



Secondary socialization of andragogical content knowledge: What are the forces at work in an oil and gas safety training conference?



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ARTICLE INFO

Article history:

Received 11 September 2015
Received in revised form 10 January 2016
Accepted 20 January 2016
Available online 12 February 2016

Keywords:

Andragogical content knowledge
Safety training
ANSI
H₂S
Training techniques
Adult safety education

ABSTRACT

This study examines the larger sociological issues surrounding the standardization and institutionalization of safety training in the United States. The data consist of .MP3 audio files of professional development sessions recorded at a major international oil and gas safety conference. Qualitative content analysis is carried out using deductive and inductive techniques. Findings include that standards are built by subjective consensus and bypass empirically and philosophically based knowledge supporting adult education in safety training. The study also discusses the need for empirically based adult safety education in high risk industries respective to individual safety cultures. A number of reforms are recommended.

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1. Introduction

Safety in the oil and gas industry is an ongoing concern for its impact on human life at the dawn of the 21st century. This has been cited throughout the literature (Graham et al., 2011; Hoke, 2013; Kitchen, 1974; Weaver, 2014; Hill, 2014). The ongoing concern is valid because drilling for oil has inherent risks involved such as injury or death to workers (Attwood et al., 2006). The British Petroleum (BP) explosion of 2010 in the Gulf of Mexico, for instance, will be remembered as a time when 11 people died as a result of shortcuts in regulatory oversight (Broder, 2011). Risk abounds on and off the oil rigs for oil and gas operators (Urbina, 2012). A major concern for the oil and gas industry in the United States is how to reduce accidents caused by human error on the job through safety training.

1.1. Statement of the problem

The main problem is found in the lack of description over how adult learning theory appears as a result of secondary socialization in oil and gas contexts. Secondary socialization can be tentatively defined as the acquisition of knowledge beyond primary socialization, made necessary due to the division of labor (Berger and Luckmann, 2007). Within the provisions of the law, OSHA documents refer to adult learning models of training which assume

trainers' and trainers of trainers' expert knowledge over how to best train adults (DOL, 1998; OSHA, 2010). To date, little is known about how adult learning theory is institutionalized in the field of oil and gas professional development sessions in a major international safety conference setting. This paper fills that gap in knowledge by describing how andragogy (the study of how adults learn) is socialized into the minds of trainers and trainers of trainers in a major international conference setting in the United States.

2. Theoretical frameworks

Two theoretical frameworks are the basis of the discussion. These are secondary socialization (Berger and Luckmann, 2007) and andragogical content knowledge as derived from Shulman (2004). They are discussed below.

2.1. Secondary socialization

'Secondary socialization' refers to the process of habitualization of repeated actions, where social actors can perform actions with shortness of time, and in the most economical way possible (Berger and Luckmann, 2007). It is subject to the process of institutionalization, where actions are standardized by particular actors within a social group. This gives rise to institutions which focus on standardization. This investigation explores the following terms: *definitions of andragogy, training, institutes, institutionalization,*

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habitualization, standards and OSHA. These terms are described below.

2.1.1. Secondary socialization definitions

1. *Habitualization* can be understood as an actor's repeated actions that form a pattern and are understood by the actor as such. The action can be carried out in the same way and with the same amount of effort over time, even though there may be other ways of performing it. The meanings of habitualized actions are embedded in the actor's general stock of knowledge, or general understanding of work-based knowledge.
2. *Institutes* may be recognized as bodies constituting many people who are concerned with standardization. An example of this is the American National Standards Institute (ANSI), which is a collective body that makes, edits and publishes standards related to industry.
3. *Institutionalization* may be recognized as the processes of standardizing a way of doing which is shared among actors in a specific social group. It reflects the control of the social group over its actors by ways of doing that are built up over time. An example of this is writing, editing, and deliberating over safety standards until they meet with an institution's approval for publication.
4. *Standards* are considered consensus ways of performing an action. Standards may refer to measurement units, shared representations, or shared terms, processes, products, safety of people, or objects (Spivak and Brenner, 2001).

