

**This is a self-archived version of an original article. This version may differ from the original in pagination and typographic details.**

**Author(s):** Kettunen, Jaana; Tynjälä, Päivi

**Title:** Bridging the gap between research and practice : using phenomenographic findings to develop training for career practitioners

**Year:** 2022

**Version:** Published version

**Copyright:** © The Author(s) 2021

**Rights:** CC BY 4.0

**Rights url:** <https://creativecommons.org/licenses/by/4.0/>

**Please cite the original version:**

Kettunen, J., & Tynjälä, P. (2022). Bridging the gap between research and practice : using phenomenographic findings to develop training for career practitioners. *International Journal for Educational and Vocational Guidance*, 22(1), 247-262. <https://doi.org/10.1007/s10775-021-09483-2>



# Bridging the gap between research and practice: using phenomenographic findings to develop training for career practitioners

Jaana Kettunen<sup>1</sup> · Päivi Tynjälä<sup>1</sup>

Received: 30 December 2020 / Accepted: 20 May 2021  
© The Author(s) 2021

## Abstract

This study contends that phenomenography offers both a useful research method and practical tools for developing education and training for career practitioners. After introducing the basic principles of phenomenography, the study reviews previous research on its potential in developing pedagogical practices. It explores how the phenomenographic findings were utilized to design an online skills training programme for career practitioners. The study finds that phenomenographic research serves three practical pedagogical purposes: (1) revealing how learners understand certain concepts or phenomena, (2) elucidating how these understandings differ; and (3) identifying critical aspects in helping learners to widen and deepen their understanding.

**Keywords** Phenomenography · Qualitative research · Guidance

## Résumé

**Comblent le fossé entre la recherche et la pratique : Utiliser les résultats phénoménographiques pour développer la formation des praticiens de carrière**

Cette étude soutient que la phénoménographie offre à la fois une méthode de recherche utile et des outils pratiques pour développer l'éducation et la formation des professionnels de l'orientation. Après avoir présenté les principes de base de la phénoménographie, l'étude passe en revue les recherches précédentes sur son potentiel dans le développement des pratiques pédagogiques. Elle explore comment les résultats phénoménographiques ont été utilisés pour concevoir un programme de formation en ligne pour les professionnels de l'orientation. L'étude constate que la recherche phénoménographique sert trois objectifs pédagogiques pratiques : (1) révéler comment les apprenants comprennent certains concepts ou phénomènes, (2)

---

✉ Jaana Kettunen  
jaana.h.kettunen@jyu.fi

<sup>1</sup> Finnish Institute for Educational Research, University of Jyväskylä, P.O. Box 35, 40014 Jyväskylä, Finland

élucider comment ces compréhensions diffèrent et (3) identifier les aspects critiques pour aider les apprenants à élargir et approfondir leur compréhension.

## Zusammenfassung

### **Die Kluft zwischen Forschung und Praxis überbrücken: Nutzung phänomenographischer Befunde zur Entwicklung eines Trainings für Berufsberater**

In dieser Studie wird dargelegt, dass die Phänomenographie sowohl eine nützliche Forschungsmethode ist wie auch praktische Werkzeuge für die Entwicklung der Aus- und Weiterbildung von Berufsberatenden bietet. Nach einer Einführung in die Grundprinzipien der Phänomenographie gibt die Studie einen Überblick über frühere Forschungen zu ihrem Potenzial für die Entwicklung pädagogischer Praktiken. Es wird untersucht, wie die phänomenographischen Erkenntnisse genutzt wurden, um ein Trainingsprogramm für Online-Fertigkeiten für Berufsberatende zu entwickeln. Die Studie stellt fest, dass phänomenografische Forschung drei praktischen pädagogischen Zwecken dient: (1) Aufdecken, wie Lernende bestimmte Konzepte oder Phänomene verstehen, (2) Aufzeigen, wie sich diese Verständnisse unterscheiden und (3) Identifizieren von kritischen Aspekten, die Lernenden helfen, ihr Verständnis zu erweitern und zu vertiefen.

## Resumen

### **Cubriendo el vacío entre investigación y práctica: Utilizando resultados fenomenográficos para desarrollar la formación de profesionales de la orientación para la carrera**

Este estudio sostiene que la fenomenografía ofrece tanto un método de investigación útil como una herramienta práctica para desarrollar la educación y formación de los profesionales de la carrera. Tras introducir los principios básicos de la fenomenografía, el estudio revisa el potencial de las investigaciones precedentes para desarrollar prácticas pedagógicas. Explora cómo se utilizaron estos resultados fenomenográficos para diseñar un programa online de formación de habilidades para los profesionales de la carrera. El estudio halló que la investigación fenomenográfica sirve para responder a tres propósitos pedagógicos prácticos: (1) muestra cómo el alumnado entiende ciertos conceptos o fenómenos, (2) especifica las diferencias entre estas maneras de comprender y (3) identifica aspectos críticos para ayudar al alumnado a ampliar y profundizar en su comprensión.

## Introduction

Since its emergence in the late 1970s, phenomenography has gained wide acceptance as a method of investigating the qualitatively different ways in which people experience or understand the same concept or phenomenon (e.g. Bowden & Green, 2005; Bowden & Marton, 1998; Bowden & Walsh, 2000; Marton, 1981, 1986, 1994; Marton & Booth, 1997). Although phenomenography remains a novel approach in guidance and counselling research, it has demonstrated its potential as a means of exploring career practitioners' conceptions of key issues in the field (e.g. Kettunen

& Makela, 2018; Kettunen & Sampson, 2019; Kettunen, Lee, & Vuorinen, 2020a; Kettunen et al., 2020b; Nykänen, 2011). In the present article, we argue that phenomenography offers both a useful research method and practical tools for develop education and training for career practitioners. In so doing, our purpose is to bridge the acknowledged gap between the research and practice in the field of guidance and counselling (e.g. Murray, 2009; Sampson et al., 2014).

