A Phenomenographic Study in the UK Higher Education Academics' Experiences of Designing MOOCs

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Abstract

This thesis explores the variation in the United Kingdom (UK) higher education (HE) academics' experiences of designing Massive Open Online Courses (MOOCs).

The emergence of MOOCs as a new form of online teaching has attracted a lot of interest from HE providers and researchers, but there is little published research about HE academics' experiences of designing MOOCs. In practice, the process of designing MOOCs typically involves MOOC providers instructing academics with prescribed procedure and format, lacking understanding of their conceptions of this phenomenon. This research aims to fill the research gap through a phenomenographic study in UK HE academics' experiences of designing MOOCs to reveal their qualitatively different ways in understanding this phenomenon.

Phenomenography is often used to investigate the qualitatively different ways that people experience or understand the world around them. Twenty-two academics from six universities, who have experience of designing MOOCs on the UK-based platform FutureLearn, were interviewed. The data analysis revealed six categories of description: content-focused perspective, social learning perspective, teamwork perspective, development perspective, HE perspective and transformation perspective. Each category is discussed in relation to the relevant research findings in the existing literature. The hierarchically inclusive relationship between the categories is discussed to explain the expanding awareness of the phenomenon demonstrated in the final outcome space. This research contributes to knowledge about HE academics' understandings of designing MOOCs, an area with limited prior research. The research findings provide course designers and MOOC development stakeholders with a better understanding and awareness of the variation in academics' conceptions of this phenomenon, which helps to reflect on and enhance the policy making and practice of the development of MOOCs, as well as academic professional development in this area. It also expands research context of phenomenography, demonstrating how this approach effectively uncovers variation in academics' understandings of the phenomenon "designing MOOCs".

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Dedications

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This thesis is for you 💙

Chapter 1 Introduction

1.1 Introduction

Massive Open Online Courses (MOOCs) have attracted significant interest from Higher Education (HE) institutions and researchers since their emergence as a new form of online education, distinguished by their unique characteristics of massiveness and openness. Following the launch of a few major US (United States) MOOC providers in 2012, many well-known universities partnered with these platforms to develop MOOCs. Since then, the number of MOOCs has increased rapidly, and the number of registered learners has been astonishing and continues to grow (Shah, 2021).

In the United Kingdom (UK), in response to the growing interest in MOOCs, FutureLearn (www.futurelearn.com) was launched as the first UK-led MOOC platform by Open University in 2012. UK universities also began exploring this new way to online teaching (Oxford Brookes University, 2012; Roberts, 2012). As of August 2023, 47 UK HE institutions have partnered with FutureLearn to develop MOOCs (FutureLearn, 2023), attracting over nineteen million learners from around the world (Pickard, Ma & Mendez, 2024). Statistics in the report indicate that 77% of MOOCs provided by UK institutions have been delivered through the FutureLearn platform (Mcintyre, 2016).

During this process, many HE academics have been actively involved in designing MOOCs, playing key roles in their creation (Schmieden, Mayer, Taheri & Meinel, 2022; Zhu, Bonk & Sari, 2018). However, in practice, creating MOOCs on such platforms follows a structured process and workflow that is "highly scripted, directed, and orchestrated" (Haavind & Sistek-Chandler, 2015, p.347). Academics involved in designing MOOCs with FutureLearn are typically required to adhere to pre-defined procedures and guidelines, often without their perspectives or understandings of designing MOOCs being considered.

Furthermore, literature shows that MOOC research has predominantly focused on learners, with very limited research investigating academics' perspectives and experiences (Deng & Benckendorff, 2017; Ebben & Murphy, 2014;

Liyanagunawardena, Adams & Williams, 2013; Veletsianos & Shepherdson, 2016). There is hardly any published research about HE academics' experiences of designing MOOCs, and studies specific to the UK context are notably scarce. Only one study (Haavind & Sistek-Chandler, 2015) included a small number of UK academics in their interviews, while two studies explored academics' experiences of teaching MOOCs through the UK-based platform FutureLearn (Askeroth & Richardson, 2019; Czerniewicz et al., 2016), and one report by (Bayne & Ross, 2014) examined MOOC pedagogy within the UK context with "snapshots" of five UK HE academics' experiences in designing MOOCs. The limited attention given to academics' experiences of designing MOOCs within the UK context highlights a significant research gap. Given this gap, I have chosen to focus my research on HE academics' experience of designing MOOCs within the UK context – the country where I work and study. This thesis aims to address this gap through a phenomenographic study to gain understanding of the possible variation in UK HE academics' experiences of designing MOOCs (Marton, 1981, 1986).

1.2 Motivation

The inspiration behind my choice of this research topic stems from multiple sources, primarily my previous role as a distance-learning developer, my interest in MOOCs and my philosophical perspective on studying people's experiences. Having worked as a distance-learning developer at several different UK HE institutions, I had the opportunity to work closely with university academics in designing online courses. In my daily work, I observed the different ways in which academics considered and approached designing online courses. This practical experience sparked my curiosity and motivated me to explore, in greater depth, the various ways academics understand and experience designing online courses. MOOCs as a relatively new form of online education, have attracted significant interests from UK HE institutions, leading some HE academics to become involved in designing MOOCs. I became particularly interested in how these academics understand the phenomenon of designing MOOCs in different ways but found that there was very little existing literature on this topic. Around the same time, my reading on phenomenography (Marton, 1981, 1986; Marton & Booth, 1997) introduced me to studying people's

experiences from a “second-order perspective” and the “non-dualism” philosophical foundation of this research tradition. All these aspects weaved together to inspire my research focus on exploring the variation in HE academics’ experiences of designing MOOCs.

At the early stage of my research, I discussed my topic with two colleagues. After I explained that I wanted to study academics’ experiences, or, their understandings, of designing MOOCs, one of them questioned: “Is it important to study academics’ understandings? What people actually do in practice is more important than what they think or understand”. The other colleague expressed concern that “You might get very similar or even identical responses from all interviewees since they are experiencing the same thing - designing the same type of courses on the same platform and following the same procedures”. These perspectives reflect a common oversight of the significance of academics’ understandings and a tendency to take such understandings for granted. However, I believe that people experience the world around them differently and experience the same phenomenon in different ways (Marton, 1981). Even when academics experience the same phenomenon, in this case designing MOOCs, they may experience and understand it in different ways. I was eager to conduct this research to uncover this variation. As explained earlier, the majority of MOOCs designed by UK institutions have been delivered through FutureLearn (Mcintyre, 2016). If only taking UK-based platforms into consideration, the vast majority of UK MOOCs appear to be hosted on this platform, although precise figures are not publicly available. Therefore, academics from UK HE institutions with experience in designing FutureLearn MOOCs were chosen as research participants as their experiences are representative of designing MOOCs within the UK context. More specifically, interviewees were chosen based on two criteria: first, they must be employed as academic staff in a UK higher education institution with teaching responsibilities; and second, they must have direct experience in designing one or more MOOCs hosted on the FutureLearn platform.

1.3 Research questions

The aim of this study is to develop a comprehensive understanding of the ways in which UK HE academics experience the phenomenon of "designing MOOCs" on the FutureLearn platform by addressing the following two research questions:

1. What is the qualitative variation in the ways UK HE academics experience designing MOOCs?
2. What are the relationships between these variations?

1.4 Research approach

The focus of this research is to study the qualitatively different ways in which HE academics experience the phenomenon of designing MOOCs. Phenomenography has been chosen as the most suitable research methodology as it aligns well with my research aims and questions. It is defined by Marton (1986) as a research approach for "mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and various phenomena in, the world around them" (p.31). This methodology adopts a non-dualist stance, where human beings and the world are perceived as an inseparable whole, viewing participants' understandings of a phenomenon as "an internal relationship between human beings and the world" (Pang, 2003, p.145). As Marton (1986) further emphasises, phenomenography takes a second-order perspective, aiming to "characterize how things appear to people" (p.33). Phemomenographers make statements about the world as experienced by people, rather than making objective statements about the world itself (Marton, 1986; Marton & Booth, 1997). Chapter 3 further discusses the rationale for adopting phenomenography and provides a more detailed overview of this research approach.

A purposeful sampling strategy (Palinkas et al., 2015) was used in selecting the participants, with the goal of maximising the possible variation among the participants' experiences. A total of 22 academics from 6 different UK HE institutions were interviewed. The data collection and analysis process used in this research is detailed in Chapter 4.

1.5 Significance of the study

This study contributes to and enriches the body of literature on academics' understandings of designing MOOCs. Its focus on academics' perspectives is meaningful and valuable given that most MOOC research has predominantly centred on learners. As MOOCs continue to evolve and influence online education, an increasing number of academics are becoming involved in their creation, consequently, understanding the variation in their experiences of designing MOOCs will offer valuable insights for further research and scholarship. This research also contributes to methodology by extending the application of phenomenography to a new empirical context, demonstrating how this research approach effectively uncovers variation in understanding and constitutes an outcome space within this new context. Additionally, this study provides a detailed reflective account, which may be of interest to future novice researchers in using this methodology. By uncovering the variation in academics' experiences of designing MOOCs, this research provides valuable insights to inform both policy and practice in MOOC design and development, as well as academics' professional development in this area.

1.6 Structure of the thesis

This thesis is organised into six chapters:

Chapter 1: Introduction. This chapter introduces the research background and context, outlining the study aim and research questions, and explaining the research approach adopted for this study.

Chapter 2: Literature review. This chapter provides a focused review of literature relevant to the research questions, situating this research within the existing body of research. Given the limited literature specifically addressing academics' experiences of designing MOOCs, two key bodies of work have been identified as most relevant for establishing the context and background of this research. The first part begins with an overview of research on academics' conceptions of teaching in higher education, followed by phenomenographic studies on academics' conceptions of teaching in online contexts and their experiences of course design. The second part focuses on

MOOCs and MOOC-related research, with a particular focus on academics' perspectives and experiences for contextualising this study.

Chapter 3: Methodology. This chapter details the phenomenography research approach, explaining the philosophical foundation underpinning this methodology, and comparing it with alternative qualitative research approaches to justify its selection for this study. This chapter also elaborates on how methodological limitations were addressed to enhance the trustworthiness and credibility of the research.

Chapter 4: Research design. This chapter describes the details of data collection and analysis processes. It begins with explaining the data collection method, pilot interviews and the design of interview questions, then elaborates on how the data were collected and analysed along with my reflections.

Chapter 5: Results. This chapter presents the answer to the first research question, elaborating on six categories of description that emerged from the data analysis with extracts from transcripts to evidence/support the categories.

Chapter 6: Discussion and conclusion. This chapter discusses the findings from the previous chapter in relation to the existing literature. For the second research question, it analyses and explores the critical variation across the categories and their structural relationships. Finally, this chapter concludes the whole thesis by summarising the key findings, highlighting the research contributions and outlining its limitations and suggestions for future studies.

Chapter 2 Literature Review

2.1 Introduction

The purpose of this chapter is to situate the research within existing literature and provides a focused review of literature relevant to the research questions. The process of conducting this literature review has been an interesting exploration to find and carefully select scholarly works that can inform this research and establish how this research makes a unique position and contribution to the field. Given very limited literature specifically focusing on academics' experiences of designing MOOCs, two key bodies of work have been identified as the most relevant for establishing the context and background of this research. This literature review chapter consists of two main parts. The first part starts from research on academics' conceptions of teaching in higher education, followed by phenomenographic studies on academics' conceptions of teaching in online contexts and academics' experiences of course design. The second part of the literature review conveys MOOCs and MOOC-related research with a specific focus on academics' perspectives and experiences to contextualise my research. This second part provides an overview of MOOCs, covering their origins, characteristics and development in the UK, as well as debates and research surrounding MOOCs. By reviewing the existing literature, this chapter not only highlights the research gap but also rationalises the significance of studying academics' experiences of designing MOOCs, establishing the necessary foundation for this research.

2.2 Research on HE academic's conceptions of teaching

2.2.1 Research on conceptions of teaching

Research into higher education has developed a rich body of knowledge about conceptions of teaching and learning over the last four decades (Marton, Dall'Alba & Beaty, 1993; Prosser & Trigwell, 1999; Prosser, Trigwell & Taylor, 1994; Ramsden, 2003; Säljö, 1979). This section provides a general narrative overview of selected empirical studies on academics' conceptions of teaching and learning, rather than a systematic review. The aim is to highlight key themes and methodological foundations

relevant to the focus of this study. Qualitative research in this area initially started by Säljö's (1979) seminal work on conceptions of learning. He asked people from a range of educational backgrounds and age-groups: what do you actually mean by learning? From the analysis of the answers to this question, five qualitatively different conceptions of learning were identified. Säljö (1979) argued that these five categories of conceptions were hierarchically related, in the sense that more sophisticated conceptions were those which contained and extended those at the "lower" end of the hierarchy. The first three of these conceptions represented a surface understanding of learning; the fourth and fifth conceptions represented a deep understanding of learning. Marton, Dall'Alba and Beaty (1993) confirmed these categories of conceptions in their research and added a sixth qualitatively distinctive category "change as a person" to Säljö's (1979) hierarchy. Research established a relationship between students' conceptions of learning, their approaches to learning and learning outcomes (Marton & Säljö, 1976; Marton et al., 1993; Prosser & Trigwell, 1999; Säljö, 1979; Van Rossum & Schenk, 1984). The research approach used in these studies was formally explained and defined by Marton (1981) as phenomenography, which will be elaborated in detail in Chapter 3.

Following on from the above research in conceptions of learning, research has been expanded to academics' conceptions of teaching. Since then, substantial research has been conducted in this area (Dall'Alba, 1991; Dunkin, 1990, 1991; Dunkin & Precians, 1992; Fox, 1983; Gow & Kember, 1993; Kember, 1997; Kember & Kwan, 2000; Martin & Balla, 1991; Martin & Ramsden, 1992; Pratt, 1992; Pratt et al., 2001; Prosser et al., 1994; Samuelowicz & Bain, 1992, 2001). Despite variation in the numbers of identified categories, the labels and descriptions used for the categories in these studies indicated a high degree of commonality (Kember, 1997). For instance, the category "presenting information" identified in three studies (Dall'Alba, 1991; Martin & Balla, 1991; Martin & Ramsden, 1992) was analogous to the category "imparting information" in Samuelowicz and Bain (1992) and "transmitting concepts/information transmission" in Prosser et al. (1994). Similarly, the category "bringing about conceptual change" (Dall'Alba, 1991) was akin to "changing student conceptions" in Samuelowicz and Bain (1992) and "helping student change conceptions" in Prosser et

al. (1994). Kember (1997) compared identified categories from 13 articles and concluded that these largely independent studies exhibited a high degree of consistency in identified conceptions of teaching, ranging from “teacher-centred/content-oriented” towards “student-centred/learning-oriented”. According to Kember (1997), these two orientations were taken as a “broader level of categorisation encompassing two or more conceptions” (p.257). Figure 2.1 visualises the conceptions and orientations of teaching framework established by Kember (1997), showing five conceptions beneath the two orientations within a developmental continuum. The two conceptions “imparting information” and “transmitting structured knowledge” are included under “teacher-centred” orientation, which focuses on teachers and delivering content; “facilitating understanding” and “conceptual change” are included in “student-centred” orientation, which focuses on students learning experience and their conceptions of knowledge. An intermediate conception “student-teacher interaction” is situated as a transitionary link category between the two orientations. Kember (1997) believes that a lecturer’s teaching belief shifts across this spectrum over time and conceptions towards the student-centred end of the continuum are more desirable.

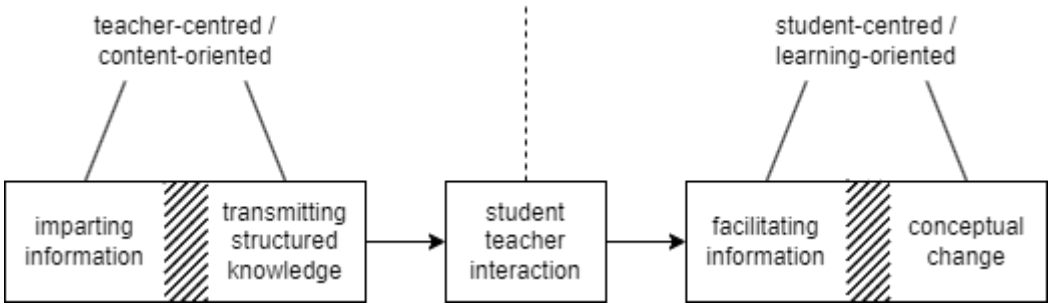

Figure 2.1 Orientations and conceptions of teaching categories framework, adapted from Kember (1997)

The five conceptions of teaching synthesized by Kember’s (1997) comparative analysis largely aligned with the five categories identified by Samuelowicz and Bain (1992): “imparting information”, “transmitting knowledge”, “facilitating understanding”, “changing student’s conceptions” and “supporting student learning”. Although Kember’s “transitional” category was challenged by Samuelowicz and Bain (2001), they noted that the results from this newer study were broadly consistent with previously

reported evidence and supported the two distinct orientations presented in Kember's (1997) framework. As Åkerlind (2003) summarised, the findings of the emerged themes running across the conceptions and the distinctions between teacher-centred and student-centred understandings remained consistent even though the studies in academics' conceptions of teaching were carried out in different contexts and through different methodological approaches.

Based on these studies, research was logically extended to investigate the relationship between academics' conceptions of teaching and their approaches to teaching, and consequently, their impact on student learning outcomes (Prosser & Trigwell, 1999). For instance, in Kember and Kwan's (2000) study, two main approaches to teaching emerged: "content-centred" and "learning-centred". Their findings indicated a high level of correspondence between academics' conceptions of teaching and their approaches to teaching. Lecturers taking a teacher-centred orientation were more likely to take a content-centred approach, while those taking a student-centred orientation were more likely to adopt a learning-centred approach to teaching. Kember (1997) argued that at the level of the individual teacher, "the methods of teaching adopted, the learning tasks set, the assessment demands made and the workload specified are strongly influenced by the orientation to teaching" (p.270). Similarly, Trigwell and Prosser (1996) established a logical connection between intentions and strategy in lecturers' approaches to teaching. Lecturers intending "information transmission" often adopted a "teacher-focused" or a "student–teacher interaction" strategy for teaching, whereas those who believed in conceptual development/change typically adopted a "student-focused" teaching strategy.

Although the categories of conceptions of teaching identified in various research indicated a high degree of commonality, the views on the relationship between the categories differed due to different epistemological perspectives taken by the researchers (Åkerlind, 2008). A significant proportion of studies on conceptions of teaching specified their methodology as phenomenography (Kember, 1997), while some other researchers took a cognitive perspective. Åkerlind (2008, pp.634-635) clearly explained the main difference between these two perspectives:

> "from a phenomenographic perspective, different conceptions of teaching are seen as representing different breadths of awareness of the phenomenon of teaching, constituted as an experiential relationship between the teacher and the phenomenon. From a cognitivist perspective, different conceptions are seen as reflecting different beliefs about teaching associated with different mental representations of the phenomenon, constructed on the basis of individuals' experience."

From a cognitive perspective, the different categories are deemed as independent and represent different systems of beliefs about teaching, which require substantial effort to shift from one to another (e.g., Kember, 1997; Samuelowicz & Bain, 1992). As Åkerlind (2008) pointed out, the terms "conception" and "belief" were often used interchangeably in this literature, which obscured the different epistemological perspectives underpinning the research. For instance, the terms "belief" and "orientation" used in Kember (1997) align more closely with Dunkin's (1991, p.31) definition:

> "orientations to teaching are patterns of ideas and feelings possessed by individuals concerning teaching. They include such phenomena as knowledge, beliefs, perceptions, expectations, preferences, satisfactions, judgements and values regarding teaching. They provide the framework of cognitive and affective attributes that presumably underlie an individual's planning, decision-making, implementation and evaluation in relation to teaching."

In contrast, from a phenomenographic perspective, the different categories of description are seen as inclusively related (e.g., Åkerlind, 2003; Dall'Alba, 1991; Martin & Balla, 1991; Prosser & Trigwell, 1999). "The different conceptions of teaching are seen as linked in a hierarchy of expanding awareness of the range of aspects which constitute university teaching" Åkerlind (2003, p.387). Rather than focusing on individuals' beliefs, these phenomenographic studies take a collective view of the range of ways of experiencing teaching across a sample group of academics, aiming to constitute an outcome space representing qualitatively different ways of viewing teaching amongst the group interviewed. The outcome space is based on the collective experience of the group rather than focusing on the richness of each individual

experience. The hierarchy of inclusiveness that phemenomographic analysis searches for is characterised by a progressively broader awareness of various aspects of the phenomenon under investigation Åkerlind (2003). Phenomenographic approach is based on the empirical research on conceptions of learning discussed earlier and aims to investigate people's experience of the world around them from second-order perspective. Research taking this approach formed a primary contributor to the body of research in conceptions of teaching (Mimirinis & Ahlberg, 2021). My research takes a phenomenographic perspective, thus this methodology will be explained in more detail in Chapter 3. At this point, this approach is only briefly explained to differentiate it from the cognitive perspective discussed above.

Phenomenographic research has further developed the study of academics' conceptions related to university teaching. For example, Åkerlind (2004) studied academics' ways of experiencing being a university teacher. Parpala and Lindblom-Ylänne (2007) identified six dimensions of good teaching: practice, context, teachers' role, students' role, atmosphere and physical environment. Ashwin (2006) explored academics' perceptions of tutorials in a university teaching context, revealing that academics' accounts of tutorials varied from "being a place to develop an understanding of concepts" towards "being a place where new positions on the topic are developed and defined" (pp.656-659).

In this section, research on academics' conceptions of teaching was reviewed, with an explanation of the main differences between cognitive and phenomenographic perspectives. Some phenomenographic studies on academics' conceptions of other phenomenon related to university teaching were also included and briefly discussed. The purpose of the review was to provide context for this phenomenographic study and situate it within the existing body of literature. This body of literature is particularly relevant because academics' conceptions of teaching often reflect their broader ways of experiencing and understanding teaching-related practices – including how they conceptualise the phenomenon of designing MOOCs. Moreover, many of the studies reviewed employed phenomenography as their methodological approach, which provides an important background to this study. However, it is worth noting that the studies reviewed in this section were mainly conducted within the general higher

education context where face-to-face teaching was the norm. In the next section, phenomenographic research on academics' conceptions of teaching in an online context is reviewed.

2.2.2 Phenomenographic research on conceptions of online teaching

Online teaching has become an integral part of the standard educational provision of "conventional" campus-based universities, either as a component within blended learning courses (Dziuban, Graham, Moskal, Norberg & Sicilia, 2018) or as part of entirely online distance education programmes (Sadiku, Adebo & Musa, 2018). However, compared to the extensive research on conceptions of teaching in face-to-face situations discussed in the last section, there has been relatively little research on conceptions of teaching in distance education settings and even less in online contexts (González, 2009). This section aims to provide a narrative review of the small body of literature concerning academics' conceptions of online teaching, as it is relevant to this study of academics' conceptions of designing MOOCs – a specific form of online and open teaching. Understanding how academics experience online teaching more broadly provides valuable background for interpreting and discussing the findings of this study in comparison with existing research.

Roberts (2003) studied online teaching of campus-based students. This study identified three conceptions of teaching using the web, presenting an incremental pedagogical sophistication ranging from "web as source of information", "web for individual self-paced learning and assessment", to "web for group analysis, decision making and dialogue". Among these, Roberts (2003) noted that the most sophisticated conception was associated with networked learning pedagogy, which views the web as an instrument for enabling and developing learning relationships.

Along the same line of research, McConnell and Zhao (2006) explored conceptions of e-learning held by a group of academics working in conventional, campus-based Chinese universities. The preliminary results from this study revealed that face-to-face lectures were considered as the most important and preferred teaching method by Chinese university teachers. While the university teachers valued the possible benefits of incorporating e-learning strategy to consolidate students' learning through online

cooperative tasks, providing courses completely online through e-learning was not considered possible in Chinese universities. E-learning was understood as a quick and convenient teaching form through providing resources online for students' self-study use. Ellis, Steed and Applebee (2006) investigated conceptions of blended teaching held by a group of university teachers who had introduced web-based learning into existing face-to-face courses. They defined blended learning as a systematic combination of face-to-face learning and e-learning (Ellis et al., 2006). This study unveiled four categories of conceptions. Incorporating online teaching in a blended learning context was conceptualised as: replacing part of a teacher's responsibilities, providing students with information, developing student understanding through aligning media to intended learning outcomes, and helping students develop and apply new concepts.

Building upon the discussed research by Roberts (2003), González (2009) studied conceptions of online teaching in a fully online distance learning context. He interviewed seven academics who taught postgraduate online courses and claimed that the conceptions of online teaching proposed by Roberts (2003) did not adequately distinguish the conceptions held by academics in his study. González (2009) proposed three modified conceptions of online teaching: "the web for individual access to learning materials and information; and for individual assessment", "the web for learning related communication (asynchronous and/or synchronous)", and "the web as a medium for networked learning". It is worth noting that, similar to Roberts (2003), González (2009) used theoretical frameworks from previous studies (e.g. Kember, 1997; Kember & Kwan, 2000; Roberts, 2003) to guide his data analysis, diverging from the typical phenomenographic data analysis approach that derives categories solely from data (Åkerlind, 2005; Bowden & Walsh, 2000). While their methodological approach did not strictly adhere to a phenomenographic analysis, I have no intention of judging or critiquing the rigour of their research at this stage, as the methodological intricacies of phenomenography will be addressed in Chapter 3. Their research is included and discussed in this section as phenomenographic studies, as stated by the researchers themselves in the article text.

