

Evaluation design & method options

- Phillips et al. (2014) provide a useful guide to formative & summative evaluation
- Developmental evaluation does not rely on or advocate for any particular evaluation method, design, or tool
 - Depends on the nature and stage of an innovation and the priority questions that will support development & decision-making
 - Designs can change as the innovation unfolds and changes



Evaluation design & method options

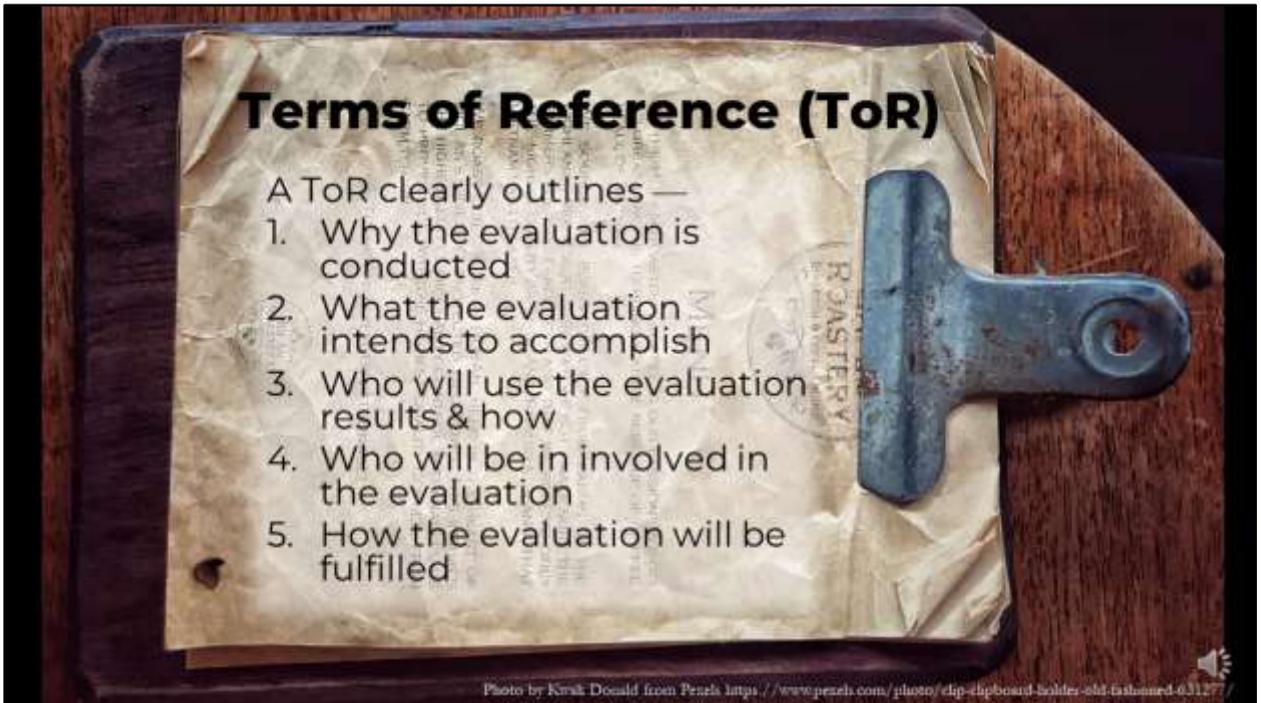
Tina Phillips et al. 2014. Provide a useful guide to formative & summative evaluation in their *User's Guide for Evaluating Learning Outcomes in Citizen Science*.

Developmental evaluation design and method options

- **Developmental evaluation** does not rely on or advocate for any particular evaluation method, design, or tool. Developmental evaluation can include any kind of data – quantitative, qualitative, mixed, any kind of design, for example naturalistic, experimental, any kind of focus e.g. processes, outcomes, impacts, among many possibilities, depending on the nature and stage of an innovation and the priority questions that will support development of and decision-making about the innovation. This can include random mice controlled trials, surveys, focus groups, interviews, observations, performance data, community indicators, network analysis – whatever sheds light on the key questions guiding the evaluation and development.
- Whatever methods are used or data are collected, rapid feedback is essential. Speed matters. Dynamic complexities do not slow down or wait for evaluators to write their reports, to get them carefully edited, and then approved by higher authorities. Any method can be used but it will have to be adapted to the necessities of speed, real-time reporting, and just-in-time, in the moment decision making. This is a major reason why the developmental evaluator is part

of the innovation team: to be present in real time as issues arise and decisions have to be made.