Early phenomenographic research focussed exclusively on describing participants' conceptions and experiences of target phenomena. During the 1990s, the focus shifted from the descriptive to the theoretical with Marton and Booth's (1995) elaboration of phenomenographic theory, which conceptualized learning as an extension of awareness. This invited exploration of what critical aspects of a given phenomenon are discerned by a learner in experiencing that phenomenon in a particular way (Runesson, 1999), and how different ways of experiencing a phenomenon may evolve. This led to the development of a variation theory (Marton, 2015; Marton & Tsui, 2004), which specifically addresses the use phenomenography in pedagogical and educational design, and phenomenographic research has since played an important role in the development of pedagogical frameworks for teaching and learning (e.g. Booth & Woollacott, 2015; Trigwell et al., 2000).

To date, pedagogical applications of phenomenography and variation theory have focussed mainly on the development of teaching and learning in higher education (e.g. Åkerlind, 2015; Collier-Reed & Ingerman, 2013; Wright & Osman, 2018), but there is increasing interest also in primary and secondary levels (e.g. Ling, Chik, & Pang, 2006; Pang & Ling, 2012). Pang and Ling (2012) have presented a way of helping educators to use phenomenography and variation theory in developing their teaching and improving student learning. In other studies variation theory was introduced directly to the teachers (e.g. Åkerlind, 2008, 2015; Rovio-Johansson, 2013) and researchers collaborated with the participating teachers in using variation theory as a resource for planning, designing and delivering teaching activities.

The phenomenographic approach is still rarely utilized for pedagogical planning and teaching in the education and training of guidance and counselling professionals, and the present study seeks to bridge this research gap. We begin by briefly outlining the basic tenets of the phenomenographic approach, and we review previous evidence for the potential of phenomenography and variation theory in developing pedagogical practices. We go on to describe how the phenomenographic findings from a study of career practitioners' conceptions of social media competency in career services were utilized to design a training programme for career practitioners.

## The phenomenographic research approach

The purpose of phenomenographic research is to explore how people, whether students, teachers, professionals or laymen, understand or experience phenomena and concepts. The core aim is to capture the variation in different conceptions or experiences and the relationship between them. In other words, researchers divide different conceptions into distinct categories, and identify the aspects that differentiate these conceptions.

One fundamental principle of the phenomenographic approach is its non-dualist ontology; that is, persons and the world are viewed as inseparable (Bowden, 2005; Marton, 2000), and a conception or way of experiencing is understood as a relation between the person and the phenomenon. It follows that different ways of conceptualising or experiencing the target phenomenon are seen as differing but internally related, representing different meanings of the same phenomenon (Åkerlind, 2003; Marton, 2000). The object of phenomenographic research, then, is the phenomenon as experienced rather than the phenomenon in itself. This second-order perspective addresses how phenomena are variously perceived by different people rather than pursuing a first-order perspective that seeks to describe phenomena 'as they are' (Marton, 1981). Phenomenography also acknowledges that an individual may have more than one conception of a particular phenomenon (Marton & Booth, 1997), and that their conceptions may change over time (e.g. Åkerlind, 2003; Paakkari et al., 2016).

Owing to perceptual limitations, the number of different ways of understanding an object in every situation is also limited—that is: 'different people may notice, pay attention to or focus on different features of the same thing' (Marton & Pang, 2006). As these different conceptions are understood to be logically related, the primary outcome of phenomenographic analysis is a structured set of logically related categories—known as an outcome space—which describes the qualitative variation in people's ways of experiencing or understanding the phenomenon in question at the collective level (Marton, 1986). These categories are typically organised as a nested hierarchy of understandings from least to the most complex, becoming increasingly advanced, powerful or sophisticated at higher levels of the hierarchy (Marton & Booth, 1997, p. 107). As well as identifying these different categories, phenomenographic studies seek to identify the aspects that differentiate each category from every other so revealing their qualitative differences. These dimensions of variation are invaluable for pedagogical purposes because they help to identify educationally critical aspects, which clarify what is needed for developing a more complex, complete or advanced understanding (Marton & Booth, 1997).

## The pedagogical value of phenomenographic research

Phenomenographic research has always had a pedagogical focus and sought from the outset to add value to pedagogical practice (Collier-Reed & Ingerman, 2013), and its potential as a practical tool for improving educational practice has long been recognized (Booth & Ingerman, 2015; Åkerlind, McKenzie & Lupton, 2014; Tight, 2016; Booth & Woollacott, 2015; Trigwell et al., 2000). Phenomenographic studies help to improve practice by exploring variations in participants' experiences of phenomenon in question, revealed by the dimensions of variation, which highlight the differences between the different conceptions (e.g., Åkerlind, 2008; Kettunen & Tynjälä, 2018; Runesson, 2006). For example, a phenomenographic approach enables educators to more fully understand how and why learners are struggling, and how these issues can be overcome (Entwistle, 1997).

