

## **Openness in evaluation: understanding epistemological challenges, rethinking competencies and library practices**

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**Abstract:** Evaluation is a vital part of every policy, programme, initiative or project framed by open movements. Sound evaluation strategies, procedures and criteria are needed to assess the impact of these movements on science, society and policy. Fostering access, collaboration and participation of groups that are in traditionally “peripheral” positions with respect to decision-making also means including them in evaluation processes, namely by employing participatory methods within libraries’ practices (e.g. ISO 16394, 2014). Using a meta-evaluative and transdisciplinary approach, this paper aims to discuss the concept of co-evaluation and how Research on Evaluation developed within Information Science can contribute to a research agenda and to enhance stakeholders and citizens’ involvement and competencies in open evaluation and open science.

**Keywords:** open evaluation; co-evaluation; participatory methods; competencies; Library and Information Services.

### **1. Introduction**

Over the last two decades, “open” has become a buzzword nurtured by diverse “open” movements – Free and Open Source Software, Open Access, Open Science, Open Data, Open Government and others. Avoiding the discussion about the definition(s) of what seems to be a polarized and highly contextual term (Neylon, 2017), we will consider here that the concept of “open” refers to an environment that facilitates opportunities to participate in information and knowledge production and circulation for people who have been historically excluded.

Evaluation is (or, at least, should be) a vital part of every effective policy, programme, initiative or project framed by these open movements. Sound

evaluation strategies, procedures and criteria are needed to assess the impact of open movements on science, society and policy. Fostering access, collaboration and participation of groups that are in traditionally “peripheral” positions with respect to decision-making also means including them in evaluation processes, namely by employing participatory methods and technics.

Using a meta-evaluative and transdisciplinary approach, this paper aims to discuss how Evaluation Research developed within Information Science can contribute to enhance stakeholders and citizens’ involvement in Open Science (OS).

## **2. Understanding epistemological challenges in Information Science**

Since 2012, researchers at the Faculty of Social Sciences and Humanities of the Universidade NOVA de Lisboa (FCSH/UNL) have been pursuing a line of research that intersects Library and Information Services (LIS) performance evaluation with sustainability transitions management and competences development. During 2013 and 2014, this intersection was put into practice in co-creation workshops on *Building a sustainability assessment framework*, targeted at students of LIS courses. These interdisciplinary experiences led to the (co)definition of a draft conceptual framework for assessing the sustainability and impacts of LIS, which was further consolidated (Ochôa & Pinto, 2014) and expanded by introducing the perspectives of ISO 16439 (2014), media and information literacy evaluation (Ochôa & Pinto, 2015) and impact assessment competences (Ochôa & Pinto, 2017a). From 2017 onwards, research on participatory evaluation and co-evaluation competences also explored the interconnections with Open Science (Ochôa & Pinto, 2017b). Doing so enables the possibility to elaborate on the challenges posed by libraries’ conceptual and practical integration for future research regarding the need for better methodological assessment of these phenomena.

### **Openness, participation and evaluation**

Evaluation methodologies are scientific constructions that act on value judgements to transform them into useful judgements (Barbier, 1990). Although the intrinsic characteristics of the evaluation object matter, these constructions mainly depend on the needs of evaluation stakeholders, as well as on the analytical tools used by evaluators (Capucha et al., 1996). Different evaluation approaches will, therefore, generate different results, knowledge and learning.

Participatory evaluation flourished in the 70s, having its roots in international development. It is a participatory evaluation is a collaborative approach to inquiry that involves stakeholders of a project, programme or policy in any time of the evaluation process. It integrates participatory methods such as Participatory Action Research (PAR), empowerment evaluation, democratic evaluation and participatory monitoring and evaluation, among others (Cullen &

Couryn, 2011). Open evaluation, which according to J. Haller (2013) is the integration of external stakeholders outside the usual group of decision-makers into the assessment of pre-developmental products or services by means of IT, also fits into this type of methodological approach.

Valuation - that is, the act of making a value judgment – has been the subject of considerable study by Evaluation Research. As Scriven (2003, p. 16) points, "an evaluation must, by definition, lead to a particular type of conclusion - one about merit, worth, or significance - usually expressed in the language of good / bad, better / worse, well / ill, elegantly / poorly, etc. ", highlighting the role of the evaluator and his / her competencies (Patton, 2008) and the many different ways in which he / she can be involved in the evaluation process, depending on the evaluation - the conditions of the evaluator (*evaluator context*, Alkin, 2012).