- Methods can be emergent and flexible; designs can be dynamic. Contrary to the usual practice in evaluation of fixed designs that are implemented as planned, developmental evaluation designs can change the innovation unfolds and changes. If surveys and interviews are used, the questions may change from one to the next, discarding items that have revealed little or are no longer relevant and adding new ones that address the new issues at hand.



Terms of Reference

The Terms of Reference (ToR) is a key document in the evaluation process; it presents an overview of the requirements and expectations of the evaluation and it defines all aspects of how an evaluation will be carried out. Specifically, it presents the objectives of the evaluation, the role and responsibilities that the evaluator will take, it identifies the recipient of the evaluation (the client), and the resources available to carry out the evaluation.

ToR are usually developed during the planning phase of the evaluation process and serves as the basis for a contractual arrangement with the evaluator(s). It also sets the parameters against which the success of the assignment can be measured. The quality evaluation depends on how accurate and well-specified the ToR are but the specific content and format for a ToR will vary to some degree based on organisational requirements, local practices, and the type of work to be carried out.

The ToR include as a minimum the sections below.

Background and context

Evaluation purpose and target audience

Evaluation objective and scope

Evaluation questions and tasks

Approach and Methodology

Timing and deliverables
Evaluation team composition and required competencies
Management arrangements
Budget and Payment
Proposal Submission

European Commission. 2013. Guidance for the Terms of Reference for Impact Evaluations.
http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/guidance_to_impact_evaluation_102013.pdf

Roberts, D., Khattri, K., and Wessal. A. 2011. Writing terms of reference for an evaluation: How-to guide. Independent Evaluation Group, Communication, Strategy, and Learning; International Bank for Reconstruction and Development / World Bank

Outcomes and impact evaluation

Outcome evaluations assess the effectiveness of a programme in producing change

Process evaluations help stakeholders see how a programme outcome or impact was achieved

Outcomes and impact evaluation

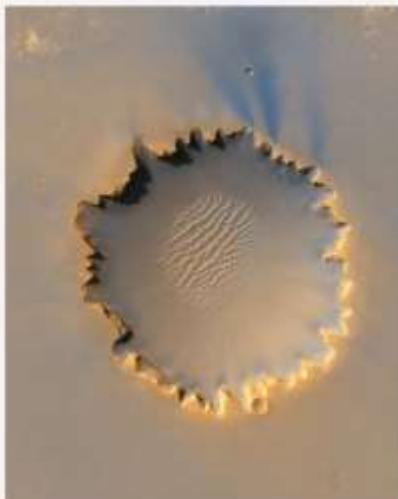
We now move onto to types of evaluation: the most common ones are outcome and impact evaluation

Outcome evaluations assess the effectiveness of a program in producing change.

Process evaluations help stakeholders see how a program outcome or impact was achieved.

Lets begin with Outcome evaluation.

Outcomes/impact evaluation



- Examine impacts / benefits / changes to participants in a project/programme in the short-term, intermediate term and long-term
- Link evaluation questions to outcomes
- Conceptualise project/programme as a system that has inputs, activities/processes, outputs and outcomes

Victoria impact crater, Mars NASA <http://photojournal.jpl.nasa.gov/catalog/PLA00813>

Outcomes/impact evaluation

Outcomes evaluation most commonly requested by funders and therefore the most common type of evaluation approach. Outcome evaluations assess the effectiveness of a programme/project in achieving its goals and producing change.

Outcomes evaluations examine the impacts/benefits/changes to participants in a project/programme in the short-term, intermediate term and long-term

Outcome evaluations focus on (often difficult) questions about change in the lives of programme/project participants i.e. how much of a difference did the program make for them?

To start with outcomes evaluation...