From a phenomenographic perspective, learning reflects changes in learners' conceptions relating to a phenomenon (Marton & Pang, 2006). From this standpoint learning amounts to being able to discern certain aspects of the phenomenon that one previously did not focus on or which one took for granted, and simultaneously bring them into one's focal awareness. Importantly, conceptual change is not seen to involve rejection or replacement of an existing understanding but it is understood as expansion of current awareness that enables additional aspects of the concept to be discerned (Åkerlind, 2008). These changes can be characterised as 'learning that enables the learner to experience a phenomenon in a way she has not been able to experience it previously' (Marton & Booth, 1997, p. 155).

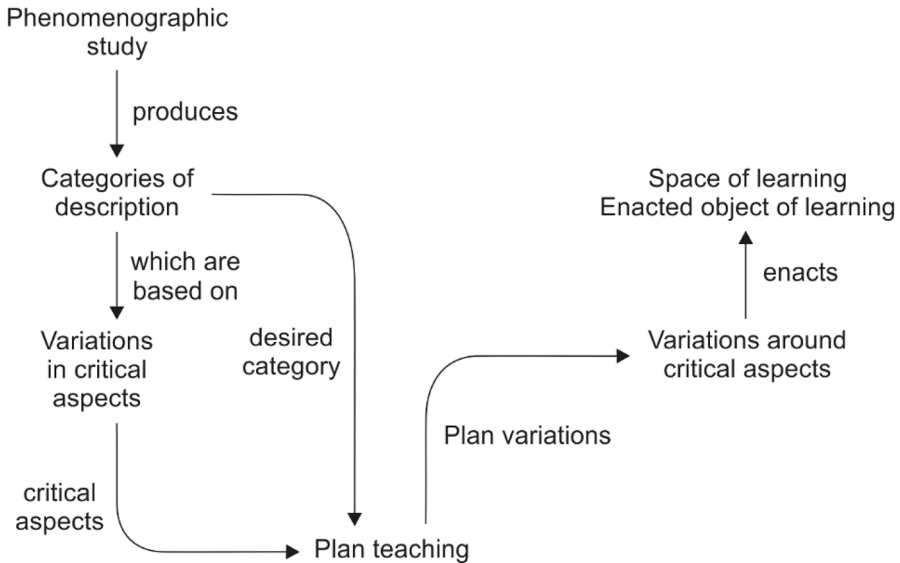
While phenomenographic research seeks to unpack the different ways in which a phenomenon is understood, variation theory informs pedagogical application of the findings (e.g., Collier-Reed & Ingerman, 2013; Lo & Marton, 2012; Marton & Tsui, 2004). In this way, phenomenographic research informing the what of teaching and curriculum design is complemented by variation theory's focus on how teachers can design learning activities to direct students' attention to aspects that might otherwise be overlooked, so expanding their understanding of the phenomenon (Åkerlind et al., 2014; Marton & Tsui, 2004).

Phenomenographic data can provide direction for teachers or trainers to help learners expand their thinking and to identify learners in need of guidance, based on a set of categories that specify the different ways in which individuals understand and describe a given phenomenon. These qualitatively different conceptions represent to different levels of complexity, reflecting different ways of experiencing a given phenomenon. By identifying variations in critical aspects and distinctions between categories, teachers can devise ways of supporting learning through the productive use of variation in their teaching (see Figure 1).

Several studies have demonstrated how patterns of variation can be used to improve learning outcomes (e.g. Marton & Tsui, 2004; Runesson, 2006). Once the teacher is aware of the desired level of understanding as represented by a category of description and variations in the critical aspects, they can plan variations around those features to create the desired enacted object of learning (e.g. Tsui, 2004). In this context, the term critical aspect refers to an aspect of learning that brings a particular meaning to the learner's attention, and the term enacted object of learning refers to the possibilities offered by the teacher and utilized by learners in a given situation. The actual enacted object of learning can be assessed by monitoring what has been learnt (lived object of learning) and how the experienced object of learning develops (Marton, Runesson, & Tsui, 2004). Rather than measuring learning outcomes in terms of performance, variation theory stresses measurement of changes in the learner's conceptions of or approach to the learning object (e.g. Micari et al., 2007; Van Rossum & Hamer, 2010).

### **Applying pedagogical design: using phenomenographic findings to plan teaching**

It is well described that critical aspects of a learning object are useful as vantage point for plan teaching (Marton, 2015). Pang and Ki (2016) state that the critical



**Figure 1** Using categories of description to plan teaching (based on Thompson, 2008, p. 72)

aspects should be based in a phenomenographic analysis of learners' various ways of experiencing the object of learning. In one recent phenomenographic study, Kettunen, Sampson Jr and Vuorinen (2015) explored career practitioners' conceptions of social media competency in the context of career services. Based on focus group interviews with Danish and Finnish career practitioners, their analysis identified four distinct categories of description (Table 1). The results revealed qualitative variations in career practitioners' conceptions of social media competency, ranging from use for information delivery to use for co-careering purposes. The dimensions of variation highlighted differences in conceptions and served to identify critical aspects for training, curriculum development and development of learning objectives (for more detailed results, see Kettunen, Sampson Jr, & Vuorinen, 2015; Kettunen, 2017).