According to Alkin, Vo e Christie (2012), "evaluators can be engaged in valuing by guiding stakeholders in the process of reaching conclusions about value. Evaluators can be engaged in valuing by acting as a social conscience in reflecting on the meaning of findings. Evaluators can assist in valuing by providing stakeholders with the opportunity to actively engage in evaluation and, in that process, themselves determine the worth of an enterprise. And yes, evaluators can perceive their role as personally making a decision of merit or worth." (p. 39)

Taking a participatory approach to evaluation poses an ethical and methodological challenge that requires guiding models / principles adapted to contexts and change, as well as proposals of analysis and renewal generated through dialogue and research (Cousins, Whitmore & Shulha, 2013). According to Patton (2016, p. 22), a principle can be defined as "the fundamental proposition that serves as the foundation for a system of belief or a chain of reasoning", playing the role of sensitizing concepts. A principles-based approach is appropriate when there is alignment and accession by various participants in evaluation processes, if the principles remain the same despite the necessary adjustments to various contexts. Evidences are based on case studies and their relevance stems from its potential for adding value to collective efforts (Shulha et al., 2015) and to complex situations (Patton, 2011, 2016), such as open innovation (Haller et al., 2017).

The focus on qualification, competency development and professionalism of evaluators has led researchers, academia and professional associations (e.g. the American Evaluation Society) to create and apply taxonomies of evaluation competences. The taxonomy developed by the Canadian Evaluation Society (2010) and the research on the subject J A. King and L. Stevahn have carried out for more than two decades (King et al., 2001; King & Stevahn, 2015, etc.) are

illustrative of this tendency. Deepening into the study of interpersonal dynamics and competences in evaluation practice, these authors argue that Interactive Evaluation Practice (IEP) - defined as "the intentional act of engaging (e.g. in making decisions, taking action, and reflecting while conducting an evaluation study)" - is applicable to all types of evaluation and thus is not constrained to participatory evaluation (King & Stevahn, 2013, p.14).

The need to go beyond dialogue with stakeholders in the evaluation process can be addressed by evaluating the evaluation - that is, by meta-evaluating (Scriven, 1969) – since this should raise awareness of the necessity of action to transform the situation under assessment. To promote convergence between practice and theory, as well as the development of epistemological, methodological and practical questions, Furtado and Laperrière (2010) consider that the evaluator (as part of the participant group) should encourage the collective to cross the dialogue frontiers, moving towards collective action and allowing stakeholders to judge and contextualize the results obtained (Patton, 2011). It is within this context marked by a tendency to widen stakeholders' participation in evaluation that themes like professionalism, competency and professional standards development, new mixed methods and new uses of evaluation are being discussed at international level (Eval Partners, 2016; European Evaluation Society, 2016; International Organization for Cooperation in Evaluation, 2017; Asociación Ibérica de Profesionales por la Evaluación, 2017).

In addressing the need to strengthen openness/participation levels in assessment processes, Evaluation Research brought to the forefront the co-evaluation topic. This emerging concept is also evolving under the strategic agenda of Open Science (European Commission, 2017) and Citizen Science (Ioannidis et al., 2006), framed by citizens' involvement in public evaluation of scientific reviews and in the assessment of results, together with the necessity of evaluating the social impact of projects (Serrano Sanz et al., 2014; Pettibonne et al., 2016).

### **3. (Co-)Evaluation, Open Science and the contribution of Information Science**

Like other contemporary evaluation objects, the theoretical approach centred around co-evaluation is still developing and further research and discussion are needed to reach a consolidated perspective. From a conceptual point of view, co-evaluation can be considered a synonymous for collaborative assessment and cooperative assessment (Sluijsmans, Dochy & Moerkerke, 1998) or even for participatory evaluation or open evaluation. Nevertheless, it is our believe that favouring co-evaluation *vis-a-vis* the other terms, will emphasise the partnership, knowledge sharing and co-creation features, as well as the active engagement of stakeholders throughout the evaluation process, from the evaluation design to data gathering and analysis and to final reporting.

