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Objectives-oriented evaluation of the learning process

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The history of evaluation, including the one practised in education, is not a short one. Its origins are sought in the 19th century, while the second half of the 20th century was a period of dynamic development of various paradigms and approaches (Alkin et al., 2012; Mizerek, 2017; Stockmann & Meyer, 2013). Although evaluation is not (as yet) an independent scientific discipline, it goes through processes typical of the social sciences, producing competing theoretical paradigms and methodologies. The approach proposed here is closest to the **constructivist paradigm** (Guba & Lincoln, 1989), and as such represents only one of many possible options.

It seems to me that constructivism is best suited to the evaluation being part of the learning process, inclusive and empowering of all stakeholders but it is worth remembering that this is one of many possibilities. With objectives set differently, choosing alternative models may make sense.

The idea of practising evaluation in a model other than large, positivist-oriented projects is, of course, not new. Behind it lies quite a bit of work in the philosophy of science and methodology (Scriven, 1967), as well as the essentially quite simple belief that evaluation should be able to be applied on a small scale. Just such a *small-scale evaluation*, tailored to the needs of those not necessarily professionally involved in evaluation research, was proposed by Colin Robson (2018). What distinguishes small-scale evaluation? Local (not regional or national) scope; single implementers (less often small teams); short project duration; limited resources; single locations for conducting research (Robson, 2018, p.16). It is not hard to guess that most professionals in education rather than evaluation are dealing with just such projects. Small, often built ad hoc, for specific classes, without extra money in the budget and a specialized team.

In this paper, I would like to propose a framework for **small-scale evaluations embedded in the learning process**. This is not a proposal to study the course of the training process, understood as an analysis of the quality or the learners' perception

of the particular actions of the trainers. The proposed model focuses on the educational objectives, not the study of the process itself, although – of course – looking at the process may provide answers as to why some objectives are difficult to achieve (or come easily).

The proposed model assumes:

- ▶ **design (conceptualization) of evaluation based on objectives**
- ▶ **methodological minimalism**
- ▶ **learners' participation**
- ▶ **structure easy to adapt to different training programs.**

The evaluation would consist of the following steps:

1. Determination of objectives
2. Determination of evaluation criteria and research questions
3. Mapping the levels of objectives achievement
4. Determination of the level of objectives achievement
5. Learners' reflection on their achievements and space for development

1. Determination of objectives

The process of defining training objectives itself is a topic for a completely different story, in all likelihood well known to those reading these words. From the evaluation point of view, the objectives must meet several assumptions. First, **relevance** to the actual content of the training is very important. If the objectives diverges from what we do with the group, we will probably achieve some results, possibly desired by the learners, but we will not catch it in the evaluation. Second, for the concept of evaluation proposed here, there is definitely a need for objectives that **refer to the result**, not the process. That is, we will not “learn how to do evaluation” but “learn about the objectives-oriented evaluation model.” Third, **measurability**. What we want to propose must be measurable, and able to be grasped during the study. Fourth, **agreeing on** objectives with the group. The greater the influence of participants in

defining the objectives, the more the objectives will be “theirs” – the more useful the evaluation idea proposed here will be to them.

Following the thinking of one of the better-known theorists of evaluation in education – Michael Scriven (1967) – it is worth noting a potential blind spot. Poorly set objectives will thwart the entire process. The focus here is not on evaluating the objectives per se, but on the level of achievement. If the objectives are poorly set – not tailored to the needs and specifics of the audience, and not challenging for them – evaluation based on levels of achievement will not add value.

2. Determination of evaluation criteria and research questions

We will take one concept from the evaluation methodology: **criterion**. In evaluation, the term is most often used to describe the perspective from which we look at a problem. The criterion allows for the inclusion of values relevant to the evaluator(s) in the research, which is otherwise crucial in evaluation (Alkin et al., 2012; Alkin & Christie, 2005). If I want to look at the training, I can look at it from the perspective of consistency with the objectives or values set by the organisation; the empowerment of the people participating; their activation during the training process; the effectiveness of the methods used; how much participation in the training influences a change in practices, etc. etc. When selecting criteria, it is worth remembering that: defining the objectives, the more the objectives will be “theirs” – the more useful the evaluation idea proposed here will be to them.

