Cost Efficiency Analysis

Teacher Professional Development

The International Rescue Committee (IRC) is a leader in education programs that promote the wellbeing of conflict- and crisis-affected children and youth. Education programming takes many forms, including the building of school structures, material support for classrooms, advocacy work amongst government ministries, and several types of support for teachers. Meta analyses from developed and developing country contexts have demonstrated positive linkages between teacher professional development and student achievement. The IRC invests in several kinds of teacher development activities, including face-to-face workshops, mentoring, and teacher learning circles (TLCs).

This brief explores the relative costs of running these different professional development activities across nine programs in Afghanistan, Iraq, Lebanon, and Pakistan. Most of the programs provided multiple kinds of support to the teachers they served, and the analysis separates out the costs of face-to-face workshops, individual mentoring, and TLCs to estimate the cost per unit of training from each of them. Comparing within and among programs allows us to consider the ingredients necessary to implement such programs, how much each type of teacher development costs per unit of training, and how cost and cost efficiency vary with contextual or programmatic features.

- **Face-to-face training workshops cost between $8 per teacher per day of training on average in Afghanistan, and $181 per teacher per day of training on average in Iraq, with much of the difference in cost efficiency driven by program scale.** These programs require substantial fixed costs, such as space rental and the hiring of facilitators, as well as the variable costs incurred per attendee, including transport, food, and accommodation. These costs are particularly pronounced when workshops are held at a centralized location.

- **Looking at other forms of teacher development, TLCs cost $49 per year of participation on average, while one-on-one mentoring costs $423 per year of participation, considering just program costs.** Running TLCs is a relatively small time investment with few costs to the implementing organization, as compared to the cost of face-to-face workshops or one-on-one mentoring. If TLCs are held regularly and prove to be effective, they are probably worth the relatively small incremental cost in larger teacher training programs.

- **A significant percentage of these programs' costs went to support functions, such as payroll, procurement, or cross-grant management, rather than direct program activities.** This is because of the need for support functions, such as security, payroll management, and procurement, to make program activities run smoothly. Larger programs that spread support costs across many beneficiaries have a smaller percentage of total cost allocated to these non-program activities.

- **Across programs, the amount and type of support that teachers receive varies greatly, and cost efficiency metrics must take these factors into account.** Among the programs in this analysis, some face-to-face workshops lasted three days, while some lasted many weeks. Looking at the cost per teacher without considering the length of programming would lead to the fairly obvious conclusion that longer programs are more expensive. To ensure comparability, cost analyses of teacher training programs must use metrics that incorporate this time element.

- **More data on the effectiveness of each training modality needs to be collected, so that the costs can be compared to the relative impact of each training modality**. While face-to-face trainings seem to be the most costly module of training, they could be the essential entry point through which education staff build relationships with teachers for future mentoring and TLC participation.

Teacher Professional Development at the IRC

The IRC's global education strategy is to support children and youth access to relevant, high-quality, and safe learning opportunities. By providing education in crisis situations, the IRC strives to ensure that children and youth do not miss out on critical years of schooling that allows them to acquire the foundational literacy, numeracy, and social-emotional skills to support their growth, thriving, and perseverance. In conflict- or disaster-affected contexts, teachers can play an important role in creating a climate where learners can feel safe, heal, and have their emotional needs met. While teacher professional development programs may all pursue a common goal of improved teaching quality, there are several potentially complementary methods to improve the quality of instruction:

Training workshops are face-to-face sessions where teachers from different schools come together. While each program in this analysis provided face-to-face workshops, the curriculum and length of training varied across programs in the sample. One curriculum component common to all contexts was instruction in the IRC's flagship Healing Classrooms approach, discussed further on page 5.

Mentoring involves one-on-one sessions where an IRC coach observes a teacher's application of methods taught in workshops and provides catered support. Teacher trainers provide real-time feedback and work to coach teachers on pedagogical approaches, with the ultimate goal of improving teacher performance and student learning.

