developing attitudes and behaviours, and improving physical, mental and emotional wellbeing. Thus we have expanded the desired impacts in our theory of change to include improving a country's levels of tolerance and stability, in addition to learning.

Our theory of change is framed around "what works" to promote key outcomes in education in emergencies programming. We have identified access, quality, and wellbeing as the most important "mediating constructs," or intervening variables, for education in emergencies interventions. Mediating constructs can be described as the intervening variables that lie on the pathway to positive outcomes; or put another way, they serve to explain the relationship between the intervention(s) and the desired effect(s). The mechanisms in our theory of change further narrow in on the interceding steps: these are the particular domains that interventions should target in order to improve learning, tolerance, and stability in crisis-affected contexts. Finally, the moderators can be understood as the characteristics that either strengthen or weaken the relationship between the intervention and the outcomes. For example, some interventions will be more or less effective for different "type(s) of population," such as girls versus boys, or children with disabilities versus children without. The pathways identified in our theory of change are informed by the little rigorous evidence that does exist from emergency settings, in addition to emerging evidence from emergency settings that is bolstered by robust evidence from US-based research. In each section—access, quality, and wellbeing—we break down the broad, overarching formula of our theory of change into smaller segments, describing and assessing the component assumptions of change related to each of these intervening outcomes.

[8] See Glennerster & Takavarasha, 2013 for a detailed discussion of the development and use of theories of change in randomized evaluations.

Our theory of change distinguishes between two types of interventions intended to improve educational access, quality, and wellbeing towards the goal of promoting learning. These are:

- **Interventions that focus on improving administration, infrastructure, and resources:** these include managerial, "physical and material inputs that target either supply, demand or both combined" (Unterhalter et al., 2014), such as administrative support (e.g., community-based schools, safe spaces); infrastructure support (e.g., prefabricated schools, improvement of existing schools); and financial support (e.g., cash transfers, scholarships, school feeding programmes).

- **Interventions that focus on changing content and practices:** these may use programmatic and material inputs that address cognitive and psychological processes, educational content, and pedagogy. These include, for example, contact peace education programmes that attempt to reduce stereotypes and intolerance; teacher training that aims to eliminate corporal punishment; cognitive behavioural therapy that helps traumatised children manage stress.

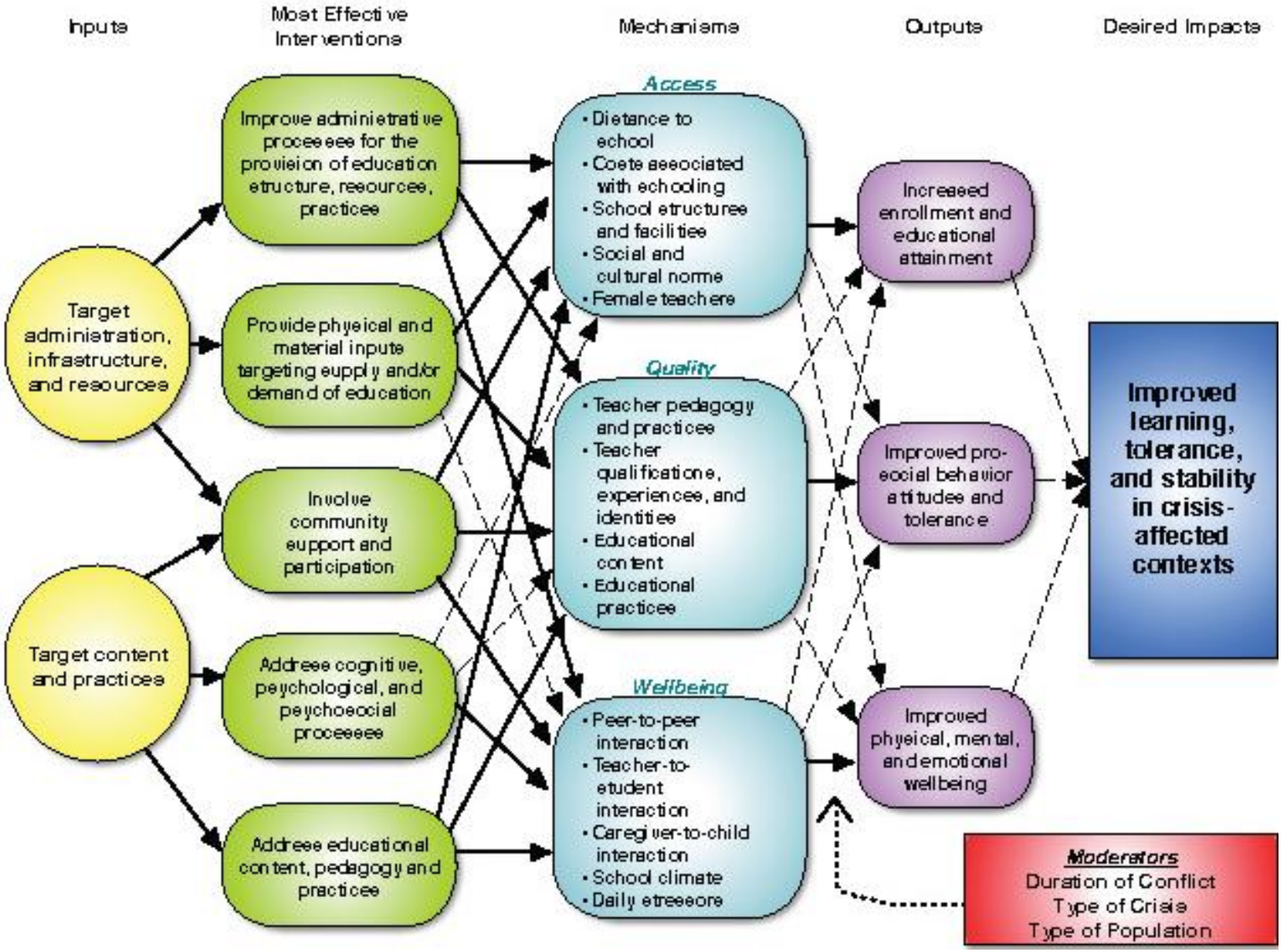
Some recent interventions have been designed to change norms by, for example, introducing new international laws or guidelines to protect schools from attack or to promote conflict-sensitive education. However, there are no studies yet that assess the effects of these efforts. Thus, for the moment we include these interventions under "gaps" and note the lack of evidence and area for future research.

Although many interventions exist to support education in emergencies through the pathways illustrated in our theory of change, limited rigorous evidence shows the effects of practices and programme interventions. In addition, there is little evidence to explain the causes of the problems that these interventions attempt to mitigate. As a result, in addition to examining outcomes that improve access, quality, and wellbeing to promote learning, we also devote some space below to reviewing the pathways in which the problems addressed here are thought to occur, according to the best evidence available.

In our theory of change model, the arrows indicate the strength of evidence for the various pathways illustrated in the diagram: solid arrows represent pathways demonstrated by strong evidence from emergency settings coupled with emerging evidence from emergency settings that is supported by robust US-based evidence. Dotted lines represent pathways demonstrated by weak evidence in emergency settings as well as pathways that we theorize to exist, which have not yet been studied.

Please see a graphic representation of our theory of change on the following page.

Figure 1: Theory of change



3. Evidence and methods

3.1 Overview

Governments and aid agencies committed to providing support to education for populations affected by crises seek to understand what works best among various practices and programme interventions to promote access, quality, and wellbeing. In the simplest terms, they seek to understand how *programme intervention A affects problem B, producing outcome C*. In order to gain this information, they seek research that will reveal convincing evidence of programme impact. Many academics and policy makers believe that research designs known as randomised controlled trials (RCTs), impact evaluations, or experimental studies, produce the strongest form of evidence to demonstrate causal effects, or programme impact. These studies produce remarkably robust findings because they establish "statistically similar 'treatment' and 'control' groups…allowing researchers to vary one element of interest at a time and thus provide "internally valid estimates of the causal effect" of a particular factor on a programme participant (Banerjee & Duflo, 2008 as cited in Burde, 2012, p. 451). Yet properly designed RCTs must start before programmes begin. They require careful coordination between researchers and programme implementers. They have only recently (within the last dozen years) been popularized in international development work writ large, and they are often expensive and challenging to carry out, particularly in countries affected by conflict and disaster. In addition, the outsized focus on such designs may have the unintended consequence of obscuring important information revealed by other types of studies.[9]

Although more rigorous research of all kinds, including mixed-methods experimental designs and qualitative studies, can and should be carried out, there are few studies conducted on education and protection in these contexts that meet the appropriate standards of any methodological approach. Thus, we include evidence from rigorous impact evaluations where available, and impact evaluations receive our highest rating for rigor. Other types of studies such as quasi-experimental and observational are important for revealing promising outcomes, as well as detailed contextual information.

We use DFID's guidelines for conducting robust reviews when rigorous evidence is scarce or weak, as in the case of education in emergencies literature. DFID identifies seven main categories with which to assess evidence: (1) conceptual framing (study is situated within existing theory), (2) transparency (research design and data analysis are articulated), (3) appropriateness (research design matches the question), (4) cultural sensitivity (researchers have considered the ways in which local culture/traditions may affect research outcomes), (5) validity (extent to which questions measure accurate indicators, internal precision, externally generalisable), (6) reliability (extent to which measures are accurate), and (7) cogency (logic of the paper). In addition to these principles, several other features help assess the strength of evidence, including whether an article is published in a peer-reviewed academic journal, and if so, if this journal has a high ranking.

[9] For detailed information on how RCTs work and the debates surrounding them, please see Burde 2012, Assessing Impact and Bridging Methodological Divides: Randomized Trials in Countries Affected by Conflict, *Comparative Education Review*.
http://www.jstor.org/discover/10.1086/664991?uid=3739832&uid=2&uid=4&uid=3739256&sid=21104912137011

According to DFID, "experimental research designs tend to be more appropriate for identifying, with confidence, the presence of causal linkages between observable phenomena" (2014, p. 11). Observational, "non-experimental" designs, are typically considered "more appropriate for questions that either cannot be explored through experimental designs due to ethical or practical considerations," or when seeking answers to questions that do not involve cause and effect relationships, such as understanding "perspectives, people and behaviours" that are integral to social processes (DFID, p. 11, 2014).

We include studies published in peer-reviewed journals, books and book chapters, and reports from NGOs, and bilateral- and multilateral-funding organisations. The majority of these studies used a variety of methods to collect primary data, meeting a minimum standard in order to be included (see selection criteria, below). Given the state of the field, few studies assess programme interventions that are meant to increase access to quality education and/or enhance protection for boys and girls living in countries affected by crises. The remaining studies either describe the problems relating to education and protection that affect children in these places (the problems that the interventions are intended to address), or they offer theoretical framing and other background details relevant to the field.

As noted, this emphasis on understanding "what works" necessarily prioritizes experimental and quasi-experimental designs over descriptive and observational research, as well as over other work that does not examine cause and effect relationships. Thus, for example, a comprehensive and seminal review of refugee education for UNHCR is essential for understanding the context in which to administer programmes and conduct future research on refugee questions It also provides key data for theory building. Yet it does not test the effectiveness of a particular intervention. Therefore, it would not be listed among evidence that shows programme impact. Throughout this paper we do, however, refer to non-experimental, seminal papers that frame and contextualize the issues we are describing. In addition, we refer to meta-analyses or reviews that provide a comprehensive overview of particular outcomes of interest. See "selection criteria," below, for more information on how we adapted DFID's checklist for this review.

To identify evidence, we employed a rigorous process that combined systematic search criteria of journals and databases with purposive sampling. Purposive sampling complemented the rigorous process through the inclusion of special or particularly illustrative cases that were not captured by the journal search criteria. In addition, the library search process was augmented by a review of relevant grey literature from key humanitarian and development agencies in education. These efforts were further complemented by direct contact with select practitioners (e.g., from INEE, IRC, Save the Children, World Bank, UNHCR, UNICEF, USAID). As education in emergencies has become an increasingly established field over the last twenty years, an increasing number of humanitarian and development agencies have commissioned research, undertaken action research, or engaged in systematic monitoring and evaluation of their programmes. This literature, rarely captured in academic journals, provides a wealth of information on the conceptual frameworks applied in the field as well as some empirical evidence of programmatic impact and effectiveness. In fact, a rigorous review process is especially relevant to research on education in emergencies given that the field's inception was driven by practitioners. Below we describe our methodological process in more detail.

3.2 Sampling framework and search parameters

We developed four main search parameters: (1) relevance to an *emergency* context, (2) relevance to *education* in its diverse forms, (3) relevance to education *outcomes* of interest (included but not limited to accepted access, quality and protection indicators), (4) specific *thematic and intervention areas* that define the field of education in emergencies practice. A bundle of key words was associated with each area. In order to ensure the relevance of articles searched, the Boolean logic applied required that all four parameters existed concurrently in either the title of the articles or (in the case of outcomes) in the abstract. A full list of key words is provided in the table in Appendix C.

We applied these search parameters in the following international and comparative education databases: Education Source with ERIC, Sociological Abstracts, Worldwide political science abstracts, EconLit, PAIS, CIAO, UNESCO, Source OECD, Observatory for borderless higher education, PsycInfo, Web of Science, EDS EBSCO Discovery Service, JSTOR, PROQUEST Central, EBSCO Science Direct, Science Direct Web of Science, Google Scholar, Ingenta and Academic search complete. Searches were limited to articles that have been published since the year 2000, English language articles, and peer-reviewed articles.

3.3 Purposive sampling

This systematic process was augmented with a purposive sampling approach and a manual review of references of relevant articles found. In cases where searches did not offer articles from known authors in the field, or where literature exists on a particularly special or unique programme but was not identified through the search, an additional set of key words was recorded and applied to the search parameters to facilitate the inclusion of these papers. These cases were recorded.

3.4 Grey literature

Concurrent to the review of academic articles (both the systematic and purposive approaches), we searched the databases of key development agencies to capture relevant action research, programme reports, monitoring and evaluation reports and other relevant documentation that reflected either conceptual foundations or provided empirical evidence on education in emergencies interventions. Relevant agency databases included: The World Bank, UNESCO, UNESCO-IIEP, IRC, Save the Children, CARE International, USAID, GCPEA, INEE, J-PAL, and UNICEF.

Finally, as noted above, in order to locate additional data not currently in circulation or other useful but unpublished literature, we contacted key informants in the field including representatives from IRC, Save the Children, UNICEF, DFID, USAID, the World Bank and GCPEA. IRC provided us with their own database of rigorous studies and systematic reviews for us to review and from which we were able to select if this review produced new studies that we had not yet identified. Additionally, INEE contacted members of their steering group and working groups, and sent a call for papers in their bi-weekly bulletin to their 11,000 members. A number of members and organisational representatives sent papers in response to INEE's request, and INEE screened these papers according to the review guidelines, passing on the ones that met the selection criteria.

3.5 Selection criteria

We reviewed both quantitative and qualitative studies for this literature review. As this review has been framed around "what works" to improve learning outcomes by promoting access, quality, and wellbeing in contexts affected by conflict and disaster, our selection criteria were based on the key questions noted above. In addition, we employed DFID's guidelines for identifying rigorous research. We developed these guidelines into a checklist that described the type of study (experimental, quasi-experimental, observational; academic, grey literature) and type of data collected (primary, secondary, theoretical), and that assessed each work based on the following six principles: conceptual framing, transparency, appropriateness, validity, reliability, and cogency. Each reviewer used the checklist to screen search results into one of three categories of quality: high, medium, or low. We translated these rankings into our three findings categories to describe the strength of evidence: most robust/strong, emerging, and promising. We also noted when results are mixed or negative and listed future research questions with regard to access, quality, and wellbeing.

Initial searches returned thousands of articles and books. Four reviewers screened their respective material in five stages. First, each reviewer screened approximately 1,000 of the first set of articles/books returned on her/his search by skimming the abstracts, determining relevance by title. Second, upon reading abstracts, each reviewer chose the most relevant articles for a quick skim-scan to see if they were relevant to be included into the review, approximately 200 each. Third, reviewers downloaded for close review the articles and other material that they deemed relevant based on content, totalling 251 papers. Fourth, after a close reading, reviewers selected the most relevant and robust articles to include in the review. Fifth, each reviewer evaluated each piece based on the DFID guidelines mentioned above. Finally, after feedback on the third draft, each reviewer re-reviewed her/his own and each other's work. The final report was based on a full review of 184 works: 76 for access, 57 for quality, and 62 for wellbeing.

4. Detailed findings

4.1 Access

Although progress was made towards reaching the UN's Millennium Development Goal of Universal Primary Education (UPE) by 2015, significant obstacles remain. Notable among these challenges is an increase in armed conflict and natural disasters that exacerbates existing barriers to education, especially in developing countries, and poses unique barriers to educational access. In accordance with the theory of change posed at the outset of this paper, interventions designed to increase access to education can be divided into the categories of (1) educational administration, infrastructure, and resources, and (2) content and practices. Obstacles falling into the first category include lack of nearby schools in rural areas and insufficient school materials, lack of trained (especially female) teachers, poor facilities, and high costs of schooling (Burde & Linden, 2013; Lloyd et al., 2005). In areas of conflict and disaster, these challenges are further intensified by direct damage or destruction of schools, occupation of schools by armed forces or inhabitation of them by displaced persons, insecure learning environments and commutes to school with threat of attacks on teachers and students. Obstacles falling into the second category include poor views of the benefits of education (Bekalo, Brophy, & Welford, 2003), cultural values and beliefs, and dissatisfaction with the type of education that is provided.

In this section, we discuss educational interventions that focus on increasing access by addressing these barriers to education in crisis and post-crisis contexts. Many of these interventions are emergency-oriented, and thus temporary solutions to maintain education in the face of emergencies. These interventions typically aim to increase the accessibility of schooling by crisis-affected populations through focusing on administration, infrastructure, and resources. Few interventions of content and practices in our theory of change address issues of access in EiE programming. The interventions we review in this section can be categorized as follows:

Box 4.1: Interventions that focus on improving administration, infrastructure, and Resources

- Reducing distance of travel to school
- Community monitoring
- Community participation in early childhood development
- Retrofitting existing school structures
- Material support to schools
- Double-shifts
- Distance learning programmes: information and communication technologies (ICTs) in distance learning programmes
- Cash transfers: (1) conditional cash transfers; (2) unconditional cash transfers
- In kind (material) support: (1) school feedings and take-home rations; (2) medicines (3) education kits and uniforms

Box 4.2: Interventions that focus on changing content and practices

- Girls' schools and female teachers
- Information campaigns
- Accelerated learning programmes
- Vocational and life skills training

As noted above, we only consider studies that take an empirical approach to evaluating access interventions. We review a total of 76 articles in this section, 35 in academic publications and 41 from grey literature. While this total includes 16 meta-reviews, the rest constitutes empirical assessment of access interventions, 22 and 38 studies from crisis and non-crisis contexts, respectively. The majority of studies included in this section use experimental, quasi-experimental, and observational designs. Experimental and quasi-experimental studies are largely from non-crisis settings (30 compared to 3 from crisis contexts), while research on EiE programming is often observational (19 compared to 8 from non-crisis contexts). The majority of evidence on EiE programming exists in grey literature. With the exception of one study on disaster preparedness, our searches did not return research on interventions designed to increase access in disaster-affected countries.