Despite being regarded as “an umbrella term encompassing a multitude of assumption about the future of knowledge creation and dissemination” (Fecher & Friesike, 2014, p. 17), OS can be defined as “the movement to make scientific research, data and their dissemination available to any member of an inquiring society, from professionals to citizens” (Orion Open Science). By making openness extensible throughout the whole research cycle, OS, therefore, fosters participation and interaction.

Among the results of the line of research that intersects Library and Information Services performance evaluation with sustainability transitions management and competences development carried out, since 2012, at FCSH/UNL, two can significantly contribute to improve stakeholders’ participation in OS: the methods and procedures for assessing the impact of libraries proposed in ISO 16394 (2014) and the domains and competencies of a (co-)evaluation framework.

### **3.1. ISO 16394: methods and levels of stakeholder participation**

As noted by I. Guijt (2014), “Using participatory approaches in impact evaluation means involving stakeholders, particularly the participant in a programme or those affected by a given policy, in specific aspects of the evaluation process” (p. 1). Table 1 summarises the approaches and methods for assessing the impact of libraries presented in ISO 16394, highlighting the inherent stakeholder level of involvement / participation in the evaluation process. This Table was built upon the one presented at the VIII Encontro Ibérico EDICIC in November 2017 (Ochôa & Pinto, 2017b), but is now enriched by the application of the criteria used in the Action Catalogue of Engage2020<sup>i</sup> for determining the level of stakeholder/public involvement in research and innovation. These criteria correspond to six possible objectives of public participation through the method’s implementation – *Dialogue, Consulting, Involving, Collaborating, Empowering* and *Direct decision*. So, the more objectives the method’s application can reach, the higher the level of stakeholder/public involvement generated will be.

### **3.2. Domains and competencies of (co-)evaluation**

Based on a meta-evaluation perspective, the literature review - directed towards the intersection between Information Science, Evaluation, Competences Management and participatory methodologies - provided the basis for the identification and subsequent reflection on the domains and the respective competences to be mobilized for (co)evaluation, especially considering its innovation potential in two contexts:

- In LIS - with the proposal for the introduction of new impact assessment models, namely in Open Access and Open Research Data.

- In competences profiles of LIS professionals – with the proposal of a domain specialized in evaluation, stressing transdisciplinarity and its potential for OS and other expressions of open knowledge.

APPROACHES AND METHODS FOR GATHERING EVIDENCES OF IMPACT IN LIBRARIES		LEVEL OF STAKEHOLDER PARTICIPATION										
		man	ogu	con	sulti	trro	lvin	abor	atin	emp	owe	et
<b>Inferred</b>												
Statistics on inputs and outputs	Statistics of library use											
	Statistics of library users											
Library performance indicators	Indicators of library use											
	Indicators of service quality (based on indicators of use)											
	Indicators comparing library statistics to cultural statistics											
Data from user satisfaction surveys	Direct measurement method			✓	✓	✓						
	Gap analysis			✓	✓	✓						
<b>Solicited</b>												
Impact surveys	Surveys on library users' opinion and experience			✓	✓	✓						
	Surveys on the effects of library contact			✓	✓	✓						
	Survey son the general opinion about library value			✓	✓	✓						
Interviews and focus groups	(Un-)(Semi-)Structured/ interviews	✓	✓	✓	✓	✓						
	Critical Incident Interviews	✓	✓	✓	✓	✓						
	Individual/Group interview	✓	✓	✓	✓	✓						
	Focus group interview	✓	✓	✓	✓	✓						
Self-assessment of users	Critical review of one's own skills, knowledge or confidence			✓	✓	✓						
Collecting anecdotal evidence	Evidences based on anecdotes or stories obtained informally from personal			✓	✓	✓						

	observations and experiences.						
<b>Observed</b>							
Collecting observational evidence	(Non-)Structured observation				✓		
	(Non-)Participant observation				✓		
	Open observation	✓		✓	✓		
	Covert observation				✓		
Log analysis	Evidence based on users/information systems interaction						
Self-recording	Diaries		✓	✓	✓		
Citation analysis							
Testing the impact on knowledge and skills	Tests for basic information literacy		✓		✓		
	Analysis of portfolios				✓		
	Analysis of the use of information in writing tasks				✓		

**Table 1. Approaches and methods for gathering evidences of impact in libraries: level of stakeholder participation [Adapted from Ochôa & Pinto (2017b), based on ISO 16394 and Engaged 2020 Action Catalogue].**

For this (re)construction process the contributions of the taxonomies of evaluator competences elaborated by J. A. King and others (King et al., 2001, King & Stevahn, 2013, 2015), the Canadian Evaluation Society 2010) and the International Development Evaluation Association (2012), as well as the Council of Europe's conceptual model of competences for a democratic culture (Council of Europe, 2016), were particularly relevant. In addition, King & Stevahn (2013)'s IEP model principles and Patton (2016)'s specialized developmental evaluator competencies were also contemplated due to their importance for the success and promotion of learning and reflection on co-evaluation.