Each term represents a code in the coding frame. These represent the use of deductive qualitative content analysis techniques (Schreier, 2012). Each term is derived from Berger and Luckmann (2007) unless otherwise noted.

2.2. Andragogical content knowledge

Andragogical content knowledge is a construct that the investigator creates to designate the knowledge that makes up trainers' and trainers of trainers' knowledge about adult learning. It is derived from workings in the field of pedagogy (Shulman, 2004), but extended to adults. In its original form, pedagogical content knowledge was explored as a source of reform over how pedagogues were trained and the assumptions underlying their sources of knowledge about teaching. It was established that although pre-kindergarten through grade 12 teachers knew much about the content areas they taught (viz. science), they drew from various knowledge sources (with varying levels of validity) to support their teaching knowledge claims. The andragogical content knowledge construct examines the underlying assumptions and claims that support adult education knowledge in a variety of fields.

There exists a variety of constructs concerning adult education in existence, subsequent to initial 19th and 20th century meanings (Merriam and Bierema, 2013; Santos, 2012), yet these constructs fail as an open-ended categorical construct when performing social research into the meanings of adult education and its processes. 'Andragogical content knowledge' provides this construct to open up adult learning techniques and their numerous appearances in the world.

2.2.1. Training

Training is a companion definition referring to collectively held ideas about imparting certain knowledge and skills to learners; Similarly, it envelops what it means to be adequate in the training of others and in demonstrating mastery over specialized skills and knowledge.

2.3. Conceptual framework

The conceptual framework lays the secondary socialization construct over the professional development session data to discover andragogical content knowledge in an oil and gas conference setting. The findings are discussed in relation to empirical literature related to habitualization, training transfer, and training. It is further discussed in light of the appropriateness of recent safety education developments (Fig. 1).

3. Literature review

A review of the literature into safety training in the oil and gas industry was conducted. The literature was organized by themes that highlight the main findings in the scholarly literature on this topic.

Didactic approaches have been in use that stem from the conception that after three shifts, oil and gas operators were considered trained to adequately perform their jobs (Antonsen et al., 2012). In vocational settings, philosophical critique bears down on the learning end of instruction. Instructional techniques have been criticized for focusing on teaching rather than learning (Lagerge et al., 2014). It has also been suggested that knowledge contained in safety training curriculum documents might be useless to workers, and that personal experience can be the basis of training (Hale and Borys, 2013).

Safety training takes up pragmatic concerns. The practical standpoint exists that training is tied to promoting from within companies (Cookson, 2011). It is also known that safety moments serve to share lessons learned with others in the company (Greenberg, 2008).

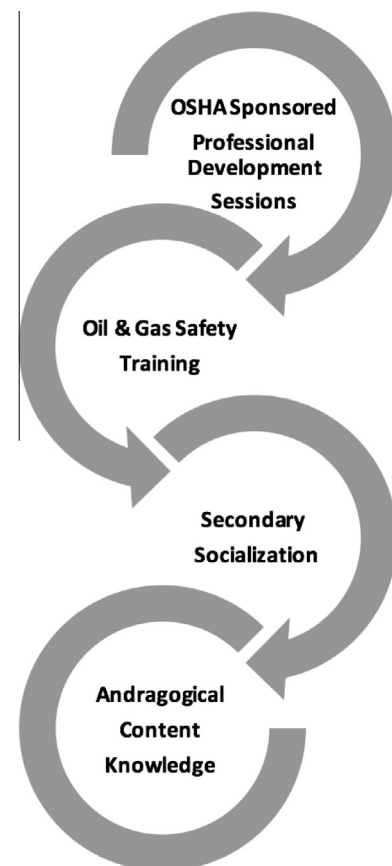


Fig. 1. Conceptual framework.

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