

Phenomenography and elearning in art and design

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Abstract

The purpose of this paper is to elaborate on how phenomenography was used as part of an extensive study in the under-researched area of elearning in art and design in Higher Education (HE). The purpose of the original study was to identify the perceptions and practices of lecturers in undergraduate art and design disciplines, as well as the unique characteristics and challenges of the sector vis-à-vis elearning. In this paper, references are made to some of the limited studies of elearning and ICT implementation in art and design. This highlights the need for further research and supports the position adopted by this paper that phenomenography is ideally suited for under-researched areas of investigation. The paper refers to some of the research outcomes in the context of reflecting upon and elaborating on the research methodology per se and the challenges and benefits of using phenomenography to investigate elearning in art and design. Consistently with the phenomenographic approach to research, the original study pursued a second-order perspective, i.e. through a qualitative analysis of semi-structured interviews the research dealt with people's experiences of aspects of the world. Subsequently, the paper addresses the main tenets and critiques of the research methodology and the overall process it entails. It addresses how phenomenography facilitates the identification, description and categorization of perceptions and practices for the creation of a final outcome space that is manifested as a topology of inter-related categories or groupings of the perceptions and practices identified through semi-structured interviews. The paper elaborates on the main qualitative and quantitative critiques of phenomenography, as well as issues of validity and objectivity. The latter entails dealing with the concept of bracketing and the relationship between the researcher and the process of acquiring and interpreting the data through phenomenographic methods. Finally, this paper concludes that the contribution of phenomenography was invaluable in revealing the spectrum of challenges vis-à-vis elearning in art and design, and in opening up this specific area of study to further research.

Keywords

Phenomenography, research, methodology, elearning, art and design

Introduction

Elearning in art and design in relation to the unique characteristics of the disciplines involved is under-researched. For example, a study commissioned by the Art Design Media Subject Centre – Higher Education Academy (ADM-HEA) (Logan, Allan, Kurien, & Flint, 2007), includes in the research remit disciplines such as media production, advertising, and film studies; these are not exclusively or predominantly studio-based and are greatly computer-dependent. This study fails to identify if there are unique contextual challenges to the implementation of elearning, and subsequently its conclusions are too generic. This is apparent in statements from the all-encompassing and broad conclusions of the report, such as:

...An issue emerging from the research is the potential of e-learning to change key processes, understandings and activities associated with these [art and design] disciplines. This type of change rests on the potential for structures of thought and action to be redefined within distributed learning environments that are technology rich... New ways of deploying specialist capabilities are emerging, and the new sets of skills that are required for them... (Logan et al., 2007).

Some studies identify resistance, implementation and adoption challenges in art and design disciplines to the introduction and use of learning technologies and Information and Communications Technologies (ICTs) in general (Drew, 2002; Gruba, 2001; Grove-White & Johal, 2004). A study by The Social Informatics Research

Unit (2003) on the implementation of Managed Learning Environments (MLEs) in HE, identifies resistance to online learning technologies in art and design, and attributes this – without further elaboration - to the situated nature of the related disciplines including teaching and learning strategies. Drew (2002) suggests that it is characteristic of art and design that the adoption rate of ICTs is generally slow. The author explored some of these themes and referred to ‘recurrent practices and implicit theories of learning and teaching’ that stem from the vocational nature of the related disciplines (Drew, 2003, p. 38). Similarly, Gruba (2001, p. 225) admits that

In the Arts, we’ve been a bit slower than some Faculties in coming to terms with the increasing use of IT & MM [Information Technology & Multimedia] in teaching...

A survey of staff development to support the use of ICTs in art and design (Grove-White & Johal, 2004) identifies the lacuna in the research literature. The same survey quotes a Scottish report released in 2002, titled ‘Supporting C&IT Staff Development Activity in the Visual Arts Sector of Scottish Higher Education’, which concludes that the uptake of ICTs in general to support teaching and learning within the art and design HE sector lags behind other subject areas and disciplines.