### Planning teaching on the basis of variation: a practical example

The results in Table 1 were used to plan teaching for guidance and counselling practitioners. The four categories serve to clarify the variation in professionals' conceptions of social media competency, progressing from Ability to use social media for delivering information (the narrowest view) to Ability to utilise social media for co-careering (broadest view). The five dimensions of variation in Table 1 indicate the critical aspects that pedagogy should highlight to help individuals to broaden their conceptions (see Wright & Osman, 2018). In this way, the dimensions of variation serve to clarify what might usefully be brought to the learner's attention (Marton & Booth, 1997; Marton et al., 2004)

**Table 1** Career practitioners' conceptions of social media competency in career services: Descriptive categories and dimensions of variation ( reproduced from Kettunen et al., 2015)

Dimensions of variation		Categories		
	Category 1: ability to use social media for delivering information	Category 2: ability to use social media for delivering career services	Category 3: ability to utilise social media for collaborative career exploration	Category 4: ability to utilise social media for co-careering
Approach to social media	Technology focused	Content focused	Pedagogically focused	Systemically focused
Function of social media in career services	Means for delivering information	Medium for one-to-one communication	Interactive working space	Impetus for paradigm change and reform
Online skills	Media literacy	Online writing	Online discourse	Online presence
Ethical principles	Accuracy, validity	Privacy	Confidentiality	Professional proficiency
Personal characteristics	Motivated	Patient	Confident	Innovative



by progressively and systematically highlighting what changes and what stays the same when learners' understanding moves from narrower conceptions (Category 1) towards more complicated ones (Categories 2–4). A well-designed sequence of tasks invites learners to reflect on the effect of their actions so recognising the variations in critical aspects. To maximise learners' capacity to change in this way, theory-based pedagogical guidelines (Marton, 2015; Marton et al., 2004) recommend the patterns of variation. (1) Separation—variation in precisely one dimension, to highlight that particular dimension while keeping others constant. (2) Fusion—simultaneous variation in several dimensions to highlight how they relate. According to Åkerlind (2008, 2015) separation should be followed by fusion. In similar vein Marton, Runesson and Tsui (2004) recommended the use of 'contrast' and 'generalisation', but this refers to the concept as a whole rather than to individual aspects or dimensions.

Phenomenographic data support flexible adaptation of learning resources to the needs of each educator and study group. Kettunen et al. (2015) established an empirically derived evidence-based foundation for the development of international training programmes for guidance and counselling practitioners. Because skills and competences in the use of information and communication technologies (including social media) are often considered secondary in career guidance and counselling context, they tend to be poorly developed during initial and continuing training (e.g. Barnes et al., 2020; Cedefop, 2009; European Commission, 2014). Although experienced in face-to-face guidance and counselling, practitioners may feel somewhat deskilled when they beginning to work online. In planning the international training programme, the teaching team decided focal aspects, as well as which aspects to vary or hold constant, on the basis of Kettunen et al.'s (2015) findings, consciously designing patterns of variation to achieve the desired learning outcomes (Kettunen et al., 2020a, b). As they were planning an intensive 5-day course, it was decided to apply the principle of separation to a single dimension of variation (online skills), followed in each case by a fusion phase.

While phenomenographic research provided the basis for what was regarded as important to learn, the underlying teaching and learning philosophy was grounded in social constructivist (e.g. Brown, Collins, & Duguid, 1989) and socio-cultural theories (Säljö, 1975). These informed decisions regarding how to organise the training, employing a student-centred approach and problem-based or case-based twenty first century learning principles for professional education. On this view, learning is a situated process within a community of mutually supportive learners, and research-based knowledge is linked to practice through hands-on training and empirical examples provided by instructors and participants. The course assigned great importance to experimentation and collaboration in interactive workshops to enhance knowhow, adopting a goal-oriented approach based on the sequence theory–application–discussion. Building on this idea, teaching through variation invokes the central idea of constructivism: learners as constructors of meaning (Tynjälä, 1999; Watson & Mason, 2005).

As noted above, the teachers selected online skills as the object of learning. The next section describes how the content associated with each category in Table 1 was utilised for the purposes of educational design.

### Category 1: delivering information

To enhance information delivery capability, the teaching focused on *media* and information *literacy*—that is, on proficiency in locating, evaluating and using online content. Participants shared career information and online resources and described how these were used (or could best be used) in professional practice (Sampson Jr, Kettunen, & Vuorinen, 2020). Using real-world examples, the goal of these exercises was to illustrate how the multiple available types and sources of information could be utilised to enhance career services. Participants also worked with case examples to develop their awareness of potential sources of invalidity in social media-based career information—that is, occupational, educational, training, and employment information developed and disseminated by users of that information (Makela & Hoff, 2019; Sampson et al., 2018). Additionally, examples of career software evaluation criteria (NCDA, 1991; Association of Computer-Based Systems for Career Information, ACSCI, 2009) were distributed and discussed in small groups. Participants reviewed and shared their observations of the assigned sections under the following headings: programme information, career development process, interaction, technical aspects of the software and materials, and support. These activities were designed to enhance participants' awareness of existing criteria, as well as their ability to identify and evaluate online career information and resources.

### Category 2: delivering career services

To enhance participants' ability to use information and communication technologies (including social media) for delivering career services, the teaching addressed its use for one-to-one communication, either synchronous (in real time) or asynchronous (involving a delay). The training focused on *online writing*; examples of authentic and anonymised text-based cases were distributed, and participants analysed these in groups, discussing the emotions expressed in the written material and the questions raised. After discussing how best to address the case, they worked together to formulate a written response. The aim of these exercises was to highlight the potential for empathic responses and summarisation even in a written context. The exercises also afforded opportunities for participants to enhance their understanding and skills in providing guidance and counselling in written form. For instance, to convey their intentions and engage the individual, practitioners must be able to draw on guidance and counselling skills that include paraphrasing, clarifying, summarising, empathising, sharing observations, supporting, open-ended questioning and reassuring (Amundson, 2003).