TLCs are school-based teacher inquiry groups where teachers meet regularly to revisit content learned in a training workshop. TLCs also provide teachers with ongoing learning opportunities through discussions with peers who face the same situations and challenges in teaching. High attendance rates of teachers at the TLCs suggests the value teachers place in peer dialogue and support, and their desire to improve their pedagogy through less formal touch points in their immediate environment.

Country	Training Curriculum
Iraq	Healing Classrooms standard curriculum.
Lebanon	Lebanese 'light' curriculum, which incorporates elements of Healing Classrooms, plus instruction on creating lesson plans, child-centered learning, multi-level instruction, and positive discipline.
Pakistan	Training on teaching methodologies, including sessions on multi-grade teaching and lesson planning, and the Healing Classrooms approach.
Afghanistan	Orientation to teaching, teaching how to read, math activities, gender-specific instruction, and supplementary training.

This analysis examines nine programs in four countries, which varied significantly in terms of how much and what kind of teacher support was provided. These programs were chosen because they included training in the Healing Classrooms methodology, as well as a mixture of different training modalities. Because 'shared' resources—such as program managers and grant coordinators—were not just used for one type of training, it was also necessary to make assumptions about the allocation of time and effort across different activities within each program.

Programs in Analysis, Assumptions About Shared Resource Use

Program	Country	Duration	Total Teachers Included	Teacher-Days of Workshop	Teacher-Years of Mentoring	Teacher-Years of TLCs	% of Shared Resources on Workshops	% of Shared Resources on Mentoring	% of Shared Resources on TLCs
1	Iraq	15 months	616	3,080	20	441	85%	5%	10%
2	Iraq	18 months	20	100	36	108	40%	50%	10%
3	Iraq	12 months	380	1,594	38	-	90%	10%	-
4	Iraq	15 months	486	2138	49	-	90%	10%	-
5	Lebanon	20 months	255	2,550	510	485	30%	60%	10%
6	Pakistan	7 months	125	375	-	-	100%	-	-
7	Pakistan	9 months	30	90	-	-	100%	-	-
8	Afghanistan	36 months	1,073	45,066	429	2,529	70%	20%	10%
9	Afghanistan	36 months	1,084	25,776	749	2,181	55%	35%	10%

Measuring the Cost Efficiency of Teacher Training Projects

Cost efficiency analysis entails looking at the cost per output of a variety of projects. It is important to define and quantify the 'outputs' the same way for every project to compare them evenly. Different projects provided different combinations of workshops, mentoring, and TLCs. In addition, they varied in how long teachers receive support. Simply comparing cost per teacher who received support would compare inconsistent activities and would lead to the fairly obvious conclusion that longer projects are more expensive. A good cost efficiency metric must take into account both the number of teachers who received support and the length of time support was provided.

Face-to-face workshops are measured in the number of total workshop days provided per teacher:

Number of Face-to-Face Training Days = Number of Teachers Active (per day) X Days of Training

Coaching and TLCs are measured in the number of years each teacher participating received support:

Number of Coaching or TLC Years = Number of Teachers Active (Per Year) X Years of Participation

For each program, IRC staff collected data from narrative documents, budgets, and expense reports to identify all the spending lines for the program. Staff separated all cost items that were not relevant for the teacher training, for each remaining "ingredient" they recorded the unit cost, number of units needed, and the percentage of that unit dedicated to teacher training activities versus other programs in the country at that time. All prices were translated into 2014 U.S. dollars; for programs that lasted more than one year, the present value was taken using a 5 percent discount rate.

In some cases, a high proportion of the total costs went to non-programmatic functions, such as country-level management, payroll, or procurement services. In Pakistan, in particular, the IRC ended up working with a local partner to secure the necessary authorization to work in certain areas. The IRC contributed training staff to run the face-to-face workshops, and the sub-grantee provided space and materials. While local partners can often provide key services at lower costs and increase the reach of international organizations, in this case the lower costs that the partner organization faced were outweighed by the duplication of support costs between the two organizations. While some situations require working through partners, it is important to 1) consider that the duplication of support costs may decrease the cost efficiency of our work unless the partner's support costs are dramatically lower, and 2) prioritize partnerships in places where those duplicate support costs can be spread over a large pool of beneficiaries.