1) Link evaluation questions to outcomes

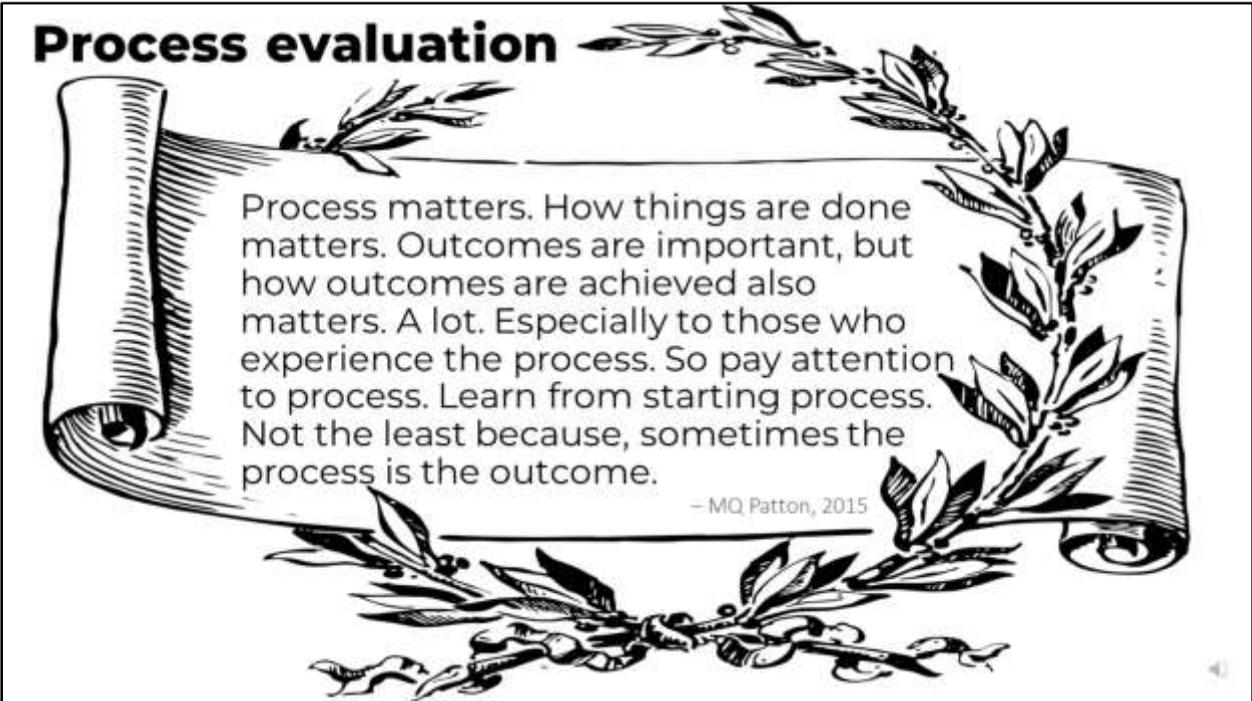
The focus on impact or outcome evaluations is in finding out whether and how well the objectives of a project or programme were met. Hence, evaluation questions are directly linked to expected outcomes (usually outlined in the project proposal).

For example, outcomes and outcomes questions for a citizen science project might include:

- Raise awareness about marine invasive species --> Did the project succeed in raising awareness about marine invasive species? How many?
- Have a wide reach and engage different audiences --> Was the project more successful with certain groups of people than with others?

- Create enjoyable learning experiences for volunteers --> What aspects of the project did participants find most enjoyable? What did volunteers learn from their engagement in the project?
- 2) Then look at the basic components of a project/programme. Conceptualise it as a system that has inputs, activities/processes, outputs and outcomes. We will cover this later on when we look at the Logic Model.

Process evaluation



Process matters. How things are done matters. Outcomes are important, but how outcomes are achieved also matters. A lot. Especially to those who experience the process. So pay attention to process. Learn from starting process. Not the least because, sometimes the process is the outcome.

– MQ Patton, 2015

Process evaluation

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Focusing on process involves looking at how something happens. Process enquiries, especially for program evaluation, aim at elucidating and understanding the internal dynamics of how a program, organisation, community, system, or relationship operates by asking the following kinds of questions: What are the things that people experience that make this experience what it is? How are participants brought into the program, and how do they move through the program once they are participants? What activities do they undertake? What do they experience? How is what people do related to what they are trying to accomplish? What are the strengths and weaknesses of the program from the perspective of participants and staff? What is the nature of staff-participant interactions?