In another study, González (2010) examined conceptions of teaching using e-learning in an on-campus setting held by a group of university teachers. Four categories of conceptions emerged from this study, with eLearning seen as a medium: to provide information to students, for "occasional" online communication, for engaging students in online discussions, and to support knowledge-building tasks. The results from this study were largely in line with the findings from previous research. As González (2010) summarised, research on conceptions of online teaching reached a certain level of consensus that research findings range consistently from "information-focused" to "communication-collaboration-knowledge building" (p.64).

With other phenomenographic studies exploring online teaching or eLearning more broadly defined, Lameras and associates (2008, 2012) chose to focus specifically on the use of a virtual learning environment (VLE) in teaching. They scrutinised a group of university teachers' conceptions of teaching using a VLE within a blended learning context. Lameras et al. (2012) revealed four qualitatively different categories of conceptions. Using a VLE in blended teaching was conceptualised as a means of supporting: information transfer; application and clarification of concepts; exchange and development of ideas, and resource exploration and sharing; collaborative knowledge creation, and development of process awareness and skills.

Walter (2016) explored tutors' experiences with online teaching in a blended learning course in English as a foreign language. From their research, four distinct conceptions of online teaching within a blended learning context emerged: as a one-way street of communication in providing extra materials and asynchronous communication; an add-on to on-campus classes; a distant relationship between students and online tutors; and as an opportunity for tutors' professional development and team communication. The conceptions identified in this study were largely in line with previous research findings (Ellis et al., 2006; González, 2010) except for the fourth conception, which was not found in previous literature, emphasising learning and development as a teacher and collaboration within a team.

In addition to the discussed phenomenographic studies, there has been research utilising alternative research approaches to contribute to the exploration of this research topic. For example, a recent investigation conducted by Nguyen and Kember

(2023) applied a grounded theory approach to examine the beliefs about online teaching held by Vietnamese university lecturers in STEM (Science, Technology, Engineering, Mathematics) disciplines. As elaborated in section 2.2.1, this type of research differs in its epistemological standpoint from phenomenographic studies, focusing on individual beliefs rather than collective experience and conceptions held by a group. Therefore, this section exclusively reviewed phenomenographic studies, considered most relevant to my research, which will be used later in the discussion of the results of this research.

In summary, building upon previous research on conceptions of teaching, research in this area has been advanced through examining academics' conceptions of online teaching in both blended learning and online distance learning contexts. Although this body of research remains relatively limited compared to the depth of understanding in face-to-face teaching settings, the review of existing literature in this domain provides valuable background for my research.

2.2.3 Phenomenographic research on academics' experiences of course design

Within the broader concept of "teaching", course design is pivotal, representing the planning phase of teaching. Practitioners increasingly recognise that the mere delivery of instruction is rarely enough to be a successful solution to the challenges they encounter in teaching (Oh & Reeves, 2010). Fink (2013) contends that academics "need to learn how to design courses more effectively for higher education to significantly improve the quality of its educational programs" (p.1). Despite extensive research on academics' conceptions of teaching, the concept of "teaching" was broadly defined and examined in these studies, with little research focusing solely on academics' experiences and conceptions regarding course design (Ziegenfuss, 2007), particularly from a phenomenographic perspective. Ziegenfuss (2007) conducted a pioneering phenomenographic analysis of higher education academics' approaches to course design. She claimed her study as the first phenomenographic study focussing exclusively on academics' approaches to the process of course design within the higher education context. Through this study, five categories of description emerged: course design within a structure or framework; outcome-based course design; process or

sequence-driven course design; needs-focused course design; and course design as a part of a bigger picture. The three themes of expanding awareness identified from the analysis were: content selection, course format and strategies for student engagement.

Further contributing to this research topic, Smith, Stark and Sanchez (2019) explored conceptions of course design held by a group of university teachers of STEM subjects. Their research uncovered five distinct ways of understanding course design: focusing on content; focusing on methods; as a reflective practice; as departmental collaborations; and as collective change. In comparison to Smith et al.'s (2019) research results, which primarily presented individual approaches to course design, the last two conceptions in Smith et al. (2019) emphasised a community approach to course design, including collaboration with colleagues, across disciplines and beyond one's own institution.

Apart from the phenomenographic studies discussed above on academics' conceptions of and approaches to course design, research on academics' conceptions of "curriculum" is also considered relevant to my research topic. For instance, Fraser and Bosanquet (2006) studied a group of university teachers' conceptions of curriculum and identified four categories of description: the structure and content of a unit (subject); the structure and content of a programme of study; the students' experiences of learning; and a dynamic and interactive process of teaching and learning.

2.3 MOOC and MOOC-related research

2.3.1 MOOC's origin and brief history

MOOC was originally termed to refer to the Connectivism and Connected Knowledge course (CCK08) developed in 2008 by Stephen Downes and George Siemens, advocating a connectivist approach to learning (Siemens, 2005). It suggested that there was "no formal learning pathway or correct set of prescribed tools, each learner adopted their own approach" (Conole, 2015, p.239). These early MOOCs, later termed cMOOCs, emphasised learner autonomy in exploring online resources and sharing information and ideas through different social media tools and platforms.

This new online teaching form soon attracted interest and attention from HE providers. In 2011, Stanford University provided several MOOCs which attracted high-enrolment. Following the emergence of the three main US MOOC providers Udacity (www.udacity.com), Coursera (www.coursera.org) and edX (www.edx.org) in 2012, many well-known US universities partnered with these providers to develop MOOCs. The number of MOOCs and registrations increased dramatically as a result (Daniel, 2012). With the aim of "expanding HE beyond universities' physical campuses" (Nkuyubwatsi, 2013, p.2), these courses, referred to as xMOOCs (Daniel, 2012), followed a more structured format and adopted a didactic approach, emphasising content delivery by academics from prestigious universities.

In the UK, universities also began exploring this new way of online teaching (Oxford Brookes University, 2012; Roberts, 2012) in response to developments in the US (Pappano, 2012). The first UK led platform, FutureLearn, was founded by Open University in 2012, initially partnering with 12 UK universities. As of August 2023, 47 UK HE institutions have partnered with FutureLearn, providing hundreds of MOOCs and reaching over 19 million learners globally (FutureLearn, 2023). Statistics from a report on MOOCs provided by UK institutions (Mcintyre, 2016) revealed that 77% of MOOCs provided by UK institutions were hosted on FutureLearn. As such, for this research, academics from UK HE institutions with experience in designing FutureLearn MOOCs were chosen as research participants, on the basis that their experiences are representative of HE academics' engagement with designing MOOCs within the UK context.

Early attempts to categorise MOOCs into cMOOCs and xMOOCs (Daniel, 2012; Siemens, 2012) helped delineate differences in pedagogical design. However, this dichotomous classification was deemed too simplistic to describe the variety of MOOCs and associated key characteristics, as "the distinction between the two types of MOOCs become increasingly unclear and problematic" (Veletsianos & Shepherdson, 2016, p.215) with many MOOCs adopting hybrid features. Bayne and Ross's (2014) report on UK MOOCs contended that due to multiple pedagogic forms and intentions, MOOCs could no longer be adequately described or defined using the broad-brush cMOOC/xMOOC binary. This dichotomous classification was considered limited in its

"usefulness for those seeking to develop a MOOC, to understand how MOOCs are actually being experienced, or to draw conclusions about good practice in MOOC design and pedagogy" (p.22). Ross et al. (2014) describe these blended models as "hybrid MOOCs", which do not fit neatly into either category. Alternative frameworks for classifying MOOCs have since been proposed, which claimed to be able to better describe the nuances based on different features and purposes of MOOCs (Clarks, 2013; Conole, 2014). Since the classification of MOOCs is not the focus of this research and not relevant to my research questions, specifying a single category would unnecessarily constrain the interview questions and might lead interviewees' discussions in a biased direction. Therefore, the term "MOOC" is used broadly in this research to refer to courses developed on the FutureLearn platform, without specifying a particular type of MOOCs.

The rapid expansion of MOOCs over the last decade (Shah, 2021) has been accompanied by significant debate. Initially, MOOCs were regarded as a disruptive technology (Anderson, 2013; Conole, 2013) and described by Bean (2013) as a "wave of disruption hit higher education" that challenges traditional institutional business models (Maslen, 2012; Papadakis, 2023; Pilli et al., 2018). There have been varied views regarding the potential impact of these online courses on traditional HE provisions. On a positive note, their potential for social inclusion and global reach were highlighted. Daniel (2012) anticipates that MOOCs will impact teaching positively and encourage "institutions to develop distinctive missions" (p.13). Kopp, Ebner and Dorfer-Novak (2014) highlighted their value for providing scientific content to the general public and flexible credit-bearing opportunities. On the other hand, MOOCs were seen as merely institutional marketing tools (Maslen, 2012) and concerns were raised about their high dropout rates and long term sustainability (Pilli et al., 2018).

Recent developments have intensified these debates. The COVID-19 pandemic accelerated digital transformation in HE, renewing attention to online learning including MOOCs (Papadakis, 2023). Technological innovations such as artificial intelligence and microcredentials continue to reshape the online learning landscape (Jordan & Goshtasbpur, 2022), raising new questions about the purpose and pedagogical integrity of MOOCs (Shah, 2023; Zawacki-Richter et al., 2020).

Within this evolving context, FutureLearn's approach has been described as reflecting a "distinct pedagogical intent… from a UK perspective" (Bayne & Ross, 2014, p.4), which differs from the pedagogical approach taken by US MOOC platforms such as Coursera and edX. This distinction is further supported by Wong (2015), who observed that the pedagogical orientations of MOOC platforms are different, such as the prevalent use of videos on Coursera and edX, and emphasis on active social interaction on FutureLearn, which can shape the courses provided. Even though FutureLearn emphasises active social interaction, Kerr et al. (2015) argue that it still operates on the xMOOC principles, wherein all materials essential to the course are predefined and housed within the platform. Kerr et al. (2015) argue that FutureLearn MOOC design approaches are "quite firmly steered by the FutureLearn guidelines", resulting in most MOOCs being "structured in a unidirectional manner" (Ebben & Murphy, 2014, p.14). HE academics involved in designing and delivering MOOCs play critical roles in shaping the learning experience and outcomes in a MOOC. However, little is known about their varied understandings of "designing MOOCs" in the current available literature on MOOCs, particularly in the UK context. Therefore, my research aims to explore the UK HE academics' experiences of designing FutureLearn MOOCs, thereby contributing to a deeper understanding in this field.

2.3.2 MOOC-related research overview

MOOCs have been widely discussed as a popular topic across a range of media including blogs, magazines, newspapers as well as academic paper and reports (Hollands & Tirthali, 2014; Shah, 2023; Yuan & Powell, 2013). Since the first MOOC emerged in 2008, this online learning phenomenon attracted a great deal of debates and research, which resulted in a wealth of publications and resources relating to MOOCs.

There were two early literature reviews which provided a clear picture of the landscape of MOOC-related research and publications in the first few years since the emergence of a MOOC. Liyanagunawardena et al. (2013) did a systematic review of peer reviewed research literature relating to MOOCs which identified 45 papers published during the period 2008-2012. The review showed that most research had investigated the learner perpective but very few published research had studied the

course creator and faciliator perspective. Liyanagunawardena et al. (2013) concluded that the paucity of published research about academics' experiences and practices left a significant gap in the MOOC-related research and could not even form one of the research themes identified in their review. Ebben and Murphy (2014) identified two phases of scholarship about MOOCs based on a review of MOOC literature published during 2009-2013. As cited in Raffaghelli et al. (2015), Ebben and Murphy's (2014) review located MOOC literature within a chronological framework which consisted of "a first phase of enthusiasm and experimentation" focused on cMOOCs and connectivism, "followed by a second one, more critical and objective", focused on xMOOCs, learning analytics and assessment, "oriented towards the exploration of strategies to improve access and innovate higher education" (p.503).

Although Bayne and Ross (2014) predicted that the absence of a teacher perspective in the MOOC literature (Liyanagunawardena et al., 2013) would begin to be remedied as more examples of MOOC practice became available for analysis and discussion, Veletsianos and Shepherdson's (2016) review showed that this research gap persisted. Employing a similar literature searching strategy to Liyanagunawardena et al. (2013), Veletsianos and Shepherdson (2016) conducted a systematic review of MOOC-related research, which identified and reviewed 183 empirical research articles published during the period 2013-2015. Their review indicated that only a small proportion of the literature (8.2%) focused on topics related to instructors and teaching. There was a paucity of research into "instructor-related topics" which "may include instructor motivation, experience, perceptions" (Veletsianos & Shepherdson, 2016, p.215). Additionally, Deng and Benckendorff's (2017) review reiterated this research gap, noting that "only a small number of research pieces explored MOOC teaching and learning from the perspective of instructors". Similarly, Zhu, Sari and Bonk's (2018) systematic review found that more than 50% of reviewed literature related to students, while only 5% of MOOC studies were closely related to instructors. MOOC studies have predominantly focused on learners, with the instructors' perspectives rarely examined (Doo, Tang et al., 2020; Watson et al., 2016).

Existing MOOC-related research has primarily focused on student experiences and perspectives (Atiq et al., 2016; Huang, 2017). This includes investigations into how

learners experience MOOCs and why they engage in particular activities in the way they do (Veletsianos et al., 2015) as well as learning analytics in MOOCs (Kop, 2011). As noted by Zhu, Sari and Bonk (2018), among these student-focused studies, the emphasis has been on students' "behaviours, motivation, satisfaction, performance, interaction, and retention" as well as "new topics such as communication patterns, the social structure of the discussion threads, and attitudinal change" (p.35). Similarly, Deng and Benckendorff (2017) also noted that existing student-focused MOOC research has explored learners' "personal characteristics, motivations, attitudes, perceptions of learning/course experience, patterns of engagement, and perceived learning outcomes" (p.602). Raffaghelli et al. (2015) categorised papers investigating the learning process of MOOCs into several categories: the challenges surrounding completion rates in MOOCs, factors that hinder or facilitate learner engagement; issues related to self-directed learning, and the literacies necessary to participate in MOOCs, including proficient use of digital technologies and social media.

In addition to student-focused MOOC research, there has been extensive research on other various aspects of MOOCs, including MOOCs' learning design (Fournier & Kop, 2015; Warburton & Mor, 2015), pedagogical approaches (Bali, 2014; Conole, 2015; Knox et al., 2012), tools (Mak, Williams & Mackness, 2010; Swan, Day, Bogle & Prooyen, 2009; Toven-Lindsey, Rhoads & Lozano, 2015) and qualities (Margaryan, Bianco & Littlejohn, 2015). Conole (2014) concluded that for MOOCs "we need to make more informed design decisions that are pedagogically effective" (p.75). The overarching goal of this body of research has been to identify universal principles and frameworks (Alario-Hoyos, Perez-Sanagustin, Cormier & Delgado-Kloos, 2014) that academics can follow in the process of designing MOOCs to enhance learning experiences and quality (Conole, 2013; Guardia, Maina & Sangra, 2013). Despite acknowledging that the design and development of MOOCs requires an enormous amount of time and effort (Hollands & Tirthali, 2014; Watson et al., 2016; Zhu, Bonk & Sari, 2018), there has been very little research studying academics' perspectives and experiences of designing MOOCs. As key stakeholders in creating MOOCs, it is important to gain a comprehensive understanding of their conceptions of this phenomenon. The next section reviews literature specifically centred on academic-

focused MOOC research, providing the most relevant background and context for my research.

2.3.3 Academic-focused MOOC research

The review of literature on academic-focused MOOC research – which represents the most directly relevant body of work for this study – was developed by building on several comprehensive systematic literature reviews in this field, such as those from Liyanagunawardena et al. (2013), Raffaghelli et al. (2015), Veletsianos and Shepherdson (2016) and Zhu, Sari and Bonk (2018). Rather than duplicating those exhaustive searches, the current review focused on identifying additional and more recent publications that may have emerged since then. This was done through targeted searches in Scopus, with various combinations of keywords (e.g., academics, teachers, faculty, tutor, conception, experience, perception, MOOCs, design), primarily covering the period 2018-2024 publications in English language. To ensure completeness, the reference lists of identified studies were also examined manually to locate any earlier relevant works that may have been missed. In total, approximately 50 academic-focused MOOC studies were reviewed, including those identified in previous systematic reviews and new publications found through this search process.

In organising my review of academic-focused MOOC research, I begin with studies that do not exclusively focus on academics but include them as part of the "inside stakeholders". Academics constitute a significant portion of the research participants in these studies which have allowed their voices to emerge strongly in the findings. Following this, I structure the review based on the methodologies adopted in academics-focused MOOC research rather than thematic topics. This decision is informed by observations in prior literature reviews highlighting the limited representation of qualitative research in MOOC-related studies (Veletsianos & Shepherdson, 2016; Zhu, Sari & Bonk, 2018). I discuss desk-based studies first, before moving on to research in the order of quantitative, mixed-methods research and qualitative studies. This approach not only captures the diversity of methodological perspectives in academics-focused MOOC research landscape, but also helps position my qualitative research within the existing literature.

2.3.3.1 Academics as “inside stakeholders”

There has been MOOC-related research from an “inside stakeholder” perspective (León-Urrutia, White & White, 2016; León-Urrutia, Cobos & Dickens, 2017, 2018; McGrath et al., 2017a) or “institutional” view (Hollands & Tirthali, 2014; Jansen & Schuwer, 2014; O’Connor, 2014; Wong, Li & Lam, 2015). These studies included a diverse range of professionals engaged in the design and/or delivery of MOOCs as research participants such as academic staff, learning designers, ICT staff, researchers, graduate teaching assistants. Some studies also included leadership figures, administrative staff and legal service teams who were somewhat peripheral to MOOC production but played vital roles in the change initiatives within universities. Although these studies did not exclusively focus on academics, “MOOC instructors”, “academic staff” or “faculty members” constituted a significant portion of the research participants as “inside stakeholders” thus had their strong voice in the research findings. It is important to note that throughout this literature review chapter, academics may be referred to by various terms such as ‘university teacher’, ‘MOOC instructors’, ‘MOOC designers’, ‘faculty members’, depending on the sources being referenced.

Among these studies, León-Urrutia et al. (2018) identified four challenges mainly perceived by academics actively engaged in MOOC production and teaching. These challenges included adapting to new tools and processes, meeting deadlines, addressing target audiences and workloads. Relating to these challenges, academics voiced demands for incentives and investment in further MOOC development, even though the majority of participants had positive attitudes toward incorporating MOOCs at the university, viewing them as instruments for democratising education and facilitating digital transformation. Hollands and Tirthali (2014), through interviews with a diverse group of stakeholders (including 27% faculty members), identified six institutional goals related to offering or using MOOCs. Many of these goals were consistent with those identified in other studies concerning institutional goals in offering MOOCs (AHEAD, 2014; Allen & Seaman, 2014; Sandeen & Jarrat, 2013) such as extending reach and access, building and maintaining brand, improving economics and improving educational outcomes. Additionally, two unique goals emerged, “innovation

in teaching and learning" and "conducting research on teaching and learning", reflecting the evolving landscape of education and potential for MOOCs to drive innovation in these areas. McGrath et al. (2017) used a phenomenography methodology to explore conceptions of the MOOC phenomenon among a group of internal stakeholders within a single institution. Their study identified five conceptions of MOOCs: as learning a platform, as content learning, as a catalyst for educational change, as moral obligation and as institutional positioning.

The research mentioned above, which investigated the "inside stakeholder" or "institutional" perspectives, did involve academics as participants in the studies. However, their perspectives were intertwined with those of other research participant groups. The subsequent body of literature, in contrast, places a singular focus on capturing academics' viewpoints and experiences. In a few instances, these studies also integrate students' perspectives for the purpose of comparison or triangulation, thereby enriching the overall research context.

2.3.3.2 Desk-based research

This section gives a brief review of desk-based studies which analyse existing academics-focused MOOC literature rather than collecting new empirical data to explore academics' experiences. Hew and Cheung (2014) studied both students' and instructors' motivation and challenges in using MOOCs. Their investigation was grounded in a comprehensive analysis of 25 empirical MOOC studies published up until July 2013. This desk-based research identified three primary motivations driving academics to engage with teaching MOOCs: sense of intrigue, personal rewards, and sense of altruism. Furthermore, their study identified four key challenges confronting MOOC instructors: difficulty in evaluating students' work, lack of student's immediate feedback, heavy demands of time and money, and lack of students' participation in online forums. In light of the identified challenges in teaching MOOCs, they made a compelling case for the pressing need to address MOOC quality and assessment in future research. Another desk-based research carried out by Deng, Benckendorff and Gannaway (2017) also studied both students' and instructors' perspectives but with an emphasis on learning and teaching dimensions based on a review of 95 papers published during 2014-2016. They classified learning and teaching aspects identified

from the literature in 4 categories broadly without a separate distinction between students' and instructors' viewpoints explicitly. Based on their description and explanation of the categories, "teaching contexts" appeared to be the only category relevant to instructors out of the four, which included motivations, challenges and pedagogical preferences as the three primary dimensions explored in the literature from instructors' perspectives. Their review indicated that research on MOOCs from the instructor's perspectives was not as well developed as that from the students' perspectives. In contrast to the above two desk-based studies, Ahmad, Hussin, Dahlan and Mahmood's (2020) research focused on academics only, scrutinizing the challenges faced by MOOC instructors based on a review of literature published during 2015-2018. This research identified 35 challenges from the reviewed sources, which they methodically organized into 6 distinct themes: incompatibility of expectation, student influence, lack of institutional support, complexity of collaboration, time pressure and platform functionality.

In addition to the above discussed desk-based studies, there exists a body of empirical MOOC research specially focused on academics' experiences and perspectives including their attitudes and perceptions etc., which I will explore in the following few sections in the order of quantitative, mixed methods and qualitative studies.

2.3.3.3 Quantitative research

As noted by Veletsianos and Shepherdson (2016), much of the existing empirical research pertaining to MOOCs tends to favour survey-based quantitative research methods, primarily due to the convenience of collecting data offered by this approach. One example of such research is The Chronicle's survey (Kolowich, 2013) of 103 professors with experience in teaching MOOCs, conducted to explore their perspectives. While the findings were published in a newspaper article rather than a peer-reviewed journal, this study is included here as it held significance for being claimed as the first ever survey of MOOC professors (Kolowich, 2013). The survey results revealed a predominantly positive attitudes among academics regarding MOOCs, with a majority of participants supporting the integration of MOOCs into HE systems and foreseeing potential reduction of degree and HE education cost. Regarding the motivations for teaching MOOCs, the most cited reason was altruism,

centred on increasing access to higher education worldwide, with professional development and enhanced professional profiles also being cited as important incentives. Another survey-based research was conducted by Sheard et al. (2014), who studied academics' awareness and attitudes towards MOOCs based on responses to their survey questions by 236 academics across 23 countries. It is notable that only a very small percentage of participants in this study had direct experience of designing or delivering MOOCs, therefore, most academics' responses were based on their observations or assumptions about their colleagues' and students' attitudes toward MOOCs rather than their own direct involvement with MOOCs. Furthermore, while the second part of the survey was intended for academics with some knowledge or experience in MOOCs, the questions primarily centred on their colleagues' and management's attitudes toward MOOCs rather than their personal perspectives. With only 7.3% of participants having direct involvement in developing MOOCs, this research provided some insights into how the academic community, in general, perceived the MOOC phenomenon. Further investigations are needed on the perceptions and experiences of academics directly involved in designing and delivering MOOCs. Additionally, this survey-based research can be considered as a focused exploration of the attitudes of computer science and education academics towards MOOCs, given the dominant percentage (around 83.1%) of participants from these two disciplines.

Khalil and Ebner (2015) utilised two web-based surveys to explore the perceived importance and satisfaction of both learners and instructors regarding the level of interaction in MOOCs. The MOOC instructors included in this study all had direct experience in creating or delivering MOOCs; however, this survey-based research was somewhat limited in scope with only 11 instructors participating. The findings suggested that instructors generally viewed interaction in MOOCs as less important compared to the perceptions of MOOC learners. Moreover, the majority of instructors expressed satisfaction, with many reporting a high level of satisfaction with the level of interaction within their MOOCs. In another survey-based study conducted by Stephens-Martinez, Hearst and Fox (2014), the results of a survey involving 92 MOOC instructors were reported. This study aimed to uncover the types of information that

instructors found valuable in their MOOCs. The findings showed that, in addition to quantitative data such as grades and academics' performance, instructors placed important value on understanding student behaviour through observing student performance and analysing patterns of discussion forum activity. Stracke et al. (2018) designed and conducted a "Global MOOC Quality Survey" to investigate both MOOC designers' and learners' perspectives on interaction and overall experience in MOOCs. The research compared the viewpoints of these two distinct groups and revealed significant differences between the MOOC learners and designers. They found that in general designers did not value interaction in MOOCs as much as the learners did, which aligned with the research findings by Khalil and Ebner (2015). Doo, Zhu, et al. (2020) attempted to dig deeper in understanding motivational factors that drove MOOC instructors to develop and teach MOOCs, with a focus on the concept of "work engagement". They surveyed 209 MOOC instructors to explore the factors influencing instructors' work engagement. This study revealed that the three factors examined in this research (openness, altruism, instructional self-efficacy) had a significant impact on the work engagement of MOOC instructors. Notably, openness to experience and instructional self-efficacy demonstrated direct effects, and altruism had an indirect effect.