So, for each of the six *Domains* of competences – *Reflective practice*, *Professional/Technical practice*, *Situational analysis*, *Management*, *Inter-organizational* and *Interpersonal* – there is a specific set of *Evaluator's generic*

competences and *Specific principles and competencies for co-evaluation* can be identified. Table 2 presents an excerpt from the framework on *Domains and competencies of (co-) evaluation* (Ochôa & Pinto, 2017a, 2017b).

EVALUATOR'S COMPETENCES		
Domains	Generic competences	Specific principles and competencies for co-evaluation
<i>Interpersonal</i> (personal competences / attitudes needed for evaluation practice)	<ul style="list-style-type: none"> <li>· Uses written communication competences and through technologies</li> <li>· Uses verbal communication competences</li> <li>· Can listen and observe</li> <li>· Empathy</li> <li>· Uses negotiation competencies</li> <li>· Uses conflict resolution competences</li> <li>· Acts as a facilitator (group work)</li> <li>· Facilitates interpersonal interaction (individual and teams)</li> <li>· Cooperates and collaborates in communities of practice</li> <li>· Takes diversity and culture into account</li> <li>· Demonstrates professional credibility</li> </ul>	<ul style="list-style-type: none"> <li>· <b>Intense focus on relationships:</b> mobilization of interpersonal competences</li> <li>· <b>"Personing":</b> <ul style="list-style-type: none"> <li>▪ Valuing personal and interpersonal factors</li> <li>▪ Identify stakeholders/ leaders willing to get involved</li> </ul> </li> <li>· <b>Having time</b> (interpersonal processes take time)</li> <li>· <b>Being able to manage conflicts constructively</b> (conflicts will arise)</li> </ul>

**Table 2.: Evaluator's interpersonal domain of competences [In Ochôa & Pinto (2017a, 2017b), based on King & Stevahn, 2013; Patton, 2016].**

#### 4. Final remarks

In the 2017-2018 periods, two discussion and dissemination forums offered useful insights: researchers in Cultural Studies (Ochôa & Pinto, 2017a) and, under EDICIC 2017, researchers in Information Science (Ochôa & Pinto, 2017b). They should be followed by studies to explore co-evaluation practices and to understand their effects in libraries management. In a future research agenda, communities of transdisciplinary and open evaluative practices will be central to the creation of co-evaluation integrative models, where their members act as co-creators, co-producers, users and co-evaluators in the distinct stages of participatory, formative, interactive and constructive evaluation. This may call for different and more open strategies. The inclusion of the informal in evaluation enhances the ability to understand challenges with a special impact on governance (evaluation models with new forms of consortium cooperation), requiring a wide range of competencies to deal with the complexity of the evaluation process. However, it will be above all the adoption of a meta-evaluation perspective – the evaluation of evaluation - that will allow conducting Research on Evaluation to new frontiers, evaluating the various components of an evaluation process and the evaluators themselves