Interventions that focus on improving administration and infrastructure

Adjusting the way that education is provided by changing its structure and management is one way that international aid providers support access to education (key access indicators: enrolment, attendance, drop out) in areas affected by conflict and disaster. The following interventions are among the common methods for doing so and for which effectiveness has been assessed: providing alternative learning spaces to public schools (e.g., community-based schools and distance education); involving local community into education service provision (e.g., community monitoring and employing local female teachers); providing monetary and material support (e.g., cash transfers and in-kind assistance); implementing awareness raising programmes (e.g., information campaigns).

Reducing distance of travel to school
Several studies indicate that reducing distance of travel to school by starting schools close to where children live leads to or is correlated with an increase in enrolments. The only study from crisis settings that shows how creating schools close to home has a *causal* impact on enrolment is an experimental design (RCT), combined with observational data, of community-based schools in Afghanistan, a protracted conflict setting (Burde & Linden, 2013).[10] Burde and Linden investigated the impact of village schools, in close proximity to children's homes, on access and academic performance (please see the section on quality for achievement results). They found that opening a school in a village had a dramatic effect on increasing enrolment rates. Using GPS data to measure the distance between different homes to the schools, the authors were able to attribute the increase in enrolment to a reduction of distance of travel to school. The effects were significant particularly for girls, whose

[10] These community-based schools use existing infrastructure and government textbooks, and teachers' salaries are paid by the government, via the NGO sponsors. They are linked administratively to government "hub" (larger regional) schools. Although they use private spaces for classrooms (homes and mosques), they are considered government schools and teachers are trained using Ministry of Education materials. Some teachers in the most remote locations do not meet government certification requirements, but this is starting to change.

enrolment increased by 52 percentage points as compared to 35 percentage points for boys. Importantly, the intervention eliminated the gender-gap in enrolment, as girls were attending village schools in equal percentages as boys. For EiE programming, the findings suggest that proximity to schools can help offset barriers to access, especially for girls, resulting from security considerations and cultural norms in conflict-ridden societies. Research from low-income contexts, such as Indonesia and Sierra Leone, supports this evidence by showing that building schools closer to the student population increases educational attainment (Duflo, 2004; Mocan & Cannonier, 2012). In a systematic review of experimental and quasi-experimental studies on interventions in developing countries for improving primary and secondary enrolment, Petrosino et. al. (2011) found that interventions that focused on providing new schools and infrastructure had the largest average effects on enrolment and attendance. The aggregate effect size was nearly 0.44 of a standard deviation; the studies included in the aggregate effect related to new and community schools, road improvement, and school repair (Petrosino et. al., 2011).

Community monitoring

Rigorous evidence from an impact evaluation in Uganda, a low-income context (the study did not consider the conflict setting in the country), shows that community monitoring might work to increase attendance (Barr et al., 2012). Barr and co-authors found statistically significant increases in teacher and pupil attendance in public schools receiving an enhanced participatory design of community-based monitoring training as compared to a standard model. The enhanced participatory model involved school management committees designing their own monitoring instrument, something that was found to increase dialogue and overcome problems of collective action. Further rigorous evidence is seen from a randomised controlled trial in Niger, where Beasley and Huillery (2012) found that a programme to increase community participation through management training and a seed grant increased the demand for education, as measured through increased enrolment in primary education. Community participation in the intervention led to an increase in enrolment of 0.10 standard deviations (a 12.5 per cent increase) and a decrease in dropouts of 0.17 standard deviations (a 66 per cent decrease). Beasley and Huillery (2012, p. 5) conclude that "increasing parental participation in school management motivates enrolment." They provide evidence that some of the increased enrolment they observed was due to parental participation as opposed to quality improvements in schools.

Community participation in early childhood development

Existing evidence from non-crisis, low-income countries indicates that community participation is important in expanding access to early childhood development (ECD) interventions, with positive impacts on schooling later in life. For example, in the 1980s, the Colombian Government established what later became the Hogares Comunitarios nursery programme (birth to age 6) and which now serves more than a million children in urban and rural areas. The programme supports nutrition and child care, allowing mothers to enter the labour market, and is implemented through parent associations that elect a "community mother" who opens her home to as many as fifteen children. A 2004 experimental study compared participant and non-participant children, using data drawn from a large and high quality longitudinal dataset. The findings showed that stunting was offset for participating children, and children aged 13 to 17 who had attended the programme were more likely to be currently in school and less likely to have repeated a grade in the past year than those who had not. Moreover, the probability of school attendance increased more for girls than for boys (Attanasio & Vera-Hernandez, 2004). Less robust evidence from conflict-ridden Democratic Republic of Congo (DRC) seems to support these findings. An observational study, drawing on

document analysis and interviews with key stakeholders, attributed increased demand for an ECD programme and expanded access to schooling to the community-based nature of the project, supporting provision of services in isolated and remote regions (UNICEF, 2011). While these studies provide limited evidence, they point to the potential benefits of community involvement in ECD in increasing access, particularly in the longer term. This should be explored in further research.

Despite positive findings on the effectiveness of community participation in EiE programming or in education in post-emergency settings to increase access to schooling, it is important to note that the success of such interventions depends in part on how they are structured—whether communities or NGOs or governments bear the costs, and as a result, may not be sustainable in the long run, nor able to serve all populations in need. Some evidence shows that when poor communities bear the costs (teachers' salaries, textbooks), community-based interventions in education may exclude particularly vulnerable populations. For example, an observational study of the organic emergence of community schools in conflict-ridden Somalia found that reliance on private community resourcing for schools is simply not possible for many of the most marginalized communities (Abdinoor, 2008).

Retrofitting existing school structures

Since sustainability, accreditation, and quality are often problems for alternative education programmes, when conditions allow, aid organisations often prioritize mainstreaming conflict-affected children and youth [e.g., refugees, internally displaced persons (IDPs), former child soldiers] into formal education systems to ensure continuity in their education. To this end, organisations often work to strengthen the existing administration and infrastructure in conflict-affected settings or in refugee-receiving countries, so that available systems can absorb larger numbers of students who have unique needs resulting from their experiences. Retrofitting existing school structures, for example, through expanding school space and installing latrines or other facilities may help schools absorb larger numbers of children. No rigorous research that assessed the impact of retrofitting on access outcomes in crisis-affected contexts emerged from our searches, but we did find some evidence from non-crisis, low-income countries assessing these effects. Existing findings indicate that retrofitting schools with latrines may have a positive effect on access, but the body of evidence is not robust and needs to be supported with future research.

For example, retrofitting schools with water, sanitation, and hygiene (WASH) facilities has improved access to education for girls in Burkina Faso. An RCT showed that new schools *with* "girl friendly amenities," such as gender-segregated latrines, increased enrolment by 13 percentage points more than new schools *without* such features (Kazianga et al., 2012). Another rigorous impact evaluation, a cluster-randomised controlled trial, of a school-based WASH programme in Nyanza Province, Kenya, had inconclusive results in terms of overall effect of the intervention on student absenteeism. The intervention included providing WASH training and sanitation facilities. It is important to note, however, that the study results were compromised by post-election violence (Freeman et al., 2012); schools in areas unaffected by violence showed a reduction of 27 per cent in student absence compared to schools without the intervention, with a greater impact on girls than on boys (ibid). Birdthistle et. al. (2011) conducted a systematic literature review to verify whether WASH conditions affect girls' educational outcomes, focusing on the impact of providing separate toilet facilities. They found a number of studies that evaluated comprehensive WASH interventions report reductions in absenteeism for both boys and girls, but they were not able to identify any rigorous studies that assessed the impact of separate-sex toilets on just girls' educational

outcomes (Blanton et. al., 2010; Bowen et. al., 2007; and O'Reilly et. al., 2077; as cited in Birdthistle et. al., 2011).

In addition to conducting similar research in crisis-affected settings, comparisons of different WASH-related interventions (e.g., provision of facilities versus trainings) might provide better insight into the impact of such interventions.

Double shifts

A common strategy to accommodate large numbers of crisis-affected students is "double shifting," which allows students to receive education after regular school hours are completed. Evening shifts in particular allow education systems to serve children who are forced to work or have child-care responsibilities as a result of a crisis. Despite the fact that these interventions are common in crisis-affected contexts, we were unable to find any rigorous evaluations of them in such settings. Rather, the empirical evidence on the effect of double shifts on access outcomes comes from non-crisis, low-income contexts.

Observational evidence from low-income contexts indicates that these interventions may not be as effective in increasing access as originally assumed and, in fact, there may be negative consequences to double shifts (Bray, 2008). For instance, research using an observational design indicates that double shifting may have actually facilitated the intensification of girls' unpaid farm labour in Gambia (Kea, 2007). Indeed, interview research with policymakers indicates that, in some cases, national governments may introduce double shifts as a pragmatic approach to accommodate "acceptable" child labour while providing those children an education (Kim, 2009). Moreover, Ingubu (2010) argues that double shifts are unstable and unviable, pointing out that in Tanzania, double shifting tends to occur among the youngest learners, exacerbating their tendency to dropout early. Furthermore, emerging evidence from developing countries indicates that although double shifts result in savings on costs of infrastructure, the benefits may not be as high as assumed since teachers may have less preparation time and less time to spend on each task (Bray, 2008).

It is important to emphasize that the evidence presented here on double shifting is from stable, low-income contexts and may differ substantially if similar research is conducted with crisis-affected populations, especially in refugee-receiving countries, because socioeconomic conditions and structural needs for double shifting may be completely different. Indeed, participant observations from Guven's (2014) ethnographic research on the education of Syrian refugees in Turkey indicate that double shifting in government schools may play a role in increasing access in the refugee context of Turkey, although issues of quality, teacher turnover, unpredictability about the future of the school, and conflict with students and staff from the regular school hours persist.[11]

Distance learning programmes

Distance education supports access to schooling in situations where movement is restricted or educational infrastructure is weak or nonexistent. In these settings, crisis-affected populations may still have access to television or radio broadcasts, and international organisations sometimes use these media to support education in innovative ways.

[11] These findings are from unpublished ethnographic data collected from July 2013 to July 2014 (Guven, 2014).

Although our search did not return any experimental or quasi-experimental studies on distance education programmes in crisis-affected contexts, observational studies indicate that they may have positive results. For example, self-learning worksheets used at home were reportedly well received and used by Palestinian parents and students in Hebron during the second intifada where Israel imposed restrictive curfews that made it difficult and dangerous to attend school (Sultana, 2006). Distance education is often used for teacher training, both in protracted crisis situations (Johannsen, 2005; Morpeth et al., 2009), as well as in stable developing countries (Gulati, 2008). Observational evidence from post-conflict Sierra Leone indicated that a Distance Education Programme (DEP) was a cost-effective way to increase the number of trained teachers in primary schools. The programme alleviated the need for teacher training facilities as well as the burden of travel and foregone income (Johannsen, 2005). There is also some evidence to show that distance education has helped reconstruct the teaching corps in conflict-affected countries like Uganda, Sudan, and Mozambique (Morpeth et al., 2009).

Information and communication technologies (ICTs) in distance learning programmes:
Existing research from non-crisis, low-income countries indicates that print, TV, and radio broadcasts appear more successful than the Internet, since the digital-access divide is often significant among target populations for distance learning programmes in developing countries (Gulati, 2008). The prohibitive cost of the Internet and the lack of infrastructure make online learning challenging (*ibid*). These types of barriers were found to limit access to distance learning in Tanzania (Komba, 2009). In contrast, mobile learning through mobile phone applications shows some potential (Gulati, 2008). Finally, programmes appear to have been more successful in reaching large numbers of the rural poor when they have been implemented through multiple modalities (print, TV, audio, and Internet) (*ibid*). Conducting additional empirical research on the effectiveness of different types of distance learning would be useful, given their promise.

Interventions that focus on improving resources

Reducing costs of education to restore or increase access to schooling is a critical intervention in crisis-affected contexts. Humanitarian crises may create or exacerbate conditions that make it difficult to handle costs associated with attending school, such as school fees, uniforms, textbooks, and other school supplies. Providing additional resources to children and their parents is a common intervention to address these issues in stable settings. There are two main approaches to providing resources: *cash transfers* or *in-kind (material) support*.

In their systematic review of access interventions in developing countries, Petrosino et. al. (2011) found that economic interventions, which include cash transfers like user fee reduction or in-kind support like vouchers, had an average effect of 0.16 standard deviations on enrolment and attendance. There was significant heterogeneity in the results, with food programs and cash transfers having the largest effect.

Cash transfers
Cash transfers, commonly used among crisis-affected as well as other low- and middle-income contexts, are direct payments to families with children of school-going age. This support is thought to enable families to enrol their children in school, since financial constraints force children to drop out of school to work or help in the home. These transfers may also be called education grants or stipends, particularly when directed towards refugees. There are different forms of cash transfers. Some involve transferring money to families conditionally—

based on requirements such as a minimum level of school attendance by their children—or unconditionally.

Conditional cash transfers: There is a robust body of evidence from low-income, but not necessarily crisis-affected countries, showing that CCTs are effective at increasing enrolment (Schultz, 2004; Reimers et al., 2006; Schady and Araujo, 2006; Lagarde et al., 2007; Gitter and Barham, 2008; Oosterbeek et al., 2008; Chaudhury and Parajuli, 2010, Baird et al., 2013). Much of this research compares different types of CCTs. For instance, there is rigorous evidence indicating that impact is not necessarily proportionate to the amount of money transferred: while transfers as small as 2 per cent of mean household consumption have a significant effect on enrolment, larger transfers do not result in a larger impact (Filmer & Schady, 2011). The timing of the transfer matters as well; delaying transfers to the time before re-enrolment increases enrolment among transfer beneficiaries (Barrera-Osorio et al., 2008).

Unconditional cash transfers: However, transfers do not have to be conditioned to improve enrolment. One of the few quasi-experimental studies from a crisis-affected setting indicated positive effects from unconditional cash transfers (UCTs). The study, using a regression discontinuity design, found that cash assistance to Syrian refugees in Lebanon increased access to school and reduced child labour. Unconditional cash assistance to Syrian refugee families was associated with a difference of 6 percentage points in school enrolment (Lehmann & Masterson, 2014). Furthermore, a series of studies has compared the effects of conditionality, finding similar effects both for groups who received conditional cash transfers and for those who received unconditional cash transfers (Baird et al., 2011, Benhassine et al., 2013; Schady & Araujo, 2006). In fact, simply labelling transfers as designated for educational expenses has been found to be sufficient to observe effects (Benhassine et al, 2013; Schady & Araujo, 2006). In a systematic review of CCT and UCT interventions from 35 studies in developing countries, Baird et al. (2013) conclude that both intervention types "improve the odds of being enrolled in and attending school compared to no cash transfer program" (p. 7). They find no significant difference in the effect sizes of enrolment and attendance between CCT and UCT interventions. However, they add that CCT interventions with explicit schooling conditions that are monitored and enforced are significantly more likely to improve the odds of being enrolled versus interventions with no schooling conditions or with some conditions but no enforcement or monitoring. While the evidence on both conditional and unconditional cash transfers is both strong and positive, additional research could be done focusing on settings affected by emergencies.

In-Kind (Material) Support

In the case of in-kind support, families receive material subsidies, such as food at school, vouchers, medicines, uniforms, or supplies. Similar to that for cash transfers, the theory is that providing families with resources that reduce the direct and indirect costs of schooling will remove barriers to enrolment. Most rigorous evidence on material support comes from stable, low-income countries and focuses on the provision of food, either through school feedings or take-home rations (Jomaa et al., 2011; Omwami et al., 2011; Vermeersch & Kremer, 2005). Some rigorous studies exist for voucher programs (Angrist et. al., 2002; Barrera-Osorio et. al., 2013). Observational evidence exists on the impact of providing school kits and uniforms from crisis-affected countries (Eversmann, 2000; Indongole, 2004).

School feedings and take-home rations: No rigorous research emerged on the impact of school feedings and take-home rations on improving access to education in crisis-affected countries.

However, there is robust, yet mixed evidence from non-crisis, low-income countries indicating that school feedings and take-home rations may be effective in increasing enrolment. A number of randomised studies have found that school-feedings and take-home rations increase school enrolment and participation (Jomaa et al., 2011; Omwami et al., 2011; Vermeersch & Kremer, 2005). A secondary analysis of a randomised trial conducted in rural Kenya found that students who received a meat, energy-based, or milk-based school feeding intervention attended school at higher rates than those who received no school feeding (Omwami et al., 2011; Whaley et al., 2003). However, recent research has called these findings into question. Studies conducted in Bangladesh and Laos show little to no effect of a school feeding/take home ration intervention on enrolment and attendance (Afroze & Tukun, 2014; Buttenheim et al., 2011). Additionally, the impact of school-feeding programmes and take-home rations may be different for girls than for boys (Gelli et al., 2007; Kazianga et al., 2009). For example, in Burkina Faso, these interventions increased girls' enrolment by about five or six percentage points, but not at all for boys (Kazianga et al., 2009).

Other studies have examined whether the amount and forms of food provided make a difference. Caloric intake levels do not appear to make a difference: a randomised evaluation conducted in Chile found no significant difference in enrolment for primary school students who received 1000 versus 700 k/cal in daily rations (McEwan, 2013).

Vouchers: In instances where public school infrastructure is not sufficient to accommodate all school-age children; governments are willing to provide vouchers for families to enrol their children in local private schools. No rigorous studies emerged about the impact of vouchers to attend private schools on improving access in crisis-affected contexts. However, there are two rigorous studies from low-income countries that indicate these subsidies may be effective. Angrist et al. (2002) evaluated the impact of a voucher programme that partially covered the cost of private secondary school in Colombia. They found increased educational attainment and academic achievement among voucher winners. The vouchers were distributed as part of a lottery to children of low-income families, enabling Angrist et al. (2002) to estimate a treatment effect. After three years, voucher winners completed an additional 0.1 years of school and were 10 percentage points more likely to have completed eighth grade than losers; this is partly due to vouchers being annually renewable on the condition of satisfactory academic performance. In rural Pakistan, providing access to schools through public-private partnerships in underserved villages increased enrolment rates dramatically (Barrera-Osorio et al., 2013). Barrera-Osorio et al. (2013) evaluated the effect of providing publicly funded private primary schools in 199 villages in Sindh province. Private entrepreneurs established and operated primary schools in exchange for a per-pupil subsidy, similar to a voucher. In all, enrolment for the targeted age group (ages five to nine) increased by 30 percentage points for villages that received treatment, with a 12 percentage point increase for older children. The study also evaluated if a differently structured subsidy scheme, where entrepreneurs received a higher subsidy for girls, affects enrolment. The differential subsidy was not found to be more effective.