To broaden and deepen their knowledge and use of chat (i.e. synchronous communication in written form) in professional practice, the course included an introduction to Danish eGuidance and the associated 4C model of communication (Børne- og Undervisningsministeriet, n.d.), which involves four phases: contact—contract—communication—conclusion. The contact phase seeks to establish and maintain a good relationship with the client. The contract phase seeks to co-define the focal issue of the virtual guidance session in collaboration with the client. In the communication phase, the counsellor processes the information received from the

client and attempts to put the issue in perspective. Finally, in the conclusion phase, the counsellor provides information and/or instructions regarding the focal issue as defined during the contract phase and assesses the client's readiness to act.

The course activities encouraged participants to reflect on chat as a medium for guidance and counselling and on any possible differences in how chat is used across various countries. Based on examples of authentic and anonymised chat, they also used the 4C model to identify the different phases, noting parts that functioned well or less well and how chat functions in a guidance and counselling context. Participants also gained direct experience of chatting; working in pairs, one played the client and contacted the other student (as counsellor) with a personal dilemma. In each phase, the 4C model was used to equip the eGuidance practitioner with concrete questions and phrases. By switching roles, both participants gained experience of experimenting with chat as counsellor and client in a professional context.

### **Category 3: collaborative career exploration**

The teaching also addressed participants' skills and knowledge in devising interventions to foster collaborative career exploration through online discourse. This focused on practitioners' ability to design a space that integrates self-directed materials with interactive communication and knowledge of methods, techniques and activities to enhance participation and interaction in online discourse and to foster peer group collaboration in career learning (e.g., Kettunen, 2017). A five-stage model of structured learning activities (Salmon, 2011) was introduced as a means of building interaction and participation. The model includes social interaction, motivation and learning by using digital tools. The first two stages of the Salmon's model seek to acclimatise the learner to the online environment and to develop a supportive social context. In the third stage (information exchange), learners interact with course materials and online activities and exchange further resources. In the fourth stage (knowledge construction), learners work collaboratively, sharing ideas, posing problems and challenging each other in the spirit of inquiry. Here practitioner facilitates the continuing learning process by asking questions, enhancing discussion and motivating and encouraging learners. The final stage (development) invites participants to take responsibility for and reflect on their own learning.

Throughout the course, learners used an online learning platform based on this model to gain experience of collaborative career exploration and to develop a practical understanding of methods for enhancing participation and interaction in online discourse. Participants gained direct experience of instructor-facilitated as well as peer-facilitated online discourse through activities such as virtual meeting, addressing a case scenario involving an ethical dilemma by defining key issues, identifying ideal resolutions and brainstorming practical strategies in small groups. Discussion and group reflection processes were audio- and video-recorded and shared among participants, so everyone had access their own and their peer groups' reflections to foster whole group discussion. In addition to its collaborative aspect, the exercise allowed participants to experience using a video conferencing/video communication, which is gradually becoming the new normal, shaping the way we communicate, learn and work.

#### Category 4: co-careering

Social media has gradually become part of daily practice for many career practitioners (e.g., Dyson, 2012; Kettunen & Makela, 2018; Osborn & LoFrisco, 2012), facilitating the co-careering—sharing of expertise and meaningful co-construction of career issues among community members (Kettunen, 2017, p. 41). To enhance learners' co-careering understanding and skills, the teaching focused on how to create and convey a visible and trusted *online presence*. To begin, the concept of co-careering was introduced and discussed, and examples were provided of how different clients might use social media to explore occupational, educational and employment issues. Participants worked through the examples, identifying the phases in which co-careering occurred. Emphasis was placed on more conscious engagement with online communities where meanings and understandings are co-constructed, and empirical examples referred to strategies for operationalising a visible and trusted online presence in professional practice.

Building a reliable and authentic image within the relevant communities requires mindful online presence, monitoring and active updating of one's online profiles, grounded in a practical understanding of how this presence is conveyed to others. Strategies to operationalize a visible and trusted online presence (Kettunen, 2017; Sampson et al., 2020) were explored and discussed in terms of practitioners' need to monitor social media posts within their organisations' (a) to respond reactively to requests for information or services; (b) to proactively recommend resources and services that fit individual characteristics and needs, following up as appropriate; (c) to proactively exploit opportunities for co-careering among community members that their organisation serves, identifying and responding to teachable moments; and (d) to participate in social media sites maintained by their organisation by answering questions or requests, recommending resources and services as appropriate, marketing their organisation and other sources of assistance, and engaging in co-careering as opportunities emerge. In exploring social media engagement tactics, participants crafted social media posts that would encourage interaction. The aim of this exercise was to illustrate co-careering and to reflect on one's own future practice in this regard.