In addition to the above studies in a more general sense - involving research participants from across different disciplines - the two survey-based studies conducted by Deale (2015) and Annaraud and Singh (2017) both focused on academics' perceptions and use of MOOCs within the domain of hospitality and tourism.

As highlighted in Raffaghelli et al. (2015), surveys are frequently used in the contexts of MOOCs, "which is understandable because of the large number of people involved that can provide useful information" (p.502). The survey-based research reviewed above indeed provided valuable statistics data and insights into academics' attitudes and perspectives related to MOOCs from different angles. However, it is important to recognise that survey-based studies come with limitations. Participants are often confined to choosing answers from pre-defined lists or rating scales over pre-defined statements. Even when open-ended questions were incorporated in some surveys, the information gathered from responses may not be as rich as that obtained through in-

depth interviews. This points to a gap in the field - a lack of in-depth qualitative research in investigating academics' perspectives and experiences. To clarify statistical information collected through surveys and gain deeper insights into participants' perspectives in more depth (Bowen, Rose & Pilkington, 2017), some academic-focused MOOC research adopted a mixed-methods approach, integrating follow-up interviews alongside surveys. Interviews offer more "space for participants to offer new meanings to the study focus" (Galletta, 2013, p.24). In the subsequent section, I will provide an overview of studies that have used a mixed-methods approach in investigating academics' experiences and perspectives related to MOOCs.

2.3.3.4 Mixed-methods research

Evans and Myrick (2015) surveyed 162 academics who have taught MOOCs on edX or Coursera about how they perceive the purpose of MOOCs (motivations for designing and delivering MOOCs) and carried out follow-up interviews with five of the participating academics. The most frequently selected response from a list of pre-defined statements by the research participants was "democratise higher education". Through open-ended questions the research revealed two benefits of MOOCs to students, perceived by academics: access to high quality teaching materials, and a global MOOC learner community. Challenges to students perceived by academics included internet speed, language, cultural differences and lack of instructor support. From the perspectives of academics, the benefits of teaching MOOCs were the opportunity to reach an enormous number of students from around the world. However, they also identified that the amount of time and effort required in creating a MOOC was the most significant challenge they faced.

In a similar vein, Lowenthal, Snelson and Perkins (2018) adopted a mixed-methods approach to collect data in their research, though they conducted more interviews. They surveyed 186 academics who had experience of teaching MOOCs on edX or Coursera with 15 follow-up interviews to explore their motivations, perceptions and experiences of teaching MOOCs. This study confirmed the findings by Evans and Myrick (2015), revealing that most academics had little online teaching experience prior to teaching MOOCs. The research identified three primary motivations driving academics to teach MOOCs: interest and passion, publicity and marketing, and

benefits and incentives. Out of the three motivations they found was that academics were primarily driven to teach MOOCs for intrinsic reasons rather than extrinsic incentives.

In addition to the aforementioned studies, it is worth noting that a specific group of authors has dedicated their research efforts to employing a mixed-method approach in MOOC research with a focus on academics' perspectives. They have published a series of mixed-method studies investigating various facets of this area (Bonk et al., 2018; Doo, Tang, et al., 2020; Sari et al., 2020; Zhu, Bonk & Sari, 2018, 2019; Zhu et al., 2021). In their research, Zhu, Bonk and Sari (2018, 2019) conducted two studies based on data collected through a survey of 143 academics, complemented by 12 follow-up interviews. Although both studies were based on the same dataset and investigated academics' experiences with "MOOC design", their research angles differed. Zhu, Bonk and Sari's (2018) research revealed academics' considerations and challenges in designing MOOCs in terms of pedagogy, resources and logistics. The challenges of engaging learners, increasing learner interaction and limited assessment methods were categorised as "pedagogical challenges", while the platform limitations and time constraints for designing MOOCs were classified into resources and logistics categories retrospectively. On the other hand, Zhu et al.'s (2019) research took a different angle, exploring academics' motivations for offering MOOCs and their perceived innovations in MOOC design. This study classified academic motivations into three categories based on Alderfer's (1969) theory of human needs: "growth needs" including curiosity, interest, experiment and learning about MOOCs; "relatedness needs" including reaching people, democratising education, showcasing research and teaching, and university marketing; and "existence needs" which consisted of personal rewards, recognition, visibility and reputation. In terms of instructional innovations perceived by academics, interestingly, "peer-feedback" and "problem-based learning", commonly used in traditional classrooms, were considered as innovative by MOOC instructors. The research, however, indicated that overall, academics' perceptions of innovations in their MOOC designs were highly varied.

Bonk et al. (2018) investigated the approaches MOOC instructors used to improve the personalisation of their MOOCs. Their research revealed that only one-third of the

participants made extensive efforts into this aspect of course design. Their study identified a list of activities, resources and tools used by instructors to personalise learning environment in their MOOCs. Zhu et al. (2021) conducted a similar study, examining MOOC instructors' approaches in designing MOOCs, with a specific focus on their strategies and practices for addressing learner cultural diversity. Sari et al. (2020) examined MOOC instructors' perspectives in the contexts of Indonesia and Malaysia, identifying key motivations for offering MOOCs (personal motives, institutional encouragement and altruism) and challenges in designing MOOCs (collaboration, participant engagement, video development and time constraints). These findings resonated with those found in existing research and did not reveal entirely new dimensions. The study also categorised academics' design strategies into four stages: preparation, attraction, participation, and assessment, drawing from Wong's (2016) research.

Doo, Tang, et al. (2020) expanded the investigation of MOOC instructors' motivation by examining their connection to professional development. This study categorised motivational factors into seven groups, comprising four intrinsic motivations: interest in new learning technology, service to the public and community, desire to promote subject matter, and personal growth and development; and three extrinsic motivations: financial incentives and course release, research purpose, and institutional goals. The findings indicated that instructors' motivation for teaching MOOCs was primarily driven by intrinsic factors, contradicting earlier research findings by Kolowich (2013) and Evans and Myrick (2015).

In the preceding mixed-methods research, surveys served as the main data collection method, complemented by follow-up interviews to gather additional data. These follow-up interviews were utilised to augment quantitative data collected through the survey, aiming to provide richer information and a more comprehensive understanding of academics' experiences and perceptions. Raffaghelli, Cucchiara and Persico (2015), in their review of methodological approaches in MOOC research, noted a scarcity of research aligned with a qualitative paradigm (p.498). To address this research gap, scholars have conducted qualitative research through in-depth interviews about academics' perspectives and case studies focusing on academics' experiences within

specific MOOCs. The following section provides an overview of this collection of qualitative research.

2.3.3.5 Qualitative research

Each of the following case studies was about a very specific case focusing on academics' experiences within individual MOOCs. Stanton and Harkness (2014) explored the process of designing and delivering a MOOC by a group of academics, concluding that such efforts were labour-intensive and costly, demanding a broad skill set from academics. The author argued that the idea of reducing the cost of higher education through MOOCs was not supported by their study. Meanwhile, Arnold, Kumar, Thillosen and Ebner (2014) investigated the experiences of five convenors of a cMOOC, examining their perceived collaborative endeavour during MOOC planning and implementing process. Additionally, two case studies were conducted by the same group of authors (Loizzo, Watson & Watson, 2018; Watson, Loizzo & Watson, 2016) examining design considerations perceived by instructors within two attitudinal change MOOCs. Two more case studies (Czerniewicz, Glover, Deacon & Wilji, 2016; Freitas & Paredes, 2018) explored academics' perceptions regarding the impact of MOOCs on their teaching practices. In addition to the above case studies there have been research focusing on academics' perspectives and experiences with MOOCs within specific content and domains: e.g. tourism and hospitality (Lin & Cantoni, 2018); STEM (Zelinski et al., 2017). These eight case studies contributed to understanding academics' diverse perspectives within individual MOOCs or specific domains. The following section will review interview-based qualitative studies in larger scope with research participants across different disciplinary areas.

Najafi et al. (2015) interviewed eight academics from the same institution about their motivations and experiences of developing MOOCs. Identified movitations included expanding public access to high quality learning resources, showcasing teaching practices and attempting to engage MOOC learners in application of concepts learned. The study revealed that academics experienced designing and delivering MOOCs as a team-effort and valued instructional and technical support they received during the process. Positive impact of MOOC instruction on academics' teaching practice was also

reported in this study including increasing active learning opportunities and using MOOC resources for flipped classrooms.

Another qualitative study of MOOC instructors was conducted by Haavind and Sistek-Chandler (2015), who interviewed eight MOOC instuctors to investigate their perceptions of effective instructional assets required for a MOOC instructor to ensure a successful MOOC. Haavind and Sistek-Chandler (2015) analysed instructors' interview responses using an existing MOOC classification framework (e.g., cMOOC, xMOOC, hMOOC, pMOOC, mMOOC; see p.339) and sought to align their descriptions with the instructor's role characterised and expected within these MOOC types. The research identified several key concerns among MOOC instructors, including the challenges of providing feedback at a massive scale, risks related to reputation and safety due to open access, and the divergence between institutional goals of providing MOOCs and traditional HE provisions. Haavind and Sistek-Chandler (2015) asserted that the role of "instructors" in MOOCs is "largely pedagogical—oriented toward planning and preparing the MOOC experience. As a result, real-time, engagement from MOOC instructors during a course likely has little effect on most participants" (p.331). This research uniquely highlighted the role of MOOC instructors at the "designing MOOCs" stage, distinguishing it from aforementioned other research focusing on MOOC instructors. Academics play significant roles in the process of designing MOOCs, yet their experiences at this stage have often been either neglected or blended into broader discussions of "teaching MOOCs". Their understanding of the phenomenon of "designing MOOCs" is worth studying as a distinct area of research.

Bayne and Ross (2014) provided a comprehensive report offering an overview of the UK MOOC landscape. Their report reviewed existing literature on MOOC pedagogy and included "portraits" of five UK MOOCs which were said to have "a focus on the practices and priorities of the academic teaching colleagues involved in their design and delivery" (p.31). For each "portrait", they conducted interviews with individual academics regarding their perceptions of "teach in the open and at massive scale" (p.7) as well as their demands and expectations, revealing insights into their intentions and desires regarding designing MOOCs. Rather than combining the five MOOCs for comparison or summary, Bayne and Ross chose to analyse and discuss each one

individually, providing a more nuanced understanding. As they explained, while more MOOC-active academics could have been interviewed, they intentionally adopted a selective approach, presenting “snapshots” of UK MOOCs to demonstrate and acknowledge the diverse understandings of MOOC pedagogy and the varied approaches employed by academics. The report concluded with three key messages: UK MOOCs have multiple pedagogic forms and intentions which is beyond the cMOOC/xMOOC binary dichotomy; MOOC pedagogy is not embedded in MOOC platforms but is negotiated and emergent shaped by social and material influences; and teacher presence is central to MOOCs. Zheng, Wisniewski, Rosson and Carroll (2016) interviewed 14 academics aiming to investigate the process, motivations and challenges associated with teaching MOOCs. They specified that “MOOC” in their paper referred to an xMOOC variation. In studying the process of teaching MOOCs, similar to Haavind and Sistek-Chandler (2015), this research also separated “designing” from other parts and named it as “preparation” through decomposing the workflow of providing a MOOC into three stages. Although the process was decomposed, the motivations and challenges were still studied for “teaching MOOCs” in general. Four motivations were identified: worldwide impact on students, professional growth, research opportunities and enhanced name recognition. The identified five challenges in providing a MOOC include: logistical complexities of collaborative work, crises of time management, scaling to meet expectations, extreme criticism and reputation risk and insufficient support.

Griffiths, Mulhern, Spies and Chingos (2015) examined faculty perspectives on using MOOCs in campus-based courses. Although part of the study used surveys to collect student data, academics’ perspectives were studied and reported solely through a qualitative approach. The study identified several benefits of using MOOCs in campus-based courses as perceived by academics, including professional development, reduced content-delivery time, and greater flexibility in utilising class time. However, adapting MOOC content to fit existing courses emerged as a major challenge, with academics reported investing significant time in redesigning their courses with using MOOCs. Additional challenges identified included intellectual property concerns and difficulties with technology integration.

Askeroth and Richardson (2019) interviewed three academics who have taught MOOCs to explore their perceptions of the quality of learning in their MOOCs. The research results suggested that the instructors believed quality learning in MOOCs could be achieved through discussions and collaborations underpinned by social constructivism as well as through self-regulated learning approaches.

2.3.3.6 Summary

The literature included in this review reflects studies available up to 2022 when I began writing this thesis. A recent literature search found a few more academic-focused MOOC studies that contribute to this body of literature. These more recent studies primarily sought to apply established theories and models from other disciplines (e.g. psychology, management science) to analyse factors influencing academics' motivations in adopting MOOCs (Tseng, Lin, Wang & Liu, 2022; Zaremohzzabieh et al., 2022) or teaching MOOCs (Wang, Hemmen & Criado, 2023), aiming to find correlations and establish relationships between these factors. Goel, Raj, Garg, Singh and Gupta (2022) used a fuzzy approach to examine academics' motivational factors in developing MOOCs identified in previous literature such as professional development, altruism, personal development, institutional development, intrigue, monetary benefits and peer influence. Their findings ranked these factors, revealing that professional and personal development were the primary motives that drive MOOC development. Aydin and Karal (2024) interviewed 12 MOOC instructors and found that teaching MOOCs contributed to their professional and academic development. Another recent research by Li, Zheng, Bonk and Zhu (2024) examined MOOC instructors' experiences in the South American context. The findings revealed that their primary motivations for developing MOOCs included contributing to society, engaging in innovative teaching and learning, and responding to university initiatives. The study also identified key challenges, such as a lack of training, time constraints, the need to keep content updated, platform limitations and difficulties in collaboration.

This section has provided a comprehensive review of pertinent academic-focused MOOC literature, laying out the background within which my research is grounded. To conclude, I summarise the discussed literature from three key aspects to highlight the research gap in this area and justify my chosen research topic and context.

Firstly, there has been very little research on academics' experiences or perspectives in "designing MOOCs". The majority of existing studies focused on "teaching MOOCs" or "providing MOOCs" in a general sense. Although research acknowledges that academics' teaching in MOOCs involves design, organisation, course facilitation and direct instruction (Kop, 2011), the literature was insufficient in capturing the nuanced perspectives of academics concerning their experiences, roles and activities at different stages of "teaching MOOCs", particularly during the design and planning phase. The term "MOOC instructors" is often used to describe academics engaged in both the development and delivery of MOOCs. Ross et al. (2014) asserted that MOOC instructors undertake diverse roles, functioning as lecturers to deliver content; facilitators to moderate, nurture and monitor learning activities; and tutors and assessors to evaluate learning. It was apparent that these roles, as identified by Ross et al. (2014), mainly focused on the MOOC delivery and evaluation stages rather than the initial course design. Similarly, Watson et al. (2016) emphasised the importance of MOOC instructor's role as facilitator in course delivery. In contrast, Haavind and Sistek-Chandler (2015, p.331) posited that MOOC instructor's role is pedagogically focused on designing and preparing the MOOC before it begins, whereas their engagement with learners during course delivery has limited impact. This perspective aligns with Mercado-Varela et al.'s (2017) argument regarding academics' roles in MOOCs, "designing the architecture that will foment the self-organization and learning connections of the learner" may represent a facilitator's main activity (p.144). Despite these discussions, only a handful of studies have specifically explored instructors' experiences and perspectives in designing MOOCs (Bonk et al., 2018; Sari et al., 2020; Zhu, Bonk & Sari, 2018, 2019; Zhu et al., 2021). Additionally, just two studies have focused explicitly on MOOC designers' perspectives (Schmieden et al., 2022; Stracke et al., 2018). Overall, research on academics' experiences of designing MOOCs remains highly limited. Therefore, I have chosen to conduct research on this topic to address this gap and contribute to the existing body of literature.

Secondly, the review of the literature in this section shows that although academic-focused MOOC research has been conducted on a global scale and within different national and cultural contexts, research specifically focusing on the UK context remains

limited. Among the reviewed literature, except for a few survey-based studies which sought to include research participants from multiple counties, most research has focused on academics based in North America (e.g., USA, Canada) or those engaged in developing or delivering MOOCs through US-based platforms such as edX and Coursera. Some studies have explored European contexts, including Austria, Germany (Arnold et al., 2014) and Spain (Freitas & Paredes, 2018; K. Wang et al., 2023). Academics' experiences and perspectives in providing MOOCs within various national and cultural context in the Global South have also been explored, including Malaysia (Kumar & Al-Samarraie, 2018; Sari et al., 2020), Indonesia (Sari et al., 2020), India , (Bhaskar, Joshi, Dayalan & Vinay, 2022; Virani, Saini & Sharma, 2020), Pakistan (Ahmed, Khan, Faisal & Khan, 2017), African countries (Czerniewicz, Deacon, Glover & Walji, 2016) and Mexico (Salas-Rueda et al., 2022). These studies indicate that even among countries sharing many similarities in culture and language, differences in academics' perspectives and approaches to designing MOOCs are evident. For example, "Malaysian instructors tend to have more strategies compared to Indonesian instructors" (Sari et al., 2020). Different countries have different policies and goals in offering MOOCs, use different platforms and procedures, which can all be the factors impacting on academics' perspectives and understandings, thus studying academics' experiences within a specific national context is valuable to inform both practice and policy within that particular context.

Although the literature review positions the UK as the second most prominent country in attracting general MOOC research, following the US (Zhu, Sari & Bonk, 2018), this does not seem to be the case for academic-focused MOOC research. Within the literature examined in this section, research specific to the UK context is notably scarce. Only one study (Haavind & Sistek-Chandler, 2015) included a few UK academics in their interviews, and two studies investigated academics' experiences of teaching MOOCs through the UK-based platform FutureLearn, focusing on their perceptions of quality learning (Askeroth & Richardson, 2019) and openness (Czerniewicz et al., 2016). In addition to these research papers, there is only one report (Bayne & Ross, 2014) dedicated to exploring MOOC pedagogy within the UK context, which documented interviews with five UK HE academics, providing "snapshots" of their

experiences in designing MOOCs. The limited attention given to academics' experiences in designing MOOCs within the UK context highlights a research gap that needs further exploration. Given this gap, I have chosen to focus my research on HE academics' experiences of designing MOOCs within the UK context – the country where I work and study.

Lastly, it was intentional that the organisation of the literature reviewed in this section is based on different methods and methodologies employed by the research rather than research themes. This approach allows for a more comprehensive exploration of academic-focused MOOC research across different methodologies, particularly in response to the underrepresentation of qualitative research highlighted in previous reviews (Veletsianos & Shepherdson, 2016; Zhu, Sari & Bonk, 2018). By separately discussing desk-based, quantitative, mixed-methods and qualitative research, I aim to have a more nuanced exploration of the academic-focused MOOC research landscape across diverse methodologies, especially what qualitative research has been conducted so far in this area. This helps to locate my qualitative research within the context of existing literature.

Existing literature in this field has explored academics' perspectives from a wide range of angles. Among these studies, the most researched topics include perceptions and attitudes towards MOOCs, motivations and challenges of teaching MOOCs, and MOOC design pedagogies. Deng and Benckendorff's (2017) literature review also reveals that qualitative studies on instructors primarily report their "motivation of developing MOOCs and attitudes towards the use of MOOC" (p.604). Other aspects, such as satisfaction of interaction, valued information and cost, have also been studied. These qualitative studies typically choose to focus on one or two specific aspects, using thematic analysis from the researcher's first-order perspective to identify and categorise academics' different views on those aspects. These studies showed that there exist a variety of perspectives, strategies and approaches in designing MOOCs. However, up to the time of writing this literature review, I did not find any research that investigated variation in academics' experiences of designing MOOCs from a second-order perspective – examining how they perceive this phenomenon in different ways, or what "designing MOOCs" means to them in different ways. This

research gap calls for a research approach which allows capturing and elaborating multiple aspects of academics' understandings of designing MOOCs and identifying the different ways in which they experience this phenomenon holistically.

As discussed earlier in this chapter, phenomenography originated from empirical research in higher education context and has been an influential approach in studying academics' conceptions and experiences of teaching and other academic-related activities. As Åkerlind (2003) stated, it "provides a way of looking at the phenomenon holistically, despite the fact that it may be experienced differently by different individuals, and by the same individuals at different points in time and context" (p.379). This research approach has been used in several MOOC-related research studies including investigating student learning experiences in MOOCs (Atiq et al., 2016; Huang, 2017) and internal stakeholders' perceptions of the MOOC phenomenon (McGrath et al., 2017). There is another research that claimed to be a "phenomenographic study" in academics' experiences of developing and delivering MOOCs (Blackmon, 2018). However, the data analysis in this study was conducted from a first-order perspective, focusing on a few specific aspects including motivation, benefits and challenges associated with creating and teaching a MOOC. In the methodology chapter the difference between phenomenography and other qualitative research methodologies is discussed and Blackmon (2018) is listed as an example being mis-claimed as phenomenographic research.

To conclude, so far there has been very limited research on academics' experiences of designing MOOCs. My research aims to study academics' experiences in a holistic way, through a phenomenographic approach, about how they experience designing MOOCs in different ways. This second-order perspective approach allows academics to choose their own focal points to discuss in the interviews which helps to discover potentially un-revealed aspects and dimensions of their ways of experiencing this phenomenon.

2.4 Summary

This literature review chapter provided a critical overview of existing research in the field to establish the foundation for this research. The most relevant bodies of literature have been reviewed and synthesised, including HE academics' conceptions

of teaching and academic-focused MOOC research. For academics' conceptions of teaching, both general HE contexts and online-specific contexts have been examined. The MOOC's origin and brief history have been discussed to provide the background and context for MOOC-related research. A brief overview of MOOC-related research has been presented to identify research gaps in this field and lead the discussion to academic-focused MOOC research. Given the research on academics' conceptions of the phenomenon "designing MOOCs" is scarce, academic-focused MOOC research is comprehensively reviewed and evaluated in this chapter to position this study within the existing literature in this field. The limitations identified in the current body of knowledge highlight the need for further exploration in this area, creating space for this study. As discussed earlier in this chapter, phenomenography has been influential in empirical research on HE academics' conceptions and experiences. This study adopts this methodology to investigate the variation in academics' experiences of designing MOOCs. The methodology will be discussed in the next chapter.

Chapter 3 Research Methodology

3.1 Introduction

This chapter explains the nature of phenomenography and why it was chosen as the best possible perspective and research approach for this study. The research design is discussed in the next chapter. I start with explaining the origins and development of phenomenography, followed by elaborating its fundamental ontological and epistemological foundations. This leads to the discussion of the theoretical and analytical frameworks that underpin the study of experiences in the phenomenographic approach. To better contextualise the choice of methodology, I compare phenomenography with two other alternative qualitative research approaches to clarify why it was chosen for this research. Finally, some criticisms and limitations associated with the phenomenographic approach are discussed in this chapter.

3.2 Qualitative approach

It is important that as a researcher I can argue convincingly for the chosen research approach and clearly explain how the research has been conducted. Therefore, this methodology chapter begins by explaining why I choose to use a qualitative approach in this research, which, according to Creswell (2014), is related to the nature of the research problem, my personal experience and the philosophical assumptions I bring to the study.

Qualitative research and quantitative research are based on distinct worldviews and make different knowledge claims. Quantitative research typically aligns with the positivist paradigm which believes that there is an external reality or truth out there independent of individual beliefs. Consequently, the quantitative approach often employs numerical data to validate this “reality” or “truth”. This perspective dominated social sciences research until the mid-20th century when qualitative approaches began gaining increasing interests and flourishing (Creswell, 2014). Qualitative research, in contrast, often takes an interpretivist worldview, which believes that the world is subjectively experienced by human beings. In this view,

reality is considered subjective, multiple, socially constructed, and contextually dependant. The qualitative approach focuses on "using participant voices and experiences to interpret and explain about a phenomenon or what is happening in a certain context" (Butler-Kisber, 2010, p.26). It emphasises the use of words rather than numbers. The strength of a qualitative study lies in its ability to explain aspects of situations or human experiences that quantitative methods alone cannot reveal. It provides a means to understand people's attitudes, feelings and behaviours which can be difficult to quantify. I have chosen to be a qualitative researcher because I want to study things as they are in their natural setting, how they appear to people, and allow research participants themselves to describe and explain the ways that they were thinking and experiencing at a given moment. I view my research project as an opportunity "to connect with research participants and to see the world from their viewpoints" (Corbin & Strauss, 2015, p.5).

In the previous paragraph, I have chosen to use qualitative research approach to see the world from the research participants' perspectives. More specifically, I choose to use phenomenography which "was elaborated as an empirical qualitative method, in response to the limitations of the dominant quantitative methods in education" (Sandbergh, 1997, p.203). This approach is particularly suited for studying people's experiences, conceptualisations, interpretations, understandings and perceptions of the world around them or specific phenomena. It allows qualitative descriptions of how people experience a phenomenon in different ways (Åkerlind, 2005c; Marton, 1981; Marton & Pang, 2006). Since my research sets out to investigate the qualitatively different ways in which UK HE academics experience designing MOOCs, as a research approach taking a second-order perspective and focusing on variation of experience, phenomenography aligns well with my research focus and questions. Most importantly, the non-dualist philosophical assumptions underpinning phenomenography are not just consistent with my role as a researcher but also resonate with my personal beliefs and assumptions about the world in my everyday life. I echo Åkerlind (2005a) in that I am also "strongly attracted by phenomenographic focus on investigating variation in understanding the same phenomenon" (p.64). In the following sections of this chapter, I will discuss more specifics of phenomenography

and elaborate on a few key terms such as “non-dualist”, “second-order perspective”, “variation of experience”, which are often used in literature to define the unique characteristics of this qualitative research approach.