Medicines: Often, the main barriers to accessing education for children in crisis-affected contexts are related to health. No rigorous studies emerged about the impact of providing medicines or medical supplies on school attendance and enrolment in crisis-affected contexts. There are some rigorous studies from low-income contexts, although the types of medicines or medical supplies provided affected the outcomes. Bobonis, Miguel, and Puri-Sharma (2006) evaluated the impact of a randomised health intervention that delivered iron

supplementation and deworming drugs to Indian preschool children. They found that preschool participation rates rose by 5.8 percentage points, or a one-fifth reduction in student absenteeism. The study was conducted in 200 preschools in the slums of Dehli, India. They found substantial gains in child weight; the programme treatment effects were more pronounced for children with high baseline anaemia rates. These findings are similar to those of Miguel and Kremer (2004), who found that a school-based mass treatment with deworming drugs in rural Kenya increased school participation rates by 7 percentage points among primary school children. The intervention was also found to increase participation in untreated neighbouring schools, a positive externality from treated schools due to reduced disease transmission. Both rigorous studies (Bobonis et. al., 2006; Miguel and Kremer, 2004) found a causal link between child health and school participation; no such link was found with academic outcomes. However, not all interventions providing medical care or supplies appear to improve participation. Oster and Thornton (2011) evaluated the impact of providing sanitary products to girls in Nepal on school attendance. As a response to conventional wisdom, the study sought to assess how menstruation affects school participation in girls and the effect of providing sanitary products. The evaluation relied on official school attendance data and time diaries girls filled out; provision of a menstrual cup was randomised and phased in for all 198 adolescent girls participating. The study found that girls are only "2.4 percentage points less likely to attend school on days they have their period" (p. 93), amounting to approximately missing 0.35 days in a 180 day school year. Moreover, they found no impact of having access to a menstrual cup on school attendance, possibly due to the low likelihood of missing school due to menstruation. Yet research should be conducted on the effects of providing sanitary products in conflict-affected environments. In all, the average effect size of health/nutrition interventions on access indicators is large in developing contexts; Petrosino et. al. (2011) found in their review of interventions that health interventions have an average effect of 0.23 standard deviations, second in effect only to new school or infrastructure interventions. Among the specific type of interventions they review, they found asthma/epilepsy treatment reported the largest average effect of 0.74 standard deviations and malaria prevention the third largest, at 0.59 standard deviations (Tieffenberg et. al., 2000; Fernando et. al., 2006; and Simwaka et. al., 2009 as cited in Petrosino et. al., 2011).

Education kits and uniforms: There is non-robust evidence from crisis-affected settings on the effectiveness of education kits and uniforms that are another form of material support subsidizing some schooling costs and are targeted to improve educational outcomes. For example, UNICEF's "School in a Box" or UNESCO's "School in a Suitcase" include learning materials, distributed to children and teachers to support learning during a crisis. There is little evidence regarding these kits, although some findings do indicate that they may boost enrolment. In his evaluation of emergency educational assistance for crisis-affected children in Eritrea, Indongole (2004) observed a 7 per cent increase in enrolment in grade one, with a bigger increase for girls than for boys, in drought-affected regions. This increase was credited to the distribution of stationary items supplied to project schools. Eversmann (2000) evaluated questionnaire responses from key education stakeholders who participated in the distribution of education kits in Somalia. He found that they more strongly agreed that kits improved attendance than that they increased student learning.

There is rigorous evidence from non-crisis, low-income contexts, such as Kenya, showing that providing education kits and uniforms is effective in improving access outcomes (Duflo et al., 2006; Evans et al., 2008). Duflo and co-authors found that drop-out rates decreased for boys and girls who received a free uniform (2.5 per cent less likely to drop out). Similarly, Evans et

al. found that giving students a free uniform (via a lottery) led to a reduction in school absenteeism (38 per cent for all, and 64 per cent reduction for those who did not own a uniform previously).

Interventions that focus on changing content and practices

While the majority of interventions aimed at increasing access to education address the first part of our theory of change—administration, infrastructure, and resources—there are a few interventions that aim to promote access by addressing its content. These programmes may aim to increase access particularly for specific, often marginalized, populations, such as adolescent girls, over-age youth, or stigmatized groups (e.g., former child soldiers or HIV positive youth). In this subsection we include those programmes that are have been most frequently evaluated, although mainly via observational studies, and that show promising outcomes: girls' schools and female teachers, information campaigns, accelerated learning programmes, and vocational training programmes.

Girls' schools and female teachers
Available evidence shows that providing all-girls schools and employing female teachers is associated with an increase in girls' access to education. For example, findings from an observational study showed that, in rural Pakistan, availability of all-girls schools inside a village was correlated with higher enrolment rates for girls from that village. The findings were statistically significant (Lloyd, Mete, & Sathar, 2005). Likewise, another observational study found that, in Afghanistan, higher proportion of female teachers was associated with higher likelihood of girls' enrolment (Guimbert, Miwa, & Nguyen, 2008). It is important to note, however, that there is evidence to show if parents personally know male teachers who teach their daughters, teachers' gender is not a sufficient deterrent for girls' enrolment to schools, at least before puberty (Burde & Linden, 2013). Petrosino et. al. (2011) found in their systematic review of access interventions in developing countries that although female focused interventions had a larger aggregate effect size of 0.18 of a standard deviation versus 0.15 for interventions that focused on both males and females, the difference was not statistically significant.

Although girls continue to bear the brunt of emergencies and crises in terms of poorer educational outcomes, in most middle- and high-income contexts—where overall education enrolment rates are high for both boys and girls—boys fare worse in terms of repeated classes and standardized test scores (Barker et al., 2012). In the Caribbean, the preponderance of female teachers and prevailing attitudes that connect being masculine to anti-academic or anti-school attitudes have been associated with higher dropout rates for boys (ibid). Where available, we note the impact of interventions in terms of gender differences in core education outcomes. However few studies from crisis-affected contexts offer such a disaggregation.

Information campaigns
Families may not enrol children in school due to the lack of information about educational content and its potential benefits. Thus, increasing parents' awareness of the availability and importance of education before, during, or after a crisis may lead to an increase in enrolment. Such information is typically provided in post-crisis settings, and to a lesser extent before and during crisis, particularly targeting the youth who are out of school due to crisis or who have never enrolled (e.g., UNICEF's "Back to School" campaigns in Afghanistan in 2002). However, these interventions are typically not evaluated in crisis settings. While rigorous

evidence comes from stable, low-income countries, we were able identify only one study from a disaster setting.

Robust evidence on information-based interventions from stable, low-income contexts shows mixed effects on access outcomes. Improving perceptions of schooling by giving information to students on the higher returns to education increased educational attainment in the Dominican Republic, as well as attendance and test scores in Madagascar (Jensen, 2010; Nguyen, 2009). However, in China, education counselling and lessons on higher wages from education had no impact on drop-out rates or plans to attend high school. Researchers speculated that the information was unable to counteract the effects of low educational quality and severe poverty (Loyalka et al., 2013). Petrosino et. al. (2011) found small aggregate effects for information and training interventions in their review of interventions to improve school access in developing countries. The average effect was 0.06 of a standard deviation; there was significant heterogeneity in the results with nearly half the studies considered reporting negative effects (Petrosino et. al., 2011). Although this information from non-crisis settings is useful to begin to test mechanisms, this evidence may not necessarily apply to crisis-affected countries where concerns of parents and communities may be quite different. For example, in conflict-affected countries, parents and children may know very well the importance of education, but children may simply be unable to attend because of danger and/or destruction. Additional research should investigate the effectiveness of awareness-raising interventions in disaster settings and should compare the relative benefit of different types of campaigns—i.e., before, during, or after crisis.

Public awareness campaigns may be designed to educate parents and community members about ways to continue to support education *before* a crisis strikes. These interventions may serve as a form of advanced planning for disaster-prone regions. Strategies may include planning for contingency infrastructure if current infrastructure is damaged or otherwise unavailable. For example, in flood-prone schools in Bangladesh, information sessions, trainings and workshops focused on planning for education during and after a crisis. This included the selection of alternative education sites in case schools were inaccessible (Akram et al., 2012). The programme also aimed to increase awareness in the community of the importance of continuing education during and after a crisis. An observational study found the programme effective: A year after the programme was implemented, schools that were affected by flooding did not close for a single day. The most critical element appeared to be the planning for alternative learning sites, which were chosen for their relative safety.

Accelerated learning programmes

Accelerated learning programmes (ALP) are designed for out-of-school youth who are too old to attend primary school. These programmes often condense approximately eight years of primary schooling into three to four years. ALP interventions are also referred to as "catch-up" education or "open schools," and have been implemented widely in low-income and crisis-affected countries.[12] However, although there is a great deal of grey literature that evaluates accelerated learning programmes, the majority consists of programme evaluations that may not be empirically rigorous. No experimental or quasi-experimental studies attempt to measure the effect of accelerated learning programmes on access, and we found no longitudinal studies.

[12] For example, countries where ALP have been implemented include: Afghanistan, Angola, Bangladesh, Brazil, Burundi, Cambodia, DRC, Cote d'Ivoire, Ecuador, Egypt, El Salvador, Eritrea, Ethiopia, Ghana, Haiti, Honduras, India, Iraq, Jordan, Kenya, Liberia, Malawi, Maldives, Mali, Myanmar, Nepal, Sierra Leone, Tanzania, Uganda, Zambia, and Zimbabwe.

Programme evaluations conducted by international organisations implementing ALPs have found them to be effective in enrolling targeted overage and disenfranchised out-of-school youth (Johannsen, 2005; Intili & Kissam, 2006; Beleli et al., 2007; Coyne, Prince, & Nielson, 2008; Obura, 2008; Nkutu et al., 2010; Manda, 2011; Longden, 2013; Petersen, 2013). Some evidence indicates that ALP students have higher participation and completion rates (Baxter & Bethke, 2009; Longden, 2013). In addition, existing evidence indicates that ALPs may be particularly effective in enrolling populations that are typically marginalized or stigmatized, such as girls and former child combatants (Intili & Kissam, 2006; Beleli et al, 2007; Obura, 2008; Manda, 2011). Finally, although no studies evaluated ALPs as a response to a disaster, a review of disaster-prone Bangladesh's ALP indicates greater inclusion for girls than in public schools (Longden, 2013).

However, ALPs may have unintended negative consequences. For example, in Sierra Leone and Liberia, younger children enrolled in the ALP dropped out more frequently (Johannsen, 2005; Nicholson, 2007). ALPs have also been criticized for not being cost effective or sustainable, with higher per pupil costs than in public schools (Obura, 2008; Sempere, 2009; Longden, 2013)—although this may be inaccurate once costs of completion rather than annual per pupil costs are taken into account (Farrell & Hartwell, 2008), since ALPs are short programmes with higher completion rates. Regardless, sustainability continues to be a question; in Burundi, the ALP abruptly stopped after foreign funding was discontinued (Obura, 2008; Sempere, 2009). Longitudinal studies would be required to understand the extent to which ALPs have a lasting impact. In general, ALPs show promise in securing access for a broader range of conflict and disaster-affected children than would have access without these programmes. However, their impact needs to be more rigorously analysed, over a longer period of time. Additionally, ALPs typically include multiple components such as smaller class sizes, teacher support, active learning, a steady supply of materials and infrastructure, relevant curricula, and communities in "strong supportive roles" (Nicholson, 2007; Baxter & Bethke, 2009; Longden, 2013; Petersen, 2013), and it is difficult to disentangle which programme components are most important for increasing access. It would be useful to conduct rigorous research to understand the relative benefits of different ALP models.

Vocational and life skills training

As in stable environments, vocational and life skills training programmes may increase access to more relevant educational opportunities and benefit older out-of-school youth in particular. Instead of providing a normal curriculum (or an accelerated version), these programmes offer youth practical training with an aim to secure steady jobs. There is relatively little evidence on how effective these programmes are at securing access to education for youth who may not otherwise be interested in attending. Most literature on vocational and life skills programmes focus on the employment and earnings outcomes for graduates; few if any studies evaluate how these programmes increase access or participation.

In post-crisis contexts, some evidence from grey literature indicates that Technical Vocational Education and Training (TVET) programmes can be effective at reaching out-of-school youth, particularly former child soldiers who need reintegration into society. A programme evaluation of the Youth Reintegration Training and Education for Peace (YRTEP) programme in Sierra Leone showed that the intervention was effective in enrolling former combatants and war affected youth and contributed to the reconciliation process (Hansen et al., 2002). Similar findings were observed in post-conflict Liberia, where the Youth Education Pack (YEP) was implemented as a one-year basic education and training programme for returning refugee

and IDP youth for whom primary and alternative education programmes were out of reach (Moberg & Johnson-Demen, 2009).

In low income developing contexts, there is some evidence that vocational education improves access for marginalized groups. Blaak et al (2013) choose two cases of non-formal vocational education programmes in Uganda to show how they help early school leavers. Though employment and earnings outcomes were low, Blaak et al (2013) found that "the two cases of non-formal, vocational skills training illustrate programs like this can be an alternative through low fees, adaptive teaching methods, and appealing content" (p. 95). No experimental studies evaluate the success of TVET interventions at securing access to education for youth during and after a crisis. Research that focuses on this question, as well as on assessing the impact of TVET interventions compared to other educational interventions on youth access to education, is necessary.

Which Access Intervention Works Better

It is still unclear whether it is more effective to integrate crisis-affected children and youth into existing formal education systems, to double shift in existing schools, or to establish new alternative educational facilities/programmes. No rigorous, systematic research compares the impact of different access interventions, or conducts a cost effectiveness analysis, or compares outcomes across contexts. Therefore, we do not know which intervention or mechanism within each of them works best to increase access. Some evidence of comparison, explored below, does exist in refugee education literature. However, the evidence is observational and results are inconclusive, and thus the findings do not allow us to say one works better than another.

For example, a UNESCO observational study examined the experiences of refugee children during the emergency and transition periods of the conflict in Timor Leste from 1999 to 2003. Some of these refugees had access to temporary schools in their camp, while others were able to join West Timor's public schools. Qualitative interviews with nearly 100 individuals indicated that schools in the camp were able to accommodate a large number of refugees. Yet the classes were relatively unstructured, with no grades or assessments and no grade promotion. Attendance was ad hoc, and there was no certification of attendance (Nicolai, 2004). Yet mainstreaming into public schools was also problematic. Refugees faced complex enrolment procedures, language barriers, and prohibitive school fees. Another observational study, sponsored by the Refugee Law Project, found similar experiences among Congolese refugees in Uganda (Dryden-Peterson, 2003). The study compared four different types of schools available to Congolese refugees with varying degrees of mixing between refugees and nationals, as well as varying support from government. Interviews with key refugee education stakeholders, including pupils and teachers, and a review of UNHCR documents indicated a tradeoff between quality in refugee camp schools and efficiency in government/urban schools. In particular, refugee camp schools tended not to have qualified teachers, while government/mainstream schools had high costs and non-mother tongue instruction, leading to grade repetition. More positively, however, all schools indicated that integration of national and refugee children created social stability for refugee children who were more likely to feel safe and want to stay in Uganda.

Given that the available evidence on different schooling options for conflict-affected populations is preliminary and inconclusive, additional research is critical, especially to

understand the relative tradeoffs of implementing different types of interventions and intervention components.

4.2 Quality

Since international organisations began including EiE programmes formally as a component of humanitarian action, policy makers and the aid community have prioritized restoring access to education. Quality has received insufficient attention, in part because maintaining distance from controversial curriculum content and pedagogy—areas that are related to the broader role of education as a tool for societal change—helped the aid community depoliticize their work in education (Burde, 2014). Thus, programme interventions with regard to the quality of learning as well as research that evaluates their effectiveness lag far behind issues of access in these contexts.

Policy makers articulate two main concerns about quality of learning. First, they focus on the conventional desire to improve academic achievement. Second, they focus on complex questions relating to the relationship between learning outcomes and cultivating tolerant attitudes and behaviours, particularly in conflict-affected societies. Because of these varied aims of quality interventions, in this section we include research that focuses on both programme interventions and non-programmatic content and practices. The impact of content and practices on learning outcomes beyond achievement is critical, particularly in conflict-ridden societies, given that students may improve their math and language skills while cultivating intolerance towards others. Therefore, in this section we seek to understand quality as it affects attitudes (e.g., tolerance) as well as quality as it affects academic achievement. We include some discussion of nefarious pathways toward undesirable outcomes (intolerance, violent extremism) because this is a major question facing educators and policy makers and one that is significantly understudied.

In keeping with our theory of change, we review programme interventions that focus on improving (1) administration, infrastructure, and resources, and (2) content and practices in an effort to promote quality of education—for achievement outcomes and attitudinal changes. Where evidence is available, we highlight effective content, practice, and mechanisms that are associated with improvement in learning outcomes. When evidence is not available, we identify the gaps and indicate areas for further research. Each sub-section starts with a review of existing evidence on the ways in which the problems in quality education are thought to occur. Next, the sections present evidence on what works and does not work in providing education in crisis and post-crisis settings to address those problems.

Box 4.3: Interventions that focus on improving administration, infrastructure, and resources

- Reducing distance of travel to schools
- Community participation
- Use of mobile phone platforms to deliver lessons and teacher training
- Radio instruction
- Computer-assisted learning programmes
- Conditional cash transfers

Box 4.4: Interventions that focus on changing content and practices

- Teacher training guidelines
- Student-centred pedagogy and time-on task
- Training programmes tailored to teachers' needs/qualification in conflict and post-conflict settings
- Teacher certification
- Training to eliminate corporal punishment
- Approaches to history education: negative, silent, joint, multiple perspective taking
- Educational access/attainment for militancy, radicalisation, or tolerance
- Peace education for tolerance
- Providing early childhood development programmes

This section presents the existing evidence on the quality of learning identified through a review of 40 studies in academic publications and 17 studies from grey literature. Thirty-nine studies of the total 57 were conducted in crisis and post-crisis settings, while the rest were carried out in stable, low-income or developed countries. Our searches returned only one study on programme interventions to address quality in disaster-affected settings. In addition to 57 evidence-based studies, we also included in this section 11 reviews of programme interventions or practices, of which 2 are from crisis and 9 are from non-crisis settings. The majority of the studies cited below are evaluations of teacher pedagogy and practices, although this is still an emerging area in EiE. The studies in this section use mainly observational designs, but also include some randomised controlled trials (RCTs), quasi-experimental designs, and natural experiments. Unfortunately, since the majority of the studies included in this section are observational, they do not meet the standards of rigour for assessing impact. However, it was important to include these studies in this review because their findings explain critical processes and have significant implications for future research. These studies were selected based on their methodological strength.