## References

- Alkin, M. C. (2012). Context sensitive evaluation. In M. C. Alkin (Ed.), *Evaluation roots: A wider perspective of theorists' views and influences* (2nd ed.) (pp.283-292). Thousand Oaks: CA: Sage.
- Alkin, M. C., Vo, A., & Christie, C. A. (2012). The evaluator's role in valuing: Who and with whom. *New Directions for Evaluation*, 133(Spring), 29-41.
- Asociación Ibérica de Profesionales por la Evaluación (2017). *Declaración de intenciones*. Retrieved from <https://aproeval.org/wp.../2016/.../Declaración-de-intenciones-200617>.
- Barbier, J. M. (1990). *A avaliação em formação*. Porto: Afrontamento.
- Capucha, L. (1996). Metodologias de avaliação: o estado da arte em Portugal. *Sociologia – Problemas e Práticas*, 22, 9-27.
- Canadian Evaluation Society (2010). *Competencies for Canadian evaluation practice*. Retrieved from [http://www.evaluationcanada.ca/txt/2\\_competencies\\_cdn\\_evaluation\\_practice.pdf](http://www.evaluationcanada.ca/txt/2_competencies_cdn_evaluation_practice.pdf).
- Chouinard, J. A., & Cousins, J. B. (2015). The journey from rhetoric to reality: participatory evaluation in a development context. *Educ Asse Eval Acc*, (27), 5-39. doi: 10.1007/s11092-013-9184-8.
- Council of Europe (2016). *Competences for democratic culture: living together as equals in culturally diverse democratic societies*. Strasbourg: Council of Europe.
- Cousins, J. B., Whitmore, E., & Shulha, L. M. (2013). Arguments for a common set of principles for collaborative inquiry in evaluation. *American Journal of Evaluation*, 34, 7–22.
- Cullen, A., & Couryn, C. L. S. (2011). Forms and functions of participatory evaluation in international development: A review of the empirical and theoretical literature. *Journal of MultiDisciplinary Evaluation*, 7(16), 32-47.
- European Commission (2017). *Next-generation metrics: Responsible metrics and evaluation for open Science*. Luxembourg: Publications Office of the European Union. Retrieved from <https://ec.europa.eu/research/openscience/pdf/report.pdf>.
- European Evaluation Society (2016). *12 EES Biennial Conference – Evaluation futures in Europe and beyond: connectivity, innovation and use*, Maastricht, 26-30 sept. 2016.
- Eval Partners (2016). *EvalAgenda 2010: Global Evaluation Agenda 2016-2020*. Retrieved from <https://evalpartners.org/sites/default/files/files/Evalagenda2020.pdf>.

- Fecher B., Friesike S. (2014). Open Science: One term, five schools of thought. In S. Bartling and S. Friesike (eds.), *Opening Science: the evolving guide on how the internet is changing research, collaboration and scholarly publication* (pp. 17-47). Cham: Springer. doi 10.1007/978-3-319-00026-8\_2,
- Furtado, J. P., & Laperrière, H. (2010). Parâmetros e paradigmas em meta-avaliação: Uma revisão exploratória e reflexiva. *Ciência & Saúde Coletiva*, 17(3), 695-705.
- Guijt, I. (2014). *Participatory approaches, methodological briefs: Impact evaluation 5*. Florença: UNICEF Office of Research. Retrieved from [http://devinfo.live.info/impact\\_evaluation/img/downloads/Participatory\\_Approaches\\_ENG.pdf](http://devinfo.live.info/impact_evaluation/img/downloads/Participatory_Approaches_ENG.pdf).
- Haller, J. (2013). *Open evaluation: Integrating users into the selection of new product ideas*. Springer Science & Business Media
- Haller, J., Velamuri, V. K., Schneckenberg, D., & Möslein, K. M (2017). Exploring the design elements of open evaluation. *Journal of Strategy and Management*, 10(1), 40-65.
- International Development Evaluation Association (2012). *Competencies for Development Evaluation Evaluators, Managers, and Commissioners*. Retrieved from [http://dmeformpeace.org/sites/default/files/114\\_IDEAS%20Competencies%20Booklet.pdf](http://dmeformpeace.org/sites/default/files/114_IDEAS%20Competencies%20Booklet.pdf).
- International Organization for Cooperation in Evaluation (2017). *Professionalization. IOCE Professionalization Task Force: DRAFT Roadmap*. Retrieved from <https://www.ioce.net/professionalization>.
- Ioannidis, J.P.A., Fanelli, D., Dunne, D. D. & Goodman, S. N. (2015). Meta-research: Evaluation and improvement of research methods and practices. *PLoS Biol*, 13(10).
- ISO 16394. (2014). *Methods and procedures for assessing the impact of libraries*.
- King, J. A., & Stevahn, L. (2013). *Interactive Evaluation Practice: Mastering the interpersonal dynamics of program evaluation*. Los Angeles: Sage.
- King, J. A., & Stevahn, L. (2015). *Essential competencies for program evaluators*. Retrieved from <http://www.cehd.umn.edu/OLPD/MESI/spring/2015/KingStevahn-EssentialCompetencies.pdf>.
- King, J. A., Stevahn, L., Ghore, G., & Minnema, J. (2001). Toward a taxonomy of essential evaluator competencies. *American Journal of Evaluation*, 22(2), 229-247.
- Neylon, C. (2017). Openness in scholarship: A return to core values? In Chan, L., & Loi *Expanding perspectives on Open Science: Communities, cultures and diversity in concepts and practices: Proceedings of the 21st International Conference on Electronic Publishing* (pp. 6-17). Amsterdam: IOS Press. doi 10.3233/978-1-61499-769-6-6.

