



# SWOT analysis to evaluate the programme of a joint online/onsite master's degree in environmental education through the students' perceptions



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## ARTICLE INFO

### Article history:

Received 5 March 2015  
Received in revised form 1 September 2015  
Accepted 2 October 2015  
Available online

### Keywords:

Evaluation  
SWOT analysis  
Environmental education joint master's degree  
Onsite-online teaching

## ABSTRACT

This study shows the use of SWOT to analyse students' perceptions of an environmental education joint master's programme in order to determine if it runs as originally planned. The open answers given by students highlight the inter-university nature of the master's, the technological innovation used as major points, and the weaknesses in the management coordination or the duplicate contents as minor points. The external analysis is closely linked with the students' future jobs, their labour opportunities available to them after graduation. The innovative treatment of the data is exportable to the evaluation of programmes of other degrees because it allows the description linked to its characteristics and its design through the students' point of view.

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## 1. Introduction

The significance of the evaluation of programme effectiveness is becoming an important and recurring research area of Environmental Education (in advance, EE), as evidenced by the inclusion of specific sections and the huge number of studies in high-impact journals. The main topics of EE evaluation could be organised in terms of evaluations of higher education EE programmes (Aznar Minguet, Martinez-Agut, Palacios, Piñero, & Ull, 2011; Goldman, Yavetz, & Pe'er, 2006; Hurlimann, 2009), programmes that seek to build environmental literacy (Bowe, 2015; Van Petegem, Blicke, & Boeve-De Pauw, 2007; Wesselink & Wals, 2011) and related EE outcomes in non-university participants (Rivera, Manning, & Krupp, 2013; Smith-Sebasto, 2006).

We can draw some reasons from McNamara (2008) about the utility of programme evaluation to highlight the need to develop a programme evaluation. This is because programme evaluation can:

- Understand, verify, or increase the effectiveness of the education. Too often, coordinators rely on their own instincts and passions

to conclude what the students really need and whether the education and management services are providing what is needed. Over time, they find themselves guessing about what would be a proper decision, and use trial and error to decide how new products or services could be delivered.

- Improve delivery mechanisms to be more efficient. Evaluations can identify programme strengths and weaknesses to improve the programme.
- Verify that "you're doing what you think you're doing". Typically, plans about how to deliver a proper education end up changing substantially as those plans are put into place. Evaluations can verify if the programme is really running as originally planned.
- Facilitate management's thinking about what its programme is all about, including its goals, how it meets those goals, and how it will know whether it has met them.
- Produce information or verify data that can be used for communicating and sharing results. Fully examine and describe effective programmes for duplication elsewhere.

The research literature on the evaluation of EE programmes has mainly focused on the evaluation of attitudes, knowledge, competences, and behaviours of the participants in these programmes (Duvall & Zint, 2007; Negev, Sagy, & Garb, 2008; Ponce Morales & Tójar Hurtado, 2014; Perales-Palacios, Burgos-Peredo, & Gutiérrez-Pérez, 2014; Smith-Sebasto & Semrau, 2004), or the impact of these programmes on their surrounding

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environment (Ernst & Theimer, 2011; Gutiérrez-Pérez, Ojeda-Barceló, & Perales-Palacios, 2014; Powers, 2004; Ruiz-Mayen, Barraza, Bodenhorn, & Reyes-Garcia, 2009). That impact is also evaluated in function on the duration of the EE programmes: even if these programmes are short-term (Tarrant & Lyons, 2011) or long-term (Engels & Jacobson, 2007; Overholt & MacKenzie, 2005). The huge progress in EE programme evaluation has even generated its own theoretical models, such as the *logical model* (Lisowski, 2006). Although it is not the main objective of our work, we have found an study to bear in mind for future papers about effectiveness between digital and traditional programmes (Aivazidis, Lazaridou, & Hellden, 2006); even an online evaluation consultant (*Education Evaluation Resource Assistant* or MEERA) is offered to support environmental educators' programme evaluation activities (Zint, Dowd, & Covitt, 2011). In spite of this abundance of evaluation of EE programmes, Carleton-Hug and Hug (2010) suggest that it is necessary to bridge the gap between the potential for high quality evaluation systems to improve EE programmes and actual practice as the majority of these EE programmes.