Interventions that focus on improving administration and infrastructure

Reducing distance of travel to school
Existing rigorous evidence on community-based schools shows that establishing schools within the community improves achievement. As noted above, an RCT from Afghanistan investigated the impact of village schools (community-based schools) on educational achievement (Burde & Linden, 2013). Overall learning outcomes for children in villages with schools were significantly higher (0.65 standard deviations for girls and 0.4 for boys) than for children living in villages without community-based schools, but where some walked long distances to reach a government school (ibid).

Community participation
Observational evidence from crisis-affected countries shows that community participation is associated with significant increases in student achievement. To analyse the impact of the Educacion con Participacion de la Comunidad (EDUCO) programme in El Salvador on quality, a multiple regression model compared EDUCO test scores to those from traditional schools and found that community involvement, captured by the number of visits by parent associations to the schools per week, played a crucial role in improving learning outcomes. Community monitoring was the most important mechanism for the gains in quality (Jimenez & Sawada, 1999). Similarly, through a pilot experimental design that drew upon both field and lab-based experiments in Uganda, Barr and co-authors (2012) found that an enhanced community

participation model of community monitoring yields statistically significant outcomes in test scores, compared to a standard model, raising the median pupil 8 percentage points on average. The participatory design of a school monitoring tool (described above in access) significantly enhanced the willingness of both teachers and parents to engage in collective action for improved service provision. A consistent pattern emerged of substantial positive and statistically significant effects from the enhanced participatory design as measured by pupil test-score gains, pupil presence rates, and teacher presence rates.

Evidence from developing contexts reinforces these findings on community participation in cases where participation actually occurs, but also shows that information campaigns are not the correct mechanism with which to engage communities. An RCT conducted in primary schools in Kenya assessed the impact of increases in resources alone (changes in pupil-teacher ratios) on student achievement in comparison to the use of locally hired teachers on short contracts, and the involvement of parents in the management of schools (Duflo, Dupas, & Kremer, 2012). The findings showed that, although a reduction of class size from 82 to 44 on average did not increase test scores significantly, students who were assigned to the contract teachers improved their test scores significantly, as did those students who were in schools where parents were involved in school management through committees. In contrast, an RCT in the state of Uttar Pradesh in India compared the effects of three different interventions that intended to promote beneficiaries' participation in primary education: providing information, training community members in a new testing tool, and training and organising volunteers to hold remedial reading camps for illiterate children (Banerjee, Banerji, Duflo, Glennerster, & Khemani, 2010). The findings showed that the interventions had no impact on community participation in public schools, and no impact on teacher effort or learning outcomes in the same schools. However, the results also indicated that the intervention that trained volunteers to hold remedial reading camps was largely effective, since young people in the local community participated in the trainings to teach, and children who attended the reading camps substantially improved their reading skills. Similar to Banerjee et al., Nguyen and Lassibille (2008) conducted an RCT to evaluate an intervention that tried to increase community involvement by providing information to parents about the importance of education. The results indicated no statistically significant effect on teacher attendance or improvement in test scores (Nguyen & Lassibille, 2008, as cited in Guerrero, Leon, Zapata & Cueto, 2013). These findings may be due to the mechanism used to promote community participation—emphasizing that parental knowledge of the importance of education does not produce strong effects.

As others have noted, the causal mechanisms by which community involvement, and specifically parental involvement, supports learning outcomes remain obscure (Abadzi, 2013; De Grauwe, 2005; Di Gropello & Marshall, 2011). Causal claims of community involvement resulting in improved quality pivot upon the role of school management and local oversight in supporting teacher effort and performance, which in turn improves student outcomes. This ignores certain pre-conditions necessary to enhance quality, including, but not limited to, a minimal level of resources and competent and supported (trained) teachers (De Grauwe, 2005). An observational study of the PACE-A community-based education programme in Afghanistan found that classes with regular school management committee members and trainers performed no better than classes that did not receive any monitoring visits. Nor were teacher education levels or the number of workshops attended by teachers identified as important for quality. Instead, access to learning resources, female teachers, and better

teacher compensation were positively correlated with higher learning outcomes (PACE-A, 2009).[13]

More research is necessary to understand long-term effects of community participation in EiE programming. According to observational research, some community-based interventions may have unintended effects on resolving or exacerbating social and political tensions, as seen in Nepal (Carney et al., 2007; Pherali, 2013). In an observational study of parent and teacher participation in community-based education in Bosnia, where communities were already largely homogenous and isolated, community participation did not improve ethnic relations among parents (Burde, 2004). Similar concerns were echoed for community participation in conflict-affected areas of Yemen and Pakistan (Jones, 2005). In these cases, community participation was embedded in national education policies and strategies that promoted decentralization and good governance and which made little reference to the emergency context in either country. In these cases, the form and impact of community participation was influenced by existing local power structures that affected how it was understood in practice, who could participate, and the purpose it served.

Interventions that focus on improving resources

Use of mobile phone platforms to deliver lessons and teacher training
Educational technology, when applied in contextually relevant ways, may contribute to positive learning experiences and improve educational achievement, even in contexts affected by conflict and disaster. An increasing number of programmes use information and communication technologies (ICTs), but they are often not evaluated, and hence there is scarce evidence regarding their effects on improving achievement in crisis-affected countries. We present evidence from stable contexts below.

The potential of mobile platforms for improving students' achievement and training teachers is supported by quasi-experimental evidence from India. While India is not, as a whole, a crisis-affected country, it suffers from sustained regional conflicts affecting its education system. A formative evaluation of the BridgeIT programme, using a quasi-experimental design undertaken in poor or rural stable areas, indicated that the programme had a strong, positive, and statistically significant effect on student learning (fifth and sixth grade) for both science and English. The programme also had accelerator effects since the baseline for students that received this intervention was below average. Moreover, BridgeIT improved the quality of teaching using standardized classroom observations implemented at the beginning and end of the school year (all data is from Wennersten & Qureshy, 2012 as cited in Carlson, 2013). Similarly, pilot studies from other mobile-based literacy learning interventions in India demonstrated statistically significant post-test gains for writing and vocabulary for children in second and fifth grades (all data is from Kam, 2013 as cited in Carlson, 2013).

Emerging observational evidence from crisis-affected, middle-income countries also indicates promising results for the use of mobile phones in educational technology. Research on a UNESCO supported girls' literacy programme implemented via mobile phones in Pakistan found that over a four-month period, literacy skills improved by a weighted average of 67 per cent (all data is from Miyazawa, 2012 as cited in Carlson, 2013). Since no control group was used, it is not possible to attribute these gains entirely to the programme.

[13] The PACE-A programme is the same that was assessed in the Burde and Linden study. Independent of Burde and Linden, the programme implementers carried out the 2009 study referenced here.

Radio instruction

Emerging evidence suggests that radio instruction in crisis-affected settings may promote educational achievement. For example, in disaster and conflict affected Somalia, the Somalia Interactive Radio Instruction Programme (SIRIP) provided interactive audio programmes to 330,000 children in grades one through five across formal, non-government, Qur'anic, and community schools from 2005 to 2011. Classes covered basic literacy and numeracy as well as life skills, health, conflict prevention, and mediation. Readers' and teachers' guides, combined with teacher training in active learning pedagogy, were included. A quasi-experimental study of the programme found that grade one SIRIP learners scored 15 per cent higher than non-SIRIP learners on standardized literacy tests, and 20 per cent higher in math. The use of the radio programme was deemed especially relevant to the context in light of the security situation, poor Internet connectivity, unreliable electricity supply, and weak institutional capacity (all data is from Ho & Thukral, 2009 as cited in Carlson, 2013). Observational data from crisis-affected regions of India supports these findings. The Technology Tools for Teaching and Training (T4) Project offered English, math, science, and life skills. Data collected during 2008–2009 in Chhattisgarh and Jharkhand, states affected by significant civil unrest during programme implementation, identified statistically significant improvements in learning outcomes. Unfortunately, there were no control groups against which these results can be compared. The results did, however, suggest that overall girls and boys benefitted equally (all data Carlson, 2013).

Computer-assisted learning program

Introduction of computers, internet, and other technology to the learning setting is an increasingly popular, though expensive, educational intervention. Although there is little rigorous evidence on the effectiveness of this intervention in crisis-affected countries, a rigorous review of evidence for the impact of school resources on educational outcomes in developing countries found that computer-assisted learning has mixed results for educational achievement (Glewwe, Hanushek, Humpage, & Ravina, 2011). However, an RCT conducted in India indicated promising results (Banerjee, Cole, Duflo, & Linden, 2007). The study assessed the impact of a computer-assisted learning program on math scores of fourth grade students in schools that were severely disturbed by the instability caused by the major communal riots in Vadodara in 2002. The findings indicated significant gains in student achievement. The computer-assisted learning increased math scores by 0.35 standard deviations in the first year and by 0.47 standard deviations in the second year. The program was equally effective for all students. One year after the programme ended, initial improvement in the test scores remained significant, but the gains faded to about 0.10 standard deviation.

Conditional cash transfers

CCTs are effective in increasing enrolment in crisis-free, low-income countries, but there is weak evidence that they improve learning (Schultz, 2004; Reimers et al., 2006; Schady & Araujo, 2006; Lagarde et al., 2007; Gitter & Barham, 2008; Oosterbeek et al., 2008; Chaudhury & Parajuli, 2010). Although no study emerged from our search on the impact of CCTs on learning in crisis-affected contexts, it is important to note that cash transfers have not been found to increase learning outcomes through test score gains or otherwise in low-income settings (Reimers et al, 2006; Filmer & Schady, 2011). In their review of evidence from 23 studies in developing countries, Krishnaratne and colleagues also found that CCTs increase enrolments and attendance, for the poorest children in particular; yet, there is no overall impact of CCTs on learning outcomes (Krishnaratne, White, & Carpenter, 2013).

Interventions that focus on changing content and practices

Student-centred pedagogy and time-on-task

Existing evidence from a range of studies conducted in crisis-free contexts found that students perform better when teachers spend more time on-task in the classroom and when teachers are able to keep students more engaged in classroom-based activities compared to teachers who do not (World Bank, 2014a). Similarly, emerging observational evidence from crisis-affected countries indicates promising results. To evaluate the effects of student-centred pedagogy and time-on-task on student learning, one study collected data through classroom observations (math, science, and Arabic at the fourth, eighth, and tenth grade levels) and surveys with teachers and school leadership in 122 public, private, and UNRWA schools in West Bank and Gaza (World Bank, 2014a). Student performance was measured based on their average achievement on the 2011 international assessment (TIMSS 2011) and 2012 Palestine National Assessment. Correlation analysis from a comparison of high-performing (78 schools) and low-performing (44 schools) classrooms indicated that more effective teachers tended to use more student discussion in the classroom and had a higher proportion of students engaged in learning activities. For example, in high-performing public schools, teachers dedicated 34 per cent of class time to the "discussion/debate/question and answer" category on average, whereas in low-performing schools, this category was 19 per cent. Other research used a mixed methods approach to compare the UNRWA schools in West Bank, Gaza, and Jordan with public schools based on student performance on international (TIMSS and PISA) and national student assessment data (World Bank, 2014b). The results showed that UNRWA schools outperformed public schools by a margin equivalent to more than one additional year of learning. Although the isolated effects of the components of the UNRWA school programmes were not evaluated, time-on-task, interactive learning activities, discussions, and assignments were suggested factors contributing to student performance, as were professional development services and well-qualified school management.

Training programmes tailored to teachers' needs/qualifications in conflict and post-conflict settings

Teachers' individual experiences and attitudes are critical aspects of teaching. Theoretical and observational literature from developed, non-crisis contexts describes the importance of multiple and diverse experiences, biographies and identities in teacher professional development (e.g., Beauchamp & Thomas, 2009; Flores & Day, 2005; Goodson, 2000; Mitchell & Weber, 1999). In humanitarian and post-conflict contexts, however, there is limited focus on teachers' diverse expertise, experiences, attitudes, and priorities (Kirk & Winthrop, 2008). Given that in such contexts teachers often have traumatic experiences, economic and survival needs, and conflict-related perceptions and attitudes, understanding teachers' biographies, identities, and attitudes is a pressing concern for supporting teachers and improving students' learning outcomes.

The role of teaching experience, academic qualifications, motivation, and confidence in student learning warrants more research given the fact that in emergencies, especially in refugee contexts, those assuming the role of teachers might have no prior teaching experience or motivation, nor any formal training, qualification, or official recognition. The International Rescue Committee (IRC) addresses this limitation by providing ongoing teacher support through its Healing Classrooms Initiative (HCI) that targets teachers in IRC-supported education programmes. The HCI intervention aims to improve teacher support and development by learning about teachers' lives and experiences and by documenting existing promising practices (Kirk, 2007 as cited in Kirk & Winthrop, 2007). Observational data from

northern Ethiopia, specifically in-depth interviews with teachers, highlighted the issues teachers had with their "teacher identity," since most of them had never before considered or wanted to be teachers, and some had not yet completed their own secondary school education, which undermined their confidence in their teaching abilities (Kirk, 2004). IRC HCI started to promote a more teacher-centred approach to teacher development, building upon the roles and context-specific strategies teachers articulated for themselves for quality learning. While if there was a change in teachers' self-concept, it was not reported in the study, the 2007 assessment showed that teachers responded positively to the professional support and developed more child-centred approaches, such as engaging students in active learning activities, dance, and singing (Kirk, 2007 as cited in Kirk & Winthrop, 2007).

Teacher certification

Limited research from education in emergencies assesses the importance of the effects of teacher certification on student learning, but what exists shows mixed results. In the UNRWA study discussed above (World Bank, 2014b), students at the UNRWA schools outperformed those at public schools despite teachers in both systems having the same years of experience and degrees completed. This study suggested that the factors explaining the performance gap included "teachers' confidence in teaching the subject matter, job satisfaction, and on-going professional development and training" (p. 2). Seventy-five per cent of the teachers at the UNRWA schools were satisfied or highly satisfied with their jobs, compared to about 50 per cent of teachers in public schools. Evidence from high-income and developing countries also suggests that the role teacher certification plays in improving student outcomes is less important than, for example, practical learning experiences (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009) or teacher knowledge of subjects they teach (Glewwe et al., 2011). In contrast, the World Bank study in the West Bank and Gaza discussed above showed that higher levels of education for teachers and school directors were associated with higher levels of student performance (World Bank, 2014a). The findings indicated that low-performing classrooms had 8 per cent more teachers and directors without a bachelor's degree equivalent. These contradictory findings imply the importance of focusing more on the role of contextual factors in determining the relationship between teacher certification and student achievement.

Training to eliminate corporal punishment

Finally, a significant area to explore that does not yet attract attention in education in emergencies is the relationship between corporal punishment and academic achievement. Existing observational evidence from developing countries shows the negative effect of corporal punishment on educational achievement, which will likely translate into contexts of emergencies. For example, in a study of 12 junior secondary schools in Ghana and Botswana, male students reported that corporal punishment was a "major factor" in boys' truancy and dropout (Dunne, 2007). Similarly, interviews were conducted with 89 children, adolescents, and teenagers, aged 7 to 16 years, who had dropped out of school in northern Ghana (Ampiah & Adu-Yeboah, 2009). The results showed that 63 per cent of boys and 69 per cent of girls identified corporal punishment at school as one of the reasons why they had dropped out. Another study of corporal punishment conducted in Botswana found that teachers' use of the strategy negatively affected students' classroom participation (Humphreys, 2008). Fears of being beaten and verbally humiliated prevented both boys and girls from answering or asking questions in class. These findings are important in the context of a study of 172 UNRWA schools in Gaza, Jordan, Lebanon, Syria, and the West Bank (UNRWA, 2013). Overall, students who dropped out of this random sample of schools reported that academic engagement reasons were the most important reasons for dropping out of school. While

"underachievement" was the number one major reason for why they dropped out of school, dropouts identified "lack of interest" as either the second or third reason. Taking into consideration the evidence from developing countries regarding how corporal punishment affects student attitudes to learning and school, the UNRWA study indicates the importance of paying attention to corporal punishment in crisis settings.

Approaches to history education

History education poses challenging questions in societies affected by violent conflict because it is a site of political contestation in which a variety of actors assign divergent meanings and practices to it. Especially in contexts of protracted conflict, while history education has potential to play a constructive role, it may also act as a tool of war, sustaining hostilities among students (van Ommering, 2015). Scholarly inquiry is limited on the impact of history education on conflict-affected students, and history teaching is rarely undertaken in peace-building efforts (Langager, 2009). Available evidence, largely from formal schooling, indicates how the practice and content of history education factor into the attitudes and perceptions of conflict-affected learners. Existing studies are exclusively observational and qualitative. They often address questions regarding discussion and silence in the classroom with regard to contested history in protracted crises and aim to understand how curriculum, textbooks, and pedagogy contribute to violent conflict by influencing learner attitudes and perceptions.

Negative curricula: When history curricula and textbook content are studied in relation to violent conflict (e.g. Baranovicé, 2001; Lall, 2008; Torsti, 2007), these studies largely focus on the representations of war and the enemy in the content and then *presume* that such content can fuel participation in violence by influencing learner perceptions and attitudes. Research that directly explores the impact of content and practice on learners and learning outcomes is rare. Analysis of pre-genocide textbooks in Rwanda, however, showed that the history of Hutus and Tutsis was often portrayed as inherently oppositional (King, 2014). Rwandans taught from these textbooks believed that history lessons were problematic for the relations between Hutus and Tutsis because the lessons highlighted historical divisions and intergroup enmity by teaching children to identify against another group.

Silence in history education: Although a common practice in societies affected by protracted conflict, silence in history education is insufficiently explored. Existing observational evidence shows that silence in classrooms on contested and painful histories is related to negative outcomes in learner perceptions and attitudes of history and identity. For example, structured and unstructured interviews with 30 teachers and observations of their classrooms showed that history textbooks and history teaching were silent about Lebanon's civil war because "talking history means talking politics. And, talking politics will only ignite new wars" (teacher interview as cited in van Ommering, 2015, p. 1). Based on interviews and informal conversations with 350 students aged 7–15, Lebanese students had difficulty in understanding their social and political surroundings and in drawing lessons from the past (van Ommering, 2015). As vital historical events were neglected in the schools, students resorted to alternative sources of information such as family, peers, and political media and clubs that often reinforced one-sided and groundless historical accounts.

Observational data from Northern Ireland also showed negative outcomes of silence in history education in formal schooling on students' conceptions of history and identity (Barton & McCully, 2005). Students in Northern Ireland begin to study national history in the first three years of secondary school that mainly address political events up through the 1920s in a chronological progression and remain silent on Northern Ireland's post-1960 period. Interviews

from a cross-sectional study of 253 students aged 11 to 15 indicated that when students began secondary schooling, they identified with a wide range of historical themes. However, as they progressed through the required national curriculum over three years, their identifications narrowed, and their identification with Unionist or Nationalist history became stronger. Students drew selectively from the "neutral" history curriculum to support their developing identifications with the historical narratives of their own political/religious communities. According to these findings, history education should address their developing ideas more directly by providing alternatives to historical narratives they encounter elsewhere (Barton & McCully, 2005).