The picture these limited studies present about elearning in art and design is that the uptake levels of ICTs in general and elearning more specifically, tend to lag behind other HE disciplines. The purpose of this paper is to elaborate on *how* phenomenography was used in an extensive study to identify the perceptions and practices of lecturers in undergraduate art and design disciplines, as well as the unique characteristics and challenges of the sector vis-à-vis elearning. References are made to some of the research outcomes in the context of reflecting upon and elaborating on the research method *per se* and the benefits of using phenomenography for the under-researched area of elearning in art and design.

Main tenets and critiques

Phenomenography entails the empirical study of the different ways in which people experience, conceptualise, realise and understand aspects of the world around them. The premise of phenomenographic studies is that we cannot separate the structure and the content of the experience from one another. ‘...we cannot separate that which is experienced from the experience *per se*’ (Marton, 1981, p.180). This is also described as the ‘principle of intentionality’, i.e. an epistemological stance that adopts a non-dualistic view of human cognition in that it considers experience as an internal relationship between human beings and the world (Pang, 2003, p. 145). Phenomenographic approaches to research pursue a ‘second-order perspective’. Marton (1981) makes the ‘fundamental distinction’ between research methodologies that deal with ‘first-order perspective’, i.e. they aim to describe various aspects of the world, and ‘second-order perspective’, i.e. the description of people’s experiences of aspects of the world. Marton (1981) argues that the latter perspective, is worthwhile due to ‘the pedagogical potentiality and necessity of the field of knowledge to be formed’, and secondly, the outcomes arrived at from a second-order perspective are autonomous from descriptions arrived at from the first-order perspective (Marton, 1981, pp. 177-178).

The objective of phenomenographic studies ‘is to find and systematize forms of thought in terms of which people interpret aspects of reality’ (Marton, 1981, p. 180). A core premise of phenomenography is that the qualitative different conceptions and understandings of the phenomenon being experienced are logically related to one another, typically by way of hierarchically inclusive relationships (Akerlind, 2005, pp. 322-323). The outcome space of phenomenographic studies, involves the description and categorization of perceptions and practices, and a topology of inter-related categories or groupings; it consists of the range of experiences and conceptions usually recorded through semi-structured interviews – the main tool of phenomenography. The fundamental assumption of this method of analysis is the existence of a finite number of qualitatively different ways of perceiving a particular phenomenon, in our case to illuminate the *variations* in ways of lecturers considering elearning in art and design undergraduate education.

The outcome space does not simply list a set of different meanings, but provides a logically inclusive structure relating the different meanings. Akerlind (2005) clarifies that:

Ideally, the outcomes represent the full range of possible ways of experiencing the phenomenon in question, at this particular point in time, for the population represented by the sample group collectively (Akerlind, 2005, p. 323).

Marton (1981) described these categories of description as denoting a 'kind of collective intellect' (Marton, 1981, p. 177). Recent phenomenographic studies (Pang, 2002; Pang, 2003) focus not only on *what are the different ways of experiencing a phenomenon*, but also on *what is a way of experiencing a phenomenon*. The former is referred to as the 'structural' aspect (*what*) of the variations of perception, and the latter as the 'referential' (*how*).

Phenomenographic studies follow the traditions of anti-positivism and qualitative – interpretive research. They have all the hallmarks, as well as weaknesses and strengths, of the *ex post facto* research methodology (Cohen et al., 2002, pp. 205-210). A rigorous experimental approach is not possible. The evidence gathered does not test a hypothesis. Causal links may be established in particular cases, as well as relationships, associations and their meanings, but it is also possible that causes may not be identified or that there are different causes for different contexts. These weaknesses of causal or co-relational research can be considered against its strengths. Causal studies provide a degree of association; they are exploratory and suggestive in character.