Qualitative enquiry is highly appropriate for studying processes because a) depicting process requires detailed descriptions of what happens and how people engage with each other; b) people's experience of process typically vary in important ways, so their experiences and perceptions of their experiences need to be captured in their own words; c) processes are fluid and dynamic, so they can't be fairly

summarised on a single rating scale at one point in time; and d) the process may be the outcome. "It is the journey that counts."

*****Process evaluations not only look at formal activities and anticipated outcomes but also investigate informal patterns and unanticipated interactions. Process descriptions are also useful in permitting people not intimately involved in a program (for example external funders, public officials, and external agencies) to understand how a program operates, enabling them to make better informed decisions about the programme.

(Patton, 2015)

Qualitative inquiry in process evaluation



Source: <http://adulthoodchild.org/gmedia/young-hands.jpg/>

- Depicting process requires detailed descriptions of what happens and how people engage with each other;
- People's experience of process varies; experiences & perceptions of experiences need to be captured in their own words;
- Processes are fluid and dynamic, can't be summarised fairly on rating scale at one point in time; and
- The process may be the outcome. ◀

Qualitative inquiry in process evaluation

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(Patton, 2015)

Considerations for evaluating activities



Public Domain

- What is the context, purpose and audience?
- What information is needed, who will analyse it and use it?
- Options include: Traditional survey, online survey, observation, informal feedback, purposeful reflective group feedback, participant interviews, social media tracking

Considerations for evaluating activities

Let us move onto designing tools to evaluate specific events or activities

When designing tools to evaluate events or activities we need to think in parallel about the event itself as well as the purpose of the evaluation.

The event: What is the context, purpose and audience of the event/activity?

Considerations here include: **what is the environment created or intended to be create by the event?** How can evaluation fit that context (i.e. what format can be the least disruptive and even contribute to the event environment? E.g. a paper-based survey might disruptive to an event that created an environment of open discussion and dialogue because it doesn't flow with the atmosphere create. In this case a final group reflective session might be more appropriate – I mention some drawbacks later on; **What is the purpose of the event?** How can evaluation help contribute to that purpose? E.g. can gathering information about attendees interests and expectations help to fine tune the event design and could evaluation then be used to gather feedback about how those were met? **Who is the audience at the event?** Be sensitive to the needs of different audiences. Be considerate of the time they've invested in attending the event. Design an evaluation that values their time and feedback – consider sharing how the feedback will be used (e.g. to improve and guide future events). Event facilitators will often know their context and audiences best, especially if they have a history of building relationships with them and

creating event environments. If you are the facilitator as well as the evaluator, consider your capacity and biases as well as who can support you in your roles and whom you can have reflective discussions with – facilitators also need support and self-care. If you are an external evaluator, work with the facilitator to design an evaluation that is useful and in context with the event: ask and discuss “what feedback information would be useful for you; how will it be used; how will the evaluation results be gathered and interpreted; who will be involved?”. Much information can be gathered through feedback – esp. a survey but if that information is not going to be of use or actually used, then consider if it should be gathered in the first place. This takes us to the other parallel aspect of the evaluation.

The purpose of evaluation: The considerations here are what information is needed, who will analyse it and use it? If the events or activity are part of a larger project, how does the purpose of the activity connect back to the purpose(s) of the project – concomitantly, what is the purpose of the evaluation at project level and how does the evaluation of the event contribute to that? Is the evaluation done for compliance to funder requirements or commitments outlined on the project’s proposal or contract? Gathering feedback and evaluation information can be a strain and a burden to already busy facilitators. It is therefore worth considering if and how that information gathering can be useful. As we saw in our description of developmental evaluation, it is not only a matter gathering potentially useful information. It is also about who will analyse or interpret it and use it. For information to be useful, there needs to be purposeful commitment from the project team to set aside and value time to interpret and reflect on the results of the evaluation, regularly, and use it to inform decisions about the project.

Tools for evaluating activities

- Surveys: timely comparable stats / might not fit event format
- Online survey: less response rate
- Observation: Unobtrusive / make assumptions
- Informal feedback: Conversational / consider ethics of use
- Reflective group feedback: integrated into event design / time consuming
- Interviews: in-depth data gathering / time and resource intensive



Tools for evaluating activities

There are different ways of gathering feedback and each have their advantages and pitfalls. Some options include: Traditional survey, online survey, observation, informal feedback, purposeful reflective group feedback, participant interviews, social media tracking. Let us look at these in a bit more detail.