Joint history textbooks: In contexts of protracted conflict, societies develop their own narratives and devalue their enemy's right to an alternative narrative. History textbooks are an important site where one-sided narratives can contribute to intergroup conflict (King, 2014). A project of bi-narrative Israeli and Palestinian history designed with six Palestinian history and geography teachers and six Jewish, Israeli history teachers during a violent phase of the conflict in 2001 taught these texts in ninth- and tenth-grade classrooms. All teachers accepted the other's narratives during the workshops, and there were almost no attempts to delegitimize the other narrative (Adwan & Bar-On, 2004). After the texts were translated into Hebrew, Arabic, and English, teachers started teaching the texts in their classrooms. Initial reports from teachers showed that although the reactions of students to the texts were diverse, in general bi-narrative texts evoked interest and curiosity among students. Convincing teachers to execute academic, professional, financial, and managerial symmetry, and produce real texts to be delivered in teachers' classrooms appeared pivotal (Adwan & Bar-On, 2004). Although since the authors did not provide information on how the teachers were selected to participate in the project, it is unclear whether selection bias was a factor in the success of this project.

Based on the assumption that engaging two opposing groups in work towards a common goal leads to more positive intergroup attitudes, Jewish and Palestinian high school teachers in Israel participated in a similar task-teams project to create a study unit on Jewish and Arab affairs to be taught in their respective schools (Maoz, 2000a). Pre- and post-programme assessments revealed significant changes in teachers' attitudes towards the other group and great satisfaction with the discussions of the conflict and intergroup relations. However, the majority of the teachers had low satisfaction in the joint pedagogical work, which some viewed as artificial and forced.

Existing observational evidence described above reveals the crucial role that critical engagement with history can play in shaping the identifications, perceptions, and attitudes of learners, which in turn has potential to contribute to exacerbation or amelioration of violent conflict. Therefore, history education could be a significant component of peace-building efforts and might be included in peace education programmes either within or outside formal school systems.

Multiple-perspective history teaching: Existing evidence from protracted and post-conflict contexts indicates that, compared to the conventional history teaching that focuses on an authoritative single narrative stressing the dominant group's perspective, multiple-perspective history teaching may promote interest in other's perspective on the history of intergroup conflict and have positive impact on the intergroup relations. A quasi-experimental study compared the impact of single authoritative narrative teaching and multiple-perspective history teaching (empathetic dual narrative and critical analysis of conflicting

sources) on Israeli Jewish and Arab students' attitudes to out-group narratives and perceived in-group responsibility (Goldberg, 2014). The findings showed that teaching a single authoritative narrative decreased openness to the other side's perspectives, whereas empathetic dual narrative increased it. Interest in the other's perspective remained comparatively stable for the critical approach. Results indicated effects also for majority-minority status, since the impact was more pronounced for the minority Arab students than for the Jewish students. In terms of in-group responsibility, however, an empathetic approach decreased the perceived in-group responsibility among Jewish participants, whereas the critical approach increased it. The outcomes were inverted for Arab students. Similarly, an RCT examined the impact of these three approaches to history teaching, this time on Israeli Jewish and Arab students' dominance of discussion, as well as their agreement on solution for the problems caused by the conflict (Goldberg & Ron, 2014). The results indicated that discussions in multiple perspective history teaching, using both the empathetic and critical approach, demonstrated a lower level of dominating discourse by the dominant group. In addition, compared to those students who participated in control or multiple-perspective teaching approaches, students who were exposed to a conventional teaching approach showed a lower frequency of agreement on solution to the problems caused by the intergroup conflict. Both of these studies from the protracted context of the Israeli-Arab conflict point to the negative effects of enforcing a single narrative in conflict-affected societies and show the positive outcomes of multi-perspectivity in history classrooms. These results are also partly supported by qualitative findings from Northern Ireland that indicated that students showed more interest in out-group perspectives in a context of multiple-perspective history teaching (Barton & McCully, 2012). However, an observational study of Palestinian high school students in Israel indicated that the dual narrative approach did not facilitate the acceptance of the out-group narrative, and was associated with negative reactions to the Israeli narrative (Eid, 2010).

Educational access/attainment for militancy, radicalisation, or tolerance
Until recently, the complex relationship between education and conflict was on the margins of EiE discourse, since education was viewed as largely neutral leading to a range of positive outcomes such as economic development, protection and wellbeing, peace-building and reconstruction (Davies, 2005; Novelli & Cardozo, 2008; Paulson & Rappleye, 2007). There is a conceptual shift, however, as both scholars and practitioners increasingly bring attention to the multifaceted, and not always statistically negative, relationship between education and participation in/support for violence (Burde, 2014; Burde et al., 2011; King, 2014; Ostby & Urdal, 2010). This conceptual shift was influenced both by the events of September 11th and a policy paper by Bush and Saltarelli (2000) entitled *The Two Faces of Education in Ethnic Conflict,* which argued that education could both fuel hostility as well as foster social cohesion (Burde et al., under review).

The relation between education and participation in or support for violence has been largely studied in terms of the role of *educational access/attainment* in the militancy of individuals. There is strong yet inconclusive evidence on this relationship. Some studies investigate the link between out of school youth and increased likelihood of conflict. For example, strong observational research from Sierra Leone indicated that youth without access to education were nine times more likely to join violent conflict than those who attended school (Humphreys & Weinstein, 2008). Evidence from a number of quantitative case studies and cross-national surveys showed that states with "youth bulges," large populations of (male) youth, were more likely to experience conflict if their populations had lower levels of education (Barakat & Urdal, 2009; Collier & Hoeffler, 2004; Collier et al., 2004; Ostby &

Urdal, 2010). This relationship was mediated by various other factors in these youth bulge countries, such as income level, national resources, and regime type, and it appeared strongest in low- and middle-income countries and in Sub-Saharan Africa (Barakat & Urdal, 2009).

Recent research as cited in Burde (2014) provides counter-evidence to the mitigating effect of educational access and attainment on the propensity to participate in violence or support for militancy, particularly in the context of violent extremism, such as suicide bombings. Evidence from the West Bank and Gaza showed that, in the 1980s, higher levels of education did not decrease support among Palestinians for violent attacks (Krueger & Maleckova, 2003). In Lebanon, Hezbollah combatants who were killed during paramilitary operations in the late 1980s and early 1990s had higher levels of educational attainment than noncombatants (ibid). The findings also indicated that Israeli Jews who participated in violence against Palestinians in the 1980s tended to be well educated. Similarly, other studies found that participation in Hamas and Palestinian Islamic Jihad was associated with higher levels of education (Berrebi, 2007). In addition, in some countries, better-educated individuals who were politically dissatisfied tended to have greater support for suicide bombings (Shafiq & Sinno, 2010).

As emerging research shows that there is not always a statistically negative relationship between education and participation in/support for violence and extremism, more scholars are calling for attention to the quality of education (Burde, 2014; King, 2014). For example, Shafiq and Sinno suggest "the direct effect of educational attainment on suicide bombing attitudes depends critically on the content of education and the values inculcated in educational institutions. If educational curricula and institutions do not promote peaceful conflict resolution, then educational attainment may not affect attitudes towards suicide bombing (2010, p.170 as cited in Burde, 2014, p.19).

There is limited evidence on whether, or the extent to which, types of religious schooling contribute to violent extremism or radicalization. The US supported the Afghan *mujahideen* (religious fighters) in the 1980s by developing primary school textbooks that promoted violence against the Soviets in the name of religious jihad. These books appear to have contributed to underlying conditions for conflict, but it is not clear to what extent this relationship was causal (Burde, 2014). Research into the contemporary phenomenon focuses primarily on Islamic religious schools, particularly madrassas in Pakistan. Based on our selection criteria, we identified one observational study that investigated the relationship between madrassa graduates and violent extremism (Ali, 2009). The study found a correlation between large numbers of madrassas and incidents of sectarian violence in rural Punjab. Analysis of police arrest data for sectarian attacks between Shias and Sunnis also indicated that there was more sectarian activity in areas where madrassas existed in greater density.

Emerging observational evidence from ECD programmes indicates the importance of educational content and practices in the early years, since intolerant content may contribute to the development of harmful values and attitudes in children as young as 5–6 years old. For example, Connolly et al. (2002) studied ECD programmes in Northern Ireland to identify and analyse child awareness of communal or sectarian symbols. They found that awareness and associated politicized attitudes increased significantly around the ages of 5–6 (the time when children also enter the school system, which itself is highly segregated).

Our review shows that there is little evidence on how schooling or educational content contribute to participation in and support for violence and extremism. Specifically, the

complex relationship between education and radicalisation/tolerance is not addressed widely through intervention programmes. When it is addressed, such as with human rights education or conflict resolution programmes, the programmes are not evaluated rigorously enough to understand the impact on student attitudes and behaviour. In addition, although the relationship between madrassas and violent extremism is widely discussed, there is little evidence that indicates a causal link. That said, it is possible that negative curricula are being taught in these schools and negative curricula and practices, as discussed above, are problematic both in secular and religious schools.

Peace education for tolerance

Peace education is founded upon the idea that education can be used for conflict resolution and peace-building by fostering an atmosphere of non-violence and reconciliation among learners, typically through direct contact between groups, that will diffuse into the community. Key components of peace education include activities and lessons on sharing and working in groups, interacting with others, and dealing with emotional stress positively (Webster, 2013). Governments and international organisations develop and implement peace education programmes either in schools as part of the formal curriculum or outside schools as alternative interventions. With regard to impact on learning outcomes, peace education programmes are among the most widely evaluated interventions in contexts of both post-conflict and protracted conflicts. However, few studies employ experimental designs and most existing evaluations study the impact of programmes as a whole without focusing on the outcomes of particular components. Therefore, it is not possible to show which peace education component works or does not work to produce specific outcomes.

Existing observational evidence shows that peace education often positively affects attitudes and perceptions even in contexts of protracted and intractable conflict. However, the findings in these studies are weakened by lack of comparability between experimental and control groups and selection bias among participants. Moreover, these studies evaluate short-term effects in general; thus there is a paucity of evidence on long-term effects of peace education. With these caveats, we review the research below.

Post-test results from peace education programmes, conducted at the end of the programme or soon after the programme ended, appear to affect attitudes and perceptions *in the short term* in protracted and post-conflict contexts positively. For example, a qualitative and quantitative evaluation of a two-day reconciliation workshop indicated the change in participants' stereotypic perceptions of each other (Maoz, 2000b). Fifteen- and 16-year old Israeli and Palestinian youth participated in dialogue activities during the workshop organised by an Israeli-Palestinian organisation. Pre- and post-programme questionnaires showed transformation in mutual attitudes, since both groups viewed each other as more "considerate of others," "tolerant," and "good hearted" than they did before the workshop. In a year-long school-based programme that similarly targeted Palestinian and Israeli youth and included face-to-face interactions, pre- and post-programme assessments found a shift in youngsters' perceptions of peace (Biton & Salomon, 2006). Before participation in the programme, Israeli students emphasized the negative aspects of peace such as absence of violence, while Palestinians stressed structural aspects, for example independence and equality. After programme participation, both Israeli and Palestinian students placed more emphasis on positive aspects of peace such as cooperation and harmony. This programme also served as a barrier against the deterioration of views and feelings, while deterioration was found in the control group as adverse events took place outside the confines of the programme. Another study investigated the development of friendships during such

encounters between Palestinian and Israeli students in the course of a three-day joint workshop (Bar-Natan, 2004 as cited in Salomon, 2004). Pre- and post-test results indicated a greater acceptance of members of the other group and greater legitimation of the others' collective narrative, although the latter was more difficult for the Palestinian participants.

Since long-term effects are often not evaluated, these positive outcomes might not be retained over time. Recent research supports this statement. For example, in a quasi-experimental study of a year-long, school-based programme for Israeli Jewish and Israeli Palestinian youth, the programme created a change in adolescents' peripheral beliefs, but it did not influence their core beliefs that were central to their groups' collective narratives (Rosen & Solomon, 2011). A delayed post-test two months after the first post-test showed that the peripheral beliefs transformed by participation in the programme changed back to their initial states that were apparently influenced by the context of hostile social and political forces.

Findings from an ethnographic study in Northern Uganda, on the other hand, warn against the positive findings of peace education programmes that are based on the criteria of negative peace, in other words, the absence of war and physical violence (Webster, 2013). This focus on negative peace encouraged a "culture of complacency" in two school-based programmes in Northern Uganda, where a harsh economic and sociopolitical reality was prevalent.

Providing early childhood development programmes

As noted above, early childhood development programmes (ECD) in high-income Western countries are widely accepted as having large effects on children's welfare that continue into adulthood. For example, a review of rigorous evidence on preschool education in the US showed that a year or two of centre-based early childhood education for three- and four-year-olds, improves children's early language, literacy, and mathematics skills. Although these outcomes are seen when measured at the end of the programme or soon after the programme ends, robust research shows that there are long-term effects on important societal outcomes such as years of education completed, high-school graduation, earnings, and reduced crime and teen pregnancy (Yoshikawa et al., 2013; Heckman, 2011)). In another review of research on human development and the impact of early investment on schooling and education outcomes in the West, Heckman (2011) identifies four crucial effects of ECD that contribute to quality outcomes in later education trajectories. First, early inequalities result in later inequalities in achievement, ability, health, and adult success. Second the importance of ECD extends to social as well as cognitive skills. Third—and perhaps crucially for emergency contexts—ECD interventions can overturn early inequalities (genetic, parental and environmental), supporting productivity among otherwise vulnerable populations. Finally, investment in early childhood reduces the achievement gap and supports the likelihood of prosocial outcomes later in life.

Given this preponderance of robust evidence, and given the similarities in human development around the world, it is logical to assume that ECD programmes are likely to be critical and important for children everywhere. Although little evidence exists on the effects of ECD programmes in countries affected by crisis, a study in the DRC from the grey literature notes that a multi-sector ECD approach appears more beneficial for children than a traditional nursery model, which has a narrower focus on cognitive skills (UNICEF, 2011). Another observational study in Ethiopia found that ECD services were likely to better support school readiness when they were integrated into the primary system (Orkin, Yadete, & Woodhead, 2012). It is possible that ECD effects may be even stronger among children living

in countries affected by conflict and disaster. Yet more research is necessary to understand precisely if and how benefits from ECD accrue differently to children in countries affected by crisis. Studies should determine the extent of ECD effects on some of the development challenges unique to children affected by crisis as well as to replicate findings described above.

4.3 Child wellbeing: Risk, protection, and resilience

Supporting the psychosocial protection of children and youth affected by crisis was among the earliest articulated purposes of education in emergencies (Nicolai & Triplehorn, 2003), and the role that education plays in physically and emotionally protecting children remains a core priority. Given its reach, the educational system can work as a special institution to fortify children's resilience and coping mechanisms when they live in violent environments (Slone & Shoshani, 2008; Noltemeyer & Bush 2013). School "routines and rituals" support resilience because they provide children with "a critical component of normal life…an anchor and a sense of consistency" (Nguyen-Gillham et al., 2008, p. 295). Strong observational evidence suggests the importance of inclusive education opportunities and creating school environments that reduce the stigma associated with conflict (Betancourt et al., 2013).

Where evidence from crisis settings is lacking, we include robust US-based research to suggest how this evidence might translate into testable hypotheses for education in emergencies. For example, a review of robust empirical research on interventions targeting academic, health (mental and physical), and citizenship outcomes in US schools specifically addresses how these domestic studies might be used to inform education interventions in low- and middle-income countries (Cappella & Kim, 2014). Evidence from this review of rigorous experimental literature conducted in the US indicates that: (1) well-structured and organised schools that provide safe and protective learning environments improved academic outcomes, health (physical and mental), and social behaviour; (2) relationships with teachers and peers were important predictors for academic performance and positive health and social behaviours; (3) high academic expectations on the part of students and teachers were linked to students' academic performance; and (4) interactive and innovative teaching techniques were effective in improving learning outcomes. While successful outcomes of the studies reviewed may be particular to the US context, the processes undergirding their approaches may be applicable for countries affected by crises.

Finally, although our review identifies a range of approaches that have been evaluated—from trauma-oriented to resilience-promotion interventions—it is important to note that there is significant and continued debate among scholars regarding the appropriateness of adopting *clinically oriented* approaches among a general population. Many acknowledge the limitations of applying concepts of Western psychology in non-Western contexts. In particular, post-traumatic stress disorder (PTSD) pathology established in the West is likely incompatible with the local beliefs of many other countries (Fernando, Miller & Berger, 2013; Boothby, 2008) and interventions that do not take local norms and customs into account may have inadvertently harmful effects (Wessells, 2009). Specific instances of negative repercussions have been documented in programmes in Rwanda, Sierra Leone, and Albania (Wessells, 2009). Furthermore, a narrow focus on PTSD and traumatic experiences may overlook the equally if not more important role of post-conflict stressors on mental health (Berthold 2000; Wessells & Kostelny, 2012; Betancourt et al., 2013; Fernando, Miller & Berger, 2013). More contextually appropriate community-based and social ecology models are increasingly discussed in the literature as alternatives to trauma-centred interventions (Boothby, 2008; Aguilar & Retamal, 2009; Jordans et al., 2009; Betancourt et al., 2013; Fernando, Miller &

Berger, 2013). Contextually-relevant programme design therefore serves as a guiding principle for EiE interventions that address wellbeing. Practitioners and policymakers considering such interventions are advised to refer to the InterAgency Standing Committee Guidelines on Mental Health and Psychosocial Support in Emergency Settings, which provide a comprehensive overview of good practice in this subfield.

As illustrated in our theory of change, this section reviews interventions that aim to improve wellbeing by targeting (1) administration, infrastructure, and resources, and (2) content and practices. These programs generally fall into three main categories: those that mitigate risk; those that enhance physical and emotional protection; and those that foster resilience. In addition to constituting a core outcome in our theory of change, improved wellbeing also serves as an important mediating construct for improving learning outcomes. Thus in this section we present evidence of wellbeing both as an outcome and a mediating construct.

Box 4.5: Interventions that focus on improving administration, infrastructure, and resources

- Community participation
- Positive school climate
- Mobile technology messaging platforms
- Disaster risk reduction

Box 4.6: Interventions that focus on changing content and practices

- Creative arts and play therapies
- Early childhood development programming
- Culturally relevant programme design
- Approaches to manage daily stressors and post-crisis sources of risk
- Specific support programmes and referrals for the most vulnerable and for girls versus boys
- Positive peer relations
- Parental and caregiver support
- Inclusive teaching practices
- Opportunities for youth to demonstrate leadership and agency
- Socioemotional learning approaches
- High expectations for better learning outcomes

In this section we review existing evidence on the promotion of wellbeing in children from 51 academic articles and 11 from grey literature, for a total of 62. Of this total, 6 employed an experimental design, 6 a quasi-experimental design, 33 were observational studies, 11 were systematic reviews, and 5 were non-systematic reviews. In addition, 23 studies were from conflict-affected contexts, 4 from post-conflict contexts, 3 related to situations of natural disaster, 4 to post-disaster, 10 to low- or middle-income developing contexts, and 20 considered predominately high-income developed contexts. Several of these studies dealt with a range of contexts.