Most of these researches use multi-choice questionnaires (Aypay, 2009) or Likert scale surveys about aspects related to the teaching for the faculty's evaluation, such as the implementation of their teaching duties, planning, and teaching methodology (organisation, resources, explanation). A common measurement concerns included small sample sizes, vaguely worded survey items, unaccounted-for confounding factors, and social desirability bias – i.e. the case in which respondents select the answer they feel the surveyor is seeking, rather than that reflecting their true feelings (Stern, Powell, & Hill, 2014). Therefore, as Darling-Hammond (2006) state, it is necessary to increase the amount of tools to analyse both prospective educators' learning and institutions' responsibility for developing their training. In particular, Erdogan and Tuncer (2009) try to evaluate a course offered at the Middle East Technical University (Ankara, Turkey) to improve its schedule by means of the needs and pertinent problems as expressed by the students using different data collection instruments: need assessment questionnaire, observation schedule for formative evaluation, open-ended questionnaire for formative evaluation (student opinions), and summative evaluation questionnaire.

In a recent review of EE evaluation research, Stern et al. (2014) note that most published EE evaluation research represents *utilisation-focused evaluation* (Patton, 2008) and *summative evaluation* (Carleton-Hug & Hug, 2010; Erdogan & Tuncer, 2009). Each of these evaluation approaches tends to focus on the unique characteristics and goals of individual programmes. *Utilisation-focused evaluations*, along with the emergence of *participatory evaluation approaches*, often develop unique measures of outcomes based on the goals of a particular programme, limiting the direct comparability of outcomes across studies (Stern et al., 2014).

As Jeronen and Kaikkonen (2002) show that the teachers, pupils, and parents should participate in the evaluation processes as a "house model", developing senses and emotions. From the pedagogical point of view, process and product evaluation in authentic situations made by the individuals themselves, their peers, and teachers could be useful to support individuals and groups to approach the set goals (Jeronen, Jeronen, & Raustia, 2009). A *participatory approach* to evaluation provides a strategy for overcoming many of the challenges associated with initiating and sustaining evaluation within an organisation. In order to extend the range of tools and improve the development of an EE programme, we have applied a SWOT (an acronym for strengths, weaknesses, opportunities, and threats) analysis, a general tool that can be used to assist faculty to initiate meaningful change in a programme, designed to be used in the preliminary stages of

decision-making and as a precursor to strategic planning in various kinds of applications (Balamuralikrishna & Dugger, 1995; Perales-Palacios et al., 2014).

This study assumes some aspects from *utilisation-focused evaluations* with a participatory approach with the long-term aim of promoting improvements in the master's organisation through the students' own perceptions. Master students' perceptions expressed in terms of the strengths, weaknesses, opportunities, and threats represent a valuable body of information, based on their own experience, to identify possible steps related to the running of the programme, i.e., relate to the common goals, planning (the process of choosing activities and identifying appropriate individuals to be involved in the activities), monitoring (tracking the effect of the programme activities), the organisation and cooperation of the staff.

In this paper, we contribute with the SWOT analysis and data processing developed as exportable tools to assess educational programmes, thus enriching the variety of available tools. The outcomes obtained by the implementation of a SWOT analysis will serve as the basis to design a Likert scale questionnaire, a new evaluation instrument that will allow assign weights to the different main issues suggested by the participants in their responses.

In this way, we will consider more than the identification of the presence or absence of an issue in the master's degree evaluation, helping us to improve its development in future works.

## 2. The SWOT analysis: a strategic analysis tool for evaluating EE programmes

As classroom assessment should involve active participation between the students and the educators (Orr, 2013), and stakeholders are interested in evaluation planning, designing, data collecting, and results interpretation, this approach is able to engage programme staff – both educators and students. If the goal of the evaluation only was to understand people's satisfaction with a particular programme, a simple cross-sectional survey or interview, for example, would suffice (Powell, Stern, & Ardoin, 2006). However, if the evaluation's goal is to gather and analyse all the contributions from each participant, understand deeply their perceptions, and draw operational conclusions on the programme development, a SWOT analysis could be a more effective option.

In the self-evaluation processes for the development of the strategic plan, it is common to use a tool that comes from the business world (Ghemawat, 2002), the SWOT analysis. Besides increasing the enrolment into some universities (Gorski, 1991), its application has a repercussion in evaluation research. For example, using a SWOT analysis, Jain and Pant (2010) evaluate the environmental management systems of educational institutions.

Danca (2006) describes how a SWOT analysis works as a straightforward model that provides direction and serves as a basis for the development of marketing plans, accomplishing by assessing an organisation's strengths (what an organisation can do) and weaknesses (what an organisation cannot do) in addition to opportunities (potential favourable conditions for an organisation) and threats (potential unfavourable conditions for an organisation). SWOT analysis is an important step in planning, and its value is often underestimated due to the simplicity in the creation of the tool (Orr, 2013).

For a better understanding of the SWOT analysis, we define each item:

- The *strengths* refer to the things the participants perceive really work. To identify the strengths, we consider the areas where others view the organisation or programme as doing well.

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