Proponents of quantitative methods have often critiqued the notion of *validity* in qualitative research mostly on the basis that the latter lacks explicit controls and standard means of measurement that would allow for the formal testing of prior hypothesis. Qualitative researchers generally respond that certain categories of *validity* for example, *concurrent validity*, *convergent validity* and *criterion-related validity* are relevant to quantitative research but have little or no relevance to qualitative research (Maxwell, 1992, pp. 279-280). There is also the widely shared view that *generalizability* in qualitative research is unimportant, unachievable, or both, and that many researchers actively reject *generalizability* as a goal' (Schofield, 2002). Maxwell (1992) suggests that *understanding* is more fundamental to qualitative research than *validity*, and *validity* is relative because *understanding* is *relative*. The inherent characteristic of qualitative research (exposure to a degree of bias) supports the position that *validity* is a matter of degree, not an absolute (Maxwell, 1992, p. 284), and 'at best we strive to minimize invalidity and maximize validity' (Cohen et al., 2002, p. 105).

The critique of phenomenography vis-à-vis validity comes from both quantitative (grounded in interpretivist research tradition) and qualitative (normative) perspectives. The former questions the role of the interviewee, the subjectivity of establishing an outcome space that consists of categories of description and the credibility of such findings. For example, Webb (1997) argues that phenomenographers fail to account for their own prejudices and the part these play in the construction of people's perceptions; observations are always preceded by theory (Webb, 1997, p. 225).

The qualitative critique consists of arguments in support of other longer established methodologies, of which phenomenography is an 'errant branch' (Entwistle, 1997, p. 128). There is also the view that the divide between quantitative and qualitative methods is not fundamental and hides many of the common features between the two such as use of data and generalised conclusions (Jones, 2004, p. 113). There are also arguments that phenomenography shares more characteristics with quantitative research than qualitative.

...the 'qualitative' methods employed [by phenomenography] appear to have more to do with the quest for positivist generalisation than the development of hermeneutical understanding (Webb, 1997, p. 198).

In response to critiques, phenomenographers identified areas that require elucidations and have elaborated upon both the process of collecting data and the subsequent analysis when conducting research; they draw from these to address issues of reliability and validity. For example, Akerlind (2005) focused on the data analysis stage of phenomenographic research, which – in her opinion – was not addressed sufficiently, resulting in lack of awareness and confusion about the nature of phenomenographic research. Akerlind (2005) argues that only recently the theoretical basis and specification of methodological requirements underlying phenomenography were developed more clearly, and that the outcome space represents one of the least understood aspects of phenomenography. Along similar lines, Ashworth & Lucas (2000) argue that there is relatively little detail about the phenomenographic research process *per se*, even though the process by which the research is conducted is of significance in determining whether the outcomes are ontologically defensible and epistemologically valid (Ashworth & Lucas, 2000, p. 296).

More specifically, when conducting interviews for phenomenographic research, Webb (1997) states that emphasis must be placed on the ability of interviewer to understand the 'lifeworld of the Other' – of the interviewee – through 'authentic openness' (Webb, 1997, p. 198). This relates to the concept of 'bracketing' of

presuppositions, i.e. the need for the researcher to set aside his or her own assumptions, in order to document the interviewee’s own point of view. Some kinds of presupposition that must be bracketed include the use of earlier research findings, the assumption of pre-given theoretical structures or particular interpretations, and the researcher’s personal knowledge and belief (Ashworth & Lucas, 2000, p. 298).

The data

Questions for the semi-structured interviews were piloted with lecturers from three different studio-based disciplines (graphic design, photography and textiles). This allowed the researcher to practice bracketing, and for refinements to be made in the use of probes for the interviews. Data was gathered through semi-structured interviews with lecturers from nineteen art and design institutions. All interviews were entered verbatim into Atlas.ti (qualitative software) and subsequently the transcripts were analysed, coded and categorised in two stages. In the first stage, interviewee responses were divided into groups according to the questions that were asked. In the second stage, emerging themes from within each group of questions were identified and analysed; this too, entailed bracketing. The percentage of interviewee accounts associated with each distinct theme was defined, and the characteristics that distinguish them, i.e. the referential aspects of the analysis (*what*), were outlined. The second stage of analysis focused on identifying the structural aspects of each thematic category. This involved *how* the phenomena are described. The outcome space for all categories of description within each question were illustrated in the form of diagrams that highlighted – consistently with the phenomenographic approach to data presentation – the relationship between the different conceptions and their level of inclusivity.