Interventions that focus on improving administration and infrastructure

Community participation

As noted in previous sections, communities are a key resource for EiE interventions. Emerging observational evidence points to the potential of community negotiations to mitigate attacks on education. The Schools as Zones of Peace (SZoP) programme initiated during the conflict in Nepal in 2001 supports dialogue between communities and local political groups to establish the neutrality of schools (Save the Children, 2009; O'Malley, 2010). Data suggests the programme has improved both the physical protection of schools and learning outcomes of students (Save the Children, 2009). Of note, after controlling for other variables, reading and comprehension levels in SZoP schools were statistically significantly higher and they reportedly experienced less frequent school closures than non-SZoP schools. Teacher and student attendance increased, incidences of corporal punishment decreased, and gender and ethnic discrimination decreased. Since the poorest performing students in SZoP and comparison schools were not markedly different in their outcomes, SZoP schools may not be adequately addressing the needs of students with the greatest academic struggles.

Emerging evidence also suggests that a greater sense of community ownership in education serves as a protective mechanism to stave off attack and/or make students feel safer. Observational studies have found that NGO-run schools that rely on community participation in conflict settings are less frequently attacked than government-run schools (Glad, 2009; Rowell, 2014; Burde, 2014). In a global evaluation of their Child Friendly Schools (CFS) program, UNICEF also found that high levels of community and family participation were positively associated with students feeling safe and included in school—especially among girls (UNICEF, 2009). Not all students reported feeling safe, though feeling less safe was positively associated with missing school. In addition, CFS do not appear to adequately cater to students with physical, learning, or mental disabilities. There is a need for increased documentation of Child Friendly Schools and Child Friendly Spaces, improvements in the organisation and consistency of evaluation measures, and specific outcome measures (Aguilar & Retamal, 2009; Ager, Metzler, Vojta, & Savage, 2013).

A mixed-methods observational evaluation of two Norwegian Refugee Council interventions in Palestine (*Our Communities, Our Schools* and the *Better Learning Intervention*) also suggests a positive relationship between community-supported school-based interventions, students' psychosocial functioning, and learning outcomes (Shah, 2014). The *Our Communities, Our Schools* intervention sought to address immediate community needs, engage parents and communities around school operations and education activities, and promote inclusive, student-centred teaching. The *Better Learning Intervention* aimed to provide teachers and child-workers with strategies for addressing the effects of trauma by analysing teacher questionnaires and stakeholder narratives. Qualitative data from both interventions points to a positive relationship between improvements in students' psychosocial functioning and improvements in students' academic achievement (Shah, 2014). Improvements in student-centred teacher practices and student engagement were statistically significant.

Positive school climate

Although there is no rigorous evidence regarding intra-school violence in crisis settings, emerging research in stable developed and developing contexts has drawn attention to intra-school violence, emphasizing school-related-gender-based violence (SRGBV) as a particularly salient problem (RTI International, 2013; Leach, Dunne & Salvi, 2014; USAID, 2014). For instance, in post conflict Colombia as well as in Botswana and non-English/non-Afrikaans-

speaking South Africa, higher reading achievement levels and math scores were found in schools with supportive disciplinary environments and schools with fewer instances of reported bullying (Mullis et al., 2012a; RTI International, 2013). Similar findings were reported using TIMMS data (Trends in International Mathematics and Science Study) from both developed and developing countries (Mullis et al., 2012b; RTI International, 2013). New grey literature explores the effects of safe schools and school violence on learning outcomes in developing countries (USAID, 2014). Robust evidence from US studies has demonstrated the importance of interventions that improve school "climate," including positive and supportive learning environments and relationships, in facilitating student success (Bradshaw, Wassdorp, & Leaf, 2014; Cappella & Kim 2014; Hagelskamp, Brackett, Rivers & Salovey, 2013; Kosciw, Palmer, Kull, & Greytak, 2013).

Mobile technology messaging platforms
Limited anecdotal evidence suggests that mobile phone messaging platforms can facilitate the physical protection of schools and students in conflict contexts where attacks on schools are a particular problem. In Gaza, Souktel implemented a large scale, web-based SMS alert and survey system as part of the UNESCO crisis-Disaster Risk Reduction (c-DRR) programme. The intervention was designed to allow for message sharing across parents, school staff, and other community members. Alerts ranged from emergency notifications, when schools were affected by ongoing military activities, to more general school announcements. The system was also used to deliver SMS-based surveys to collect data related to programme activities and was eventually connected to emergency response partners (hospitals, paramedics) to ensure timely response in case of schools being attacked (Souktel, 2012). However, lessons learned largely cover issues of technical implementation, thus limiting a proper understanding of impact.

Interventions that focus on increasing resources

Disaster risk reduction
Endorsed by 168 governments, the Hyogo Framework's top priority for action in 2005–2015 is to "Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation" (UNISDR, 2005; UNISDR, 2011). Little research exists on the effectiveness of disaster risk reduction (DRR) programmes, or which programmes are most appropriate for different types disasters. An observational study drawing on focus group discussions and in-depth interviews in Turkey explored individuals' knowledge and attitudes regarding preparation for a predicted earthquake (Tekeli-Yesil et al., 2010). Findings showed that individuals with prior experience with disasters, higher levels of education, and greater social connectivity were more likely to be better prepared. Yet while most individuals interviewed had knowledge about the anticipated earthquake and its expected effects, few had adequate knowledge of what to do to prepare for or protect themselves from the damage of an earthquake.

Findings from case studies of DRR programmes across 30 countries echo this conclusion (Selby & Kagawa, 2012). In many of these cases, programmes discussed the basic science behind disasters but failed to address climate change, and most importantly, failed to address preventative measures or means of coping when a disaster strikes. Moreover, approaches to DRR vary greatly, as do learning and assessment standards. The PREPaRE School Crisis Prevention and Intervention Training Curriculum conducted in schools in the US and Canada consists of a workshop series that provides teachers, administrators, and crisis support staff with crisis prevention information, protocol, and mental health training for post-crisis support

(Nickerson et al., 2014). This model is currently being adapted for use in developing countries. Pre- and post-tests indicate that participants' knowledge and attitudes about crisis management improved over the course of the intervention, though no research exists on its effectiveness following a crisis.

Interventions that focus on improving content and practices

Creative arts and play therapies

Creative arts are increasingly employed in psychosocial interventions aimed at children affected by conflict and crisis (Jordans et al., 2009; Tyrer & Fazel, 2014). They include music therapy, creative play therapy, dance, drama, painting and drawing to enable the processing of traumatic experiences through metaphor, symbolic behaviour and embodied expression, strategies that are increasingly recommended by neuroscientists (Harris, 2009). Robust evidence from a US-based meta-analysis specifically links play therapy programs in schools to improvements in academic outcomes (Ray, Armstrong, Balkin, & Jayne, 2015).

In both conflict and crisis-affected contexts, creative arts and play therapies have had positive effects for participants. A systematic review of 21 studies (14 in high-income countries, 7 in refugee camps) on interventions targeting 1800 refugee children, ages 2–17) found that cognitive behavioural therapy (CBT) and creative arts-based programmes were the most commonly employed techniques (Tyrer & Fazel, 2014). Significant improvements in mental health were found from both types of interventions as well as interventions that employed multiple modalities. Interventions using CBT had the largest effect sizes, and methods were generally more robust than those employing creative arts techniques. A quasi-experimental study centred on creative arts activities in northern Uganda used randomised quota sampling to analyse the effects of a psychosocial structured activities (PSSA) programme on child wellbeing in 21 schools for children ages 7–12 (n=203 intervention, n=200 in comparison group) (Ager et al., 2011). Results indicated statistically greater improvements in wellbeing of intervention participants. An observational study on a school-based psychosocial intervention in Chile following the 2010 earthquake found that levels of earthquake anxiety and post-traumatic stress (PTS) were significantly reduced for the majority of participants (Garfin & Silver et al., 2014). This intervention involved schoolchildren ages 7–9 (n=117) who participated in a life-skills programme employing creative modalities to improve organisational, study and conflict management skills. Finally, an observational evaluation of "Right To Play" programmes in refugee camps in Tanzania and Pakistan found that participation supported wellbeing through peer relationships, student and teacher relationships, and the inclusion of young girls (Lange & Haugsja, 2006).

Early childhood development programming

There is strong evidence to support the impact of interventions focused on early child development in crisis on child wellbeing. A quasi-experimental, mixed-methods evaluation of Child Centred Spaces (CCS) programme in Northern Uganda found statistically significant differences for perceptions of child wellbeing and incidence of violence, including reduced reports of sexual violence, as compared to the experiences of a control group in another displaced persons camp (Kostelny & Wessells, 2008). The study is notable for its use of locally appropriate measures to gauge caretaker perceptions of child wellbeing. An experimental study from Bosnia tested a five-month, non-formal education intervention that consisted of weekly meetings to promote good mother-child interaction, peer support, and increased knowledge of child development and trauma, as well as to provide basic health care (Dybdahl, 2001). Psychological tests and qualitative observations (n=87 mother-child pairs)

revealed significant post-intervention differences between treatment and control groups on measures of maternal wellbeing and mental health, as well as on child psychosocial functioning. Additional research should parse the effects of the various components of these interventions.

The effectiveness of ECD in crises is further supported by emerging evidence from grey literature. An evaluation of a UNICEF programme in the DRC reported that children who have attended ECD centres were better able to express themselves without fear. Family communications and parents' attitudes were also reported to model healthy behaviours better. Similarly, other UNICEF ECD interventions in natural disaster contexts (Philippines, Kyrgyzstan, and Swaziland) suggest that teacher training, locally sourced and culturally appropriate materials, simulation exercises to increase confidence, and better communications in coping with disasters have an impact. This intervention included DRR messages in a highly popular children's cartoon on national television and it was reported that children wanted to emulate the positive and pro-social behaviours of characters on the show (UNICEF 2012). Since reporting on such interventions does not employ rigorous methods we cannot assess effect sizes. In addition, it is unclear which components of the interventions are attributed to which outcomes. These findings merit further research.

Culturally relevant programme design
Several observational studies and a systematic meta-review identify the importance of faith and indigenous or traditional practices to manage and make sense of adversity (Tol et al., 2013; Nguyen-Gillham et al., 2008; Eggerman & Panter-Brick, 2010; Ungar and Liebenberg, 2013; World Bank, 2014b). At the same time, however, two of the observational studies reviewed highlighted that while cultural values may in some cases promote resilience they can also entrench vulnerability, especially for girls (Eggerman & Panter-Brick, 2010; Nguyen-Gillham et al, 2008). In Afghanistan, for example, strong observational evidence points to how "social expectations and cultural dictates also create structural inequalities that can be harmful" (Eggerman & Panter-Brick, 2010).

More generally, understanding context can provide valuable insights into why children and youth follow pathways that result in anti-social (including violent) outcomes. Observational research conducted in Honduras for instance found that the desire to belong to a youth gang may stem from youth needs for self-defence, safety or friendship (World Bank, 2013). At the same time, youth who were immersed in the gang culture exhibited an eagerness to stay in school, get ahead, to go to university, and belong to a community. In this case the presence of factors, such as the support of family and religious motivations to attend school, suggest mechanisms for supporting resilience that may offer relevant and appropriate prosocial interventions.

Approaches to manage daily stressors and post-crisis sources of risk
Also relevant for future research are interventions that address post-conflict and post-disaster stressors, as multiple studies in emergency settings point to daily stressors as key inhibitors to mental health in humanitarian crises (Berthold, 2000; Wessells & Kostelny, 2012; Betancourt et al., 2013; Fernando, Miller & Berger, 2013). For example, an observational study from a demographic survey questionnaire of 427 Sri Lankan youth living in conflict-affected and post-tsunami Sri Lanka found that daily stressors significantly mediated wellbeing outcomes, including the effects of war and disaster exposure (Fernando, Miller & Berger, 2013). Furthermore, daily stressors explained statistically more of the variance in PTSD levels than exposure to war and disaster. These findings suggest that by failing to take into account the

effects of daily stressors in emergency settings, studies may overestimate the effects of exposure to conflict and disaster.

Indeed, a strong, observational, mixed-methods longitudinal study from Sierra Leone among children aged 10–17 at baseline highlights the important role of post-conflict stressors on mental health and reinforces the view that populations are resilient (Betancourt et al., 2013). While the study did *not* involve an intervention, the examination of behavioural adjustment was assessed soon after the conflict, and again two and six years following baseline. Many of the children in the sample were former child soldiers. The study found that although a small group of participants (10.9 per cent) demonstrated consistently high PTSD symptom levels or symptoms that significantly increased over the course of the study, a far larger cohort (89 per cent) showed improvement in mental health over time. Youth in the highly symptomatic group experienced greater stigmatization, having lost a parent and/or been subjected to neglect or abuse by a family member during the post-conflict period. These youth were also generally older and lacked educational or occupational skills. This study suggests the importance of broad-based community awareness and support programmes, followed by targeted interventions only for the most vulnerable.

Specific support programmes for the most vulnerable and for girls as compared to boys
Robust evidence from US literature has shown PTSD to be associated with reductions in neurocognitive functioning (Scott et al., 2015) and that children exposed to trauma and violence exhibit negative neurological changes (Perkins & Graham-Bermann, 2012). While children tend to demonstrate tremendous resilience, as noted above, some remain particularly vulnerable to the negative effects of conflict and crisis.

Some interventions aimed at promoting psychosocial wellbeing fall short of providing support for certain children. This suggests the importance of specific and targeted support programmes, particularly for traditionally marginalized groups. For example, a quasi-experimental study on a school mediation intervention (SMI) that aimed to improve social relationships and mental health in Palestinian children ages 10–14 (n=141 participants, n=84 control) found that the intervention not only failed to increase prosocial behaviours and decrease PTSD symptoms, but that PTSD symptoms actually increased more in the *intervention* group than in the control group (Peltonen et al., 2012). The authors suggest that the needs of children living in areas of protracted conflict may differ from those of children living in post-conflict or disaster areas. A strong observational study of a sports and creative arts intervention with Palestinian children in West Bank and Gaza found that while negative social and behavioural problems were generally reduced in participants, hopefulness was not improved in the intervention group, though it actually increased over time in the comparison group (Loughry et al., 2006). Significant differences were also found between groups in West Bank and groups in Gaza. The sample consisted of 400 children, 6–17 years old (300 participants, 100 comparison group).

Similarly, several studies with a variety of populations show mixed, weak, or even negative effects of psychosocial interventions for girls. First, a rigorous randomised evaluation conducted with Palestinian schoolchildren (ages 10–13, n=242 intervention, n=240 control wait-list) to explore the effects of a psychosocial intervention using "Teaching Recovery Techniques" on emotional regulation found that while PTS symptoms were reduced for boys in the study, symptoms were reduced in only a subset of girls: those who had demonstrated lower levels of trauma at baseline (Punamaki et al., 2014). Second, an observational study on a Serbian community-based Youth Clubs programme found that refugee and non-refugee girls

reported higher levels of trauma than their male counterparts. While traumatic stress was reduced for non-refugee participants, it actually increased for refugee participants. The evaluation included pre- and post-surveys with 1,106 boarding school students ages 15–18, 158 of whom were refugees (Ispanovic-Radojkovic, 2003). Finally, an observational study in Denmark found that students who had been exposed to a firework explosion showed significant reductions in PTSD levels following a mental health intervention. However, students with higher PTSD levels reported at baseline, younger students, and girls, were more likely to retain a PTSD diagnosis post-intervention, with girls seven times more likely than boys (Rønholt, Karsberg, & Elkit, 2013). These studies are too disparate to form a robust body of evidence, yet they show the need for future research exploring the differences in psychosocial responses between girls and boys.

Positive peer relations

Emerging evidence from crisis settings suggests that peer support interventions foster resilience (Tol et al., 2013; World Bank, 2014b; Noltemeyer & Bush, 2013). Observational data collected from UNRWA schools for Palestinian refugees in the West Bank, Gaza and Jordan illustrates that opportunities for peer support can be formally built into classroom activities to enhance learning outcomes or encouraged through the provision of prosocial extracurricular activities (World Bank, 2014b). This is complemented by rigorous evidence from the US, which found that relationships with teachers and peers were important predictors for academic performance and positive health and social behaviours (Engle et al., 2011; Morris et al. 2009 as cited in Cappella & Kim, 2014).

Relevant for future research is robust evidence from US-based studies that have shown hostile attribution bias, or a tendency to interpret the behaviour of others as hostile, to be highly related with aggressive behaviours and desires for revenge in children (Godleski & Ostrov, 2010), adolescents (Yeager, Miu, Powers & Dweck, 2013), and young adults (Bailey & Ostrov, 2008). A classroom intervention that educated students about personality development and the brain was found to be effective in reducing hostile attribution bias and hostile intent in participants (Yeager et al., 2013). As young people exposed to violence and hostile environments are thought to be especially vulnerable to hostile attribution bias (Dodge, 2006 as cited in Yeager et al., 2013), interventions addressing this issue in conflict and post-conflict settings may be valuable for reducing participation in aggressive behaviours.

Parental and caregiver support

Recent studies in emergency settings suggest the importance of including parents and caregivers in interventions to address wellbeing. An observational study on a post-disaster intervention in Chile found that children who expressed having conflicts with their caregiver, or who reported that their caregiver was unwilling to talk about the disaster, exhibited higher PTS symptoms (Garfin & Silver et al., 2014). A longitudinal quantitative study employed hierarchical linear modelling to investigate the relationship between the mental health of youth (ages 10–17 at time 1) and their caregivers in post-conflict Sierra Leone (Betancourt, McBain, Newnham, & Brennan, 2015). Researchers found that caregiver mental health was highly and significantly related to youth mental health, and "family acceptance" and "community stigma" were significantly associated with youth depression and anxiety symptoms. These studies suggest that psychosocial interventions in emergency settings should include and/or directly target caregivers in their efforts to improve children's mental health. Robust evidence from a US meta-analysis supports the notion that children and parent/caregiver mental health are highly related, and that psychosocial interventions

directed solely at caregivers, at caregivers and children, and at families are all effective at improving children's mental health (Siegenthaler, Munder, & Egger, 2012).