Figure 1. Percentage of Costs to Support vs. Program Activities

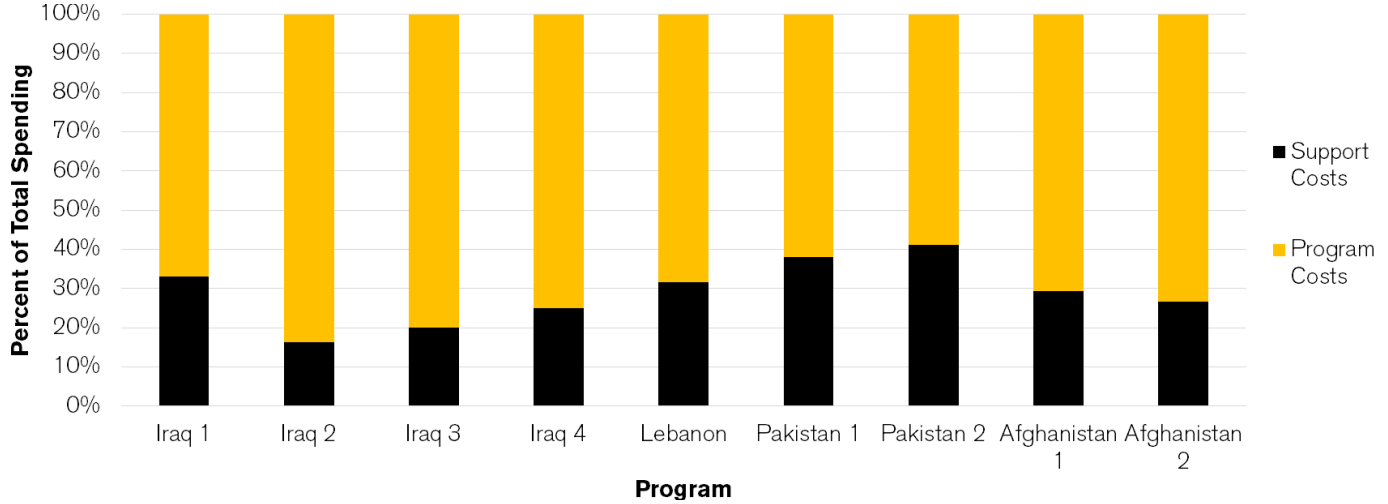