- ▶ The criteria are to meet our needs. As a leader(s), we are at different stages of professional development and need information about different aspects of our work. In one project it will be to know how effective we are in transferring knowledge, in another, it will be to bring about changes in the actions or attitudes of those involved.
- ▶ Criteria describe the perspective from which we look. The form in which we formulate them (a word, a few words, the infinitive of a sentence, a full sentence, etc.) does not matter much, especially when we do it for ourselves. In the practice of evaluation, the mannerism of naming criteria

with single words, usually ending in -ness or -cy (effectiveness, adequacy, etc.) has become widespread, but there is no methodological reason behind it. The descriptive form is just as good, or maybe even better because it makes it easier to communicate our intentions.

- ▶ If you are unable to formulate a criterion, move on and then return to this stage. Once your evaluation becomes more concrete, it will be easier to reflect on your perspective.
- ▶ The criterion can act as self-control. By making it reflective, we can make sure that the evaluation is built in the direction we originally intended (or that we consciously want to change that direction).

Let's go one step further. If our training aims to familiarise the trainees with a particular model of doing an evaluation, what criteria can I adopt here? There are, of course, many possibilities. I might wonder to what extent this model fits the needs of the participants. That is, the criterion would be adequacy to needs (well, there's a -cy!). Another perspective is to look at my methods of working with the group – the effectiveness of transferring knowledge (to stay in the poetics of the -ness' and -cy) or taking care of all the participants. I might also wonder to what extent this training will improve their skills in using evaluation (a criterion for competence change). Or will it change attitudes towards the use of evaluation in coaching practice (criterion of attitude change)? Or to what extent this evaluation model will enter their coaching practice (impact criterion). As you can see, the criteria are related to the questions we ask for an evaluation. These questions are called **research questions** or key questions in methodology. The evaluation criterion shows us what we give light to. Research question – where we put the lamp.

How do we involve learners in the process? Defining evaluation criteria together can be difficult as it is quite an abstract concept. Besides, it is not about “scientifically” defining a criterion here, but about reflecting on the objectives of the training. When working on the inclusiveness of evaluation, it is useful to refer back to the objectives of the training and reflect on them in more depth. Simple questions can help, for discussion with the group, smaller teams or in pairs, e.g.:

- ▶ What do you want to leave this training with?

► What changes do you want to achieve after the training?

It is useful to collect the answers to these questions on a poster and categorise them. If anything is unclear, clarify it at this stage – it will be more difficult to come back to it later. The poster summarising the group's work on the training objectives will be useful for the work in the next step.

3. Mapping the levels of objectives achievement

The questions closing the previous step are a good starting point for defining success criteria. What is the proof of success? Were the planned objectives achieved? What level of mastery are we willing to consider a success? These are fundamental issues in objectives-oriented evaluation.

It is worth remembering that the achievement of objectives is rarely binary. More often than not, the achievement of objectives can be graded by marking key moments in the development of a particular competence. Evaluation criteria are helpful for this. Continuing with the example of evaluation training: the objective “to familiarise the trainees with the objectives-oriented evaluation model” can be considered achieved from the perspective of the impact criterion on the trainees when they understand what the process is about, although as a trainer I would be more satisfied if they started to apply it in practice. And even more so if they would make legitimate changes to my idea, adapting it to their realities or coming up with their solution entirely. In this way, I can map the level of achievement of training objectives.