The process of identifying discrete meanings can become even more robust and rigorous if another researcher analyses the same raw data to identify distinct meanings. The latter can be compared against the themes identified by the original researcher. This point is stated in reply to Alsop and Tompsett (2006), whose critique of phenomenography includes the potential for the researcher to distort the data through their ‘presumed’ objectivity, i.e. the inability to bracket effectively. Above we described how phenomenographers deal with bracketing. Other options that support bracketing include: a) the researcher adopting a variety of imaginary roles when listening to the interviewees and reading transcripts, b) reflecting through self-interrogation, and c) describing the participant’s experiences with colleagues (Ashworth & Lucas, 2000, p. 306). The main constraint with introducing further refinements, such as informing the interviewees where their responses fit in the spectrum of emergent themes, is how time-consuming the process can become.

The relationship between phenomenographic methods and objectivity cannot be perceived as existing within well-defined, finite boundaries, and rigidly prescribed processes, but rather as an organic process constraint by time and practicalities, and informed by empathy for the perceptions of the interviewees. ‘To be scientific about subjectivity demands a certain fellow feeling rather than technical rationality’ (Ashworth & Lucas, 2000, p. 307). For example, it was with probes, such as ‘can you please elaborate more’ and ‘how do you understand this’, that the study referred to in this paper uncovered three distinct categories of perceptions about elearning in art and design (Table 1). The first category consists of views that emphasise the value of demonstrations facilitated through electronic means. The second represents accounts that focus on the online provision of access to study material and related information, and the third represents the view that elearning has no value for studio-based art and design disciplines.

Table 1: Views about elearning in art and design disciplines

<p>Conception A: Useful for demonstrations</p>	<p>Conception B: Useful for access to information</p>
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		Conception C: Not useful
Referential aspects		
Demonstrations support instructional objectives	Accessibility to diverse resources supports progression	Focus on inability of elearning to replace studio practices
Structural aspects		

Delimitations, limitations and assumptions

A common response to reliability checks for the anti-positivist studies is for researchers to make their assumptions explicit through detailing the delimitations, limitations and assumptions that underpin their research. The first delimitation about the study on elearning in art and design was to specify that it was not a comparison of two art and design institutions at opposite sides of elearning implementation, but rather a wider exploratory and idiographic study that drew data from specialist art and design institutions. This decision was based on the view that smaller institutions reflect better the teaching and learning culture characteristic of studio-based disciplines. A further delimitation was the exclusion from the study of disciplines where art and design curricula necessitate the exclusive use of ICTs, such as media production (film, television). The study included photography and graphic design, for despite the widespread use of ICTs in teaching and learning these disciplines still rely upon and contain strong elements of traditional studio-based practices and on-going hands-on practice.

The most significant limitation of the study is the one that relates to the parameters of the conceptual framework and methodology as described above, i.e. the generalizability and utility of findings that are the result of phenomenographic research. This relates directly to the ability to draw descriptive or inferential conclusions from the sample data of this study about the wider group of art and design lecturers in HE. Through the data presentation and analysis of findings, underlying links, relationships and associations may have been established between perceptions of elearning and practices, but it is also possible that the real causes may have not been identified or that there are different causes for different contexts. For example, the study did not deal with the organizational structure of HEIs covered by the research, their financial situation and ability to provide for ICTs and appropriate opportunities for staff development and training.

The overarching assumptions of the study relate to the ontological (philosophy of reality), epistemological (philosophy of how we come to know) and methodological (practices used to attain knowledge) presuppositions of the anti-positivist paradigm. Ontologies are a set of underlying beliefs that reflect a worldview that defines for the researcher the nature of the world, the individual's place in it, and the range of possible relationships to that world. However well argued, these beliefs are accepted on faith, since there is no way to establish their universal validity (Guba & Lincoln, 1994, p. 107; Krauss, 2005, p. 759).