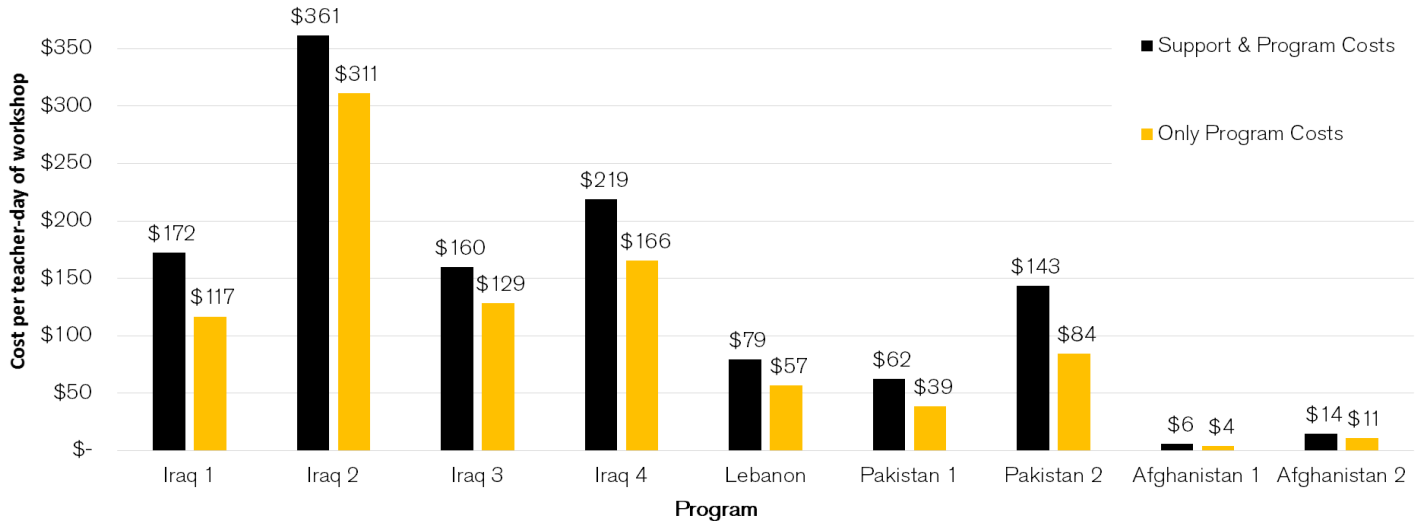
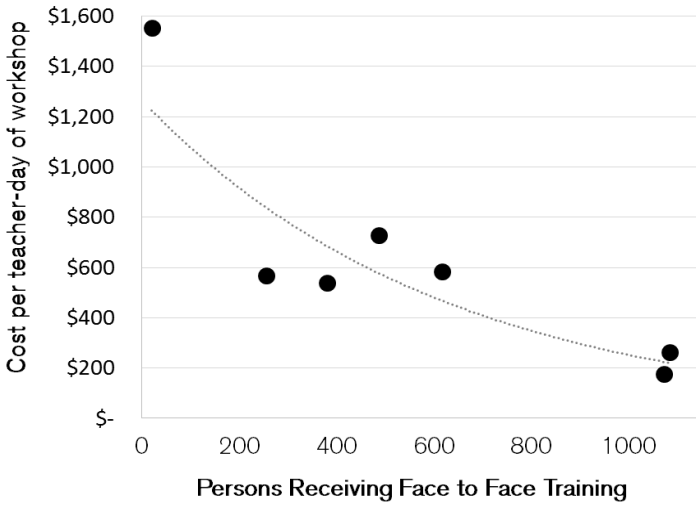


