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## Letter to Editor

# *Defining Overlapping Concepts of Program Evaluation in Medical Education*

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Program evaluation is an important part of any educational system and provides very useful information on how to design and implement educational programs (1). A comprehensive program evaluation can inform the policymakers about the effectiveness of the training and provides feedback that can be effective in achieving the desired goals.

There are some common terms in program evaluation literature including output, outcome, impact and result that are used to describe changes at different levels from the transfer of education to long-term, maintainable change. Whilst the terminology is in common use, there is great discrepancy in how the terms are understood. In this letter, I try to introduce and explain these terms.

To better understand, I first define two other words: inputs and process. Inputs are the financial, human, and material resources used for the development intervention. After this primary component, process (activity) is called actions which taken through which inputs, such as funds, training, and other types of sources are organized to produce specific results (2).

Outputs are the products, which result from an educational intervention such as a faculty development program. They may also include variations subsequent from the program which are related to the accomplishment of outcomes (3).

Outcomes are the short-term changes that happen in participants, as a straight result of the education either at the individual or organizational level (2). They provide primary evidence on whether program is on path or whether any anticipated changes are launch to occur.

Impacts are the positive/negative, primary/secondary, directly/indirectly, intended/unintended, longer-term changes that happen within an organization such as a university as the results of educational programs. In other words, impact evaluations seeking evidence of potential sustainability of the program (4). For example, in the evaluation of faculty development programs, some kinds of educational impacts may

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include academic performance overall or in specific subjects, and faculty promotion. Result describes as the "output, outcome or impact of a development intervention" (3).

In theory these concepts are separate easily, but there are areas of overlap in practice. Firstly, there is sometimes misperception between outputs and outcomes. Some consider only the deliverables of an educational program as outputs, whilst others interpret early changes (such as enhanced knowledge following a faculty development program) as outputs. Clear definitions and guidelines in the program evaluation process help evaluation practitioners need to deal with it.

The second confusion is between outcomes and impact. The preferred solution is to describe outputs as the services deliver within the control of the program; impact as the long-term or important changes in society by an educational intervention; and outcomes as everything in between (4).

Evaluation of educational programs provides information for the policy makers who are seeking evidence to strengthen the quality of the programs. One of the basic responsibilities of the evaluators is to define the concepts of program evaluation in details that help to provide the best quality service to the stakeholders and improve the program efficacy (5).

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