Meta-reviews and observational studies have also pointed to the importance of parental support and motivation as a key factor in promoting resilience among children and youth (Nguyen-Gillham, 2008; Noltemeyer & Bush, 2013; Tol et al. 2013; World Bank, 2013; World Bank, 2014b). In their systematic review, Tol et al. (2013, p. 453) note that parental support and parental monitoring were associated with children's higher valuing of education, higher school grades, and more positive perceptions of health and life. Such support extended to the impact the home environment has on child wellbeing. In a non-systematic review, Noltemeyer & Bush (2013, p. 478) also find that "parental responsiveness and firm behavioural control appear to serve as universal protection, fostering various positive outcomes among diverse groups, as well as protecting against negative outcomes."

Inclusive teaching practices

Several meta-studies identified perceptions of teacher fairness and teacher respect for students as important contributors to resilience and psychosocial wellbeing (Tol et al., 2013; World Bank, 2014b; Noltemeyer & Bush, 2013). Emerging evidence points to promising results for teacher-delivered interventions. Preschool interventions using innovative teaching techniques in Colombia and Tanzania demonstrated positive effects on learning outcomes (Engle et al., 2011; Morris et al. 2009 as cited in Cappella & Kim, 2014). In a study of an intervention in Israel conducted after the 2006 Lebanon war (n=983), Wolmer et al. (2011b) found that when teachers established a safe environment, children's coping skills improved. Teachers were trained to employ a supervised, structured protocol of eight, two-hour classroom sessions over a one-month period. The sessions were structured around an imaginary character who writes letters to the children and invites them to share, discuss and process their experiences. Teachers used narrative techniques, play activities, and diary documentation to help children reprocess traumatic experiences. Overall the study found that participating children were more likely to maintain a healthy equilibrium and re-experience traumatic events less frequently. Yet since data were collected from three brief questionnaires—one each for students, teachers and parents—in pre- post and follow up assessments of the children, there is no counterfactual to which to compare these outcomes.

There may be value in teachers conducting preventive psychosocial support programmes for vulnerable populations before crisis occurs. A quasi-experimental study assessed the effects of the Stress Inoculation Training (SIT) intervention on 1,488 fourth- and fifth-grade Israeli students (n=748 intervention, n=740 matched control group) exposed to ongoing rocket fire during Operation Cast Lead. The intervention was implemented prior to the conflict. Findings showed that PTSD symptoms were significantly lower in the intervention group, though the differences were markedly greater for boys than for girls. A three-year longitudinal study of a similar teacher-led intervention was conducted following a devastating earthquake in Turkey in 1999 (Wolmer et al., 2005). Three years following the intervention, PTSD symptom levels were found to be similar in both groups. Notably however, students from the intervention group performed better academically and behaviourally than students in the control group.

Opportunities for youth to demonstrate leadership and agency

Giving youth opportunities to demonstrate leadership and exercise agency appears to promote resilience. A strong observational study of pathways to resilience among poor South African youth in rural contexts found that youth reporting "agency-supportive" school environments had significantly higher resilience scores than youth who did not (n=951, with results

determined through independent sample t-tests) (Theron et al., 2013). These results were complemented by qualitative findings from focus groups and/or visual participatory activities with 130 "resilient" youth. Additional findings included the importance of teacher-facilitated youth agency and aspirations for higher education and employment (Theron et al., 2013). The importance of student agency and self-efficacy was also identified in two meta-reviews (Tol et al. 2013 and Noltemeyer and Bush, 2013) as well as by Gizir and Aydin (2009), Slone and Shoshani (2008) and World Bank (2014b). The importance of self-efficacy is also widely reported in US literature.

Socioemotional learning approaches

Robust US-based literature has found that the reduction of trauma symptoms and the improvement of psychosocial wellbeing are related to improved academic and learning outcomes (Hoagwood et al., 2007; Durlak et al., 2011; Jones, Brown, & Aber, 2011; Becker et al., 2013; Suldo et al., 2014; Cappella & Kim, 2014). Much of this research is centred on the concept of promoting "social and emotional learning" (SEL), which argues that emotional wellbeing promoted in schools in turn enhances academic outcomes (Zins, 2004; Suldo et al., 2014). Such interventions in the US generally focus on urban children and youth who are considered "at-risk" due to their behaviours, abilities, or community and home environments (Berthold, 2000; Busby, Lambert, Ialongo, 2014; Perkins & Graham-Bermann, 2012). Further, US interventions that address internal mental stresses (such as anxiety or depression) have been found to have greater effects on academic outcomes than interventions that address outward problematic behaviours, such as aggression or hyperactivity (Becker et al., 2013). The potential of such interventions to support education in crisis contexts has not been adequately researched. However, rigorous research is currently underway in the Democratic Republic of Congo to analyse the effects of IRC's Healing Classrooms intervention aimed at improving social and emotional functioning and learning outcomes in post-conflict settings (Torrente et al., 2012). This study uses a cluster-randomized design with wait-list control groups, and ultimately aims to reach 499,000 primary school children in three eastern provinces in the DRC.

Robust evidence from US studies suggests that high-risk children benefit most from SEL interventions. Findings from a school-randomised study in 18 US elementary schools (9 intervention, n=630; and 9 control, n=554) demonstrated that students who participated in a social and emotional learning (SEL) literacy intervention showed improvement across numerous social and emotional domains; but students identified as "high-risk" for behaviour problems by their teachers at baseline demonstrated the greatest improvements in academic achievement (Jones, Brown & Aber, 2011). Similarly, a randomised controlled trial that analysed the effects of school-wide positive behaviour interventions and supports (SWPBIS) on improving school climate and reducing aggressive and violent behaviours in elementary school children (n=12,344) in 37 schools found the greatest effects were among students identified by their teachers as "at-risk" or "high-risk" based on level of behavioural problems (Bradshaw, Wassdorp, & Leaf, 2014). These findings are further evidenced in a post-disaster setting by Garfin & Silver et al. (2014), though in that case the most significant outcomes were in children assessed as "high-risk" for mental and behavioural problems. These high-risk students participated in a second, more focused psychosocial intervention, which may have accounted for their improved responses.

High expectations for better learning outcomes

A strong observational study of academic resilience by Gizir and Aydin (2009) among children from poor communities in Turkey, and a recent study of education resilience conducted by

the World Bank among Palestinian refugees (2014b), point to the importance of fostering high expectations for children. The study of Turkish students found (using existing scales and structural equation modelling) that external factors such as high expectations at home, caring school relationships, and caring peer relationships, and internal factors including high positive self-perception, high education aspirations, empathetic understanding, internal locus of control, and hope for the future promoted academic resilience defined by academic achievement based on test scores and GPA (n=872). Similarly, Tol et al (2013) identified the importance of positive self-esteem for resilience more generally in their systematic review of resilience studies in conflict contexts. This is complemented by a non-systematic review by Noltemeyer & Bush (2013) as well as by evidence from the US that found that interventions that promoted high academic expectations were linked to students' academic performance (Engle et al., 2011; Cappella & Kim, 2014).

5. Conclusion

Research on education in crisis and post-crisis settings is very limited. This rigorous review shows that, although there is an increasing number of EiE programmes, these remain largely unevaluated. When they are evaluated, they may be evaluated without transparent or rigorous methods. Few rigorous studies evaluate programme interventions using experimental designs to understand causal mechanisms. Existing assessment studies are often either observational (investigating correlation), or focusing on participants' views of programmes. Therefore, very little is known regarding the impact of EiE programmes in general, or programme components in particular, on educational access, quality of learning, and wellbeing outcomes.

The role of *administration, infrastructure, and resources* in countries affected by conflict versus non-conflict affected countries may make up important differences between types of education interventions between the two contexts. In countries affected by conflict, several rigorous studies show the importance of alternative models (e.g., community-based schools, accelerated learning programmes) to provide education in locations where infrastructure may be destroyed and ties to the administration may be weak. These types of interventions are also easier to launch quickly; timing and flexibility are important in providing support to education in countries affected by crises.

The importance of good quality education to promote strong learning has historically received secondary attention to access. Although this is beginning to change, the importance of good quality education with regard to content free of bias and stereotypes is only beginning to receive attention from researchers beyond those focused on peace education. *Content and practices* are particularly salient in countries and regions affected by crises.

Studies included in this review often provide basic information about the goals and components of programme interventions, but they rarely describe or assess variations among the interventions in question. For example, they only rarely test the way an intervention performs depending on the type of emergency (e.g., quick versus slow onset; short-term versus protracted; ongoing versus post); type of setting (e.g., urban areas versus camps); type of population (e.g. refugees/ IDPs/ stateless; children/youth; special needs; marginalised groups, etc.). In addition, programme evaluations often do not examine the effect of particular programme components, rather focusing on the impact of programmes as a whole, making it difficult to identify mechanisms for our theory of change that created the outcomes in question. Further research should focus on understanding these differences and the ways in which different programmes and programme components work within them.

5.1 Overarching recommendations for research

Building on the priorities listed in the executive summary, here are some of the key areas that require future research in relation to all three areas: children's educational access, quality of learning, and wellbeing.

- **Conduct more research on the preparation for and response to disasters:** Although EiE programming captures both education interventions contexts affected by conflicts and natural disasters, the majority of programme assessments are from conflict, protracted

conflict, or post-conflict settings. There is scarce research on the impact of interventions implemented for disaster-affected populations.

- **Conduct more research comparing effects for girls versus boys:** As noted at the outset, although many studies disaggregate findings between boys and girls, none of the studies that were returned in our search were designed to focus explicitly on girls. Much more research is necessary to understand how girls and boys respond differently to interventions that promote educational access, quality of learning, and wellbeing in countries affected by crises.
- **Conduct more rigorous longitudinal research:** Interventions are often assessed at the end of the programme or soon after the programme ending. Since they are evaluated for their short-term effects, we do not know if the effects are retained over time.
- **Conduct more assessments for and with vulnerable populations:** Assessment studies do not usually investigate how vulnerable populations are affected by interventions. Research is notably missing for children with disabilities. It may seem too challenging to accommodate children with disabilities during or after a crisis; however, children are more likely to have a disability in a crisis context. There is insufficient research on these children in these environments, which risks neglecting their unique needs or negatively affecting them.
- **Compare programmes and programme components:** Programmes or programme components are not evaluated in comparison to each other. Therefore, we do not know much about whether one type of intervention is more effective in comparison to a similar type of intervention in increasing access, quality, and/or wellbeing. Available evidence is inconclusive and not many studies offer a systematic comparison.
- **Assess cost-effectiveness:** Programmes or programme components are also not assessed in a way to determine relative costs and benefits. We do not know which interventions are cost-effective.

5.2 Access

Administration and Infrastructure

- **Community-based education:** Although CBE is effective at increasing access and learning, the long-term effects of relying on local communities to support and manage education during crises have not been studied. Community-based education programmes that are premised on using community participation to expand access and quality are increasingly absorbed into national public education systems (e.g., currently in Afghanistan and Mali and previously in Central America). To date, studies have not considered the implications of these transitions and which aspects of community education are enhanced or weakened through this process (although a new study of CBE transition in Afghanistan is underway by Burde et al.).
- **Refugees**: Although employing double shifts to expand access to school is a common strategy in humanitarian crises, particularly for refugees, little data is available regarding their effectiveness in improving access outcomes. Future research is needed to investigate whether one type of administration and infrastructure intervention is more effective than another. For example, we still do not know much about how mainstreaming into existing schools, building temporary schools, and double-shifting compare to each other in their effectiveness to increase access. Available evidence is inconclusive and no study offers a systematic comparison between the two approaches. As a result, policy decisions are generally ad hoc. More evidence is also needed to determine the relative costs and benefits of implementing different administration and infrastructure interventions.

Content and Practices

- **Information campaigns to educate parents about the importance of education**: Information campaigns to educate parents about the importance of education or vocational training are popular with international organisations promoting education during a crisis. However, there is little to no evidence on the effectiveness of these interventions in increasing access.

5.3 Quality

Administration and Infrastructure

- **Community participation:** Although community participatory monitoring shows promise, additional causal mechanisms by which community participation, and specifically parental involvement, supports learning outcomes remain unclear. In addition, EiE interventions should consider the ways in which community-based education programming may interact with existing social and political dynamics. Purely technical interventions that ignore the ways in which community participation may reinforce social capital that is tied to ethnic or religious identity may be problematic.

Resources

- **ICT:** An increasing number of programmes use information and communication technologies (ICTs) in crisis-affected countries. However, they are often not evaluated, and thus there is scarce evidence on their effectiveness in learning.

Content and Practices

- **Training and guidelines:** There are several resources/guidelines specifically for emergency settings that inform teacher training programmes such as INEE's *Minimum Standards for Education: Preparedness, Response, Recovery* (2010a; also see, INEE, 2009; INEE, 2010b, 2010c, 2010d; Intervention, 2005). In addition, a number of interventions target teacher professional development, for example, UNESCO's *International Task Force on Teachers for Education for All*. However, to date, effectiveness of those guidelines or interventions have not been evaluated; thus, we do not know how those programmes or programme components play a role in teacher development and, in turn, how measured outcomes in teacher development affect student learning in crisis contexts.
- **Understanding the role of teachers:** Although teachers have a critical role to play in emergency and post-conflict contexts, there is very little evidence on how teachers and teaching practices affect learning outcomes in such conditions as opposed to non-crisis settings. In addition, in humanitarian and post-conflict contexts, there is limited focus on teachers' diverse expertise, experiences, attitudes, and priorities. Given that in such contexts teachers often have traumatic experiences, economic and survival needs, and conflict-related perceptions and attitudes, understanding teachers' biographies, identities, and attitudes is a pressing concern for supporting teachers and improving students' learning outcomes.
- **Corporal punishment:** Taking into consideration the evidence from developing countries on how corporal punishment affects student attitudes to learning and school, paying attention to corporal punishment is an area to explore further in crisis and conflict settings.
- **Participation in and support for violence and extremism:** There is little evidence on *how* types of schooling or educational content and practices contribute to conflict by facilitating participation in and support for violence and extremism. Specifically, the complex relationship between education and radicalisation/tolerance is not addressed

widely through intervention programmes. When it is addressed, such as with human rights education or conflict resolution programmes, the programmes are not evaluated rigorously to understand the impact on student attitudes and behaviour. Indeed, discriminatory content and practices can fuel participation in violence by influencing some (but not all) learners' perceptions and attitudes. Studies should isolate the mechanisms that lead to intolerance/support for violence. Studies should also explore why similar students exposed to the same negative curricula choose different paths (violent versus nonviolent, or intolerant versus tolerant).

5.4 Wellbeing

Administration and Infrastructure

- **Protecting education from attack:** As school buildings and structures may carry symbolic meanings and are often associated with government, community-based schools that meet in non-traditional settings may be less likely to be targeted for attack or military occupation (Burde, 2014; Save the Children, 2011; GCPEA, 2014c). Anecdotal evidence from the West Bank for example, suggests that schools constructed from non-traditional materials, such as mud-brick and old tires, appear to be at reduced risk of demolition by Israel authorities and have therefore supported access to education in remote Bedouin communities (UNRWA 2009). Future research into the particular mechanisms that reduce likelihood of attack in given settings is important. Physical infrastructure may also enhance protection for students, particularly for girls. In Afghanistan, there is some evidence that points to the importance of school boundary walls for the provision of secondary schooling for adolescent girls (Save the Children, 2011). Boundary walls provide security against attack, but also provide privacy, which is especially important for adolescent girls who are not traditionally supposed to be seen in public.
- **Changing international norms:** Education workers and legal scholars seek to protect education from attack through legal and political advocacy. Discussion of the impact of these efforts is however absent from the literature. Most recently GCPEA has drafted the Lucens Guidelines to support the application of international humanitarian and human rights laws related to education (GCPEA, 2014b). The guidelines encourage states and governments to adopt best practices for the protection of education in humanitarian crises. Since the guidelines were passed in December 2014, no studies exist on their effectiveness to date. Research that considers not only whether such advocacy works, but also looks to identify the most effective ways of conducting advocacy would be a valuable addition to the EiE field.
- **Understanding patterns of attacks:** More research is necessary to understand variations in patterns of attacks on schools. Girls are often identified as the most vulnerable; however, the ways marginalization and vulnerability vary according to context and crisis should be better understood.
- **Child-friendly programmes:** Child Friendly Spaces and Child Friendly Schools are widely considered to be crucial interventions for the protection of children. However, improvements in the organisation and consistency of evaluation measures, as well as more specific outcome measures, are needed to enhance our understanding of the effects of these interventions on wellbeing and learning outcomes.

Resources

- **Accompanying children to school:** The impact of accompanying children to and from school to protect them (and improve access to schools) needs to be studied. In several conflict contexts (including the West Bank, Iraq and Colombia) NGOs accompany children

to and from school. Very preliminary evidence suggests that the provision of this protective presence may have an important impact on access to education and can help students feel excited rather than apprehensive about attending school (EAPPI, 2013). Given the apparent low cost of such interventions and the fact that observers often collect important data on attacks on education, more rigorous research should be conducted both to establish impact and better ascertain the conditions under which such an interventions is likely to be most effective.

Content and Practices

- **Understanding socioemotional learning and psychosocial interventions:** The relationship between wellbeing and mental health, on the one hand, and academic and learning outcomes, on the other is widely studied in domestic literature. However, there is a paucity of research in humanitarian contexts. Therefore, further evidence is needed to understand how this relationship works in emergency settings (current research is underway in DRC by Aber et al.). The majority of research on psychosocial interventions in emergency contexts focuses on primary school children. As traumatic events affect all age groups and cognition changes with development, more studies are necessary that focus on older cohorts of youth, including secondary and tertiary students. Further research is necessary to understand the importance of contextual factors in promoting or inhibiting resilience in and through education systems.
- **Ongoing stressors:** Research indicates that daily and ongoing stressors have a significant effect on the psychosocial wellbeing of young people during and following emergencies. Further evidence is needed to clarify and strengthen these findings and to improve our understanding of how psychosocial interventions might address ongoing stressors.
- **Compare research assumptions in the West to non-Western, crisis-affected contexts:** Because much of the current evidence regarding cognitive processes and their protective aspects emanates from the United States, research agendas should consider how this evidence holds up in emergency contexts and crucially, the socially and culturally appropriate mechanisms through which to deliver similar types of interventions.