The outcomes

One of the attractions of phenomenography vis-à-vis the under-researched area of elearning in art and design, is that it provides a spectrum of outcomes that ideally capture the complete range of perceptions and practices. This compilation of outcomes allows for policy-makers and managers to have an overview of the challenges they face with any implementation of elearning in art and design, and thus deal with issues through a variety of ways as opposed to focusing on a limited number of relatively obvious implementation challenges. For example, the study revealed five distinct categories of perceptions regarding professional development (Table 2). In the first category, the accounts highlight the positive experience interviewees had with professional development and training in elearning. In the second category accounts, share the view that training is welcome on various

grounds. In the third category, the accounts focus on experiences that describe unsuitable professional development. The obstacles that inhibit professional development and training are characteristic of the accounts in the fourth category. Lastly, there are opinions that training is neither desirable nor necessary. Targeted and customized professional development can address these diverse attitudes towards elearning, as opposed to one general approach to encompass all levels of elearning understanding.

Table 2: Views about professional development

Conception A: Professional development was useful				
Conception B: Professional development wanted but not undertaken yet				
Conception C: Non-satisfactory professional development				
Conception D: Obstacles to professional development				
Conception E: Professional development not wanted				
Referential aspects				
Emphasis on benefits	Emphasis on perceived benefits	Focus on non-relevance of training received or technical problems associated with it	Emphasis on the nature of obstacles	Emphasis on reasons for not seeking training
Structural aspects				

It needs to be noted that the spectrum of views reached through phenomenography is time-limited, i.e. this research methodology provides a snapshot of phenomena during a particular period within specific contexts, but the latter can evolve. If conducted at a later stage, the same research methodology is unlikely to yield similar data and identical results. This is particularly so the case if one considers that art and design disciplines employ an entire generation of disillusioned pre-computer educators who feel increasingly irrelevant and are retiring en masse (Maeda, 2002). In the near future the number of computer-literate lecturers is likely to increase, and the snapshot captured by the phenomenographic study referred to in this paper, will be different. For Alsop and Tompsett (2006), this is one of the weaknesses of using phenomenography to investigate ICTs in education, i.e. that it lacks ‘predictive power’. It is hard to argue that predictive power is achievable or even desirable when the one constant factor with ICTs, irrespective of any research methodology or discipline examined, is continuous and frequent change. Predictive power is contrary to the time-limited and time-constrained outcomes that phenomenographic studies can produce.

Finally, the analysis of data indicated that institutional factors, and in particular the lack of organisational commitment, budgetary restraints and no sufficient time for staff professional development and training, are of significance in restricting a wider and successful implementation of elearning in art and design disciplines. These particular outcomes are not unique to the sector but reveal that some concerns with elearning implementation are indeed cross-disciplinary. In other words, phenomenographic methods when applied to under-researched areas of study such as studio-based disciplines, can capture issues that are generic across a number of different academic sectors, for – as stated above – the objective is to capture the complete range of perceptions, and this includes the particular and the general.

Conclusion

Researchers who use phenomenographic methods are aware of the critiques on objectivity and the questions on whether it is possible to achieve ideal bracketing. They are also aware of the need to elaborate upon their delimitations, limitations and assumptions. Phenomenographic studies tend to demonstrate considerable effort to address these issues and clarify the parameters of the respective investigations. This may be indicative of a research paradigm that is relatively new and still seeks to address concerns about its ontological and epistemological viability.

Notwithstanding the critiques in relation to the objectivity of the researcher, the reliability and generalizability of outcomes, and the lack of predictive power, all of which are inevitable consequences of the anti-positivist paradigm, phenomenography as a research method provided the opportunity to investigate elearning in art and design from a broad perspective. It allowed for the unpacking of the multiple and inter-related challenges that confront the studio-based disciplines. Critiques can be offset against this inherent function of phenomenography. The resultant description and categorization of perceptions and practices, and the mapping of the categories or groupings of outcomes, provides a useful overview for researchers and decision-makers alike. The combination of structural and referential aspects revealed through phenomenography allows for further studies based on different and varied research paradigms that can focus on narrower aspects of elearning implementation in art and design. From this it would seem that different research paradigms are complimentary and not incongruent, and the invaluable role of phenomenography is to function as a stepping-stone for further research into elearning in art and design.

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