1. Assimilating knowledge regarding the solution
2. Implementing the solution in your practice
3. Use of conclusions to modify actions
4. Introducing your solutions

It now remains to determine what we consider to be an indication that a particular level has been reached. In other words, we should establish appropriate indicators and operational criteria. **An indicator**, more academically speaking, is a certain observable phenomenon, changes which allow us to infer another phenomenon,

which is the actual object of our interest (Nowak, 2006, p. 166 ff.). Changes in the height of the mercury column in the thermometer allow inferences to be made about body temperature. In other words, the phenomenon of the change in the volume of mercury under temperature changes allows us to estimate the temperature of the human body. In social research (and evaluation) it is difficult to find such elegant examples. We usually assume that the indicator of a phenomenon is the behaviour or declaration of the respondents. If we are teaching how to fix a poster correctly on a flipchart, the indicator could be an observation (how many times did the person in our opinion fix the poster correctly?) or a declaration (how many times did the person in their own opinion fix the poster correctly?). We do not, of course, have to be straightforward. We can ask about the use of poster-fixing techniques. Were pins used? Or superglue? A hammer and nails? A hammer drill and suitable dowels? A spell? Any indication of a technique that we have described in the training process as ineffective (or destructive to the flipchart) will mean that the learning outcome will not occur. And vice versa. Note that selecting such an indicator requires some knowledge of the subject. I need to know that while nailing a poster with a nail is permanent and will certainly get the group's attention, it will not affect the flipchart well. The more complex things we teach, the more knowledge is needed to get the indicators right. Educational evaluation solutions are not a bad example. Here, outcome indicators, e.g. student engagement, are selected by observing the occurrence of teacher interventions, which are known from meta-analyses and systematic reviews to affect engagement.

Thus, if we assume that an observable behaviour – an indicator – in the evaluation of flipchart classes is the way the poster is attached, it is sufficient to arrange them in order from least to most desirable from an educational point of view. In evaluation methodology, there is the concept of operational criteria, which are most often understood as the level of intensity of a certain characteristic (observed using an indicator), which, based on knowledge and sometimes arbitrarily, we consider critical. Going back to the example of measuring body temperature: exceeding 37°C is called a subfebrile state (something is wrong, but it is still early to see the doctor), 38°C is called a fever (time for the doctor, bed and Netflix), and so on. If I wanted to evaluate

poster fixing training, I would probably take fixing using the perforated holes in the posters and the corresponding tabs/hooks on the flip as the first (and most important) point. The second level could be to deal with the – surprisingly frequent – situations where the spacing of holes and tabs varies. Another: using coaching essentials such as painter's tape or glue to fix the poster e.g. in a horizontal position.

However, let's go back to the initial example of a training course, the aim of which was to "introduce the objectives-oriented evaluation model." This will allow us to bring together all the concepts introduced so far. In discussing **evaluation criteria**, I have suggested a range of possibilities, from relevance to impact. In the next step, I operationalised the objective, setting out several levels of achievement from the perspective of impact on participants' practice – from assimilating knowledge to proposing their evaluation solutions. Working on the levels of achievement of the training objectives made me realise that, as a trainer, I would most like to see other trainers reach for the solution I proposed. Of course, with such an evaluation criterion, knowledge acquisition alone is not sufficient; after all, we want to assess the impact of the training on the coaching practice of those attending. Understanding "how to do it" is only the first – though essential – step. **The research question** I pose to the evaluation is – to what extent have the participants introduced objectives-oriented evaluation into their training practice? **An indicator** – an observed phenomenon – is the use of my proposed evaluation model in coaching work. The next steps of advancement determine the levels of achievement of the objectives.

How to work with the group? In the previous step, we joined our understanding of the training objectives. We can now invite you to reflect on the level of target achievement.

- ▶ How will we know when we have achieved our objectives?
- ▶ Can these signs of success be arranged in a hierarchy? For example, from easiest to most difficult, from least important to the key?

Depending on how many components the group has decomposed the objectives into, we can, using any breakdown technique (although I would support the most autonomous ones), invite those involved to work on identifying levels of achievement.

Note that in addition to the evaluation itself, such an activity raises awareness and internalisation of the objectives of the training – thus, it is an activity that supports the learning process.

