NjP *Operations Management Education Review 15: 223-246.*

Applying Critical Incidents in Sustainable Purchasing and Supply Management Competence Development

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Abstract. Innovative teaching approaches to competences development for sustainable purchasing and supply management (SPSM) support purchasing professionals in finding solutions to address sustainability issues in their daily work environment. Future talents can be prepared for situations that they might be confronted with in purchasing positions. This paper gives insights from a sample implementation of a SPSM teaching method that was developed based on a problem-based learning (PBL) approach, specifically using the critical incident technique (CIT). The paper explains how training was developed and implemented in both the professional and higher educational contexts and illustrates how CIs can be used for the teaching of SPSM. It provides a template for usage of critical incidents within SPSM related courses and training sessions. The findings contribute to the field of SPSM training both in higher education and in practice, hopefully inspiring educators interested in trying a different learning and teaching method.

Keywords: sustainable purchasing and supply management, competences, critical incident technique, education.

1. Introduction

In recent years many companies and public institutions have prioritized sustainability for their purchasing professionals with training sessions often including environmental, human rights and compliance modules (Patchett 2020a, 2020b). Such training is an integral part of a sustainability management approach, and the aims include to communicate sustainability requirements, enable individuals to cope with sustainability-related situations, and support the implementation of a corporate sustainability strategy. Also, the reporting of KPIs related to employee qualifications is required in the context of both mandatory and voluntary reporting standards, such as the EU non-financial

reporting directive, the Global Reporting Initiative (GRI), the framework of the Sustainability Accounting Standards Board (SASB) (e.g. EU Commission 2017; SASB 2022; UNGC, GRI, WBSC 2015).

Within the context of Higher Education (HE), institutions are addressing sustainability both in relation to their responsibilities as an organization, and in terms of their teaching programs as they seek to produce graduates with the skills to be able to move seamlessly into the world of work. Thus they have a dual responsibility of embedding sustainability within their organization and training staff accordingly, and of ensuring that taught curricula reflect the importance of sustainability; the latter also being increasingly demanded by the requirements of external accreditation bodies. Sustainability education within Purchasing and Supply Management (PSM) is most likely to be found either in general management education programs, or as part of operations and supply chain management courses (Pullman and Collins, 2013). Therefore, for both the professional and the HE training context, the question arises of how to shape sustainability training to prepare professionals and future talents in PSM so that they can successfully manage sustainability-related situations.

In this paper, we present the application of a training approach that goes beyond the traditional classroom delivery style. Such traditional styles may serve for compliance with reporting or accreditation requirements, but they are limited in terms of their contribution to SPSM implementation. Specifically, this paper describes the implementation of a teaching approach that adopts problem-based learning (PBL) using critical incidents (CIs) as a pedagogic process for developing SPSM competences (Schulze *et al.* 2021). This approach was followed, as sustainability-related challenges often come in ambiguous, dilemma-like and risk-related, uncertain situations (Knight, Meehan, Tapinos, Menzies, & Pfeiffer 2020; Roy, Schoenherr, & Charan 2020; Wannags & Gold 2020) and require application of a variety of competences simultaneously (Schulze & Bals 2020; Schulze, Bals, & Johnsen 2019). In working with such challenges, active learning, such as in PBL, is often suggested as a better alternative to the simple sharing of knowledge (Kanashiro, Iizuka, Sousa, & Ferreira Dias 2020).

This paper provides insights and lessons learnt from the implementation both in Higher Education and in the private and public professional purchasing contexts. The main research questions addressed in this paper are:

1. How can critical incidents be utilized as a basis for a PBL pedagogy in academic and professional SPSM teaching settings?

2. What are the perceived benefits of the SPSM training sessions for trainees and instructors?

The paper presents insights on how to plan and conduct SPSM training, using CIs in a PBL approach. It discusses the development of a training session based around the CIs, describes how the session was implemented both within academic and professional contexts, and describes qualitative feedback from participants in the training sessions. The paper closes with a discussion of the training experience and some suggestions for further work.