3.3 Origin and development of phenomenography

The development of phenomenography has evolved through distinct stages, which will be discussed in this section.

Phenomenography originated from empirical studies rather than a theoretical or philosophical basis (Åkerlind, 2005c). During the 1970s, Ference Marton and his colleagues in the Department of Education at the University of Göteborg in Sweden (Dahlgren & Marton, 1978; Fransson, 1977; Marton & Säljö, 1976a, 1976b; Svensson, 1977) carried out a series of empirical studies attempting to examine the process, strategies and outcomes of students’ learning, focusing on what is understood and remembered. The starting point of their research was that learning had to be described in terms of “what is learned” rather than “how much is learned” (Marton & Säljö, 1976a), which provided a new perspective to study learning from a qualitative perspective rather than the dominant quantitative approach at the time.

This series of research revealed that in each study a limited number of categories representing different conceptions of the learning task could be identified. The corresponding differences in level of processing learning tasks were described in terms of whether the learner was engaged in surface-level or deep-level processing (Marton & Säljö, 1976a, 1976b). These empirical studies found that the qualitatively different ways that students conceptualised learning tasks were related to how they approached them. The two aspects of “conception” and “approach” are interconnected – this relationship will be discussed further in the “what/how” analytical framework later in this chapter.

Marton (1981) outlined the experimental procedure used in these empirical studies and described phenomenography as a distinct field of research inquiry
that “aims at description, analysis and understanding of experiences” (p.177). He defined phenomenography as “a research method for mapping the qualitatively different ways in which people experience, conceptualize, perceive, and understand

various aspects of, and phenomena in, the world around them" (Marton, 1986, p. 31). At this stage, phenomenography was characterised as a research approach and explained from a methodological perspective, which implied a focus on the specification of methodological process and procedure over theory.

Since this research approach originated from empirical studies without a clearly stated theoretical foundation, there has been quite some criticism and debate on phenomenography (Francis, 1993; Uljens, 1996; Webb, 1997). In response to the criticism, Marton and Booth (1997) provided a detailed discussion on the theoretical underpinnings of phenomenography including its ontological and epistemological assumptions, which I will elaborate on further in this chapter. This seminal work marked a turning point in the development of phenomenography, emphasising the clarification of its theoretical basis.

Theoretical advancement in phenomenography led to the proposal of the Variation Theory of Learning, aimed at explaining "what is a way of understanding/experiencing" (Pang, 2003) with associated pedagogical implications for approaches to learning and teaching of disciplinary concepts (Marton, 2015; Marton & Tsui, 2004). There have been substantial empirical studies in the application of this theory in curriculum design both in school education (Lo, Marton, Pang & Pong, 2004) and higher education contexts (Marton, 1981). Although the scope of this research project does not encompass variation theory, a brief mention offers a complete view of the different stages of phenomenography's development since it was first introduced in Marton's (1981) work.

In terms of the application of phenomenography, early empirical studies mainly focused on conceptions and approaches to learning. With its methodological procedures getting more clearly defined (Marton, 1981), its application expanded to research on conceptions and approaches to teaching in HE contexts (Prosser, Trigwell & Taylor, 1994; Prosser & Trigwell, 1999; Trigwell, Prosser & Taylor, 1994) and other academic related activities, such as information literacy (Bruce, 1997; Forster, 2016). Because of its distinctive aim and value in investigating people's experiences of a given phenomenon, the application of phenomenography has been extended and applied across diverse disciplines (e.g., geography, environmental studies, information

systems) and education levels (e.g., school education), as well as outside of educational contexts (e.g., healthcare/nursing/pharmacy), rather than just limited to higher education research (Tight, 2016b). In summary, the application of phenomenography in research has been developed under three main lines (Ashworth & Lucas, 1998; Marton, 1986; Trigwell & Prosser, 2009): aspects of learning and teaching; understanding of concepts (especially educational and disciplinary concepts); and understanding or experiencing a specific phenomenon. This research project aligns with the third line of development: using phenomenography to study academics' experiences of designing MOOCs.

3.4 Ontological and epistemological assumptions

Although phenomenography originated from empirical studies without an explicit theoretical basis, it is worth discussing the philosophical assumptions underpinning this methodology as it helps to understand the object that phenomenography aims to describe (Svensson, 1997). Such assumptions typically encompass ontology (the nature of reality) and epistemology (what counts as knowledge and how knowledge claims are justified) (Creswell & Poth, 2018, p.19). Svensson (1997) argued that, as an empirical research tradition, phenomenography derives its assumptions from the researcher's current understanding of the research object, rather than from a fixed, predetermined metaphysical stance. However, over time, certain philosophical orientations have become characteristic of phenomenographic practice. As Collier-Reed, Ingerman and Berglund (2009) noted, "Phenomenography is underpinned by, amongst others, a focus on the relational nature of human experience, a non-dualistic ontological perspective, an explicit focus on the experience of phenomena, and the adoption of a second-order perspective" (p.340). These fundamental assumptions and key characteristics of phenomenography are explored in the following sections.

Non-dualistic worldview: Phenomenography is based on a non-dualist perspective, in contrast to the dualist ontology of positivist research paradigms, which view human beings and the world as two separate entities. In the non-dualist view of phenomenography, human beings and the world are perceived as an inseparable whole. As Marton (2000) elaborates, "there are not two worlds: a real, objective world, on the one hand, and a subjective world of mental representations, on the

other. There is only one world, a really existing world, which is experienced and understood in different ways by human beings. It is simultaneously objective and subjective" (p.105). Therefore, people's "experience" is depicted as "an internal relationship between human beings and the world" (Pang, 2003, p.145) and often used interchangeably with "conception", "perception" and "understanding" in phenomenographic research literature (Marton, 1981; Marton & Booth, 1997). The focus of phenomenographic research is to study this "internal relationship", described by Marton (1986) as "man-world relations as the subject matter of phenomenography" (p.31). This relational view of the world is the point of departure for the second order perspective in phenomenography, which I will discuss next.

Second-order perspective: The term "phenomenography" derives from two Greek words 'phainemenon' (appearance) and 'graphein' (description), suggesting that phenomenography is concerned with describing things as they "appear to be" (Pang, 2003, p.145). Marton (1986) emphasised that "phenomenographers do not make statements about the world as such, but about people's conceptions of the world" (p.32). He further explained that "we do not try to describe things as they are, nor discuss whether or not things can be described 'as they are', rather, we try to characterize how things appear to people" (ibid, p.33).

According to Marton (1981), the fundamental distinction between first-order and second-order perspectives is: "from the first-order perspective we aim at describing various aspects of the world and from the second-order perspective we aim at describing people's experiences of various aspects of the world" (p.177). To further clarify the distinctive difference between these two research perspectives, Marton (1981, p.178) used two questions as an example: in educational psychology, people ask first-order questions like: why do some children succeed better than others in school? An answer to this question is a statement about reality. An alternative kind of question asked is: what do people think about why some children succeed better than others in school? (Säljö, 1979). An answer to this question is a statement about people's conception of reality. Therefore, people's conception of reality rather than reality itself is what phenomenography aims to describe, analyse and understand. These two perspectives are not competing but complementary. Marton

(1981) puts forward arguments in favour of the second-order perspective and advocates for the importance of studying people's experiences and conceptions of phenomena. Gibbs, Morgan and Taylor (1982) echoed this view, stating that "one needs to adopt a 2nd order perspective in order to see this experience and to describe it rather than simply to imagine what it might be" (p.140).

Marton sees his research as "providing teachers with descriptions of how students conceptualise the subject matter and experience learning and not as providing general rules for how to teach" (Gibbs et al., 1982, p.142). This statement is particularly interesting to me, as in current MOOC design practice, academics are given general rules to follow in terms of how to design a MOOC, without considering how they perceive or understand "designing MOOCs". In this sense, phenomenography, which takes a second order perspective, fits well with this study, as it enables an investigation of academics' experiences of designing MOOCs from their own perspectives. This can lead to a better understanding of their conceptions and provide insights into potential variation in views, approaches, strategies and procedures in designing MOOCs.

Outcome space. While the ontological assumption pertains to the nature of being, the epistemological assumption concerns the nature of knowledge. In phenomenography, knowledge is constituted through internal relations between human beings and the world and is conceptualised as a human-world relationship. The assumption of logical relationships between different ways of understanding is one of the epistemological assumptions underlying the phenomenographic approach. Marton and Booth (1997) describe this as "the different ways in which they experience… are observed to be logically related to each other" (p.112). Researchers aim to constitute not just a set of different meanings (understanding/conceptions) but also a logical structure that connects these meanings. The constituted categories of description representing different ways of experiencing a phenomenon are thus seen as representing a structured set. This perception of structural relationships among the categories is a fundamental epistemological assumption of phenomenography. The sum of all categories and the interrelated structures between categories are referred to as the "outcome space" (Marton & Booth, 1997). People understand the world in

different ways, but this variation can be described and form the outcome space in phenomenographic studies.

In phenomenography, identifying the internal and structural relationships among the categories in the outcome space is an important additional part of data analysis, which is often not included in other qualitative methods. Åkerlind (2005a) regards this as a key strength of phenomenography, as it "provides a way of looking at collective human experiences of phenomena holistically, despite the fact that such phenomena may be perceived differently by different people and under different circumstances" (p.72). In essence, it is concerned with developing a hierarchically structured set of categories of description that capture the different ways people understand a given phenomenon (Marton, 1986). In my research, the outcome is a structured set of interrelated categories that represent the different ways in which UK HE academics experience the phenomenon of "designing MOOCs", with hierarchically inclusive relationships among these categories. These categories represent the collective ways of experiencing designing MOOCs among the research participants rather than classifying individual experiences.

The preceding discussion of phenomenography's ontological and epistemological underpinnings illuminates the core purpose and value of this methodology: its primary objective is to reveal the qualitatively different ways in which people experience phenomena in the world around them (Marton & Booth, 1997; Marton & Pong, 2005). Central to phenomenography is the emphasis on understanding research participants' experiences in their own words and within their unique contexts. This approach offers valuable insights and a deep understanding of the variation in how a group of people conceptualise a given phenomenon.

3.5 Theoretical and analytical frameworks of experience

This research is guided by two central research questions: What is the variation in UK HE academics' experiences of designing MOOCs? What is the relationship between these variations?

In this context, it is crucial to define what "experience" entails. As discussed in section 3.4, in phenomenography, "conception" is the central unit of description about

people's experiences, thus these two terms (conception and experience) are often used interchangeably in the literature. There are two frameworks developed in phenomenography for analysing the constitution of experience, which "facilitated the breaking of conceptions into smaller parts for the purpose of analysis" (Harris, 2011, p.110): the "what/how" framework and the "referential/structural" framework. These two frameworks have been used in phenomenographic research "to inform and 'frame' the research design and process of analysis" (Harris, 2011, p.110).

Since phenomenographers have interpreted and applied these two frameworks in different ways (Harris, 2011), it is important to explore these varying interpretations and applications to elaborate and justify my own approach, and my choice of using the theoretical and analytical framework of experience in this research.

3.5.1 The what/how framework

The what/how framework was first used in Pramling's (1983) phenomenographic study on children's conceptions of learning. Pramling argued that within a conception of learning there was a "what" and a "how" aspect. These two aspects were defined and explained from a logical perspective as "what learning is" and "how learning proceeds".

Researchers have attempted to make connections between the what/how framework and Brentano's concept of intentionality. Kroksmark (1987) interpreted "what" and "how" as object and intentional act, suggesting that the "what" aspect refers to the object of thought, the "how" aspect refers to the processes that delimit the object of thought. Uljens (1996) further contended that in phenomenography the notion of intentionality is treated "in terms of what and how distinction, which means that when a subject is aware, he or she is always aware of something (what), and he or she is aware of this something in some way (how)" (p.108). Uljens (1996) also reflected on the philosophical foundations of phenomenography and drew comparisons between the "what" and "how" aspects and the notions of "noema" and "noesis" introduced from phenomenology by Theman (1983). According to Uljens (1996), Theman's (1983) work presented a substantially different way of understanding the "what" and "how" aspects, suggesting that Pramling's (1983) study may have actually investigated two

different phenomena. Indeed, this was also a confusing point when I first came across this framework in framing my research questions: are the "what" and "how" two intertwined aspects of one phenomenon, or two separate inquiries about the experiences of two different phenomena? (e.g., what does "designing MOOC" mean to [HE academics]? how [HE academics] approach to "designing MOOCs"?) Reflecting on Marton and Säljö's (1976a, 1976b) empirical studies on students' experiences, which explored both how students process (approaches to) learning tasks and what they conceptualise those learning tasks to be, a question arises: are these two intertwined aspects within students' experience of learning, or can they be treated as inquiries of two separate phenomena?

Marton and Booth (1997) developed the what/how framework by introducing a second level, incorporating "act" and "indirect object" into the "how" aspect, and "direct object" into the what "aspect". *They explained that the "direct object" referred to the content being learned, while the "indirect object" referred to the quality of the act of learning. This was described as the second level of "what" and "how" within the "how" aspect.* The visual representation of this developed framework is shown in Figure 3.1.

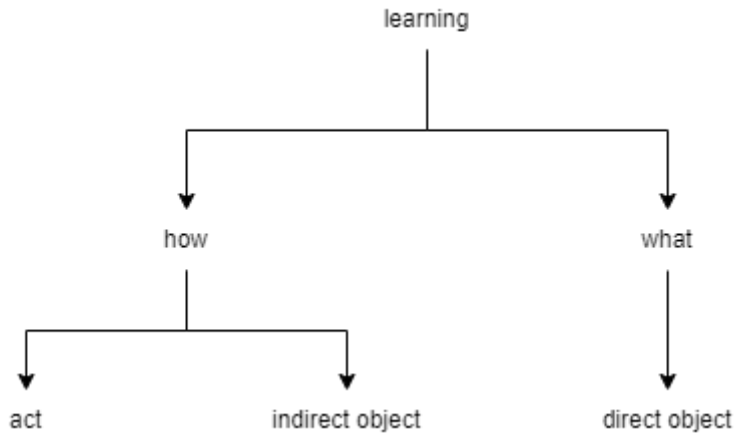

Figure 3.1 What/How framework (adapted from Marton and Booth, 1997, p.85)

Basically, the what/how framework allows conceptions to be analysed separately from the actions and intentions related to it. However, as Harris (2011) noted, although the framework was said to draw on phenomenological principles and the understandings of intentionality (Marton & Booth, 1997), it is not entirely clear how intentionality

relates to the how aspect and the what/how distinction. This ambiguity has led to varied interpretations of the framework and inconsistencies in terminology. For instance, Marton's first level "what" aspect referred to the "outcome of learning", while Pramling's "what" aspect referred to "what learning is". Moreover, Marton's second level "what" and "how" was described differently from his earlier work (Marton, 1988). Researchers have pointed out that the "what/how" framework has a very weak link to theory, and the different interpretations of the "what" and "how" aspects remain a subject of debate (Harris, 2011; Zhao, 2016). This lack of clarify presents a challenge in terms of how this framework should be applied in data analysis. Therefore, this research does not adopt the what/how framework for data analysis.

3.5.2 The referential/structural framework

While the what/how framework is described as being grounded in the concept of "intentionality", the referential/structural framework is said to be based on Gurwitsch's (1964) theory of awareness, which allows the parts and contexts of a conception to be identified and analysed. Compared to the "what/how" framework, the referential/structural framework is considered to have stronger connections with stated theory (Harris, 2011).

The unique analytical framework, referred to as the "anatomy of awareness" in phenomenography, consists of two components: the referential aspect and the structural aspect, which simultaneously occur and are intertwined (Marton & Booth, 1997). It is important to note that Marton (1988) initially introduced the referential/structural aspects within the what/how framework, explaining the relationship with the second level of what and how aspects. However, in his later work (Marton et al., 1993), the referential and structural aspects were regarded as distinctive components that could be individually analysed, rather than as a second level what and how. Furthermore, the structural aspect was further divided into the external horizon and internal horizon. A visual representation of the referential/structural framework with its two levels is shown in Figure 3.2.

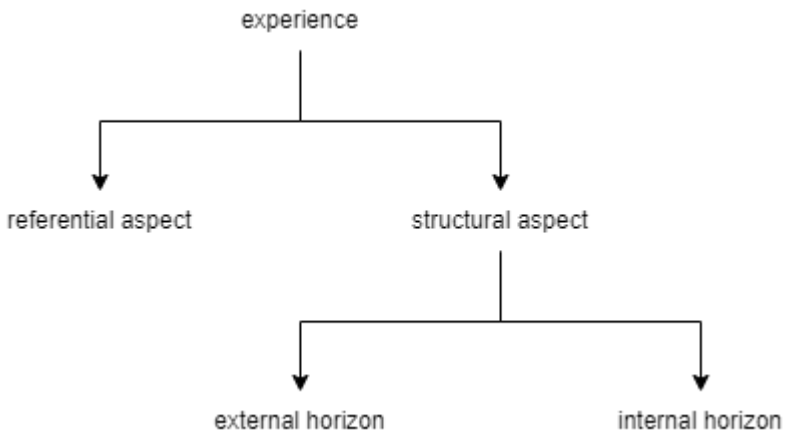

Figure 3.2 The anatomy of experience (adapted from Marton and Booth, 1997, p.88)

In this framework "referential aspect" refers to the meaning of an experience and "structural aspect" relates to the structure of the experience.

According to Gurwitsch (1964), human consciousness is divided into three domains: the theme, thematic field and margin. The "theme" is used to describe the object held in focal awareness, while the "thematic field" and "margin" refer to the background relevant to the theme and the aspects that coexist with the theme without being related to its meaning (Harris, 2011, p.112). In Marton and Booth's (1997) anatomy of experience framework (illustrated in Figure 3.2), the internal horizon of the structural aspect refers to "discernment of the parts and their relationship within the whole", which denotes the internal relationship of various parts in an experience (Marton & Booth, p. (1997, p.87). The parts forming the "theme" are considered to be the internal horizon. Meanwhile, the external horizon of the structural aspect refers to "discernment of the whole from the context" (ibid, p.87), allowing the experience to be distinguished from its context and background. In this framework, Gurwitsch's (1964) concepts of the thematic field and margin are positioned within the external horizon of an experience (Marton & Booth, 1997).

Both the what/how and the referential/structural frameworks have been explained and discussed in detail in this section. In this research, I have chosen to use the referential/structural framework for framing my research and analysing the collected data. This decision is based on two key reasons:

Firstly, although it is well accepted by phenomenographers that the epistemological stance of phenomenography is based on the principle of intentionality (Han & Ellis, 2019; Marton & Pang, 2008), the connection between the what/how framework and intentionality is not clearly articulated and considered weak. The various interpretations of this framework and the inconsistent use of terminology without consensus have caused significant confusion in using this framework. In contrast, the referential/structural framework is regarded as more convincing and rigorous (Zhao, 2016). This may explain why, as noted in Harris's (2011) review, fewer phenomenographers have used the what/how framework compared to those who have adopted the referential/structural framework.

Secondly, although both frameworks were originally developed from studies on conceptions of learning, the what/how framework focuses more on the analysing the meaning of conceptions, while the referential/structural framework is described as a framework to analyse the "anatomy of experience", which contributes to understandings of the structure of a conception (Harris, 2011). Given my research focus and questions, this second framework aligns more closely with my study, making it the appropriate choice for data analysis. It enables the identification of the meaning and structure of HE academics' conceptions of designing MOOCs.

3.6 Alternative qualitative approaches

Phenomenology and grounded theory are two alternative qualitative research methodologies that share several similarities with phenomenography. These three different approaches often confuse novice researchers, making it challenging to decide which is best suited to their research focus. Notably, both Marton (1996) and Larsson and Holmström (2007) have observed instances where studies claimed to be phenomenographic but presented research results that seem to emanate from phenomenological analysis or other forms of thematic qualitative analysis. For instance, both Blackmon (2018) and Hajar (2020) incorrectly claimed their studies as phenomenographic, while another article (Hajar, 2021), also misinterpreted phenomenographic research approach, was later critiqued in detail by Åkerlind (2022). This underscores the importance of clearly distinguishing phenomenography from other methodologies. By explaining and comparing the similarities and differences

between these approaches, the rationale for choosing phenomenography in this project becomes more evident. Figure 3.3, adapted from a widely cited tree diagram (Trigwell, 2006), illustrates the differences between phenomenography and other research methodologies.

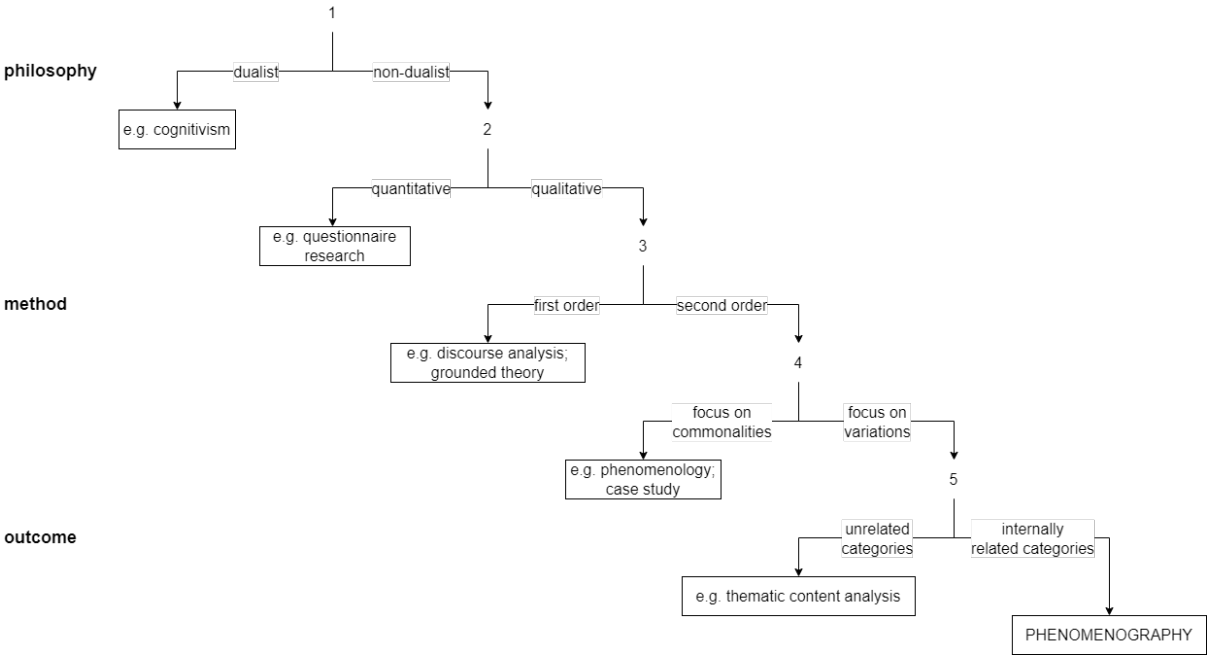

Figure 3.3 Methodology tree diagram adapted from Trigwell, 2006, p.369

3.6.1 Phenomenography versus grounded theory

Grounded theory was developed by Glaser and Strauss (1967) as a qualitative methodology to construct theory grounded in data. Although this methodology originated in sociology, it has been widely applied and influential across various subject areas and professions. Different from the dominant verification approach in social research at the time, Glaser and Strauss (1967) argued that theories should be generated from and "grounded" from empirical data. Instead of focusing on the verification of existing theories, grounded theory provides an alternative research approach focused on generating theory from data collected in research. This methodology is similar to phenomenography in that the concepts are derived from the data rather than relying on pre-existing concepts or frameworks: "[In grounded theory] the concepts out of which the theory is constructed are derived from data collected during the research process and not chosen prior to beginning the research" (Corbin &

Strauss, 2015, p.7). In this sense, both approaches are inductive, making them suitable for research when little or no prior knowledge of a topic exists.

However, on the other side, there are a few major differences between these two approaches. First, their aims and perspectives differ. Grounded theory aims to construct theory from a researcher's first-order perspective, while phenomenography aims to discover qualitatively different ways in which people experience a phenomenon from a second-order perspective. In other words, grounded theory focuses on "generating" theory as an interpretive approach to offer a researcher's explanations for why things happen, while phenomenography focuses on "discovering" as a descriptive approach to map and present research participants' views. My research focus is to discover qualitatively different ways in which academics experience "designing MOOCs" from a second-order perspective, thus phenomenography is the more suitable approach in this situation. Second, the two approaches differ in the process of data collection and analysis. In grounded theory, data collection and data analysis are interrelated and are undertaken simultaneously, meaning that a researcher's analysis of the initially collected data informs the subsequent data collection. In contrast, phenomenography treats data collection and data analysis as separate phases, ensuring that data analysis does not begin until all data have been collected, to avoid the potential risk of the researcher unconsciously influencing the subsequent data collection (Green & Bowden, 2005). My research data collection and analysis strictly followed this phenomenographic research procedure to ensure a rigorous process, which will be elaborated in further details in the next chapter: Research Design and Implementation.