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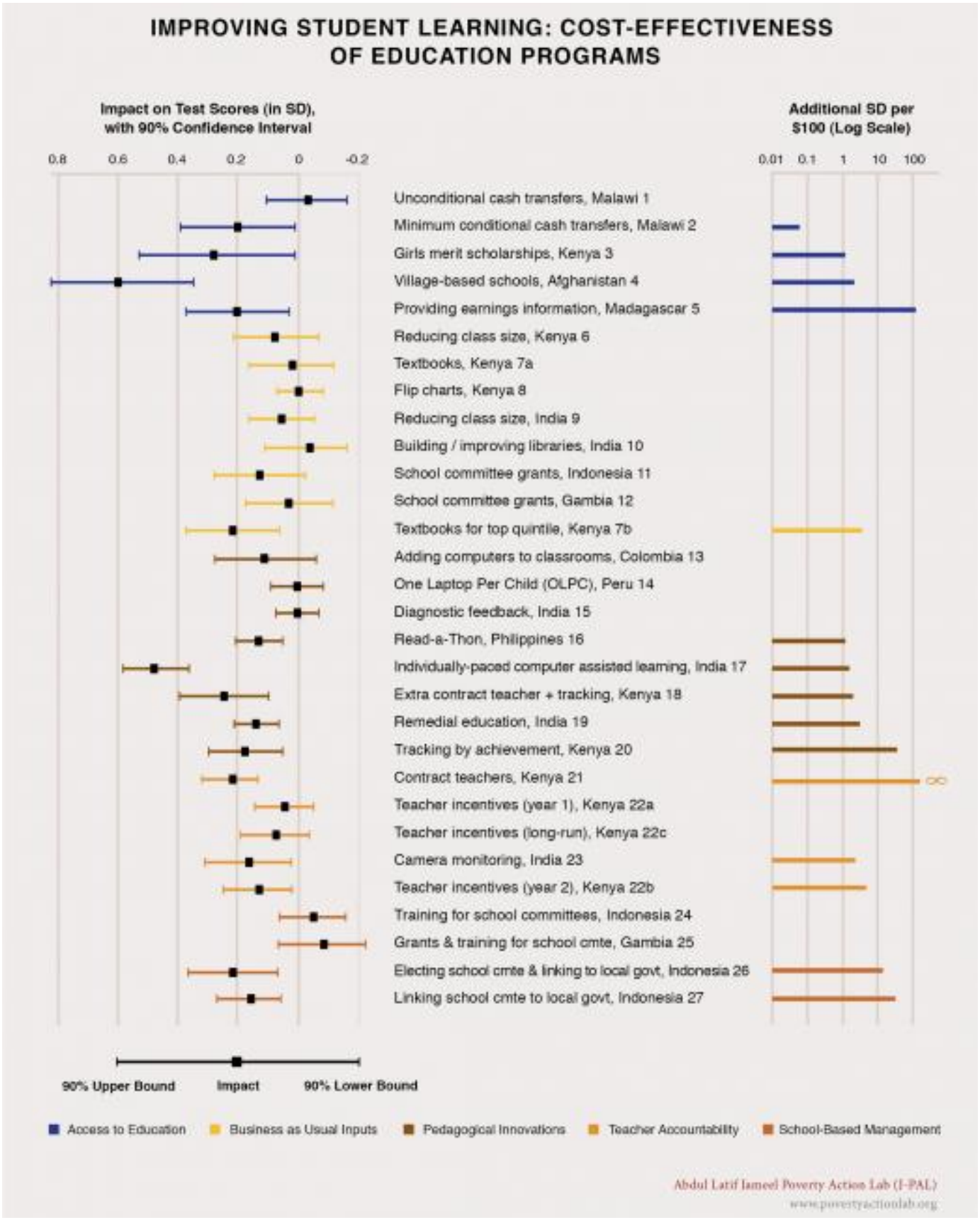
Appendix A: JPAL Cost-Effectiveness Chart



Appendix B: Terms and definitions—Full list

In this section we provide definitions of key terms related to education in emergencies and research used throughout this review. Definitions pertaining to rigor, robustness, and the nature of the evidence follow guidelines set forth by DFID in their *How to Note: Assessing the Strength of Evidence* (2014). These terms apply to research approaches that assess the impact of a given intervention. Since "different research designs and methods are more or less appropriate for answering different research questions" (DFID, 2014), the terms described below have a specific meaning in the context of this study. Please see DFID (2014) for further information on the classification of evidence.

We define education-related terms in keeping with the glossary of terms included in the *INEE Minimum Standards Handbook* and the *INEE Guidance Notes on Teaching and Learning*. They are referenced as such in the text below. Definitions of specific interventions (e.g. Accelerated Learning or Community-Based Education) can be found in the body of the text alongside the discussion of evidence as it relates to the impact of the respective intervention.

The definitions below consist of direct quotations from the cited source.

Access An opportunity to enrol in, attend and complete a formal or non-formal education programme (INEE, 2010, p. 115).

Cognitive Mental processes such as thought, imagination, perception, memory, decision-making, reasoning and problem-solving (INEE, 2010, p. 116).

Crisis We define the term crisis as a situation in which a community has been disrupted by armed conflict or natural disaster, thereby provoking not only the absence of stability but a situation of humanitarian concern. Crises may be acute or protracted. Although differentiating between the two is imprecise, they are typically characterized along two dimensions: time and intensity. Following convention among humanitarian agencies, we define them in the following way.

Acute: An acute crisis refers to one in which the events creating the disruption are of a very recent nature or have recently greatly increased in intensity. This may refer to both the initial phase of a conflict or its worsening impact. In the case of conflict, for example, the commencement of active bombardment or shelling during what may otherwise be characterised as low intensity hostilities constitutes an acute phase. Impacts may include increased deaths and injuries, mass displacement and the destruction of schools. In the case of natural disasters, the devastation during the hours and days following an earthquake or flood constitute an acute crisis when affected populations need to be rescued and given critical supplies (water, food, shelter, medical supplies).

Protracted: UNHCR considers emergencies involving groups of 25,000 people or more who have been in exile for over five years as having protracted status. They also however note that this determination should not only rest upon humanitarian elements of the phenomenon, but also its political and strategic aspects (UNHCR, 2008). In keeping with UNHCR, we define a protracted crisis as one for which the conditions of the crisis have been present for five years or more and for which a large subsection of the population has been affected. Protracted emergencies are also sometimes referred to as "chronic" (UNHCR, 2008).

It should be noted that acute or protracted crises are not necessarily mutually exclusive. Protracted crises are often punctuated by more acute events. Examples include the highly protracted circumstances of the occupied Palestinian territories, the situation in South Sudan, and the protracted food security emergency in the Sahel, which was punctuated by conflict in Northern Mali during 2012.

In this paper the terms "crisis" and "emergency" are used interchangeably.

Curriculum

Refers to the selection and organisation of learning experiences for students that are deemed important for their personal and community development. Curriculum encompasses knowledge, values, attitudes and skills that should be well-selected and appropriately sequenced in compliance with learning and development needs at different ages and education stages. Depending on the section, we may distinguish between the intended (usually written and official curriculum), the applied curriculum in the context of classroom interaction, the realised/effective curriculum as assessed and measured by outcomes of learning, and the hidden curriculum (i.e. values, beliefs, attitudes and skills that students learn through assumptions embedded in the curriculum). Usually, a curriculum is delineated through specific documents (e.g. curriculum frameworks, syllabi, textbooks and other learning resources) comprising education aims, learning objectives and expected outcomes (student competencies), learning content and methods, including student activities, and strategies for assessment and evaluation (INEE, 2010b, p. 50).

Disaster

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (INEE, 2010b, p. 50). A disaster may be made by humans or nature.

Displacement

Refugee: According to the 1951 Refugee Convention, a refugee is someone who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his or her nationality, and is unable to, or owing to such fear, is unwilling to avail him or herself of the protection of that country" (UNHCR, 2010, p. 15).

Internally Displaced Person (IDP): a person or groups of persons who have been forced or obliged to leave their homes or places of habitual residence, in particular as a result of, or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed and internationally recognized State border (OCHA, 2004, p. 1).

Education in Emergencies

Quality learning opportunities for all ages in situations of crisis, including early childhood development, primary, secondary, non-formal, technical, vocational, higher and adult education. Education in emergencies provides physical, psychosocial, and cognitive protection that can sustain and save lives (INEE, 2010, p. 117).

This study limits the discussion of Education in Emergencies to those interventions involving early childhood, primary and secondary levels of education.

Emergency See "crisis".

Experimental Research Experimental research designs (also called "intervention designs," "randomised designs," and "randomised controlled trials" [RCTs]) have two key features. They manipulate an independent variable and they randomly assign subjects to either treatment groups (also called intervention groups), and control groups. If fidelity to design is maintained, these features increase the chances that any effect recorded after the administration of the treatment is a direct result of that treatment. Experimental research designs use quantitative analysis, and sometimes qualitative analysis is also used, and are useful for demonstrating the presence, and size of causal linkages (DFID, 2014, p. 6).

For the purposes of this literature review and its focus on the impact of interventions, such designs, when carried out well, provide the most robust evidence base (see also evidence below).

Evidence The overall "strength" of a body of evidence is determined by the quality (or "avoidance of bias") of studies that constitute it, by the size, context and consistency of the body of evidence (DFID, 2014, pp. 15–21).

In considering the implications of evidence regarding a particular intervention it is therefore necessary to appraise the quality of a study. Since more than one study makes up the "evidence base" for any single set of conclusions, however, the ability to make evidence-based decisions rests upon an assessment of the strength of bodies of evidence that speak to a particular intervention. In this review, and in keeping with DFID guidelines (DFID, 2014), we have categorised the strength of available evidence in three ways.

Robust: A robust body of evidence requires the presence of high quality experimental and quasi-experimental studies that confirm or dispel the impact of a given intervention (analysed through assessing the impact of an independent variable on a dependent variable).

Emerging: An emerging body of evidence relates to that for which findings have not been ascertained through experimental research or evaluation, but for which quasi-experimental studies may exist and/or a coherent and high quality body of observational data is suggestive of a given impact.

Promising: Promising evidence relates to a small number of relevant observational studies that are suggestive of the given influence or impact of an intervention (measured through the observed effect of an independent variable on a dependent variable) but for which experimental or quasi experimental research has not been conducted.

In cases where the body of evidence points to mixed impacts we note and discuss implications with regards to gaps and future research for the field.

Formal Education Learning opportunities provided in a system of schools, colleges, universities and other educational institutions that usually involve full-time education for children and young people, beginning between five and seven years and continuing to 20 or 25 years old. These systems are normally developed by national ministries of education, but in emergencies may be supported by other education stakeholders (INEE, 2010, p. 118).

This study limits the discussion of interventions to those involving early childhood,

primary and secondary levels of education.

Generalisability A researcher's ability to generalise results from a sample (see below) to the population from which it was drawn and beyond. This depends on how representative the sample is of the population. This first type of generalisability is called "internal validity," when a sample is representative of the population from which it was drawn. Generalisation of the findings beyond the population in question to similar populations elsewhere is referred to as "external validity" (see also "validity" below). Generalisabilty may be discussed in statistical terms for quantitative research, or in terms of contextual relevance for qualitative research. Both attempt to enable readers to judge the *transferability* of study results to other situations.

Impact Evaluation According to JPAL, "The primary purpose of impact evaluation is to determine whether a programme has an impact (on a few key outcomes), and more specifically, to quantify *how large* that impact is." (JPAL website).

Innovation This review sees innovation not simply as introducing a new or novel device, but as reflective of carrying education out in a different way. This definition is not therefore limited to the application of new technology but instead captures the concept of new or novel approaches to delivering education. Accordingly, we employ the term innovation to refer to methods and approaches that are used to achieve improved education outcomes and that have hitherto been absent from the repertoire of education interventions in crises.

Intervention We define an intervention as an education-related action that is intended to bring about a positive change in children's access, quality or wellbeing. Based upon the review of literature, we categorise interventions into two main types:
Interventions that focus on improving administration, infrastructure, and resources
Interventions that focus on changing content and practice

Learning outcomes In this paper, learning outcomes refer to the impact of interventions on academic achievement as measured through test scores or youth attitudes towards violence.

Mixed Methods Mixed methods may involve the quantitative analysis of qualitative data or the interrogation of quantitative data through a qualitative lens (DFID, 2014, p. 6).

Non-formal education Educational activities that do not correspond to the definition of formal education (see separate entry above). Non-formal education takes place both within and outside educational institutions and caters to people of all ages. It does not always lead to certification. Non-formal education programmes are characterised by their variety, flexibility and ability to respond quickly to new educational needs of children or adults. They are often designed for specific groups of learners such as those who are too old for their grade level, those who do not attend formal school, or adults. Curricula may be based on formal education or on new approaches. Examples include accelerated "catch-up" learning, after-school programmes, literacy and numeracy. Non-formal education may lead to late entry into formal education programmes. This is sometimes called "second-chance education" (INEE, 2010, p. 121).

Observational Observational research (sometimes called "non-experimental") displays neither of the key features of experimental designs. Instead it may be concerned with the effect of a treatment (or intervention) on a particular subject sample group, but the researcher does not deliberately manipulate the intervention and does not

assign subjects to treatment or control groups. Instead, the researcher observes a particular action, activity or phenomena. Observational research design may include qualitative and quantitative methods:

- cohort and/or longitudinal designs; case control designs; cross-sectional designs (supplemented by quantitative data analysis) and large-N surveys (quantitative)
- Interviews, focus groups, case studies, historical analyses, ethnographies, political economy analysis are also all forms of observational research (qualitative) (DFID, 2014, p. 7).

In the absence of designs focused on measuring impact through experimental and quasi-experimental design, this review makes reference to a host of observational studies, which remain the most prevalent type of research in the field.

Participant An individual being studied through research or evaluation and from whom data is being collected (Mertens, 2015, p. 3).

Pedagogy Strategies or styles of instruction and learning processes; the study of being a teacher. Pedagogy is the observable act of teaching and modelling values and attitudes that embodies educational theories, values, evidence and justifications (INEE, 2010b, p. 53).

Population The group that is being studied. The population is the larger group from whom a sample is drawn and to whom the results of the research study or evaluation are applied.

Quality In this paper, the term quality refers to the impact of interventions on both academic achievement and the attitudes and behaviours associated with conflict and crises more generally.

Quasi-experimental Research Typically includes one, but not both of the key features of an experimental design. In other words, participants in the study are randomly assigned *or* the independent variable is manipulated. Such research designs may be used in cases where it is unethical or highly problematic to deliberately manipulate treatment. Instead, the researchers exploit other naturally occurring features of the subject groups to control for differences between subjects in the study (i.e. they "simulate" randomisation). An example of a quasi-experimental study is a regression discontinuity design. (DFID, 2014, p. 6).

Reliability Three aspects of reliability are taken into account when considering the quality of individual studies for inclusion:

Stability: This concerns measuring impact in the "right" way. This depends on reliable instruments to gather data and consistency in measurements and data collection (DFID, 2014, p. 13).

Internal reliability: discrepancies in measurement should not exist between indicators. High quality research will consider such issues, with specific attention to whether or not particular measures are well-suited to the cultural context from which they are taken (DFID, 2014, p. 13).

Analytical reliability: the findings of a research study are open to question if the application of a different analytical technique (or "specification") to the same set of data produces dramatically different results (DFID, 2014. p. 13).

Research A process of systematic inquiry to collect, analyse, interpret and use data in general in order to generate new knowledge that can be transferred to other settings (Mertens, 2015, p. 2).

Rigour An important criteria for judging the quality of research and evaluation, rigour applies to quantitative, qualitative and mixed methods studies. In quantitative studies rigour relates to questions of internal validity, external validity, reliability (whether the measures selected are reliable and whether appropriate measures have been taken to accommodate differences in language, culture etc.) and objectivity. In qualitative studies, rigour relates to credibility, transferability, dependability, confirmability, authenticity and transformative aspects of research and evaluation design and implementation. In mixed methods, rigour relates both to dimensions of qualitative and quantitative rigour as well as how well the methods integrated into the design combine to address the research question (adapted from Mertens, 2015, p. 315).

Sample A group of respondents or participants that has been selected systematically from a larger, bounded population.

Statistical significance Statistical significance is important in studies in which comparisons between groups or estimations of sizes of relationships between variables are made. If groups are compared on a dependent variable … then a test of statistical significance can be used to determine if the observed difference between the groups is too large to occur plausibly as a result of chance alone. On the basis of the laws of probability, a difference that is too large to attribute to chance is called statistically significant. (Mertens, 2015, p. 5).

Theory of Change A tool that provides an explicit focus on the conceptual underpinnings of a programme and articulates the ways in which inputs, outputs and outcomes are linked. In this way a theory of change provides the assumptions upon which an intervention or approach is based and depicts pathways towards achieving that intervention.

Transferability See 'Generalisability' above.

Validity *External*: The extent to which the findings of a study are likely to be replicable across multiple contexts. Do they apply only to the subjects investigated during this particular study, or are they likely to apply to a wider population/country group? Quantitative researchers typically seek to address issues of external validity by constructing "representative samples" (i.e. groups of subjects that are representative of a wider community/society). (DFID, 2014, p. 12).

Internal: Concerns the effect of one (independent) variable on another (dependent) variable. An internally valid study does this by employing a technique capable of demonstrating that an independent variable does cause changes in the dependent variable. A study lacking in internal validity however leaves open the possibility of reverse causality (DFID, 2014, p. 12).

Variable *Dependent variable*: The dependent or criterion variable is the variable that the researcher is interested in measuring to determine how it is different for groups with different experiences or characteristics. The dependent variable gets its name because it depends on what the researcher does with the independent variable. The researcher manipulates an independent variable (treatment) and exposes groups to differing amounts or types of it and then measures a dependent variable to see if it is different for the different groups. (Mertens, 2015, p. 4).

Independent variable: the independent or predictor variables are the variables on which the groups in the study differ either because they have been exposed to different treatments or because of some inherent characteristics. When a researcher deliberately manipulates a treatment then the treatment is called the independent variable. (Mertens, 2015, p. 4).

Wellbeing The condition of holistic health and the process of achieving this condition. It refers to physical, emotional, social, and cognitive health. Wellbeing includes what is good for a person: participating in a meaningful social role; feeling happy and hopeful; living according to good values, as locally defined; having positive social relations and a supportive environment; coping with challenges through the use of positive life skills; having security, protection and access to quality services (INEE, 2010, p. 123).

Appendix C: Search terms

KEY WORDS		
EMERGENCIES AND CRISIS	**EDUCATION**	**EDUCATION RELATED OUTCOMES**
conflict	school	access
war	non formal education	literacy
natural disaster	learning centre	numeracy
collective violence	vocational	quality education
post conflict	training	psychosocial
post-conflict	early childhood	psycho-social
postconfict	university	psycho social
humanitarian	college	social and emotional
disaster	classroom	socioemotional
refugee	teacher	social-emotional
internally displaced person	youth	socio-emotional
gangs	adolescent	skills
fragility	primary education	learning
conflict affected	secondary education	PISA
conflict-affected	tertiary education	TIMMS
terrorism	child friendly space	efficiency
attacks	child-friendly space	resilience
armed conflict	learning circle	radicalization
	safe space	radicalisation
	teenager	protection
		peace
		conflict sensitivity
		conflict-sensitivity
		conflict mitigation
		conflict-mitigation
		values
		co-existence
		mental health
		risk awareness
		pro-social
		prosocial
		anti-social
		antisocial

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The report was designed in October 2015 by Philip Rose, EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London

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