#### Discussion

Based on an empirical example involving the design of a training programme for career practitioners, the present study confirms the utility of phenomenographic research as means of enhancing individual awareness of different ways of experiencing a target phenomenon. As a means of mapping change and explicating the relations among multifaceted conceptual alternatives, phenomenography can clearly inform educational development and curriculum design by providing an overarching structure and direction for teaching, along with relevant variations. For present purposes, we drew on a study on career practitioners' conceptions of social media competency in career services (Kettunen et al., 2015). That study revealed that the career practitioners viewed this competency in four hierarchically different ways: as

an ability (1) to use social media for delivering information, (2) to use social media for delivering career services, (3) to utilize social media for collaborative career exploration, and (4) to utilize social media for co-careering. These conceptions differed from each other in five dimensions, one of which was online skills, and this was selected as an object of learning for the training course. The principles of separation and fusion (Åkerlind, 2015; Marton, 2015) were applied as patterns of variation in pedagogical practices. The developed pre-service and in-services training have been successfully applied in the international course for ICT in guidance and counselling. The course is open to degree-seeking students and experienced practitioners from various settings, as it exposes them to situations that challenge them to see and reflect on the variation in the potential uses of technology in career guidance and counselling. Such training will enhance the professional profile and standards of career practitioners and other staff involved in guidance activities by enabling them to respond more effectively to the needs and expectations of both citizens and policy-makers. This in turn is likely to improve co-ordination and co-operation between stakeholders in the use of new and emerging technologies for easier access to life-long guidance and information through diverse and innovative service delivery (Kettunen, 2017).

In our practical example, we described in detail how online skills training for career practitioners was informed and organized by all four categories of social media competency and social-constructivist view of learning. Bridges can be built between research and practice. On the basis of our experiences, we contend that the phenomenographic approach contributes to pedagogical practice in three main ways: (1) it reveals how learners understand certain concepts or phenomena, (2) it shows in which ways these understandings differ, and (3) it points out what the critical aspects are that we need pay attention to when helping learners to widen and deepen their understanding. In this context, variation theory related to the phenomenography provides further pedagogical guidelines for helping learners to recognize variations in critical aspects. In our case, patterns of variation called separation and fusion were applied. While the variation theory contributes pedagogical principles, other learning theories can be useful in planning how best to apply these principles in practice. In our view, socio-constructivist and socio-cultural theories that emphasise the social construction of meaning align well with a phenomenographic approach when applying research findings into practice.

Phenomenography's potential contribution to guidance and counselling research and practice lies in its ability to account for differences and changes in the meanings that people express about phenomena and pedagogical application of the findings. We believe that this study highlights the potential of phenomenography and will serve as a guidepost for developing pedagogical practices and bridges the gap between research and practice in the field of guidance and counselling. To date, there are few phenomenographic studies within the field of guidance and counselling, but we encourage scholars to consider the possibilities of a phenomenographic approach in their future research. For example, knowledge of the variation in career practitioners' or individual citizens' career intervention and career service experiences, can offer valuable information and have an important impact on career practice, theory, and training.

In using phenomenography for practical purposes, one limiting factor is the time required to familiarizing oneself with the theory itself and to conduct a qualitative investigation of learners' conceptions. However, we contend that the process of capturing variations of meaning becomes easier over time once the basic principles of phenomenography have been deeply internalised through empirical exploration. Similarly, after initial application of the findings to pedagogical development, it is also possible to extend this capability to new contexts. In this sense, practising phenomenography is itself a learning process.

**Funding** Open access funding provided by University of Jyväskylä (JYU).

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

## References

- Association of Computer-Based Systems for Career Information, ACSCI. (2009). *ACSCI Handbook of standards*. ACSCI.
- Åkerlind, G. S. (2003). Growing and developing as a university teacher: Variation in meaning. *Studies in Higher Education*, 28, 375–390. <https://doi.org/10.1080/0307507032000122242>
- Åkerlind, G. S. (2008). A phenomenographic approach to developing academics' understanding of the nature of teaching and learning. *Teaching in Higher Education*, 13, 633–644. <https://doi.org/10.1080/13562510802452350>
- Åkerlind, G. S. (2015). From phenomenography to variation theory: A review of the development of the variation theory of learning and implications for pedagogical design in higher education. *HERDSA Review of Higher Education*, 2, 5–26.
- Åkerlind, G., McKenzie, J., & Lupton, M. (2014). The potential of combining phenomenography, variation theory and threshold concepts to inform curriculum design in higher education. In J. Huisman & M. Tight (Eds.), *Theory and method in higher education research II* (International Perspectives on Higher Education Research, 10, pp. 227–247). Emerald Group.
- Amundson, N. E. (2003). *Active engagement: Enhancing the career counseling process* (2nd ed.). Ergon Communications.
- Barnes, S.-A., Bimrose, J., Brown, A., Kettunen, J., & Vuorinen, R. (2020). *Lifelong guidance policy and practice in the EU: Trends, challenges and opportunities*. Final report. Publications Office of the European Union. <https://doi.org/10.2767/91185>.
- Booth, S., & Ingerman, A. (2015). The pedagogical potential of phenomenography for teacher practice and teacher research. In P. Burnard, B.-M. Apelgren & N. Cabaroglu (Eds.), *Transformative teacher research. Theory and practice for the C21st* (pp. 25–38). Sense Publishers.
- Booth, S., & Woollacott, L. (Eds.) (2015). The scholarship of teaching and learning. Its constitution and transformative potential. In: *Scholarship of teaching and learning in higher education. On its constitution and transformative potential* (pp. 169–183). Sun.
- Børne- og Undervisningsministeriet (n.d.). *UddannelsesGuiden. Vejledning i eVejledning. Hvilke metoder arbejder eVejlederne efter?* [The Education Guide. Guidance in eGuidance. What methods do eGuidance follow?]. <https://www.ug.dk/evejledning/om-evejledning/vejledning-i-evejledning>.