3.6.2 Phenomenography versus phenomenology

Phenomenology has a strong philosophical component (Creswell & Poth, 2018) that draws heavily on the works of Husserl (1970) and those who followed in his footsteps, expanding his views, such as Heidegger (1962), Merleau-Ponty (1962) and Sartre (1970). Although there is great diversity in the viewpoints of phenomenological philosophers, they share common ontological and epistemological assumptions. Husserl (1970) placed the notion of intentionality at the core of phenomenology and

proposed that human beings are always related to reality through the intentional character of consciousness. This epistemological stance suggests that human knowledge is intentionally constituted through subjects' conscious experiences of their reality. Uljens (1996) notes that applying phenomenological concepts has been useful in explicating and communicating specific features of phenomenography. Although phenomenography is defined by Marton (1986) as a distinct research approach, it shares phenomenology's epistemological foundation, situating its concepts within the 'structure of awareness', as discussed earlier in Section 3.5 on analytical frameworks.

These two approaches both centre on human experience as the object of research and have their point of departure from a second-order perspective. Both also require researchers to "bracket" themselves out of the study, a process that "serves to identify personal experience with the phenomenon and to partly set them aside so that the researcher can focus on the experiences of the participants in the study" (Creswell & Poth, 2018, p.77).

The commonalities between these two closely related research approaches can cause considerable confusion, especially for novice researchers. Various researchers, such as Cibangu and Hepworth (2016) and Hasselgren and Beach (1997), have examined the similarities and differences between these two approaches. Larsson and& Holmström (2007) further examined the differences between them by conducting both phenomenological and phenomenographic analysis on the same transcripts, demonstrating how the two approaches differ in practice.

The main differences between these two approaches can be summarised in two key aspects. First, they have different focus. While both approaches aim to study the world as conceived by research participants, a phenomenological study "describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (Creswell & Poth, 2018, p.75). The focus is on identifying "what all participants have in common as they experience a phenomenon" (ibid, p.75). Phenomenography, on the other hand, focuses on the "variation" in how people experience a phenomenon rather than identifying the "essence" of the experience.

Second, phenomenology examines “lived experience”, while phenomenography studies “conception”, which include both lived experience and post-experience conceptualisation. Although these approaches are very similar, the emphasis on variation makes phenomenography align more closely with my research questions and the most suitable choice for investigating variation in experiences.

In this section, I compared phenomenography with alternative methodologies not only to explain the rationale of my methodology choice but also to provide clarity for novice researchers, especially those conducting phenomenographic research for the first time, to help them clear confusions and identify the strengths of the phenomenographic approach.

3.7 Trustworthiness

Critics of phenomenography often raise questions regarding the validity and reliability of phenomenographic approach and its findings altogether. However, as Entwistle (1997) contended, “many of the criticisms can be viewed, not as a dismissal, but as a caution” (p.132) when conducting phenomenographic research. In this section, I discuss some of the criticisms of phenomenography and how precautions were taken in this research, recognising that “pitfalls lie in the path” (Entwistle, 1997, p. 132).

Validity, reliability, and generalisability are three criteria often used to assess quantitative research quality. Criticisms based on these criteria in most cases are not solely directed at phenomenography but used to challenge qualitative methodologies in general. Qualitative researchers argue that applying quantitative terms such as validity and reliability is not adequate to qualitative work, and in most cases not even relevant, as these terms speak in the language of positivistic research (Braun & Clarke, 2013; Butler-Kisber, 2010; Shenton, 2004). For example, from an interpretivist perspective, attempting to define and describe a singular “truth” for the purpose of verifying “validity” has very little meaning, especially in phenomenographic research, which takes a non-dualistic ontological stance (Sandbergh, 1997). Qualitative researchers suggested alternative notions such as credibility, transferability, and dependability (Given & Saumure, 2008; Lincoln & Guba, 1985), as more suitable

criteria to evaluate interpretive research. In this section, I outline the strategies employed to enhance the trustworthiness of the study.

Credibility in qualitative study is often considered the counterpart to internal validity in quantitative studies. To ensure the credibility of this study, I employed strategies throughout the research process from sampling selection, interview design, scheduling to data analysis. A purposive sampling strategy was adopted to maximise the possible variation in ways of experiencing the phenomenon. To make interviewees bring forth their awareness of the phenomenon under investigation, the interview questions were carefully crafted in a flexible and open way, allowing them to discuss the elements they were focally aware of in relation to the phenomenon. The interviews followed a semi-structured format, with only a few key questions predetermined and centred around using probing prompts to follow up and explore different aspects of the interviewee's experience as thoroughly as possible. Data analysis was conducted through an iterative process, ensuring the categories emerged and were grounded from data. Qualitative data analysis software was used to enhance traceability, thereby strengthening the rigour and credibility of my research.

As Bowden (2000) argued, validity and reliability cannot be completely separated in phenomenographic research. While reliability is traditionally a criterion employed in quantitative research to measure the replicability of processes and results, it is also relevant in qualitative studies, where it is often associated with the concept of consistency (Leung, 2015). In this context, reliability refers to "the stability of responses to multiple coders of data sets" (Creswell & Poth, 2018, p.264). In a phenomenographic study carried out by a team, reliability can be enhanced by having a second coder use the researcher's categories to code transcripts; or by allowing two researchers to jointly discuss the data and research results, reaching a shared understanding, commonly known as "interjudge agreement" (Åkerlind, 2005c). This process, which involves multiple researchers verifying coding decisions and reaching consensus through discussion, is referred to by Åkerlind (2005c) as "communicative validity". It requires the researcher to "argue persuasively for the particular interpretation that they have proposed" (Åkerlind, 2005b, p.330).

However, criticisms about phenomenographic research carried out by an individual researcher (e.g., most PhD research projects) often question "can a lone researcher obtain a set of categories which satisfactorily describes the range of conceptions present in the data?" (Walsh, 2000, p.29). Instead of relying on interjudge reliability, Sandbergh (1997) suggested "interpretative awareness" as a key reliability criterion in phenomenographic research, which brought how researchers deal with subjectivity and potential bias to the forefront. An individual researcher "may find it difficult to bracket his or her own perceptions when reading the data and developing a description of the categories" (Walsh, 2000, p.30). However, such potential bias can be overcome when "a lone researcher makes explicit his or her input into the analysis and allows other researchers to check, test and probe the initial results" (p.30).

To address potential bias and enhance the rigour of my phenomenographic research, I implemented several strategies. First, I made a clear statement of my beliefs and assumptions that I brought to this research and detailed how I accounted for them. Second, I participated in an eight-month phenomenography course alongside my PhD study, engaging in discussions with fellow phenomenographers (mainly from the UK and Sweden) thoroughly about the formulation of my research questions, participants' selection, and interview questions design. These discussions were invaluable, as they challenged me to articulate my rationale more clearly, refine the scope of my study, and remain attentive to alternative perspectives. I openly presented my data collection and analysis approach in a number of research seminars to allow other researchers to scrutinise the rigour of my research process. The constructive feedback I received helped me sharpen my analytical framework. For instance, feedback from these seminars prompted me to reconsider how I was distinguishing between categories of description and to make my labelling decisions more transparent. Additionally, I presented and published preliminary and interim research results at international conferences and in proceedings (e.g., Networked Learning Conference, 2022; EARLI SIG9, 2022), inviting the research community to assess and probe my research results and study as a whole. The questions and critiques I received from the research community helped me to test the robustness of my interpretations and gave me confidence in the originality of my outcome space. Finally, it is crucial to acknowledge

that in phenomenographic study “the experience and understanding are jointly constituted by interviewer and interviewee” (Marton, 1994, p.4427), and phenomenographic analysis inherently involves a relationship between the researcher and the data (Åkerlind, 2024). I made my study as transparent as possible throughout the research process by writing reflective memos during data collection and analysis to maintain the interpretative awareness. Maintaining reflexivity throughout the research process is essential for phenomenographers, as it allows them to critically examine their assumptions, biases and alternative perspectives (Rotar, 2024).

Instead of checking “correctness”, qualitative research emphasises “descriptive validity” – the factual accuracy of the accounts reported by research participants. Length of time spent in the “field” is a key factor that may enhance the quality of qualitative research; trustworthy is enhanced when there is clear evidence of a substantial amount of time dedicated to data collection and analysis. Following the advice of “giving yourself enough time to transcribe” (Braun & Clarke, 2013, p. 170), I devoted significant time and effort to transcribing recorded interviews to ensure the accuracy of transcripts. This, to a large extent, reduced error and enabled full documentation. The data analysis process involved multiple iterations over 18 months to construct the final outcome space, which was thoroughly documented and evidenced. Further details on this process are described and explained in the next chapter.

Åkerlind (2005a) described a typical criticism of phenomenography from a positivist perspective in challenging how research results derived from a “small sample size” can be generalised to a larger population (Alsop & Tompsett, 2006). Since qualitative research typically focuses on studying a specific phenomenon within a particular group and context, generalisability is not typically expected for qualitative research findings. Phenomenographic research primarily focuses on understanding the variation in experiences and conceptions within a specific group of people regarding a given phenomenon. Therefore, the research findings are not intended to be generalised to other individuals or the entire target population. Accordingly, phenomenographic studies often employ purposive sampling to maximise variation in experiences rather than attempting to be representative of the entire target population. In this research,

the sampling approach aimed to maximise the potential variation in academics' experiences of designing MOOC and was not meant to be representative of the whole HE academic population. Further details about this sampling strategy and demographic data are discussed in chapter 4.

Although qualitative research results are not supposed to be generalised to a broader population, they can be assessed using the "transferability" criterion (Lincoln & Guba, 1985). This criterion invites readers of research to draw connections between the specifics of the research situation and their own research contexts, enabling them to determine whether the research findings can be applied in another setting or context. As Trigwell (2006) noted, measuring the quality of phenomenographic research involves considering "the extent to which the outcome space is seen to be useful or meaningful to the intended audience" (p.371). In line with Creswell and Poth's (2018) suggestion, I aim to provide "rich and thick description" (p.263) to enable readers to decide if my research findings could be applied to their own contexts. This involves depicting the context of my study, specifying a clear and highly detailed research design and procedure, and describing the characteristics of the research participants in depth.

3.8 Summary

This chapter serves to justify the decision of choosing an appropriate methodology for this research. The chosen methodology, phenomenography, is discussed thoroughly, including its origins, development, and the two underlying theoretical and analytical frameworks. Furthermore, a comparison with two similar qualitative methodologies is presented, which justified my choice of using phenomenography. This chapter also discusses some criticisms and limitations associated with phenomenography and outlines how these concerns were addressed to ensure the rigour and quality of this research. I believe that adequately explaining the selected analytical framework coupled with its rigorous application "can contribute to knowledge about phenomena in a way recognised by the wider research community" (Harris, 2011, p.117). The next chapter explores the various ways of implementing phenomenography in research and provides a detailed account of the procedures and process involved in conducting my

data collection and analysis. Additionally, it presents clear evidence demonstrating that the study adhered to ethical guidelines.

Chapter 4 Research Design and Implementation

4.1 Introduction

In the previous chapter, phemomenography was introduced from a theoretical perspective with a focus on its ontological and epistemological assumptions as well as its analytical framework. In this chapter, I explain the research design and implementation details of the phenomenography methodology adopted for this research project. This chapter begins with an explanation of the data collection method, a description of the pilot interviews as well as the lessons learned from this stage, which were instrumental in improving my interview questions design and interviewing skills. This is followed by discussing the design of interview questions, an overview of the interviewees, and the strategies employed for selecting interviewees. Next, I detail the formal interview process along with my reflections as a novice phenomenographer. The chapter proceeds to describe the specifics of data analysis, discussing various debatable issues and approaches concerning phenomenographic analysis, with an explanation of the rationale behind the strategies and approaches adopted in this study.

4.2 Data collection

4.2.1 Data collection method: interview

The analysis of published literature reveals that, in phenomenographic studies, the two predominant data collection methods are interview and written responses to specific questions (Reed, 2006). While written text and other forms of data are accepted in phenomenographic studies, Reed (2006) emphasises that interviews remain “the most common method of data collection” (p.5). Similarly, both Åkerlind (2005a) and Tight (2016b) affirm that interviews are the typical data collection method in phenomenographic research, as evidenced in the published research of most phenomenographers. This prevalence is not only due to the fact that interviews can provide “richest source of data” (Åkerlind, 2005a, p.67), but also related to the methodological foundation of phenomenography. Since phenomenography posits that data on people’s experiences of a given phenomenon should be captured as described

by the participants themselves, the data collection strategy must encourage participants to reflect on their experiences and elicit understanding and awareness. Marton and Booth (1997, p.129) highlight the necessity for individuals reflecting on their experiences in a state of "meta-awareness". However, this form of reflection does not always occur spontaneously, making it crucial to use an appropriate method of data collection that enables it. As Marton (1994) notes, "The more it is possible to make things which are unthematized and implicit into objects of reflection, and hence thematized and explicit, the more fully can awareness be explored" (p.4427). Unlike written responses, which do not allow for further probing the meaning underlying the responses to questions, interviews provide an opportunity to explore participants' experiences in depth. As a result, interviews represent not only the most common but also the most suitable data collection method in phenomenographic research. Therefore, this research adopted interviews for data collection.

4.2.2 Pilot study

As a novice phenomenographer, I recognised the importance of conducting pilot interviews to help me with the design of phenomenographic interview questions and improve my interviewing skills. Both Bowden (2005) and Åkerlind (2005a) stress the value of pilot interviews for novice phenomenographers. Bowden (2005) suggests that "when someone undertakes a phenomenographic interview for the first time, some practice is needed to maintain an appropriate interviewing approach" (p.19) and stresses that "pilot interviews are important to enable the interviewers to perfect their phenomenographic interviewing skills" (ibid, p.19). Åkerlind (2005a) not only emphasises the importance of pilot interviews for practicing interviewing techniques but also recommends novice researchers collaborate with experienced phenomenographers during this process to enhance their skills before commencing formal data collection. Following this advice, I incorporated pilot interviews into my research process and worked with experienced researchers to strengthen my interviewing approach before formal data collection.

Phenomenographic research interviews are typically semi-structured, usually consisting of primary questions and follow-up questions. The primary questions should be designed as open as possible, allowing interviewees to describe their experiences as

fully as possible and choose the aspects they wish to discuss. The follow-up questions, in Åkerlind's (2005a) opinion, "are often more important in eliciting underlying meaning than the primary questions" (p.65) in phenomenographic interviews. Novice phenomenographers must learn and practice probing techniques that encourage deeper reflection without introducing new concepts or influencing interviewees' responses. In my pilot study, I focused on two key aspects: adjusting and fine tuning interview questions; and carefully structuring the interview process to ensure a natural conversational flow rather than an interrogation tone. Additionally, I was mindful not to introduce new concepts or aspects during the interview process or lead interviewees toward particular responses, while fostering an environment where they felt at ease and could openly share their perspectives.

I started the pilot study after obtaining ethical approval, a mandatory requirement for all research conducted at Lancaster University prior to data collection, including pilot studies. The pilot study was carried out in two phases. In the initial phase, my primary objective was to familiarise myself with designing interview questions and to practice interviewing skills within the context of a phenomenographic study. Since I had limited experience with semi-structured interviews and lacked confidence in this approach, I chose to practice with four academic friends from different HE institutions and different disciplinary areas. This phase focused on observing how interviewees responded to my questions, learning how to probe their responses effectively and how to make the interview process feel like a natural conversation.

The pilot interviews proved to be very useful. As an inexperienced interviewer, I initially struggled to listen attentively to the interviewee while simultaneously managing follow-up questions and determining which aspects of their responses required further probing. A common mistake among novice researchers conducting phenomenographic interviews is unintentionally steering or influencing participants by introducing new questions or concepts, or discussing or debating participants' views (Bowden, 2005). I maintained a high level of alertness throughout the pilot interviews, which, in turn, made me overly cautious about unintentionally introducing new dimensions beyond the scheduled input. As a result, I hesitated to ask follow-up questions, leading to some conversations feeling somewhat "dry" and lacking depth.

The first pilot interview lasted only 17 minutes, considerably shorter than my scheduled duration. The feedback from the interviewee highlighted the lack of probing questions that would have allowed her to fully explain the underlying meanings of her experiences. Drawing on the lesson learned from this first pilot interview and the feedback received, I prepared potential follow-up questions. As a result, the next three pilot interviews lasted between 35 and 45 minutes each. I asked participants about their experiences of course design in the HE context, including what aspects they would consider in the planning and design stages of a new course, how they approached designing a course, and what they believed constitutes a well-designed course. Through engaging with each interviewee and incorporating their feedback, I observed a continuous improvement in my interviewing skills and a boost in my confidence, especially in conducting online interviews.

During my research project, the UK went into lockdown due to the pandemic, so I had to shift from in-person to online interviews, which was not anticipated when I initially wrote my research proposal. While online interviews eliminated the need to choose a physical setting, they introduced new considerations. For example, selecting an online conferencing tool that the interviewees were familiar with helped create a more comfortable interview "environment". Microsoft Teams, widely used in UK universities for online teaching during the pandemic, was a natural choice, as all interview participants were already accustomed to it. As the interviewer, knowing how to initiate conversations naturally in an online setting and effectively manage recording was important to ensuring a smooth and comfortable interview process – these skills that I practiced during the pilot study proved very useful.

It is worth noting that in the pilot phase I deliberately chose not to interview academics with experience in designing MOOCs, instead I interviewed academics about their understandings of course design more broadly. This decision was made to prevent any preliminary data analysis from influencing the formal data collection stage, ensuring that the phenomenon discussed in the pilot interviews was different from that in the formal interviews. This approach allowed me to conduct an initial analysis of the transcripts and develop a basic understanding of phenomenographic data analysis.

However, the phenomenographic literature emphasises the importance of having enough pilot interviews to ensure that interviews follow the same planned inputs set by the researcher (Bowden, 2005). Bowden (2005) emphasised that it is crucial to test "whether the planned inputs, such as the opening scene-setting, actually do elicit comment on the intended topic". He argued that:

> "pilot interviews are always essential to ensure that the topic that interviewees are encouraged by the planned inputs to discuss is the topic that is the subject of the research. Otherwise the planned inputs have to be modified until they do catalyse response on the research topic" (p.19).

Therefore, I conducted a second-phase pilot study, this time interviewing two colleagues with experience in designing MOOCs. In this phase, the interviewees were similar to the intended final sample, allowing me to test and refine interview questions in my specific research context, to ensure that the interview questions provided sufficient opportunities for participants to fully describe their experiences of designing MOOCs.

In terms of the interview durations, Trigwell (2006) described that data collection in full phenomenography studies as "usually between 10 and 30 interviews, each of 30 – 60 minutes, are conducted, recorded and transcribed in full" (p.371). This recommendation is based on the understanding that conversations lasting less than 30 minutes are unlikely to yield sufficient information, while interviews lasting over 60 minutes may potentially lead to interviewee fatigue. Therefore, I established my formal interview schedule to fall within 45-60 minutes range. These two pilot interviews lasted between 50-60 minutes which adhered to my planned formal interview schedule as stated on the participants information sheet.

Since the interviewees and the phenomenon discussed in the second phase pilot interviews mirrored those in the formal interviews, I decided not to analyse the transcripts at this stage. This decision was informed both by the phenomenographic literature, particularly Bowden (2005), and was enforced by discussions with fellow phenomenographers, who strongly advised against conducting initial data analysis during this phase. Analysing data at this stage could potentially form a "framework" in

the researcher's mind and unconsciously influence the design of interview questions. For instance, introducing dimensions which interviewees might not have considered otherwise. Therefore, I refrained from analysing the transcripts but had them "discarded and not used as part of the research study", as suggested by Bowden (2005, p. 19).

Through the second-phase pilot, I identified errors in question formulation, adjusted the focus of planned inputs by eliminating irrelevant questions, refined the wording, and learned how to set the scene to initiate conversations effectively. I also developed strategies for managing off-track discussions and steering conversations back on topic naturally. Furthermore, I explored different ways to probe interviewees' responses in a conversational rather than interrogative manner, ensuring a more fluid and open dialogue.

4.2.3 Interview questions design

In addition to the pilot study, I underwent an intensive eight-month phenomenography methodology course at Gothenburg University to familiarise myself with the process of phenomenographic interviews and data analysis. As part of the course, I presented my research topic, interview questions design and reflections on the pilot interviews to a group of twenty phenomenographers, primarily from the UK and Sweden, to receive feedback. My interview questions underwent peer-review, allowing me to refine and enhance them to better align with my research objectives. This experience was very beneficial in equipping me, as a novice phenomenographer, with the essential knowledge and skills needed to design effective interview questions and conduct phenomenographic interviews prior to the formal data collection phase. This course was also very useful for my data analysis, which will be discussed later in data analysis section.

Phenomenographic interviews aim to make interviewees bring forth their awareness of the phenomenon under investigation (Marton & Booth, 1997; Prosser, 2000). To achieve this, interview questions must be formulated in a flexible and open way, allowing participants to discuss the elements they were focally aware of in relation to the phenomenon (Marton, 1986). Therefore, phenomenographic interviews typically

follow a semi-structured format, with only a few key questions predetermined. As described by Wood (2000, pp.78–79), these "carefully framed, open-ended questions were used to let the subjects choose the dimensions of questions they wanted to answer. This choice of dimension was to be an important source of data because it revealed an individual's relevance structure".

My interview schedule consisted of two groups of questions. The first group aimed to verify information obtained prior to the interview about the participant's position, employment status, teaching experience in HE, and the number of MOOCs they had designed. The second group focused on how participants experience or understand the phenomenon of "designing MOOCs". These key questions were designed to approach the phenomenon from multiple angles to increase the likelihood of revealing the interviewees' understanding. The first question aimed to elicit their motivations for designing MOOCs. The second question focused on their understanding of a MOOC as a course type and how they had considered the characteristics they understood about MOOCs in the design decisions. To prompt discussion and provide context, interviewees were invited to reflect on one specific MOOC they had designed and describe the process in detail. I then inquired about their assumptions regarding MOOC participants and their expectations of participant engagement in MOOCs. Additional questions were also asked on the challenging aspects they experienced in designing MOOCs and their worries and concerns etc. Finally, academics were asked to share their perspectives on what they regarded as a well-designed MOOC. See Appendix 1 for the full list of interview questions.

The interview questions were carefully crafted with the objective of obtaining as full description of the interviewee's understandings of designing MOOCs as possible. It was crucial to approach wording carefully, initiating questions in an indirect manner (Zhao, 2016). Green (2005) noted that even a slight "change in wording" in interview questions "made a massive difference in the kind of data gained" (p.38). For example, rather than directly asking "what does designing MOOCs mean to you?" I initiated the conversation by asking about how the interviewee first became involved in designing a MOOC. This approach encouraged interviewees to narrate their experiences naturally, providing contextual details such as their first encounters with MOOCs and their

reasons and motivations for getting involved in creating MOOCs. Similarly, instead of asking abstract questions that require the interviewees to conceptualise the phenomenon, I invited them to select a specific MOOC they had designed and describe the entire process. This tactic facilitated a discussion grounded in their direct experiences, enabling them to select and discuss the aspects or elements within their focal point related to the phenomenon within their context or situation.

The scheduled key questions served to ensure that the object of study remained central throughout the interview process while providing structure to the conversation. However, much of the interview was centred around using probing prompts to follow up and explore different aspects of the interviewee's experience as thoroughly as possible (Reed, 2006). I devoted significant time to formulating follow-up probes as the quality of these probes is crucial in obtaining meaningful interview data (Prosser, 2000). Informed by my reflections on the pilot interviews and discussion with peer phenomenographers, I prepared a list of follow-up questions to be used in different situations, such as "seeking clarification, playing the naïve and exploring contradictions" (Green, 2005, p.38). Examples included: "can you tell me a bit more about what you just said about x", "can you describe the whole process of designing this MOOC from the start to the end", "you just mentioned x which I have no knowledge about, can you please give a definition or use an example to explain what it means".

4.2.4 Conducting interviews

This section details the interview process, explaining the strategy for selecting interviewees, describing the process of conducting interviews and ongoing reflections throughout the process.

4.2.4.1 Interviewees and sampling strategy

In this research, the selection of interviewees was based on two specific criteria: first, they must be employed as academic staff in a UK higher education institution (HEI) with teaching responsibilities; and second, they should have direct experience in designing one or more MOOCs hosted on the FutureLearn platform.

The Higher Education Statistics Agency (HESA), a trusted source of HE data and analysis agency, defines academic staff as academic professionals responsible for planning, directing and undertaking academic teaching and research within HEIs (HESA, 2013). Although HESA has revised the definition of academic staff in recent years which put more emphasis on the nature of their employment contracts, in this research the use of term "academics" largely aligns with the original definition. For instance, professionals who do not hold typical academic job titles under the UK HE system (e.g., teaching fellow, lecturer, senior lecturer, professor) but are responsible for academic teaching within the scope of their job role were also included as "academics". For example, a few research participants held job titles such as learning development manager or academic developer, yet they were still considered part of the broader category of "academics" within the context of this study.