2. Methodology

The development of the SPSM training and its implementation as it is explained in this paper follows an application of PBL, combined with the critical incident technique. In a previous paper, the idea of using CIs within the PBL approach as the basis for problem design was fully explored and the benefits of using CIs rather than, say, case studies, were highlighted (Schulze *et al.* 2021). In that paper, the 3C3R model of Hung (2006) was used to demonstrate how CIs can be seen to provide a strong basis for PBL. Hung presented a conceptual framework for problem design which include 3 core elements (context, content, and connection) and 3 processing elements (researching, reasoning, reflecting) that should be considered when deciding on the problem basis for PBL. We return to this model later in this paper.

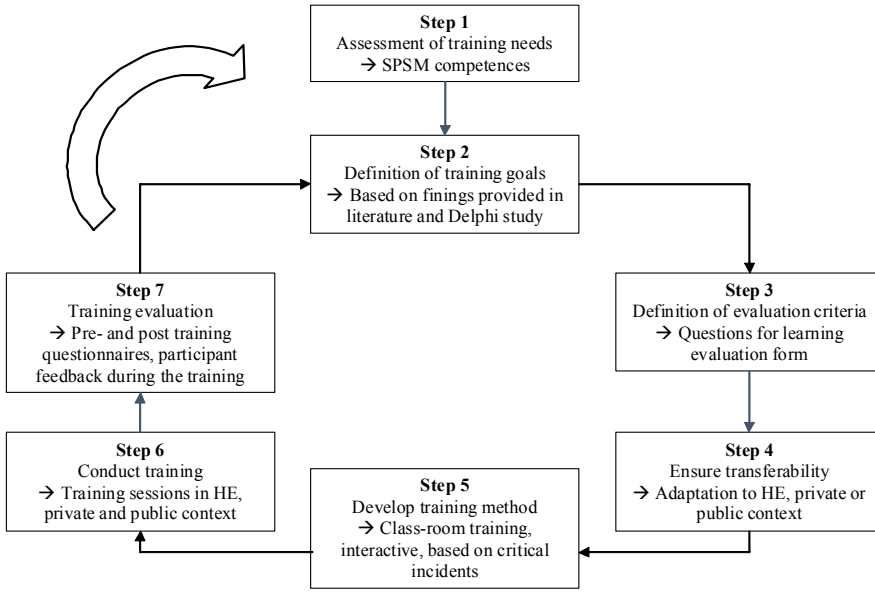
The training undertaken here utilizes the results of previous research combining a systematic literature review (SLR) and a Delphi study (Schulze *et al.* 2019; Schulze & Bals 2020) that resulted in the identification of competences relevant to SPSM. Furthermore, 12 CIs were derived for the 12 most prominent SPSM competences identified via the SLR, covering highly relevant situations for SPSM. The CIs are based on examples derived from academic papers, textbooks, the business press and publicly available case studies (see Table 3 further below; for more details see Table 2 in Schulze *et al.* 2021).

Of particular interest in this training was to investigate whether the CIs would be motivating and engaging for the trainees, and whether they allow a sufficient balance between depth and breadth so that effective learning can take place and so these elements were explored within the training sessions. Working in groups with the trainees allowed the process elements of the 3C3R conceptual framework (Hung 2006) – researching, reasoning and reflecting – to be undertaken by the trainees and their comments allow initial conclusions to be drawn regarding the way in which the CIs promote competence development.

Literature on training and curriculum development outlines the importance of grounding the development of training on a thorough analysis of training gaps, training needs and a definition of training goals (Anderson *et al.* 2001; Kauffeld 2016). Therefore, it was decided to follow a systematic approach to

link training requirements, goals, methods and training evaluation for the development of the prototype SPSM training. The development of the training followed the process as suggested by Kauffeld (2016), which is shown in Figure 1.

Figure 1: SPSM training development process (adapted from Kauffeld, 2016, p. 17)



The results of following these steps shown in Figure1 are presented in the next sections with the results of steps 1 to 5 in section 3 and of steps 6 and 7 in section 4.

3. Resulting Teaching Approach and Materials

Step 1 of the training development process (Kauffeld 2016) selected 10 competences (shown in Table 1) that should be addressed in the training sessions. The evaluation of training needs was based on two criteria. First, in the second Delphi round, experts had prioritised the list of competences in terms of their importance for training in either HE or the professional context. Second, based on this prioritization, it was decided that both generic as well as process-related competences should be reflected equally. Therefore, the 10 selected competences were split equally between the generic and process related groups.