Figure 2: Cost Efficiency of Face-to-Face Training



The average cost per teacher-day of face-to-face workshops ranged from an average of $9 for programs in Afghanistan to $186 for programs in Iraq. Combining information about the costs of face-to-face training activities within IRC programs, and the number of teacher-days of training they achieved, we can calculate the cost per teacher-day of training delivered in a variety of contexts. Training appears to be significantly more expensive in Iraq as compared to Afghanistan or Pakistan. We also see variation within countries in the cost per teacher-day of training. Interestingly, the cost per teacher-day of training was quite low in Afghanistan, despite these two programs using more expansive and specially developed curricula. This suggests that high curriculum development costs do not necessarily rule out a cost efficient program, as long as the costs are spread among a large enough pool of beneficiaries.

Figure 3: Cost Efficiency vs. Scale, Face-to-Face Trainings



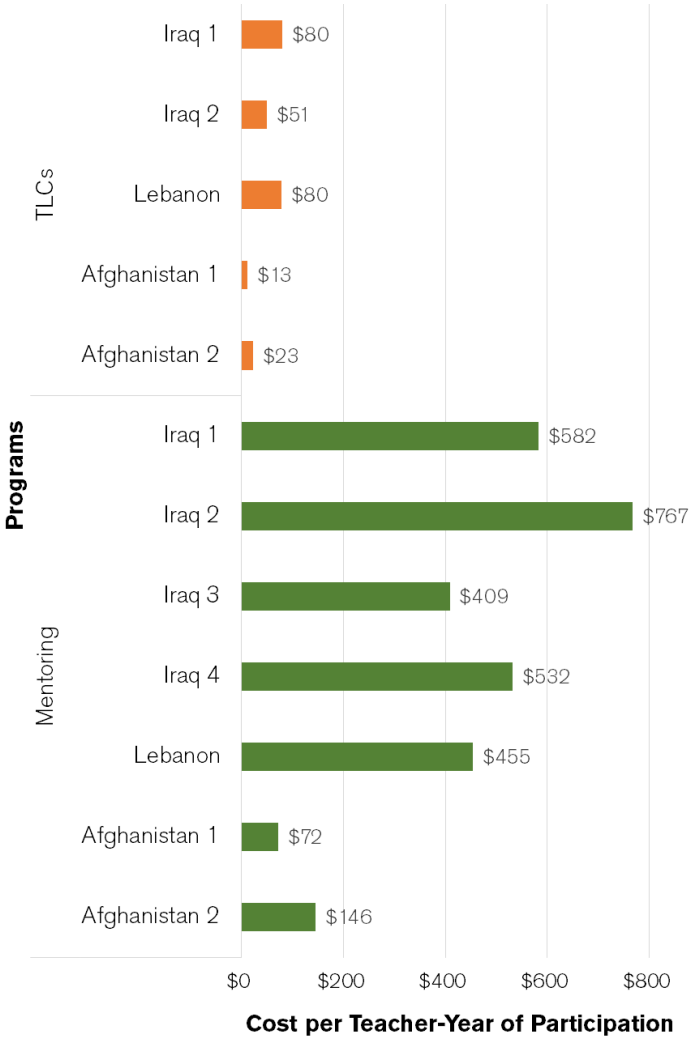
Programs with the highest cost per teacher-day of training had a large proportion of fixed, direct costs such as facility rental and materials translation. Looking into what drove the high costs of the program in Iraq, an almost even split exists between fixed costs (which *do not* increase with the number of people reached) and variable costs (which *do* increase with the number of people reached). Staff time, capital expenses, translation, and rent take up 51% of direct costs, while 49% were variable costs of food, transport, and stationary, which scale with the number of participants. This suggests that one way of improving the cost efficiency of programs is to train as many people as possible for a given level of fixed costs—for example, by training an extra 20 percent of teachers at the outset to deal with anticipated attrition.

Unsurprisingly, the cost efficiency of face-to-face workshops improves as more teachers are reached with each session. This reinforces the lesson that cost efficiency is improved by spreading 'fixed' costs, such as curriculum development, over a larger pool of teachers. While the IRC may only support a limited number of schools, training teachers at ministry or government schools or inviting them to join trainings is a way to increase scope with minimal additional costs.

The average cost per teacher per year of ongoing support ranges from less than $20 for TLCs in Afghanistan to more than $700 dollars for mentoring in Iraq, and TLCs are significantly more cost efficient than one-on-one mentoring. Making a similar calculation for the cost per person-year of participation in mentoring or TLC programs, the results ranges dramatically. Mentoring is more expensive than TLCs, costing an average of $423 per teacher-year compared to just $49 per teacher-year for TCLs. This is not so surprising; mentoring in places like Afghanistan or Pakistan can mean sending expert teachers out to remote villages where they may be only able to visit one teacher per day or less while incurring high travel expenses. TLCs, on the other hand, use existing resources of school space to assemble teachers, who can meet based on their contextualized ability, and who do not require IRC staff to be present for every meeting. Even when staff take time and resources to travel for meetings, the cost of one-on-one support through mentoring as opposed to groups suggest that mentoring would have to be many times more effective in order to overcome the difference in costs.

More research on the relative impacts of different training modalities is necessary to fully understand the cost effectiveness of each approach. The goal of this analysis is to provide an understanding of how to measure the cost of various training modalities and provide estimates of the cost per teacher of IRC education programs in particular contexts. These cost efficiency results suggest that TLCs could be a particularly cost effective method of teacher support. Of course, it could be that face-to-face workshops or mentoring by a professional are essential prerequisites for the facilitation of peer learning groups. Future impact evaluations that compare the effectiveness of each training modality separately or together, as well as research about the fidelity of implementing each training modality, are needed to provide insight as to the relative cost effectiveness of different approaches to teacher professional development.