- Bowden, J. (2005). Reflections on the phenomenographic team research process. In J. Bowden & E. Walsh (Eds.), *Doing developmental phenomenography* (pp. 11–31). RMIT University Press.
- Bowden, J., & Green, P. (Eds.) (2005). *Doing developmental phenomenography*. RMIT University Press.
- Bowden, J., & Marton, F. (1998). *The university of learning: Beyond quality and competence*. Kogan Page.
- Bowden, J., & Walsh, E. (Eds.) (2000). *Phenomenography*. RMIT University Press.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Research*, 18, 32–42. <https://doi.org/10.3102/0013189X018001032>
- Cedefop. (2009). *Professionalising career guidance: Practitioner competences and qualification routes in Europe*. Cedefop panorama series 164. Office of the European Union.
- Collier-Reed, B., & Ingerman, Å. (2013). Phenomenography: From critical aspects to knowledge claim. In J. Huisman & M. Tight (Eds.), *Theory and method in higher education research* (pp. 243–260). Emerald Group Publishing Limited.
- Dyson, E. (2012). Face-to-Facebook: A blended approach to careers work. *Journal of the National Institute for Career Education and Counselling*, 29, 27–32.
- Entwistle, N. (1997). Introduction: Phenomenography in higher education. *Research and Development in Higher Education*, 16(2), 127–134. <https://doi.org/10.1080/0729436970160202>
- European Commission. (2014). *European reference competence profile for PES and EURES counsellors*. European Commission.
- Kettunen, J. (2017). *Career practitioners' conceptions of social media and competency for social media in career services*. Dissertation Studies, 32, University of Jyväskylä, Finnish Institute for Educational Research.
- Kettunen, J., Lee, J., & Vuorinen, R. (2020a). Exploring Finnish guidance counsellors' conceptions of career management skills. *SAGE Open*, 10(4), 1–10. <https://doi.org/10.1177/2158244020968778>
- Kettunen, J., Lindberg, M., Nygaard, E., & Kardal, J. (2020b). Enhancing career practitioners understanding and use of ICT in guidance and counselling. In E. Haug, T. Hooley, J. Kettunen & T. Thomsen (Eds.), *Career and career guidance in the Nordic countries* (pp. 163–175). Career development series 9. Brill. [https://doi.org/10.1163/9789004428096\\_011](https://doi.org/10.1163/9789004428096_011).
- Kettunen, J., & Makela, J. P. (2018). Practitioners' conceptions of ethical practice in social networking in career services. *International Journal for Educational and Vocational Guidance*. <https://doi.org/10.1007/s10775-018-9383-4>
- Kettunen, J., & Sampson, J. P., Jr. (2019). Challenges in implementing ICT in career services: Perspectives from career development experts. *International Journal for Educational and Vocational Guidance*, 19, 1–18. <https://doi.org/10.1007/s10775-018-9365-6>
- Kettunen, J., & Tynjälä, P. (2018). Applying phenomenography in guidance and counselling research. *British Journal of Guidance and Counselling*, 46, 1–11. <https://doi.org/10.1080/03069885.2017.1285006>
- Kettunen, J., Sampson, J. P., Jr., & Vuorinen, R. (2015). Career practitioners' conceptions of competency for social media in career services. *British Journal of Guidance and Counselling*, 43, 43–56. <https://doi.org/10.1080/03069885.2014.939945>
- Ling, L. M., Chik, P., & Pang, M. F. (2006). Patterns of variation in teaching the colour of light to primary 3 students. *Instructional Science*, 34, 1–19. <https://doi.org/10.1007/s11251-005-3348-y>
- Lo, M. L., & Marton, F. (2012). Towards a science of the art of teaching: Using variation theory as a guiding principle of pedagogical design. *International Journal for Lesson and Learning Studies*, 1, 7–22. <https://doi.org/10.1108/20468251211179678>
- Makela, J. P., & Hoff, K. (2019). Career outcomes data from social media: Examining quality in current practices. *The Career Development Quarterly*, 67, 220–235. <https://doi.org/10.1002/cdq.12192>
- Marton, F. (1981). Phenomenography—Describing conceptions of the world around us. *Instructional Science*, 10, 177–200.
- Marton, F. (1986). Phenomenography—A research approach investigating different understandings of reality. *Journal of Thought*, 21, 28–49.
- Marton, F. (1994). Phenomenography. In T. Husén & T. N. Postlethwaite (Eds.), *The international encyclopedia of education*, (2nd ed., pp. 4424–4429). Pergamon Press.
- Marton, F. (2000). The structure of awareness. In J. Bowden & E. Walsh (Eds.), *Phenomenography* (pp. 102–116). RMIT University Press.
- Marton, F. (2015). *Necessary conditions of learning*. Routledge.
- Marton, F., & Booth, S. (1997). *Learning and awareness*. Lawrence Erlbaum Associates.
- Marton, F., & Pang, M. F. (2006). On some necessary conditions of learning. *The Journal of the Learning Sciences*, 15, 193–220. [https://doi.org/10.1207/s15327809jls1502\\_2](https://doi.org/10.1207/s15327809jls1502_2)