There are numerous MOOC platforms available globally, with prominent names such as Coursera, Udacity, EdX based in the US and FutureLearn, a UK-based platform, standing out as major MOOC platforms in the field (Pickard, Ma & Mendez, 2024). The scope of this research project is specifically centred on HE academics' experiences of designing MOOCs on FutureLearn. Launched and initially owned by the Open University in the UK in 2012, FutureLearn has since grown to become the largest UK-based MOOC platform, partnering with over 120 highly ranked institutions in global university rankings, providing a significant proportion of UK-based MOOCs, and boasting 19 million users (Futurelearn, 2023; Pickard et al., 2024). According to the list of partners on the FutureLearn website, 48 UK universities have been partnered with the platform to develop MOOCs (Futurelearn, 2023). Focusing on academics' experiences of designing MOOCs on FutureLearn helps to contextualise this research within the UK education landscape. It is worth noting that different MOOC platforms have distinct procedure, policies, and pedagogical approaches (Bayne & Ross, 2014). In phenomenographic study, it is crucial to make sure that research participants experience the same "phenomenon". By focusing on academics' experiences of designing MOOCs on a single platform, this phenomenographic study maintains consistency and ensured research participants discussed their experiences of the same "phenomenon" during the interviews.

I used a snowball strategy to help find interview participants for this study. Initially, I reached out to academics within my own HE institution who had experience in designing MOOCs. Then I expanded the pool of interviewees to contacts recommended by the academics who participated in my pilot or formal interviews, and contacts suggested by my supervisor and fellow PhD peers. To identify additional potential participants, at the end of each interview I inquired whether the interviewee could recommend other academics who had experience in designing MOOCs and might be willing to be interviewed. At the early stage of recruiting interview participants, I also attempted to search lead educators names listed on the FutureLearn platform, sending emails to introduce myself and invite these lead educators for interview. However, this strategy turned out to be unproductive, likely affected by the ongoing pandemic during that period. With many academics facing heightened workloads and challenges while working from home during lockdown, it was understandable that responding to an unfamiliar invitation email and participating in research interviews was not a priority during that difficult period.

In phenomenographic research, a purposeful sampling strategy is used in selecting the participants, with the goals of maximising the possible variation among the participants' experiences (Ashwin, 2005; Mimirinis, 2022). This approach differs from the conventional ideas of representing the distribution of views within a population based on probability theory in quantitative research (Palinkas et al., 2015). The logic and power of purposeful sampling lies in selecting information-rich cases "from which one can learn a great deal about issues of central importance to the purpose of the research" (Patton, 2002, p.46). The objective of phenomenographic research lies in uncovering the different ways of experiencing a phenomenon, thus the sampling strategy is chosen to adhere to this principle.

In determining the number of research participants, phenomenographic literature emphasises the need to capture sufficient variation while ensuring data remain manageable. González (2009) stated that sample size in phenomenographic research "is driven by the need to uncover all the main variants on a conception (or approach)" (p.304). Bowden (2005) recommended interviewing enough participants "to ensure sufficient variation in ways of seeing, but not so many that make it difficult to manage

the data… in practice, most phenomenographers find that between 20 and 30 subjects meet the two criteria" (p.17). Trigwell (2000) suggested a sample size between 15 and 20, with fifteen considered the minimum for uncovering variation and the upper limit is constrained by data volume and manageability. In another article, he noted that a full phenomenographic research involves "usually between 10-30 interviews" (Trigwell, 2006, p.371). Tight (2016a) noted that the various ways of experiencing a phenomenon identified by a phenomenographic study are usually "on the basis of a relatively small number of interviews (20 or fewer are typical)" (p.2). Similarly, González (2009) echoed this observation, noting that "small sample size (n<20) are common in the literature" (p.304). For instance, Roberts's (2003) research on conceptions of teaching with the web had a very small sample size, with only 7 lecturers interviewed, and Rotar (2021) interviewed only 10 participants in her PhD research. Although phenomenographic literature does report various sample sizes in research, there is broad consensus that around 20 participants are typically sufficient to both uncover the variation in conceptions and keep data to a manageable size. In line with this, I proposed interviewing 22 academics on their experience of designing MOOCs, accounting for potential withdrawals. However, as no participants withdrew, data collected from all 22 interviewees was included in the analysis.

Following Åkerlind, Bowden and Green's (2005, p.79) suggestion, when selecting interview participants, a wide range of variation across key indicators was sought in terms of different disciplines, teaching experience, MOOC design experience, age, gender and affiliation with different HE institutions. From the pool of contacts that I obtained through the snowballing approach, a total of 22 academics from 6 different UK HE institutions were interviewed, consisting of 13 female and 9 male academics (see Table 4.1). A table with the full profile of participants is presented in Appendix 6.

Teaching experience	2 years to approximately 32 years
Discipline	6 natural sciences, 7 social sciences, 5 humanities/languages, 4 computer science
Gender	13 female, 9 male
Age range (years)	Mid-30s to late 60s
HE institution	6 different HE institutions

Table 4.1 Demographic variation within the sample

4.2.4.2 Conducting interviews

The interviewing process strictly followed the ethics procedure including explaining the purpose of the interviews to the participants, seeking permission to record and giving guarantees of confidentiality. Prior to the interviews, the information sheet and consent form were sent to all interviewees by email so they could read the information about the research then complete and return the consent form before the scheduled interviews. To make sure all interviewees fully understood the information provided to them, I reiterated the research purpose and their rights before each interview and sought their verbal consent before I started recording the conversation. It is worth noting that, just before I began data collection, the UK entered an unexpected pandemic lockdown, so I had to change my original plan of conducting face-to-face interviews to online. I used Microsoft Teams, the university-supported online video conferencing tool, to conduct and record the interviews. As a backup, I obtained a Zoom license from the university, though I did not use it. MS Teams was chosen not only because it was widely used in UK universities during the pandemic but also due to its official support by the university's information services, ensuring compliance with data protection requirements outlined in my ethics statement. Additionally, its automatically transcription feature helped reduce the time required for manual transcription.

It took me about three months to conduct a total of 22 interviews, from December 2020 to March 2021. All interviews were conducted in English. On average, interviews were 58 minutes in length, with the longest one lasting 95 minutes and the shortest one lasting 36 minutes. I strategically began the interview process around December

10 as aligning with the conclusion of the term for most UK universities. This timing ensured that academics having completed their teaching commitments were more available for interviews. This strategy proved successful, as I managed to interview three academics before Christmas and secured arrangements for five more in early January.

To address Säljö's (1997) concerns regarding quality of the data and the extent to which interview data could accurately represent people's ways of experiencing or conceptions, phenomenographers have developed some interview techniques in their research practices (Åkerlind, 2005a; Bowden, 2005). Drawing on these techniques, I incorporated a few key strategies into data collection which are similar to approaches discussed in Zhao (2016), including asking questions indirectly, using open-ended questions, and preparing potential follow-up questions. In the subsequent discussion, I elaborate on how these strategies were effectively implemented, including creating a comfortable environment conducive to open dialogue, minimising intervention in interviews, utilising follow-up questions strategically to provide participants opportunities for clarifying their meanings, and keeping reflective journals throughout the interviewing process.

As discussed in Section 4.2.3, the primary interview questions were designed as open-ended, allowing participants to choose the dimensions they wished to discuss and thereby revealing the aspects they discerned from the phenomenon (Marton, 1986). The interviews were conducted as natural conversations, exercising caution to minimise intervention and avoid unduly influencing participants' thoughts and perspectives (Marton & Booth, 1997). During the interviews, there were instances where participants sought my opinion on specific aspects of designing a MOOC or asked me to state whether I agreed with their approaches. In response, I clarified that in phenomenographic interviews, my role as the interviewer required me to withhold personal opinions until the conclusion of the interview. I assured them that I would be happy to engage in discussions and share perspectives once the formal interview had ended.

Although the interview questions and schedule were carefully designed and pilot-tested, I engaged in continuous self-reflection throughout the data collection process,

making ongoing adjustments to the wording and sequence of questions. After each interview, I wrote reflections on the interviewing process and considered how I could improve probing and follow-up with minimum intervention (see Appendix 2 for excerpts from the reflective journals). For example, in the early stages of data collection, I noticed that strictly adhering to the pre-designed sequence of primary questions resulted in a somewhat rigid interview structure. This sometimes required intervention to guide interviewees back to the intended schedule. My post-interview reflections prompted me to adjust my approach in dealing with situations when interviewees "jump" to something related to a different question scheduled for later. Rather than interrupting, I took notes to remind myself to return to those points later for clarification or further probing. The reflective process also highlighted missed opportunities in the first few interviews where I could have probed deeper into an interviewee's intended meanings when they introduced new terms to describe their experiences. In response, I became more attentive to emerging terms and phrases in later interviews, letting them clarify their meanings. Meanwhile, I kept reminding myself not to unconsciously introduce new conceptions or terms to avoid influencing their responses. I found my interviewing skills improving over time during data collection, particularly in recognising "when a particular line of thought should be pursued, when clarification should be asked for" and "when some further explanation of an expression should be pressed for", as described by Walsh (2000, p.31).

Interviews continued until I was satisfied that interviewees had described their experiences exhaustively, and the meanings of relevant words and terms had been adequately probed and clarified. Reed (2006, p.5)warned that "the process of continuous probing and directed following up of comments makes the phenomenographic interview by nature more intimidating than a traditional qualitative interview". He cited Francis (1993) to emphasise that care must be taken to "treat the interviewee as a reporting subject rather than an interrogated object" (p.5). Similarly, Walsh (2000) stressed that the interviewer should be careful about how to approach the interviewee, the manner in which the interview questions should be asked and be sensitive to "when enough had been said about the topic for the purposes of the project" (p.31). There was once when I attempted to probe further

after I had asked a few follow-up questions; an interviewee paused for a few seconds before responding, “I think I have already answered that question”. This was a clear sign to stop probing further and move on to other questions. I reflected on this experience in my journal about finding a balance between probing adequately and being sensitive to the signs when interviewees start to show impatience.

In addition to enhancing interviewing skills, maintaining reflexivity throughout the data collection played a crucial role in ensuring the reliability of this research. First, the reflective journals contributed to the transparency required for the research to be considered trustworthy. By documenting my thoughts, observations and reflections, they provided a clear and honest account of my experiences throughout the research process. Second, engaging in reflection after each interview was essential in bracketing my own preconceived ideas. It helped me to self-consciously “adopt no position on the correctness or falsity of the claims which are implicitly made by the research participants” (Ashworth & Lucas, 1998, p.418). During the data collection process, I continuously reminded myself to set aside my personal knowledge and beliefs, being open to what the interviewees said without judgment or instinctively comparing their conceptions to my own. This approach ensured that I remained focused on capturing the second-order reality of participants’ life worlds.

In Marton and Booth’s (1997) opinion, phenomenographic data collection and data analysis are inseparable. They assert that “during the collection of data, whether through interviews or in some other form, analysis is taking place, and early phases of analysis can influence later data collection” (p.129). I hold a different opinion to this. Throughout my data collection process, the open and ongoing reflections helped me be aware of “many possible starting points” the interviewees had, “the sorts of situations in which they have met the phenomenon before”, and “the range of ways in which they might handle it” (ibid, p.129). Nevertheless, I distinguish these reflections from actual data analysis. I followed Bowden’s (2000) approach and did not start transcribing and analysing interviews before I completed all interviews to avoid potentially influencing later data collection, which is detailed in the next section.

4.3 Data Analysis

My data analysis practice strictly followed Bowden's (2005, pp.19–20) guideline that "no analysis should begin before all interviews have been conducted". This approach was adopted to prevent the risk of unintentionally "introducing new, unplanned content halfway through" an interview or "making a judgemental observation about something said during the interview" (ibid, pp.19-20). Bowden warns that analysing early interviews before completing all data collection could pose the "danger that the later interviews will be altered, either explicitly or perhaps unconsciously" (ibid, p.20). To maximise the power of the research outcomes, I ensured that no analysis commenced until all interviews had been conducted

4.3.1 Data transcription

I observed that some researchers include "transcribing interviews" in the data collection section in literature as part of a preparatory step for analysis. However, I choose to discuss how I transcribed the interviews in this section, because from my perspective, transcribing interviews is an integral part of data analysis itself. I devoted a substantial amount of time in transcribing the recorded interviews, considering that the analysis would be entirely based on these transcripts.

I listened to all 22 interviews three times to make sure the conversation in the interviews was accurately transcribed to text. In the first round, my primary focus was on verifying and correcting errors in the automatically generated transcripts from MS Teams. Some participants had strong accents or spoke very fast, making it challenging to identify certain words and phrases. During the second round, I added emotional expression notes to the transcripts such as laughter, sighs, indication of confusion, as well as emphasising tone, pauses for hesitation or contemplation. Although in phenomenographic study these are not the key elements to be analysed as in discourse or language research, they provided useful cues in capturing the meaning and understanding in the transcripts. The third round aimed at gaining a holistic picture of the transcripts content and correcting any minor errors that might have been overlooked. This rigorous approach to transcribing ensured that the data

retained both accuracy and depth, forming a strong foundation for subsequent analysis.

4.3.2 Preliminary data analysis

After completing the transcription of all interviews, I conducted multiple readings of the transcripts to get myself familiar with the content. At this point, I felt overwhelmed by the sheer volume of text. To manage this extensive text dataset, I decided to first carry out a preliminary data analysis, drawing inspiration from the approaches of Prosser (2000), Prosser et al. (1994), Trigwell (2000), Trigwell et al. (1994) and Åkerlind (2005a). I chose to focus on 14 transcripts initially before bringing out the entire set of 22 transcripts. During this phase, I engaged in a more in-depth reading of the selected 14 transcripts while simultaneously listening to the recordings. This dual approach aided in understanding and interpretating the interviewees' intended meanings. Although the transcripts included pauses, expressions, and tones, revisiting the audio recordings helped clarify ambiguous meanings. I highlighted paragraphs or large chunks of the transcripts related to specific issues, made annotations and compiled summary notes for each transcript (see Appendix 4 for an example of summary notes). I then worked with these summary notes for a while in searching for similarities and differences both between and within the interviews. Using an A3 paper, I sketched common "aspects" emerging in relation to different issues. The primary goal of this preliminary analysis was to identify and collect meanings directly from the data. As a novice researcher conducting my first phenomenographic data analysis, I kept reminding myself to maintain an open attitude and keep curious about what would emerge from the data. While I had prior knowledge of research on academics' conceptions of course design designing courses and personal experience as a distance learning developer working with HE academics in designing courses, I exercised caution to avoid imposing a pre-determined set of categories on the data or searching for structural relationships between categories too early during the data analysis.

Through the analysis of 14 transcripts, I generated an initial list of categories of description. This initial set was reduced by assessing whether some categories represented the same concept under different labels (Åkerlind, 2005a; Trigwell, 2000).

The preliminary analysis results were later submitted and presented at the Networked Learning Conference 2022 (Wang & Sime, 2022) for peer feedback.

4.3.3 Analysis of all transcripts

The initial set of categories constituted from the preliminary analysis of 14 transcripts underwent a rigorous examination against the remaining 8 transcripts. All 22 transcripts were revisited in relation to the initial set of categories. The goal was to assess whether these categories accurately captured the range of experiences described by the interviewed academics. In this phase, the analysis transitioned from only considering the categories of descriptions to also considering the structural relationships between them, a crucial step constituting the outcome space. As stated by Trigwell (2006), the phenomenographic analysis phase:

> "normally involves an initial identification of a set of categories of description, analysis of the structural relationship between the categories independently of the transcripts, and an iteration between the transcripts and the structural relationship, until a stable set of categories is constituted" (p.371).

After several iterations, to obtain peer critiques and feedback to enhance the validity of my phenomenographic analysis, I presented the interim results at the EARLI SIG9 conference 2022 (Wang & Sime, 2022a) before finalising the constitution of the outcome space. Engaging with the academic community provided valuable insights and alternative perspectives, prompting me to revisit the original transcripts for further analysis.

The traditional "pen and paper" approach often relies on intuitive hunches (Friese, 2019). To ensure a more systematic and transparent approach, I decided to incorporate ATLAS.ti in the next phase of my analysis. After several months of working with the qualitative data, my understanding of the dataset became different from those in the very early stages. The use of software allowed me to modify labels and concepts while keeping the analysis process easily traced, well-documented and open to view. This traceability enhanced the rigour and credibility of my research. In addition, it became much easier to systematically query the data which otherwise would be too time-consuming if conducted manually (Friese, 2019).

When I initially worked with the summary notes of transcripts, I took a “broad brush” style aiming at exploring the data, fostering familiarity, and grouping similar meanings under common labels. However, to ensure no details were overlooked, I chose to code in a “descriptive” style when returning to the full transcripts using ATLAS.ti. At this stage, my focus was on capturing the details in the data while keeping an open mind, developing a descriptive code list that described the emerging themes. As a typical “splitter” coder (Guest et al., 2012), my initial labelling process was highly granular - after just four transcripts, I had already generated 266 labels. These descriptive labels were closely tied to the data, but I remained aware that developing labels is a dynamic process, and labels were likely to undergo changes as the analysis progressed. After I coded a few more transcripts, I noticed diminishing new labels, with most being reapplications of existing ones, indicating an initial saturation point. Additionally, many labels had a low frequency of quotations, signalling the need for refinement. To avoid ending up with a large flat list of concepts with no idea how they fitted together, I reviewed my labelling system, elevating descriptive labels to a more abstract level through sorting and restructuring labels. This process involved merging labels with different names but appeared to convey the same meanings. I kept the more abstract labels which encapsulated broader and more inclusive concepts during the merging process. For example, “large scale”, “large number of people” were merged with “reach”, and “less academic”, “simple”, “basic” were merged with “knowledge level”. The descriptive labels gradually evolved into conceptual labels, resulting in a structured label list which was then applied to the remaining transcripts.

Phenomenographic analysis focuses on identifying key qualitative similarities and differences within and between categories of description (Marton & Booth, 1997). This process involves grouping and regrouping transcripts or selected quotes based on perceived similarities and differences along varying criteria (Åkerlind, 2005c). After labelling all transcripts, I carefully reviewed the quotations to refine and develop subcategories, aiming to differentiate various aspects of the themes under consideration. As explained in Section 3.4, phenomenographic analysis focuses on collective experience rather than individual experience, seeking to capture the range of meanings within a group, rather than the range of meanings for each individual.

Therefore, no single interview transcript can be understood in isolation, but rather, each transcript is interpreted in relation to the full dataset, in terms of similarities and differences from other transcripts or meanings (Åkerlind, 2005a; Marton & Booth, 1997). Tight (2016a) reinforces this point, stating that "the focus is on the variation in understanding across the whole sample, rather than on the characteristics of individuals' responses (p.2). To ensure a comprehensive interpretation, each quotation was analysed in relation to two contexts: first, the specific interview from which it was extracted; and second, the entire dataset. These two contexts were considered in alternating iterations, ensuring that individual meanings were understood both within their immediate conversational context and in relation to the dataset as a whole. Since phenomenographic analysis is inherently iterative, my data analysis process involved continuous testing and retesting of categories against the data until the critical dimensions of variation marking the structural aspects were identified and a stable system of meaning was achieved (Marton, 1986). See Appendix 5 for development of the categories of description across time.

In constituting the final outcome space, I followed the three primary criteria presented by Marton and Booth (1997): distinctiveness, structurally inclusive relations and parsimony. First, each category of description in the outcome space needed to represent a distinctive way of experiencing the phenomenon under investigation. Second, the categories were logically related, often organised hierarchically, with lower-level categories included in the higher-level ones. Lastly, the goal was to capture the variation in experiences using as few categories as possible. There is no single universal structure or standardised approach to follow in analysing data in phemomenographic studies (Yates, Patridge & Bruce, 2012). Phenomenographers tend to take flexible and interpretive approaches in their analysis, as Corbin and Strauss (2015) stated, "Qualitative research is not meant to have a lot of structure or rigid approach to analysis. It's an interpretive, very dynamic, free-flowing process" (p.1). This fluid and iterative nature is particularly characteristic of phenomenographic data analysis, allowing for the emergence of meaningful categories through continuous refinement.

Dahlgren and Fallsberg (1991) proposed a 7-step procedure for phenomenograpic data analysis which is presented in Table 4.2.

Step 1. Familiarisation	the researcher is introduced to the empirical data by reading through the transcripts. It may also include correcting errors in the transcripts.
Step 2. Compilation	compile answers to certain questions and identify the most important elements in answers.
Step 3. Condensation or reduction	select quotes which seem to be relevant and meaningful for the study and remove the most redundant, irrelevant data.
Step 4. Preliminary grouping	categorise similar answers into the same group.
Step 5. Preliminary comparison of categories	establish borders between the categories. The revision of the preliminary groups may also happen
Step 6. Naming the categories	give each category certain names to highlight their essence.
Step 7. Final outcome space	a description of the unique character of every category, and a description of resemblances between categories.

Table 4.2 7-step procedure for phenomenographic data analysis (Source: Dahlgren & Fallsberg, 1991)

In the early stage of my data analysis, I used this 7-step procedure as a general guide. As the data analysis progressed, I adapted and refined my approach, as elaborated in

detail in this data analysis section. I agree with Corbin and Strauss (2015) that "the analytic process, like any thinking process, should be relaxed, flexible, and driven by insight gained through interaction with data" (p.25).

The entirety of my data analysis process resembled a journey akin to mountain hiking. It commenced on a foggy morning in uncertainty, with no clue what would present in front of me. As the analysis unfolded, it progressed much like ascending a mountain, although there were several lower peaks along the way. I eventually completed the journey on a sunny afternoon where the previously obscured paths became distinctly visible.

4.3.4 Reflexivity

Throughout the data analysis process, comments on data segments and memos were written. Corbin and Strauss (2015, p.117) suggested that "writing memos should begin with the first analytical session and continue throughout the research process". Similarly to the reflective journals during data collection process, these memos played a crucial role in fostering reflexivity throughout my data analysis (See Appendix 3 for selection of data analysis reflective journal). As the research progressed, they evolved from rudimentary representations of thought to more complex, dense, clear, and accurate forms (Corbin & Strauss, 2015). In phenomenographic analysis, "being able to bracket one's own perceptions and being able to read the data for the ways in which the interviewees are understanding the phenomenon: this skill has to be learned through practice" (Bowden & Walsh, 2000, p. 32). I remained continually aware of the assumptions I brought to the inquiry as a researcher. These memos provided a mechanism for acknowledging and critically questioning those assumptions, ensuring a reflective and rigorous research process.

Uljens (1996) asserted that the results of phenomenographic analysis reflect the researcher's experience of the data. On the one hand, phenomenographers must attempt to "bracket" their prior knowledge (theory), experience and background to understand the data from the participants' perspectives. On the other hand, Uljens (1996) argued that a complete "bracket" is impossible in empirical studies, as qualitative research is inherently guided by the researcher's knowledge, interests in a

specific study and theory in the field (Creswell & Poth, 2018). As Sandbergh (1997) asserted, researchers "cannot escape from our interpretations in the research process" (p.209). Instead, researchers must strive to remain aware of their role in the analysis, acknowledge and explicitly deal with subjectivity by maintaining interpretative awareness throughout the study (Sandbergh, 1997). Rotar (2024) emphasised the importance of reflexivity in phenomenographic research and discussed how to maintain reflection and "consider assumptions, biases and alternative perspectives" (p.909). Since I worked full-time while taking my PhD study part-time, I had to take breaks between data analysis cycles due to work commitments. These breaks enabled me to return to the transcripts and examine them with a fresh perspective, enhancing the rigour of my analysis. Throughout the process, I engaged in discussions with other researchers, which helped identify potential oversights and the need to revisit and recode the data when necessary. These collaborative conversations with peers proved invaluable in maintaining a thorough and reflexive approach to data analysis.

Charmaz (2006) stated that any conclusions developed by grounded theorists are suggestive, incomplete, and inconclusive. Reflecting on my own phenomenographic data analysis, I find that this statement also applies to the constituted outcome space in phenomenographic study.

4.4 Summary

> "In order to be as faithfully as possible to the individuals' conceptions of reality, the researcher must demonstrate how he/she has controlled and checked his/her interpretations throughout the research process: from formulating the research question, selecting individuals to be investigated, obtaining data from those individuals, analysing the data obtained, and reporting the results." (Sandbergh, 1997, p.209)

In this chapter, I elaborated in detail how the research participants were selected, how the interview questions were designed and how the interviewing process was conducted as well as how the data were analysed. A substantial portion of this chapter is dedicated to describing the process of data collection, including the pilot study and formal interviews, especially the reflective process and how I adjusted the interview

questions and improved my interviewing skills. This is because I believe that data collection is a very important starting point in phenomenographic research. Providing these details not only ensures transparency in the research process but also offers useful information and tips for other novice phenomenographers. For data analysis, I discussed how the analysis was conducted in a highly transparent and iterative way with rigorous testing against the interview data. Throughout this chapter, my ongoing reflections spanning all stages of data collection and analysis were woven through the discussion, from the design of interview questions to the actual interviewing process and subsequent data analysis. These reflections served as a tool for self-awareness, helping to mitigate potential biases and ensuring a more reliable research approach. The results derived from the data analysis are presented and discussed in the next chapter.

Chapter 5 Results

5.1 Introduction

In the preceding chapter I explained the details of the data collection and analysis process employed in this research. This chapter now presents the research findings, addressing the first research question: What is the variation in UK HE academics' experiences of designing MOOCs? Through rigorous analysis, six qualitatively different ways of understanding "designing MOOCs" held by a group of UK HE academics have emerged, as listed below:

- Category A: Content-focused perspective – designing MOOCs as producing short, visually interesting and accessible learning materials.
- Category B: Social learning perspective – designing MOOCs as enabling conversations for social learning.
- Category C: Teamwork perspective – designing MOOCs as a process of working with others.
- Category D: Development perspective – designing MOOCs as an opportunity for personal development and institutional development.
- Category E: HE perspective – designing MOOCs as broadcasting and marketing higher education.
- Category F: Transformation perspective – designing MOOCs as a way of influencing and making changes to society.