Figure 4: Cost Efficiency of TLCs and Coaching (Excluding Support Costs)



IRC's Healing Classrooms Approach

The IRC's Healing Classrooms—built on 30 years' experience of education in crisis and a decade of research and field testing—offer children a safe, predicable place to learn and cope with the consequences of conflict. The approach is based on research that shows social-emotional learning programs improve students' life skills, behavior, and academic performance. To create Healing Classrooms, the IRC trains teachers to establish safe, predictable, and nurturing environments, and provides them with the practical tools needed to create the educational setting where children feel protected from violence and experience stability. The IRC works with teachers to understand and respond to the distinct needs of different learners, such as boys and girls. Healing Classrooms also strengthens teachers' own wellbeing and provides opportunities for them to learn from their peers and professional coaches.

Cost Analysis at the IRC

The IRC is committed to maximizing the impact of each dollar spent to improve our clients' lives. As the IRC's CEO wrote in a 2015 article in *Foreign Affairs*, "Donors need to not just double the amount of aid directed to the places of greatest need but also undertake reforms that seek to double the productivity of aid spending." The Best Use of Resource initiative is focused on improving the reach and impact of the IRC by using internally available data to better understand the cost of delivering key IRC interventions. Generating evidence about cost efficiency and cost effectiveness will enable the IRC to cost and compare different approaches and their related impact, ultimately allowing decisions that achieve the best use of resources.

"Cost efficiency analysis" compares the costs of a program to the outputs it achieved (e.g. cost per latrine constructed, or cost per family provided with parental coaching), while "cost effectiveness analysis" compares the costs of a program to the outcomes it achieved (e.g. cost per diarrheal incident avoided, cost per reduction in intra-family violence). Conducting cost analysis of a program requires two types of information:

1) Data on what a program achieved, in terms of outputs or outcomes, and
2) Data on how much it cost to produce that output or outcome.

Asking Ourselves "What Did a Program Produce?"

Units across the IRC produce a wide range of outputs, from obvious items like nutrition treatment or shelter kits to more intangible things like protection monitoring or case management. Cost analysis requires us to focus in on one output (for cost efficiency) or outcome (for cost effectiveness), such as the number of items produced or the number of people provided with a service. Such outputs will not necessarily encompass all the work that a program has done. For example, a WASH program may build water pipelines, latrines, and solid waste disposal pits; each of which could be defined as a single output. The Best Use of Resources initiative focuses on analyzing the IRC's key outputs, such as access to sanitation in refugee camps, malnutrition treatment, and case management services. The focus is not to dismiss other dimensions of our program's work, but to concentrate on one output, allowing for comparison of cost efficiency across programs and contexts in ways not possible if budget data at the program level was the only factor considered. The Best Use of Resources initiative team works together with IRC's Program Quality Unit to identify the most important outputs and understand how to quantify these outputs to improve the accuracy and efficacy of the results of analyses and use these improved results in programming decisions.

Asking Ourselves "How Much Did It Cost?"

After defining the output of interest, staff builds out a list of inputs that are necessary for producing that particular output. If one thinks of a program as a recipe, the inputs are all of the 'ingredients' necessary to make that dish. Budgets contain a great deal of information about the ingredients used and in what quantities, but a single grant budget will frequently cover several types of outputs, or program activities across multiple sectors. Therefore, not all line items in a program budget will be relevant to a particular output; to get an accurate sense of the costs of producing a particular output, staff categorize costs by the output they contributed to and count only those that are relevant to that particular output. Many of the line items in grant budgets are shared costs, such as finance staff or office rent, which contribute to an entire program's outputs. When costs are shared across multiple outputs, it is necessary to further specify what proportion of the input was used for the particular output. Specifying such costs in detail, while time-consuming, is important because it provides lessons about the structure of a program's inputs. We can divide costs into categories and determine whether resources are being allocated to the most important functions of program management, and enable us to model alternative program structures and quantify the cost implications of different decisions.

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