4. Determination of the level of objectives achievement

It remains to figure out how we will know the answers to our research question. In other words – what **tools** should we use to measure the indicator we are interested in? A good tool is of course important. Even the best-thought-out evaluation will crumble without well-done measurements. In evaluation, especially the positivist-oriented one, tools can sometimes be very complex. The problem is that such tools are, firstly, inflexible – we will not adapt them quickly to the specifics of a particular group or process – and, secondly, time-consuming to prepare and test. This is not convenient for micro-evaluations, although if you are running, for example, a workshop to develop social competencies and have access to one of the standardised tools (for example, the popular in Poland KKS – Social Competences Questionnaire), then why not? However, let us try to plan the collection process in a way that will:

- ▶ guarantee maximum flexibility
- ▶ allow the real influence of those involved in the measurement process
- ▶ reinforce the achievement of the training objectives
- ▶ can be carried out with a minimum of methodological and analytical competencies.

How to do it? It is necessary to use the knowledge and competencies of the people involved, reaching for methods that do not require a lot of methodological knowledge and are focused on practice, which (generally) professionals in the field have no problem with.

The most obvious methodological choice is **self-observation**, carried out according to criteria developed with the group. If individuals work together, e.g. working in the same organisation, **colleague observations** can be offered. They require a little more preparation but give a more reliable measurement.

Now that we have mapped the levels of objectives achievement (hidden in the table below under the question “What do I want to achieve?”), it is time to identify how we will know that the next levels have been achieved. This is where the field opens up for working with the group, with whom – in a form that depends on the complexity of our table – the different levels should be worked through and observable behaviours indicative of climbing the next rungs of the ladder agreed upon. Agreeing on these with the group gives internalisation of the learning objectives, confidence in their relevance to the needs of the group and enables planning of the educational process in the long term, also after the training. Such a map will also allow development to continue without coaching support. In my example: participants who have mastered the theoretical and practical arcana of objective-oriented evaluation can modify it to suit their needs and can create a different model on their own, e.g. adapted to non-hierarchical goals.

What do I want to achieve?	How do I recognise it?
Assimilating knowledge regarding the solution	I have drafted an evaluation of my training
Implementing the solution in your practice	I use evaluation in my training courses
Use of evaluation conclusions to modify actions	Based on the results, I have modified the training programme and/or kept the elements that work
Introducing your solutions	I introduced my solutions (e.g. additional tools, different structures)

5. Participants' reflection on their achievements and space for development

The organisation of the final stage depends on the specific objectives we have set with the group. If some of the levels are to be reached during the training, reflection on them can of course still take place in the training room. If I were running a training course on objectives-oriented evaluation, one element would be for participants to prepare a draft of their evaluation, which could be further evaluated in pairs or small

groups. Levels that require more time – here: implementing such evaluation into your coaching practice – meaning that you need to agree on some form of post-training communication with the group. Giving post-training feedback is not only an opportunity to work with the participants on the quality of the implementations and show further spaces for development. It is also an excellent opportunity for the trainer to gather information about the reception of the proposed solutions in practice.

To summarise: objectives-oriented evaluation of the learning process requires working through several issues with the group:

- ▶ What do we want to achieve? Together with the group, we define the learning objectives set for the training. Their quality is important – they should be developmental, relevant, and referring to results, which in turn must be measurable/observable.
- ▶ What is important to us in this? From what perspective do we want to look at achieving the objectives? Are we interested in an increase in knowledge or competence or a change in practices (or attitudes)? Is it more important for participants to develop themselves or to act by the pattern we propose? This stage allows the evaluation criteria to be defined.
- ▶ What stages can we break this process down into? What will indicate the attainment of mastery at the next stages of development in the given field? We look at objective achievement from the perspective of the evaluation criterion, to describe the path to the objective as a process. Importantly – a process captured from a specific perspective.
- ▶ How will we know when we have succeeded? What activities, and skills would we consider sufficient? It remains to work out with participants how to verify the achievement of the next steps.

The more inclusive and democratic this is, the greater the chance of setting the process in motion beyond the training room. The objectives-oriented evaluation offers the chance to outline long-term, developmental learning goals and joint criteria

for achieving them. In this way, evaluating activities ceases to be an add-on to coaching work – it can become an integral part of the educational process.

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