In the subsequent sections of this chapter, each of the above categories is discussed and substantiated by illustrations of excerpts from relevant interview transcripts. The referential and structural aspects of each category are summarised at the end of each section and interpreted based on the referential/structural framework discussed in Chapter 3.

5.2 Category A: Content-focused perspective - designing MOOCs as producing short, visually interesting and accessible learning materials

The focus of this category of description is on producing course content. Three key characteristics are highlighted in participants' descriptions regarding the nature of learning materials and resources generated for MOOCs: they are described as short, visually interesting and accessible.

Firstly, this category emphasises the importance of MOOC learning materials being presented in bite-sized formats. Interviewees used terms like "small elements" and "small chunks", etc., to describe MOOC content, as illustrated by the excerpts provided as follows: (Note: In the thesis, the quoted excerpts are referenced using a specific format. The first letter followed by a number denotes the transcript ID from which the excerpt was extracted, while the number after the colon indicates the paragraph ID within that transcript (e.g., P2:53). If the excerpt spans across multiple paragraphs, all paragraph IDs are listed and separated by commas (e.g., [P2:53,113]):

> *"you have to break it down, really, to small elements […], to like five minutes, blocks of information" [P2:53].*

> *"you have all these small topics that are in quite small chunks" [P6:260].*

In this category, interviewees describe a variety of resources they have produced for MOOCs such as videos, quizzes and articles. Despite the diversity in resource types, a common character emerges – all these resources are described as being short. One participant explained that this was related to their assumptions regarding the study behaviours they anticipated that MOOC learners would likely adopt:

> *"with MOOC […] students are studying in a very different way, they may be picking something up for 10 minutes at a time or, you know, their only time in the day that they can do their studies on the train […] so making […] short blocks of things, things that are very self-contained, so that students can kind of pick up an activity and complete it in a relatively short amount of time" [P6:62].*

Course content designed in short length is believed to offer more flexibility to MOOC learners, allowing them to use the materials in various ways according to their preferences and schedules:

> *"it should be flexible too. So people ought to be able to do some of the course and get something out of it. And other people can do maybe all of the course. So you don't necessarily have to do the whole thing in order to, to learn something from it" [P5:95].*

> *"they could select from a large number of options are of interest to them" [P17:56].*

> *"have sort of like, kind of bite sized bits of learning so that they, they could just take what they wanted" [P19:11].*

At the same time, the importance of producing visually interesting learning materials is highlighted by the research participants. Their rationale rests on the belief that such visually attractive content would enhance learner engagement with the learning materials, maintaining learner interest and involvement in the educational content:

> *"you'd package it differently, and that needed to be in short, kind of exciting, visually interesting sound bites, you know, you wouldn't go on for too long" [P1:131].*

> *"it's around engagement, trying to use a mix of media to keep students engaged" [P6:80].*

> *"I think visually it has to be really engaging" [P9:22].*

> *"if you're developing a MOOC, I think the primary kind of material that you use is going to be video based" [P16:107].*

One participant used "TV film" to describe the high quality of visual materials/videos produced for a MOOC:

> *"very impressive, I think it's like a TV film" [P1:71].*

Producing accessible learning materials is also frequently mentioned in interviewee's description about their experiences of designing MOOCs. This characteristic is

described from different angles including using non-technical language to accommodate learners at different knowledge levels; using simple and clear language for an international audience who do not speak English as their first language; considering internet bandwidth and technology constraints; and providing free copyright materials and open resources for learners to access, etc.:

> *"you have to remember that your audience is not just qualified people or even undergraduates, you have to make it accessible to all levels of learners and to try to make it interesting to all levels" [P5:95].*

> *"if you use any technical words, you have to define them, you have to really explain things in simple, clear language" [P2:59].*

> *"obviously, there's many, many learners for whom English is not their first language, and you don't want to exclude anybody, that would be my aim anyway" [P1:191].*

> *"it's a worldwide course, people who don't have great bandwidth can't watch videos, like they can't watch a 10 minute video" [P2:65].*

> *"it's accessible insofar as I made sure that all of the software that I was using is readily available on this on the internet. And it's a freely available to download" [P5:101].*

> *"making sure that you [produce] something that is very accessible, and that students can easily study, quickly and easily, and however they are choosing to study" [P6:254].*

> *"a lot of our resources are academic resources […] most people aren't going to be able to understand […] we've developed an E-book that was written in quite an accessible way […] we were just hoping people would get it" [P7:140].*

Interviewees associate "accessible" MOOC learning materials with a bite-sized format discussed earlier, explaining that MOOC learning materials in short lengths are easier to digest and understand thus more accessible for learners to engage with:

> *"there is research out there that shows that if you have anything going on past 10 minutes, then people just don't engage with the material […] if we want*

somebody to learn something that's new, then we've got to make sure that we're making it accessible to them" [P13:128,140].

"I mean by create lots of small steps […] populate with lots of small things across the MOOC. So I think we designed that in terms of, you know, accessibility, making it easy" [P17:86].

Producing "short", "visually interesting" and "accessible" learning materials is thought to be closely linked to completion rates and student retention in MOOCs, as they are considered important in keeping learners on the course:

"I think the idea of the 14 year old is perfect. it is got to be accessible for everyone participating, it shouldn't be exclusive, otherwise you will lose your learners" [P7:188].

"when you design a MOOC, you realize that you often get a big audience in sort of week one, and then that falls away. So you can't be giving people long academic papers" [P12:59].

This category emphasises constraints and limitations imposed by the FutureLearn platform during the process of creating content for MOOCs. Interviewees elaborated on how the platform affects and compromises the design and development of course content. They expressed a desire for more freedom in integrating external tools or having a wider selection of tools and functions within the platform to produce visually interesting, accessible and interactive content for their MOOCs, as exemplified as follows:

"Emm, [in Futurelearn] the formatting of some of the pages is, is quite simplistic, I would say. So it's can be difficult to really make it appealing, visually appealing to a learner. […] we had a lot of trouble, so there's a section [we had] to build a tool [external to the system] that would let the students or the learners interact with, and it had to, you have to go out of the course and come back in again. It seemed to be [more helpful] if we'd have had a bit more freedom about how we, the kinds of tools we could use in the course" [P9:89].

"What we've got here on 3.6 is an excerpt from a book, […] it's presented in exactly the same font as the questions, the only difference visually, is that there is

a pink line down the side, that's it. So I think, as a learner, it isn't a good experience. You know, we should, we could have had a different font, we could have had it in a different color. There's all sorts of things we could have done to visually make it more obvious that this is the thing we want you to read and then here are the questions. So there's an awful lot of white space on the, on the screen, and I think that is probably quite tiring to read. So even down to could we not have it as a beige background or? I mean clearly there's accessibility issues" [P9:113].

"We've always found Futurelearn as a platform challenging […] it is quite rigid in what you can offer. […]we've found grappling with the, what the platform will enable us to do, emm, quite, quite challenging, a bit tough at times, you know, interactive content isn't something that we can build there as easily" [P10:185].

"we were really like limited to a discussion, sharing an article, or a video, step or a quiz or a test. You know, that's the only elements that we could do. So that limits your design and your creativity. Not like we could just hack into the code and create a sort of more interactive (laugh) content in there" [P10:191].

In addition to platform constraints, academics also described other associated challenges and issues during designing MOOCs, including high production cost, significant amount of effort and time required to produce high quality video content and visual materials:

"doing and preparing a MOOC, I think takes probably about six months, six to nine months. So it's a lot of work" [P2:53].

"The other problem that I identified is that videos are really expensive to produce. I'm sure it wasn't just me who identified that (laugh). But relying on them so heavily in the course meant cost production costs were really high" [P6:50].

"I worked with an external production company to make the videos. Emm, and that was done over quite a long period of time, probably six months. Emm, even though it was a relatively small number of videos" [P6:92].

"it was very time consuming […] it probably took us six months to put it together before we launched it […] during that period, I'm not sure that I particularly did

much else other than write scripts, make, make films, liaise with the filmmakers" [P8:38,74].

In summary, this category takes a content-focused perspective, emphasising the production of learning materials and resources in designing MOOCs. With this conception, academics relate the characteristics of MOOC content to their assumptions about MOOC learners and their expectations regarding retention and completion rates in MOOCs. The referential and structural aspects of this category are illustrated in Figure 5.1, based on the referential/structural framework discussed in chapter 3.

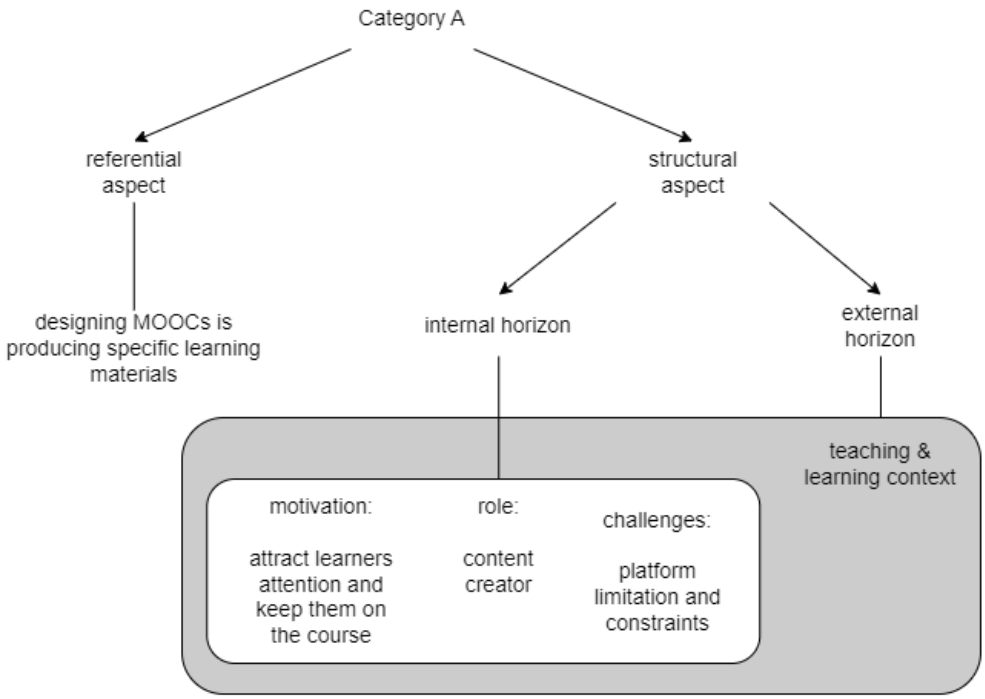

Figure 5.1 Category A referential and structural aspects

In Figure 5.1, the referential aspect refers to the meaning participants attribute to the phenomenon "designing MOOCs". The structural aspect consists of internal horizon and external horizon. The internal horizon represents the interviewee's focal awareness, including parts participants considered to be integral to designing MOOCs and the relationships between these parts. The external horizon describes the context in which the meaning sits.

For this category, the referential aspect or the meaning aspect is that designing MOOCs is producing short, visually interesting, and accessible learning materials. The

internal horizon of the structural aspect comprises features discerned and focused upon by the research subjects, represented across three dimensions of variation: motivation, role and challenge. Within this category, attracting a learner's attention to keep them on the course is deemed as the key motivation and objective by academics involved in designing MOOCs: "you need to draw them in and keep them there" [P1]. Consequently, producing "short, kind of exciting, visually interesting sound bites" [P1] and accessible materials is considered crucial by them to achieve this MOOC design objective. Academics see themselves primarily as content creators, with MOOC learners being the recipients and audience of the course materials and resources provided: "I've always been interested in open educational resources, and creating those resources myself, I've been interested in creating emm, screencasts, ebooks, podcasts […] so students have an opportunity to engage in a wide range of resources" [P16:11]. The perceived challenges associated with designing MOOCs in this category are mainly related to the constraints and limitations imposed by MOOC platforms when producing course contents, as evidenced in earlier quotes. The external horizon of this conception is set within the teaching and learning context.

5.3 Category B: Social learning perspective - designing MOOCs as enabling conversations and social learning

Instead of focusing on producing course content (as in category A), this category focuses on creating opportunities to enable conversations and social learning. While category A prioritises content creation to meet specific criteria aimed at keeping learners on the course through promoting their engagement and interaction with learning resources and materials, category B views designing MOOCs as providing a platform or channel for learners to engage in discussions and interact with other learners and MOOC tutors. The emphasis is to enable learners to share their opinions and useful information with others, as illustrated by the following excerpts:

> *"But the whole idea of learners replying to learners, as long as they've got useful information to share, and often they do, I think, is broadly a good thing" [P4:95].*

"so what we wanted to do is, what we really saw MOOCs as being really beneficial for is that the conversations, so you know, how they have a comment section, and people engage in the discussions about the topic" [P10:53].

"I think what makes a well-designed MOOC is, emm, […], I think it is encouraging people to contribute, emm, ensuring that making your students or your learners feel that their opinion and their contribution is just as valued as yours" [P10:233].

"what I want to enable in the MOOC is I want people to have a conversation. The topics that we've chosen […] because we want people to talk about them and explore them" [P10:239].

"So the idea that it's a social learning experience, and people having conversations" [P15:53].

"it's more or less like this, if you have a concept, right? And you want to be able to have a conversation about that concept with, with somebody who is experienced or who is an expert at it" [P18:143].

Both the substantial number of learners and the geographical extent that MOOCs can reach are acknowledged in this category, exemplified by terms like "scale up" and "at scale". The sheer volume of learners, coupled with their international and diverse backgrounds and experiences make large scale social learning possible. This category highlights the benefit and potential of the "massive" nature of MOOCs in facilitating peer knowledge exchange and collaborative learning in MOOCs:

"it's a way of contacting and connecting with people that you wouldn't otherwise be able to reach […] it's like large scale […] the potential is enormous for the amount of people and also the geographical reach as well […] for me, the defining factor is its scale, so it's like teaching at a very big scale" [P3:41,47].

"So definitely, emm, through the online medium, being able to reach a wider audience than we ever thought might be possible" [P4:29].

"it could attract lots and lots of people […] you got, you reached a much broader audience […] but also, it was much more international" [P7:26,32].

"I've been trying to explain my vision of what a MOOC is, […] I've always had this, you know, idea that you could actually scale up collaborative learning, you know, to get people, you know, professionals could be exchanging their own knowledge is as much as maybe learning from knowledge from content in the MOOC, that it could be a peer exchange, […] a genuine scaled up peer exchange of knowledge" [P19: 41].

Within this category, interviewees mentioned "short chunks of information" and "accessible" learning resources when describing their experiences of designing MOOCs. However, their primary emphasis does not lie in content creation or learner engagement with course content, as in the case of category A. Instead, their focus centres around utilising these resources to facilitate and foster engagement among MOOC learners through discussion and conversations with each other:

"everything should be understandable, accessible, clear, engaging, so that students would actually meaningfully engage, when we say discuss, they would respond to in sufficient depth, that they would interact with each other" [P11:101].

"you have a series of steps with short chunks of information that you have to think carefully about the opportunities for discussion" [P14:179].

"the need to create collaboration and discussion at scale using short video, […], and short, you know, chunks of information, let's say. […] you know, well designed MOOC is, is a social learning experience that enables people to learn from each other" [P19:53,179].

In contrast to the depiction in category A regarding the limitations and constraints of the FutureLearn platform, in this category academics portray the platform as interactive and easy to navigate in terms of creating opportunities for conversation and social learning:

"I think, to some extent, this is probably about FutureLearn's design, so they've sort of set it up like a social media platform, so it does encourage people to make comments and to reply to each other" [P4:89].

"they're very interactive, because at the bottom of each page, there's a comment section. The idea […] is very much like the experience you would have in a chat, or even on Twitter, so people can interact and talk to each other" [P5:77].

"the FutureLearn has kind of a […] social aspect to it, where you can comment on each step, so it tries to kind of engage people with each other" [P22:29].

Academics with this conception clearly elaborated on their expectations of enabling discussion and knowledge sharing among MOOC learners:

"so they learn together, and they stay in contact with each other, and they stay in contact with you. So I think that's what I'm trying to create […] and really the most useful thing" [P2:71].

"one of our core expectations is we expect people to, to comment actually and engage, […] I don't think our MOOC would be very successful if we had a cohort of learners who didn't talk and didn't use the comments and discussions to share their ideas" [P10:173].

"we had expectations that they did engage in the discussion and in the collaborative activities and exchange their knowledge" [P19:143].

Associated with the aforementioned expectations, the main challenge in designing MOOCs in their focus is facilitating large-scale discussion. Although facilitating discussion generally falls within the delivery stage of MOOCs, academics obviously put a lot of thought into this aspect during the design process and often struggle to find viable solutions:

"my own inclination is to want to either me or someone else on the team to read every single one of those comments. But when you're talking about numbers like that, it's difficult" [P4:96].

"I just still not quite sure how far we need to, read every comment […] that's partly because I want to offer the learners a good experience […] but it's hard. It's very hard when there are so many of those comments to keep up, that kind of level of learner assistance, I suppose. So I feel that's just the one aspect of MOOC I haven't quite got, got sorted in my head" [P4:134].

"trying to keep up engagement, keeps students interested, which I think is a real challenge in a MOOC" [P6:74].

"I think it was a real challenge for us […] we couldn't moderate in the way we moderated online Moodle course […] the challenge was managing all the comments when they came" [P7:56,73].

"we are interested in your point of view, but you know, we can't engage with you in any really particularly meaningful way […] I'm not quite sure how you would do that effectively with such, such a large audience" [P8: 75, 96].

In summary, category A and B both emphasise learner engagement and learning experiences in MOOC design but are distinctive enough to be established as separate categories. Category A focuses on the aspect of producing content to engage MOOC learners, whereas Category B emphasises on the aspect of creating opportunities for conversations and views designing MOOCs as a means to provide a platform or channel for social learning.

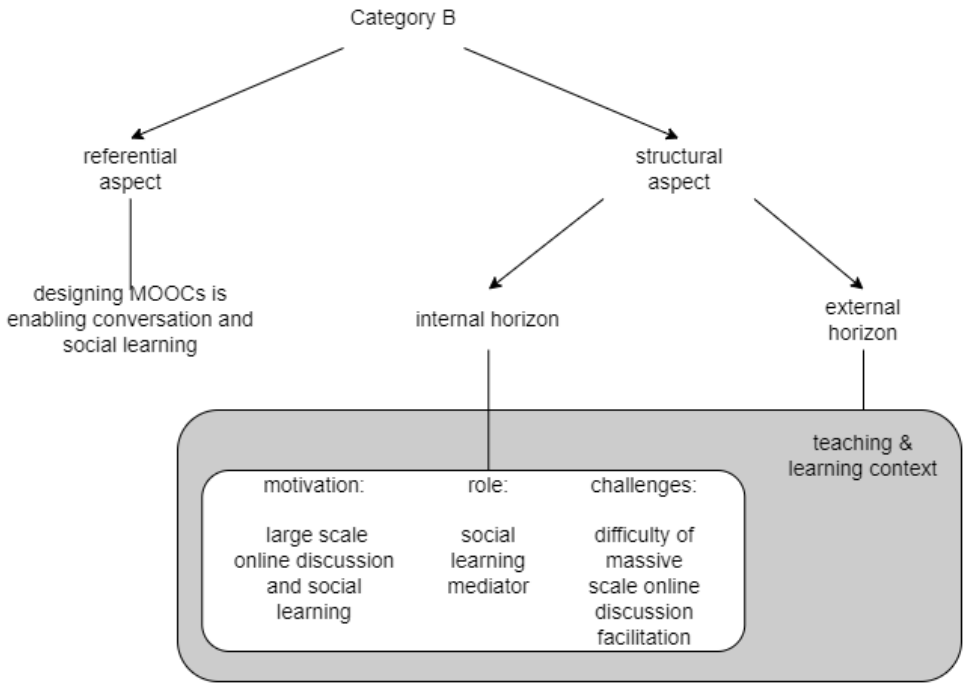

Figure 5.2 Category B referential and structural aspects

As illustrated in Figure 5.2, the referential aspect of category B is that designing MOOCs is enabling conversations and social learning. As far as its structural aspect is

concerned, within this category, academics are motivated by the potential of engaging learners in large scale online discussion and interaction through designing MOOCs. They perceive themselves as social learning mediators, who create a "platform" or "channel" for MOOC learners to share ideas and communicate with others. The perceived challenge associated with designing MOOCs in this category is mainly related to the difficulty of facilitating large scale online discussion, for instance "we can't help everybody […] you need to consider the massive number of people in this respect" [P11]. The external horizon of this conception is set within the teaching and learning context.

5.4 Category C: Teamwork perspective - designing MOOCs as a process of working with others as a team

In category C, designing MOOCs is experienced as a teamwork process, emphasising the aspect of working with others in MOOC design. In this category, working with others during the design of MOOCs is depicted from two different angles. The benefits of collaborating with others possessing diverse expertise are highlighted, while the challenges and tensions that can arise when working with others are also emphasised.

From a positive viewpoint, working with people with different expertise is deemed as helpful, especially regarding technical aspects:

> *"people had different expertise in the team […] that was really helpful". [P1:35]*
>
> *"I think initially, I couldn't quite imagine that, how straightforward it might be to produce a MOOC, because of the support of the team in the university and having the film crew, there was a lot of support, it was very much a collaborative venture" [P1:101].*
>
> *"the film crew then edited it so brilliantly […] and they'd really thought about it imaginatively. And I mean, that's a whole different skill set than most academics would have […] really, really brilliant. It's partly about resources, and it's partly about teamwork" [P1:125].*
>
> "*so I think creating them [MOOC], it's good to have experts like P and A, and that's been really helpful. […] as I explained I'm not very technically brilliant, so I*

think a lot of the language of technology, and online learning and so on is kind of, was a mystery to me, and that's really why [working with learning technologists] was very helpful" [P2:53,113].

"it was a really good team effort. And it was a great team to work with. And I really enjoyed working with everybody" [P5:59].

"it was a really enjoyable teamwork and I felt very well supported" [P11:83].

"we couldn't have done without our people doing the animations, or the voiceovers, or the recordings, or the filming, or [...], we couldn't have done it without absolutely everybody. It was a massive effort" [P13:188].

"and it's a team of people that helped me develop MOOCs. They do all the technical side, they filmed the videos, they edit the videos, they do all of those things. They also have editors who can edit your text and all that sort of thing" [P15:41].

Working as a team and contributing collectively is valued, as articulated by the interviewees as follows:

"it's really helpful to work in a team, people who are computer experts, online education experts, and then subject specialist experts, because each of you have to explain it to somebody else. […] I think it does require a team, it isn't, it's not an individual effort" *[P2:113].*

"we wanted to be able to draw in a number of academics within the department, so it was clear, it couldn't sort of just be a topic on my research, it needed to be something that a lot of us could contribute to" [P4:5].

"the one thing I would say about MOOCs are they, they have to be the close merging […] of the technical experts and the subject matter experts, and it's about that relationship between people across the team which affects the development of the materials" [P13:284].

"we all chipped in, you know, the amount of work meant that everybody had to contribute bits and pieces" [P14:131].

"there was a lot of collaboration and a lot of advice to each other. And a lot of, well, should we move that around, should we move the steps around, should we do, you know, lots and lots of collaborative conversations" [P15:215].

"we generate the content, and you know, a lot of it was generated, collaboratively with [other] members of academic staff" [P17:152].

"I think all of the indicators are that it's very successful. So I, and that's partly down to the fact that I got very good advice and good help about" [P21:239].

On the other hand, the aspect of dealing with tensions and disagreements when working with others is also highlighted. For example, challenges of negotiating conflicting time schedules and differing opinions, fighting for identity and roles played in the process of designing MOOCs, as well as disagreements concerning pedagogical considerations:

"the tensions that arise when you develop digital resources like MOOCs or online courses, because everyone else has to be involved […], you find yourself having to compromise and having to take onboard other people's expertise, which is good, but if you're not used to it as an academic, you're used to just developing your own materials, and you're not used to having to fit with somebody else's timeline" [P15:245].

"as we were developing [MOOC name removed], […] this is the difficulty where you're working with an external partner […] everybody has a different opinion as to what they liked, what they didn't liked, that in itself was a nightmare. And there were times when communication was very challenging, and quite distressing for our younger members of staff, and the technical staff" [P13:200].

"I think the biggest challenge is getting experts to speak in an accessible way […] it was really, really hard, they were always presenting like they were at a conference" [P7:152].

One interviewee described the frustration felt when academics were asked to follow certain procedures while their identities and roles of "educators" and "teachers" seemed not being recognised in the MOOC design process:

"*I felt it was more a process for the sake of process […] make courses with people who aren't educators. We're teachers, we know how, we know what we're doing, so why do we just waste the day structuring a course that we know how to teach? So it was, it was frustrating to do really" [P22:89].*

Similar to category A, the limitations and constraints of the FutureLearn platform are noted within this category. However, rather than focusing on the platform itself, interviewees' descriptions focus more on the attitude of FutureLearn staff toward these limitations and their communication with academics regarding the constraints encountered during the MOOC design process:

"when you go into the FutureLearn platforms to develop a MOOC, you're so constrained by the design of the platform, that you can't say, I want to do this, and I want to do that, I want to put this down, I want to do that, and you just can't, because they say no you can't do that. […] You know, one of the things I really don't like about FutureLearn is that the first thing you see [is a video], and I think, no, there should be a preamble and the video should come further down (laugh). And [they say] no we can't do that, it doesn't fit (big laugh)" [P15:245].