- Paper-based survey → can help gather timely and specific data and can help gather consistent information to compare across all events BUT format might not be appropriate to use in all types of events. If you are using a survey, assure attendees that their feedback is valued and tell them why the information is being gathered and how it will be used. Also make sure to follow and convey confidentiality.
- Online survey → Attendees would have had time to digest or reflect upon the event and might give a different opinion that one 'on-the-spot' with a paper survey BUT response rate is significantly lower.
- Observation → It is the least obtrusive type of evaluation. Can use it to gather the required information: e.g. number of people, gender ratio, etc. For more specific data think about how to avoid the risk of making assumptions: e.g. comfort level in the room or noting the types of questions people ask to determine interest.
- Informal feedback → Conversations that arise after an event or during event mingles can be informative and more candid or 'natural'. Through these chats

with attendees you can ask for or get a sense of people's experiences at the event. Consider the ethics in using informal feedback as part of the evaluation.

- Purposeful reflective group feedback → Can be integrated as part of the event design to create a space for reflecting on experiences and sharing them as a group. It can be useful to bring the event to a close and create an opportunity to share what worked and didn't BUT it takes time and not everyone might want to voice their opinions publicly in a group – provide alternative options and invite people to send in their feedback; some people might take up more space than others
- Participant interviews → You might want to gather more in-depth information about people's experience at an event or about their participation in a project. Interviews employ open-ended questions that intend to gather in-depth responses about people's experiences, perceptions, opinions, feelings, and knowledge. The data consist of verbatim quotations with sufficient context to be interpretable. Determine the type of interview: e.g. structured, semi-structured, conversational, focus group, etc.; and the type of questions.

Michael Quinn Patton has created a useful checklist for qualitative inquiry – it helps to determine when qualitative methods are appropriate to use for evaluative inquiry and the factors to consider <http://irantvto.ir/uploads/qec.pdf>

Philips et al. include a useful data collection strategy and checklist for developing surveys in their *User's Guide for Evaluating Learning Outcomes in Citizen Science*

Some general practical principles to inquiry

- Focus the enquiry on getting useful answers to practical questions
- Select and mix methods to triangulate and get diverse perspectives on insights into the problem
- Adapt design to constraints: limited time & resources
- Works toward actionable findings
- Use multiple analytical reasoning processes
- Be explicit as to whether utility is context-dependent

Some general pragmatic principles to inquiry

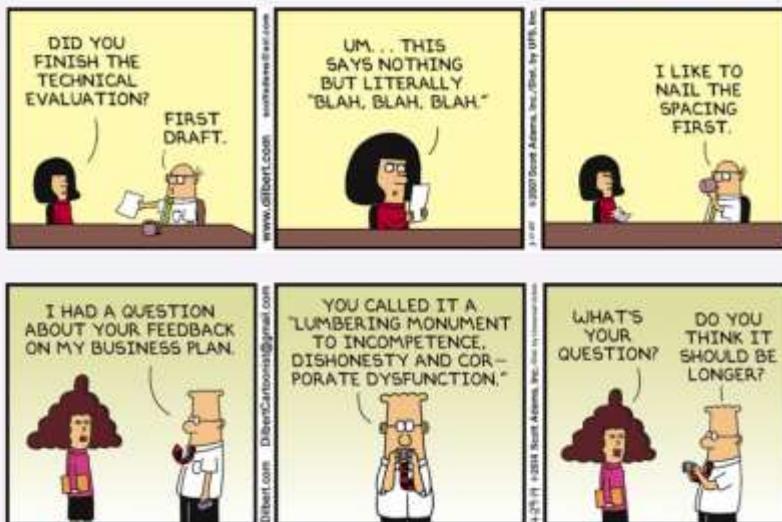
- Focus the enquiry on getting useful answers to practical questions.
- Select and mix methods to triangulate and get diverse perspectives on insights into the problem being studied, recognising that all methods have strengths and weaknesses Creswell, 2009; Morgan, 2007. Triangulation facilitates validation of data through cross verification from more than two sources. On the one hand it is a way of testing consistency but it is also a way of making sure that different perspectives and voices have been taken into account on a particular subject (as in our example of different people describing an elephant from the part they touch).
- Adapt the design to real world constraints of limited time, resources, and access that acknowledge those constraints and the implications for findings Bamberger, 2011
- Actionable findings: analyse data with an eye toward in forming action Davidson, 2012
- Use multiple analytical reasoning processes: deduction – reasoning from the general to the specific induction – reasoning from specific to the general, and abduction – working back and forth between general and specific to solve the problem Patton, 2011
- Examine and report how enquiry itself and the processes involved in data