- Ochôa, P., & Pinto, L. G. (2014). *Sustainability metrics in Library and Information Services: a quality management framework*. Paper presented at the Annual IATUL Conference. Retrieved from <http://docs.lib.purdue.edu/iatul/2014/plenaries/>.
- Ochôa, P., & Pinto, L. G. (2015). Informação e cultura na agenda pós-2015: análise das dinâmicas de convergência na avaliação de impactos. *Páginas A & B*, 3(3), 37-51.
- Ochôa, P., & Pinto, L. G. (2017a). Cocriação e avaliação de impactos em organizações culturais. In M. Gama & H. Sousa (Eds.), *Contributos do Congresso Internacional "Redes de Cooperação Cultural Transnacionais: Um olhar sobre a realidade lusófona"* (pp. 269-292). Braga: CECS.
- Ochôa, P. & Pinto, L.G (2017b). O conceito de coavaliação: uma visão transdisciplinar. In M. M. Borges, & E. Sanz Casado (Eds.) *A Ciência Aberta: o Contributo da Ciência da Informação: atas do VIII Encontro Ibérico EDICIC*. Universidade de Coimbra. Centro de Estudos Interdisciplinares do Século XX - CEIS20 (pp. 929-941). Retrieved from <http://sci.uc.pt/eventos/atas/edicic2017.pdf>.
- Orion Open Science (2018). *What is Open Science*. Retrieved from: <http://www.orion-openscience.eu/resources/open-science>.
- Patton, M. Q. (2008). Advocacy impact evaluation. *Journal of MultiDisciplinary Evaluation*, 5(9), 1-10.
- Patton, M. Q. (2011). *Developmental evaluation: Applying complexity concepts to enhance innovation and use*. New York, NY: Guilford Press.
- Patton, M. Q. (2016). State of the art and practice of developmental evaluation: Answers to common and recurring questions. In M. Q. Patton, K. McKegg, & N. Wehipeihana (Eds.), *Developmental evaluation exemplars: Principles in practice* (pp. 1–24). New York: Guildford Press.
- Pettibone, L. et al. (2016). *Citizen science for all – a guide for citizen science practitioners*. Leipzig: Berlin-Brandenburg Institute of Advanced Biodiversity Research (BBIB), Museum für Naturkunde. Retrieved from [http://www.buergerschaffenwissen.de/sites/default/files/assets/dokumente/handreichung\\_ga5\\_engl\\_web.pdf](http://www.buergerschaffenwissen.de/sites/default/files/assets/dokumente/handreichung_ga5_engl_web.pdf)
- Scriven, M. (1969). An introduction to metaevaluation. *Educational Products Report*, 2, 36- 38.
- Scriven, M. (2003). Evaluation theory and metatheory. In T. Kellaghan & D. Stufflebeam (Eds.), *International handbook of educational evaluation* (pp. 15–30). Boston, MA: Kluwer.

Serrano Sanz, F., Holocher-Ertl, T., Kieslinger, B., Sanz Garcia, & Silva, C. G. (2014). White paper on Citizen Science in Europe. European Commission. Recuperado de [http://www.zsi.at/object/project/2340/attach/White\\_Paper-Final-Print.pdf](http://www.zsi.at/object/project/2340/attach/White_Paper-Final-Print.pdf)

Shulha, L. M., Whitmore, E., Cousins, J. B., Gilbert, N., & Al Hudib, H. (2015). *Evidence based principles to guide collaborative approaches to evaluation: Technical report*. Ottawa: Centre for Research on Educational and Community Services, University of Ottawa.

Sluijsmans, D., Dochy, F., & Moerkerke, G. (1998). Creating a learning environment by using self-, peer- and co-Assessment. *Learning Environments Research*, 1(3), 293-319. doi: 10.1023/A:1009932704458

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