- Marton, F., Runesson, U., & Tsui, A. (2004). The space of learning. In F. Marton & A. Tsui (Eds.), *Classroom discourse and the space of learning* (pp. 3–40). Lawrence Erlbaum Associates.
- Marton, F., & Tsui, A. B. M. (2004). *Classroom discourse and the space of learning*. Lawrence Erlbaum Associates.
- Micari, M., Light, G., Calkins, S., & Streitwieser, B. (2007). Assessment beyond performance. Phenomenography in educational evaluation. *American Journal of Evaluation*, 28, 458–476. <https://doi.org/10.1177/1098214007308024>
- Murray, C. E. (2009). Diffusion of innovation theory: A bridge for the research–practice gap in counseling. *Journal of Counseling and Development*, 87, 108–116. <https://doi.org/10.1002/j.1556-6678.2009.tb00556.x>
- Nykänen, S. (2011). *Towards leadership and management in guidance and counselling networks in Finland*. University of Jyväskylä.
- Osborn, D. S., & LoFrisko, B. M. (2012). How do career centers use social networking sites? *The Career Development Quarterly*, 60, 263–272. <https://doi.org/10.1002/j.2161-0045.2012.00022.x>
- Paakkari, L., Tynjälä, P., Torppa, M., Villberg, J., & Kannas, L. (2016). The development and alignment of pedagogical conceptions of health education. *Teaching and Teacher Education*, 49, 11–21. <https://doi.org/10.1016/j.tate.2015.02.005>
- Pang, M. F., & Ling, L. M. (2012). Learning study: Helping teachers to use theory, develop professionally, and produce new knowledge to be shared. *Instructional Science*, 40, 589–606. <https://doi.org/10.1007/s11251-011-9191-4>
- Pang, M. F., & Ki, W. W. (2016). Revisiting the idea of ‘critical aspects.’ *Scandinavian Journal of Educational Research*, 60(3), 323–336. <https://doi.org/10.1080/00313831.2015.1119724>
- Rovio-Johansson, A. (2013). An application of variation theory of learning in higher education. In M. Tight & J. Huisman (Eds.), *Theory and method in higher education research. International perspectives on higher education research* (Vol. 9, pp. 261–279). Emerald Publishing Group. [https://doi.org/10.1108/S1479-3628\(2013\)0000009017](https://doi.org/10.1108/S1479-3628(2013)0000009017).
- Runesson, U. (1999). Teaching as constituting a space of variation. In *Paper presented at 8th EARLI conference*, Göteborg, Sweden, August 24–28, 1999.
- Runesson, U. (2006). What is it possible learn? On variation as a necessary condition for learning. *Scandinavian Journal of Educational Research*, 50, 397–410. <https://doi.org/10.1080/00313830600823753>
- Salmon, G. (2011). *E-moderating: The key to teaching and learning online* (3rd ed.). Routledge.
- Sampson, J. P., Jr., Kettunen, J., & Vuorinen, R. (2020). The role of practitioners in helping persons make effective use of ICT in career interventions. *International Journal for Educational and Vocational Guidance*, 20, 191–208. <https://doi.org/10.1007/s10775-019-09399-y>
- Sampson, J. P., Osborn, D., Kettunen, J., Hou, P.-C., Miller, A. K., & Makela, J. P. (2018). The validity of social media-based career information. *The Career Development Quarterly*, 66, 121–134. <https://doi.org/10.1002/cdq.12127>
- Sampson, J. P., Jr., Hou, P.-C., Kronholz, J. F., Dozier, V. C., McClain, M.-C., Buzzetta, M., Pawley, E. K., Finklea, J. T., Peterson, G. W., Lenz, J. G., Reardon, R. C., Osborn, D. S., Hayden, S. C. W., Colvin, G. P., & Kennelly, E. L. (2014). A content analysis of career development theory, research, and practice—2013. *The Career Development Quarterly*, 62, 290–326. <https://doi.org/10.1002/j.2161-0045.2014.00085.x>
- Säljö, R. (1975). *Qualitative differences in learning as a result of the learner's conception of the task*. Acta Universitatis Gothoburgensis.
- The National Career Development Association, NCDA. (1991). *Software evaluation criteria*. [https://ncda.org/aws/NCDA/asset\\_manager/get\\_file/3404/softwareevaluationcriteria.pdf](https://ncda.org/aws/NCDA/asset_manager/get_file/3404/softwareevaluationcriteria.pdf).
- Thompson, E. (2008). *How do they understand? Practitioner perceptions of an object-oriented program*. Dissertation. Massey University.
- Tsui, A. (2004). The shared space of learning. In F. Marton & A. Tsui (Eds.), *Classroom discourse and the space of learning* (pp. 165–186). Lawrence Erlbaum Associates.
- Tight, M. (2016). Phenomenography: The development and application of an innovative research design in higher education research. *International Journal of Social Research Methodology*, 19, 319–338. <https://doi.org/10.1080/13645579.2015.1010284>
- Trigwell, K., Martin, E., Benjamin, J., & Prosser, M. (2000). Scholarship of teaching: A model. *Higher Education Research and Development*, 19(2), 156–167. <https://doi.org/10.1080/072943600445628>
- Tynjälä, P. (1999). Konstruktivistinen oppimiskäsitys ja asiiantuntijuuden edellytysten rakentaminen koulutuksessa. In A. Eteläpelto & P. Tynjälä (Eds.), *Oppiminen ja asiiantuntijuus. Työelämän ja koulutuksen*



- näkökulma* [Learning and expertise. Viewpoints from working life and education] (pp. 160–179). WSOY.
- Van Rossum, E. J., & Hamer, R. (2010). *The meaning of learning and knowing*. Sense Publishers.
- Watson, A., & Mason, J. (2005). *Mathematics as a constructive activity: Learners generating examples*. LEA.
- Wright, E., & Osman, R. (2018). What is critical for transforming higher education? The transformative potential of pedagogical framework of phenomenography and variation theory of learning for higher education. *Journal of Human Behavior in the Social Environment*, 28, 257–270. <https://doi.org/10.1080/10911359.2017.1419898>

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.