collection have affected what is learnt Flick, von Kardoff, and Steinke, 2004

- Be explicit about the values that undergird and inform the enquiry. Pragmatism is not value free. Utility, like beauty, is in the eye of the beholder. It involves making judgements: value judgements. The very definition of a problem to be studied involves values about how the world might be better – with human rights, environmental justice, gender equity, and shared governance as examples Davidson, 2005
- It is easier to establish what doesn't work than what does work, and what works in one context and at one point in time may not work in another place at another time, so both utility and a 'truth' derived from utility are context-dependent, subject to further enquiry, and constitute at best, a 'partial truth' Pawson, 2013.
- Be prepared to communicate to others how the philosophy of pragmatism has informed of the enquiry. That people will understand the philosophy of judging truth by utility, or even agree with it, cannot be assumed.

Reporting

- Introduction
- Methodology
- Evaluation framing
- Demonstrating impact
- Success factors
- Conclusions and recommendations



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Reporting

As part of the evaluation process you should create an outline for how your evaluation will be reported keeping in mind whom the audience and recipients of this report will be and how it will be used. It is good practice to document your procedures during the planning and implementation of the evaluation using this outline. Then, as the data from your evaluation is being analysed and synthesised, you should already have a working draft of your evaluation report which conveys the evaluation process and its findings.

A report for **formative and summative** evaluation will traditionally include variations of the following sections

Introduction: Outlines the background, aims and objectives of the evaluation

Methodology: Outlines how the evaluation was conducted and with which key tools and instruments, and it may or may not include a full review of existing literature, and any approach taken to consult with stakeholders; selection of criteria and indicators, development of your Logic Model, procedures for selection/design and testing of research tools (e.g. survey, case studies, interviews, etc.), and explain your data analysis (quantitative and qualitative data)

Framing the evaluation: present a review of the literature that supports the framing of the evaluation; presents the current landscape and context in which the project unfolds, presents definitions and outlines the project outcomes, review of criteria

and indicators, revised Logic Model

Impact: Discussed what difference the project has made for those involved. It focuses on specific impacts and it evidences them thoroughly. Impacts could include Development of participants skills and understanding of citizen science; participant aspirations, motivation and engagement level; project team/staff motivation and understanding of citizen science; enhancing participant's knowledge and understanding of citizen science.

Success Factors: An overview of the main critical success factors identifying which factors make a difference in the fulfilment of the project; the section outlines the detailed evidence that support the success factors

Conclusions and Recommendations

References or bibliographical resources

Appendices: Can include sample evaluation templates e.g. surveys or interview guides, consent forms used, etc.

Developmental evaluation may or may not need a report; developmental evaluation provides quick iterative feedback

Evaluation standards & ethics for all evaluators

- Knowledgeable about and committed professional standards of evaluation
- Any evaluation should be carried out with full commitment to ethical standards: all participation in evaluation is **voluntary**, procedures for **informed consent** are in place, & all information provided by participants are **confidential and anonymous**



See for example the UK Evaluation Society (UKES) Guidelines for good practice in evaluation
<https://www.evaluation.org.uk/index.php/about-us/publications/46-ukes-guidelines-for-good-practice-in-evaluation>

Evaluation standards & ethics for all evaluators

Evaluators should be knowledgeable about and committed to the professional standards of evaluation

Any evaluation should be carried out with full commitment to ethical standards that ensures that all participation in evaluation is voluntary, that procedures for informed consent are in place, and that all information provided by participants in the evaluation are confidential and anonymous to the extent that no names, physical or contact addresses, or other individual identifiers will remain associated with a given record.