During the MOOC design process, academics often perceive FutureLearn staff as providing top-down quality assurance, monitoring and giving instructions rather than collaborating as equal team members:

"So our first MOOC, they went through quality assurance of the Futurelearn. So we had to write our first week, and send that to them, like a couple of months before the product went out. And they provided us with useful feedback of whether they felt this would the content will work […] I think that gives us a slightly more sense of security, that it should work, because FutureLearn had provided us with that support of looking at our content and reviewing the quality of the content to say yes, this is the kind of thing we'd expect on a MOOC" [P10:221].

"when you create a course, they have a quality assurance, after you've done the course, which we were very worried about, that we would write all this content,

and it would take us months to write it, and then it would go into their quality assurance, and they would say no" [P22:206].

Interviewees expressed their feelings of confusion and scepticism while working with FutureLearn staff during designing MOOCs. Although they dutifully followed the instructions provided by FutureLearn staff, they seemed to remain unconvinced and harbour doubts regarding the rationale or pedagogical consideration behind some of those instructions, illustrated as follows:

"I do struggle over why videos have to be only five minutes long. […] there's so little time, and when the learner is, when it's their primary means of engaging with the course team as real people that they can actually see and hear […] I don't, I don't think it's really about the quality of the learning experience, it's about, it's that there seem to be based on how long they think people will pay attention for. But in my experience, people who are interested will pay a lot of attention, you know, TV documentaries are often an hour long, nobody says they're too long, if you're interested, you watch it" [P9: 77].

One interviewee even asked me questions regarding the rationale behind FutureLearn's instruction to "creating short chunks/bite size video". This highlights the tension within the team, stemming from a lack of communication, clarification and explanation of pedagogical approach.

In summary, designing MOOCs is seen as a teamwork process with two sides of a coin in this category. On the one hand, the positive side of working with others is recognised and valued which involves an approach to designing MOOCs where people work together to develop collectively. On the other hand, the tension and disagreement in the process of working with others is highlighted with expression of frustration and scepticism.

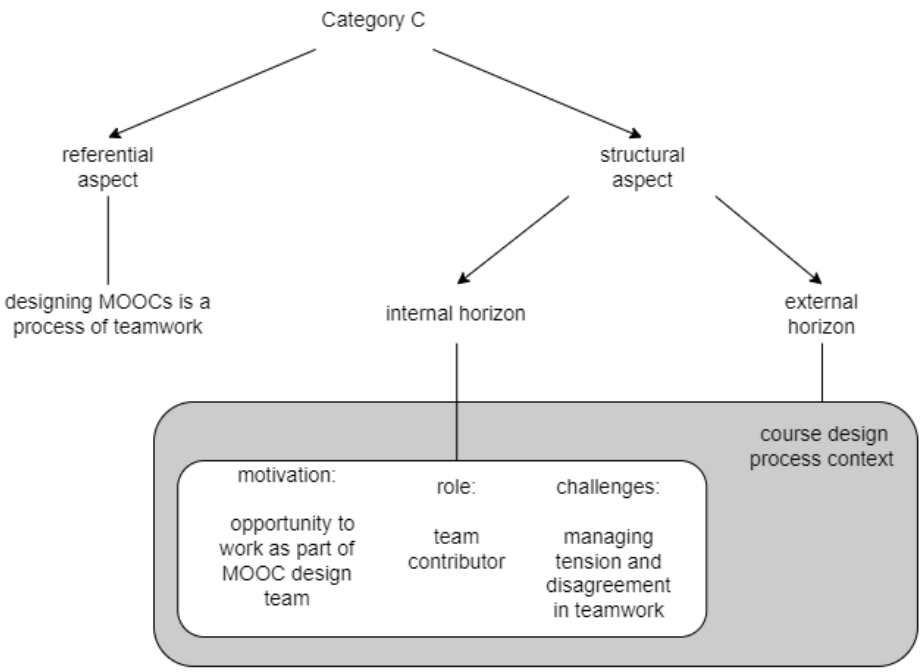

Figure 5.3 Category C referential and structural aspects

As illustrated in Figure 5.3, the referential aspect of category C is that designing MOOCs is a teamwork process. In terms of the dimensions of variation within the structural aspect, academics are motivated by the opportunity to work as part of a team with diverse knowledge and expertise during the MOOC design process. They see themselves as contributors to the MOOC design, working with others either through collaborating or negotiating as needed, the phrase "teamwork", "team effort" and "great team to work with" were frequently used by interviewees. The perceived challenge associated with designing MOOCs in this category mainly centres around managing tensions and disagreements during the design process, as supported by the earlier selected quotes. The external horizon of this conception is set within the context of the course team design process (teamwork).

5.5 Category D: Development perspective: designing MOOCs as an opportunity for individual professional development and institutional development

In category D, academics see designing MOOCs as an opportunity to learn new skills and engage in a learning experience that involves adapting to and participating in a new educational approach, thereby contributing to the advancement of their institutions.

For academics involved in designing MOOCs, this represents a wholly unfamiliar experience, which is very different from their experience of designing traditional HE courses in their everyday work. Academics describe encountering MOOCs as a completely new concept, lacking any prior knowledge about MOOCs or their design:

> *"we had never heard of MOOCs […] at the time, it was, that was kind of a journey into finding about even, even knowing MOOCs existed" [P7:14].*
>
> *"it was about then that we first heard of this term MOOC […] we had precious little understanding of how we would go about it" [P8: 26,74].*
>
> *"So it's kind of vaguely aware of that stuff [MOOC], but not really of what was involved" [P12:29].*
>
> *"we knew about MOOCs, we knew they existed. We never written one. So we'd never tried it. So the educational side was very new to us" [P17: 38].*
>
> *"this is the first time I've ever done anything like this" [P21: 185].*

Without prior knowledge about MOOCs, designing MOOCs is seen as a learning experience to the academics. Academics may acquire knowledge about MOOCs through various channels, including talking to colleagues who have previously designed MOOCs, enrolling in MOOCs as learners themselves, meeting with FutureLearn developers, and observing other MOOCs in action:

> *"prior to that I didn't have any experience in developing, well certainly not in developing a MOOC, […] I didn't really know what any of that would be like until I talked to those two other educators and then it became much more clear what we needed to do to prepare for that" [P4:5,59].*
>
> *"one of the first things I did was to sign up as a student on a MOOC, so I could see how it worked […] it gave me a sense of the kinds of rhythm […] I think it prepared me for understanding what it was we were getting into" [P9:53,65].*
>
> *"I think an important aspect was talking to the learning developers from very early. They gave us access to a couple of other MOOCs, so we were able to see how they worked" [P9:161].*

"the first thing was, I mean, lots of looking at other people's MOOCs actually, emm, and lots of talking to the learning development team and to learning technologists. So we did a lot of planning, we talked to people at Futurelearn. That was a learning experience for me, because I've never had it up a project like that before" [P12: 65].

One interviewee described her experience of learning from and being influenced by other MOOCs in the process of designing her own. As illustrated by the following excerpts, this interviewee's focal awareness of the phenomenon (designing MOOCs) is centred on her personal development, including what she has learned and how her thoughts have evolved. Designing MOOCs is seen as an opportunity to learn from the work of others:

"I wanted to achieve something that was a bit like that, and had that same effect on me, I also was influenced by another MOOC, it made me think differently about video and about how you don't need it to be really slick and professional, you just need it to be, emm, you know, if you're featuring the educators, you need actually, the power of it is often, you know, having the sort of mistakes and the off-guard moments of, you know, which it enables" [P19:35].

Academics see their learning about designing MOOCs as a good opportunity for professional development. One interviewee described her involvement in designing MOOCs as an eye-opening opportunity to learn new pedagogy, illustrated as follows:

"I mean, the other thing, which I really did open, open my eyes is this peer to peer learning, which is something of course, I never really thought about" [P21:155].

The other interviewee explained her involvement in designing MOOCs to further her teaching development after she received a teaching award:

"I got [teaching award], came with money that you could use for furthering your teaching. And I decided, okay, I'm going to use that money and those resources to allow me to work on the MOOC" [P11:23].

While limitations and constraints of FutureLearn platform are seen as challenges for producing MOOC content in category A, in category D academics view working around

these system limitations and adapt to the platform structure as a professional development opportunity which makes them think differently about course design:

> *"you're dealing with the fact that particular platforms, kind of determine the kind of knowledge that can be produced. So it has to fit into a particular format and structure […] So, that sort of forces you to think in a slightly different way about what's possible" [P12:191].*

> *"I think it was, I would say, a question of how we were going to get the pedagogy side sorted […] the main concerns how to get it right, and how do we work around the systems limitations or other constraints that they enforce" [P18:29].*

With this perspective, academics see designing MOOCs as "an exciting adventure", allowing them to experiment with new ways and new approaches. This prompts them to "think more innovatively", beyond merely producing new content, illustrated as follows:

> "*as a new approach to education which is an exciting adventure" [P16:53].*

> *"I was able to think more innovatively about how to disseminate this material. It's just a different way of teaching" [P21:59].*

In this category, interviewees demonstrate great curiosity about MOOCs and express a strong interest in developing their knowledge and skills through designing MOOCs. These interviewees often have a passion for creating digital learning materials and possess prior experience in developing distance or online programmes. Being approached by their departments or institutions to get involved in designing MOOCs because of their interests and prior experience further inspires them to advance their expertise in this area. For example:

> *"I prefer it [distance learning] to face to face teaching, to be honest (laugh). I find it easier because that's where I learned how to teach. I also love the way you meet so many people and so many different ideas and things like that compared to undergraduates in a conventional university. […] because of my experience with distance learning, I was asked if I would contribute to putting [a MOOC] together, emm, it was a bit of a steep learning curve […] but on the other hand I felt it more familiar than the actual lecturing (laugh)" [P6:8].*

"I've had an interest in distance learning for a long, long period, pretty much throughout the time that I've worked at the university, and I have been involved in developing and also delivering distance learning courses for other universities as well. […] my line manager obviously knew about my interest in distance learning and my experience with it, so I was involved in discussions [about creating a MOOC] right from the beginning" [P9:5].

"I was kind of aware of MOOCs, because just for personal reasons, you know, it's the sort of thing I'm interested in, I'm kind of like to do online courses and stuff like that myself" [P12:29].

"I have always been interested in open educational resources and creating those resources myself. I've been interested in creating screencasts, ebooks, podcasts etc. to supplement my teaching […] so my involvement in MOOCs then came as the university had an initiative to work with FutureLearn, and to deliver courses on the FutureLearn platform. And I was obviously, with my background and interest, I was keen to see how this approach to education, emm, could be utilized for my students in my course" [P16:11].

With the knowledge, skills and new pedagogical thoughts gained from designing MOOCs, academics may develop increased confidence in their ability to create more MOOCs and other valuable teaching materials in the future, illustrated as follows:

"I think now, I do understand how it works, so I could do another MOOC relatively easily. So it was a training exercise for me as well. You know, I understand what it would take to make a good online learning course […] So yeah, you know, I now feel fairly competent to be able to look at a MOOC design and say is this going to work" [P1:137,221].

"But over time, we've sort, sort of learned what guidance we need to give to people so that they have the best chance of getting the practical details right. And so we've sort of adapted the guidance at the top of the page to cater for people who maybe can't see exactly where to drop the label and that sort of thing […] I do get it now (laugh). I think we've had a bit of trial and error (laugh). We've had a few learning experiences" [P4:107,143].

"I felt like, I had a lot of ideas for how we could do it better next time, really. And I wanted to put those ideas into practice" [P6:44].

"*I also felt that some of these skills that are kind of required would allow me to generate some really useful teaching materials […] I mean it gonna be easier, now I've done it once, I could do it again" [P21:29,215].*

Academics view their involvement in designing MOOCs not only as an opportunity for their own professional development but also as a means to embrace new teaching technologies and approaches at the departmental and institutional levels. They believe it is important to engage in designing MOOCs to ensure their institutions remain competitive and do not fall behind. For example:

"we started to hear about MOOCs from America, and we thought we would try and develop one in this country, and I think also one of the first from [university name removed]" [P2:29].

"we could see a lot of institutions were developing MOOCs, so you want to go on board" [P10:35].

"The key thing about the work that I do, it's sort of, you know, uses the idea of the MOOC, but then takes it into a different place" [P19:11].

"I was thinking more generally […] to generate some distance learning courses, which we don't otherwise do at the moment in the department […] it's a good opportunity […] to put out toe in the water with respect to distance learning. It was me really pushing this, to suggest that this really is an important thing that we need to engage with […] I think it's completely blinkered not to embrace this technology [MOOC]. I mean, now you can put your head in the sand, but the world is changing […] this has been a radical upheaval in terms of the dissemination of ideas and teaching, and so on and so forth. And just in terms of competitiveness, I fear that if we don't embrace this technology, then we're going to be left behind" [P21:35,47].

In this category, the main challenge in an academic's focus is the lack of institutional recognition and support for the time and effort that they invest in designing MOOCs. Although universities often initiate the creation of MOOCs and approach academics to

use and develop their expertise as MOOC lead educators, their time and contributions during the design process are frequently overlooked and unsupported by the institution, illustrated as follows:

> *"it probably took us six months to put it together before we launched it […] during that period I'm not sure that I particularly did much else other than [designing MOOCs]. We would have needed a more formal recognition from the department that, you know, this was a legitimate (laugh) way for people to spend their time" [P8:74].*

> *"I think one of the challenges that we have is that we are leaning on academic colleagues and simply giving them more work […] they don't particularly get any benefit themselves, other than the potential for positive interaction with students that they would never encounter otherwise […] for me, the work that I put into the MOOC is taking me away from doing other things […] it's not properly recognized as being really meaningful work, and that's quite hard, perhaps what we need is within the university sector, need greater awareness at a higher level of how much work these things actually take to do […] It's seen as something which the university must have because everyone else is doing it, we got to do it, but no we're not gonna put any resource into it, this is just something that will magically happen [P9: 41,290].*

In summary, category D incorporates elements from previous categories, such as following instructions and taking advice from FutureLearn technologists and other MOOC developers in producing MOOC content, as well as exploring large scale peer-to-peer learning. In this category, designing MOOCs is seen as an academic's learning journey, emphasising their internal change and personal growth through these aspects. Academics' involvement and professional development in designing MOOCs are viewed as having a positive impact on their institution's development and competitiveness.

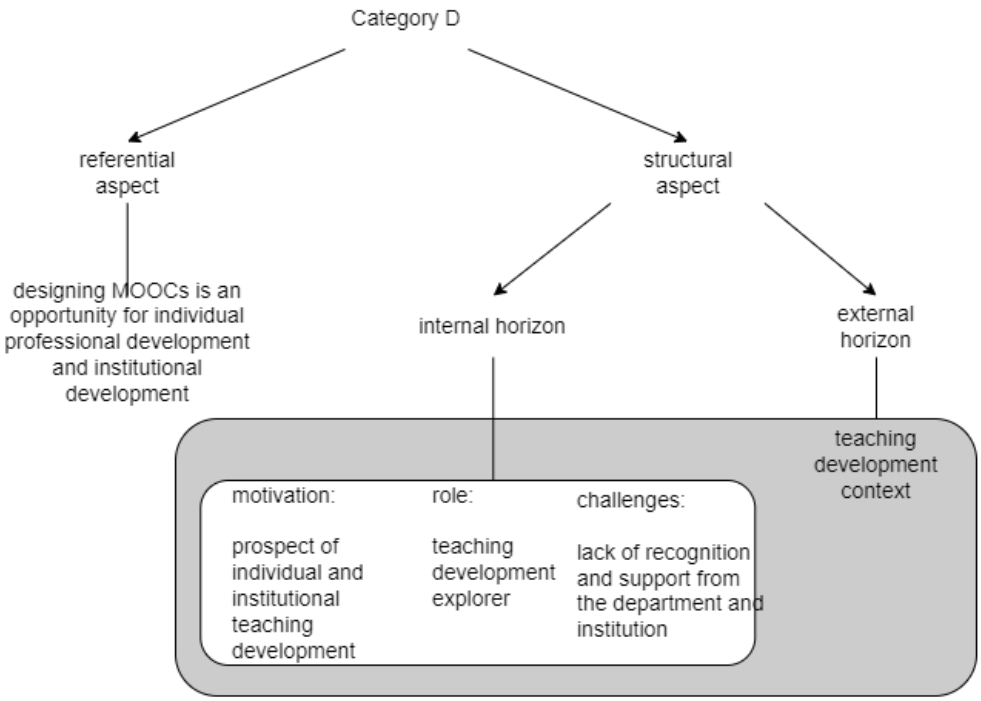

Figure 5.4 Category D referential and structural aspects

As illustrated in Figure 5.4, the referential aspect of category D is that designing MOOCs is an opportunity for both individual professional development and institutional development. In terms of the internal horizon of the structural aspect, academics are motivated by the prospect of developing their knowledge and skills through designing MOOCs, which in turn benefits their institutions by making them more competitive. With this conception, participants perceive themselves as pioneers, exploring and experimenting with new approaches to online course design and teaching: "just excitement to kind of see where, see where it goes […] it was something to try […] an exciting adventure [P16:53]. The perceived challenge associated with designing MOOCs in this category is the lack of recognition and support for the time and effort invested in designing MOOCs, as evidenced by selected quotes presented earlier. The external horizon of this conception is situated within teaching development (both individual and institutional levels).

5.6 Category E: HE perspective - designing MOOCs as broadcasting and marketing HE

Category E takes a perspective that considers "designing MOOCs" within the HE context, viewing designing MOOCs as broadcasting and marketing HE. While previous categories of description have touched on comparing designing MOOCs and traditional HE courses in terms of course content and design processes, category E focuses on the relationship between MOOCs and HE provision in a more comprehensive and in-depth way, including various facets.

In this category, interviewees see designing MOOCs as a means to make "paywalled" higher education accessible to more people. This reflects their consideration of the potential benefits and advantages their involvement in designing MOOCs can bring to expanding open access to higher education. It includes two aspects: broadcasting educational content and resources globally, and making research ideas and findings openly accessible to a larger audience, illustrated as follows:

> *"as a means to, emm, well, make [higher] education more accessible to populations, to people, and to get away from kind of the financial tyranny of universities, which are arguably very elite institutions, and that only a few people can afford to go to university" [P2:35].*
>
> *"I think that, MOOC was, was broadcast" [P5:53].*
>
> *"At the time we designed the MOOC […] we just saw it as a platform to disseminate our research findings" [P7:50].*
>
> *"I could publish, I have published a lot of papers emm, in scientific literature, but the impact of those papers, was relatively restricted, just to the scientific community […] it's a pretty restricted audience" [P8:32].*
>
> *"There was some attraction in the word open because at that time, everything was published in journals, which operated behind a paywall, you could only read it if you paid, emm, which was a real stumbling block […] whereas the idea of making an open course was, really attractive, so, you know, it was available widely, hopefully, right across the world, and it was free" [P8:32].*

"Actually, scholars have been writing about this stuff for a really long time. And often our researcher is paywalled, it's kind of siloed within academic publishing […] this is a really good opportunity to take those more academic ways of thinking about these things that we all experience, and making them public. So discussing those in a new kind of public sphere [P12:53].

"one of the things I was really taken with was the fact […] it was pretty much broadcasting yourself" [P19:35].

At the same time, interviewees emphasise designing MOOCs as a marketing endeavour, viewing it not only as an opportunity to promote higher education to a broader audience, but also to assist in student recruitment efforts. This includes attracting students to specific subjects and institutions, as well was encouraging individuals to pursue university degrees more broadly:

"this was an area where we had a lot of expertise, we could do more […] we could contribute more in key areas. And having made that decision, it became a high priority for the university senior management team to publicize that […] it was the beginning of a development campaign for the university where they put particular emphasis on a few areas and that they were going to promote […] we could get more exposure for what we did […] it was about then we first heard of this term MOOC" [P8:26].

"it was about showcasing research, attracting more students […] so to me, what differentiated MOOC [from traditional HE courses] was […] the ability to attract people from a range of backgrounds" [P10:35,59].

"it being introduced as a possible recruitment activity for the MA […] there was a sense that this is a good way to reach a mass audience, and kind of let people know about what we do […] this is a chance to show our strengths and what we're good at" [P12:23].

"young people weren't progressing and taking [subject removed] as a career. So […] one way to do that would be to develop a MOOC and put it out there for free, and hope that young people engaged and thought 'huh, I'm off to university" [P13:38].

Academics stress that MOOCs are designed by experts in their respective subject areas, which are considered to enhance the institution's reputation when used for marketing purposes to attract more students:

> *"Usually it's, it's designed by experts in the field. So it feels like a trusted source of information" [P7:38].*
>
> *"[MOOC is] usually supported by experts, which is what we tried to do, we really tried to support it with experts" [P13:80].*
>
> *"the reason we produce them was reputational, largely, it was. There was an idea that it would let a very wide audience know that [university name removed] was a good university and get them thinking about it might be somewhere that would be good to come and study. And it would give them the idea that our academics were, you know, really interesting to listen to and to be taught by" [P14:95].*
>
> *"They [MOOC subject experts] are from, you know, leading universities across the world, so you can really tap into some expertise you've never come across otherwise" [P14:185].*

Viewing designing MOOCs as an advertising tool to promote the university and its courses, an interviewee emphasised that MOOCs should be university-branded during their creation:

> *"I'd say that was, there's very little freedom of movement on this for you to actually make something that feels distinctive. It's, emm, yeah, there, there's a strong sense of the Futurelearn brand. And whilst I can understand why they want to do that, it's not, hmm (laugh), yeah, and it's not, not something that I'm personally terribly comfortable with. I would rather that we had a [name removed] University MOOC identity" [P9:89].*

With the aim of attracting more students, academics may choose topical subjects that are likely to attract more attention and interest when deciding on MOOC topics during the design process, illustrated as follows:

"I would say that they're possibly at the best when they're topical […], they work quite well when they're about something which is […] part of, sort of the public conversation" [P5:95].

"broadcast these ideas that we know there is a kind of public for, a public appetite for [them]" [P12:53].

Designing MOOCs is seen as creating a short, introductory or snapshot-type course to attract students for advertising purposes, similar to how the movie industry uses trailers to attract audiences to the cinema:

"[A MOOC is] different to traditional online courses, it's probably a bit shorter, and just gives a small snapshot into what you're doing" [P10:59].

"what we wanted to do was to try and empower, you know, more people out in society to think, woo, maybe I could, you know, take the first step into a career in related to computing, by taking some smaller bite sized courses" [P17:32].

"what you do in MOOC as a great way to get an introduction to something. So you can do these little short courses tend to be self-contained. Yeah, can motivate people, excite them […] kind of very short, you know, taster courses, that really just give a very motivational outline of a subject area" [P17:50,134].

"my feeling is that the course that I'm doing is just really whetting their appetite or providing them with information about a topic that I teach, which they then may go on and study in further depth. So it's really just a very introduction, scratching the surface, sort of exposé of the material that I would otherwise teach in the university" [P21:101].

"I just wanted to give people, like especially with a two week course, that's literally just an introduction" [P22:188].

Interviewees describe these MOOCs they designed as "less academic" and "much lower level" compared to traditional HE courses, noting that they are either not assessed or have optional assessments:

"they're more journalistic, in some sense. They're, they're less academic, they're telling a story, rather than the detail" [P1:77].

"MOOC is at a much lower level than higher education, than my teaching I would say, what we expect of them […] it's much less in kind of both quantity also, in level of understanding" [P3:239].

"it's our discipline kind of assessment, it gave them the opportunity to write a little bit more, and it kind of made it a bit more professional, I suppose, a bit more like a university student. But they could opt into that, so not everyone did it, it was like an optional thing" [P3:113].

"I would say it's a short online course […] compared with designing a PgCert where you know […] it's all much more structured and much clearer, you need to do, to kind of write a specific assessment. In a MOOC, it's just much more free flowing […] we're not assessing them at the end of the MOOC" [P4:23,101].

Academics described taking on the role of advertiser and being involved in "marketing activities" during the design of MOOCs, illustrated as follows:

"there was a whole load of marketing activity, so we were very active on Facebook and Twitter, and discussion forums […] the idea was we wanted to make sure we had as many students as we could" [P14:215].

"I felt surprised that they left the advertising to us, to a certain extent […] you need to advertise your course […] advertising their existence to prospective students [but] not managed by the academics. If the academics were asked to do this, the university will probably be in deep trouble very quickly (laugh). So that's something that needs to be done a little bit differently" [P18:197].

Since these "introductory" MOOCs are designed on external platforms and have separate budgets, they are considered a different model from traditional HE courses. The main challenges associated with designing MOOCs in this category are tight deadline, budget constraints and uncertainty about their sustainability and future direction.

Academics are under great pressure to meet tight deadline, forcing them to rush the whole design process, illustrated as follows:

"we basically cobbled together quite a simple framework […] we designed it as fast as possible […] we got away with it, because we just wanted to do something simple, it could be produced and rolled out quickly" [P5:83].

"we did it too quickly under the circumstances, but you know, we were definitely under pressure to get something out there" [P8:80].

"so there was a huge rush to put things together, that you know, we had a deadline when it was going to go live" [P14:71].

Budget constraints are also perceived as a major challenge in designing MOOCs:

"it's going to require continue, continued funding. And we did actually raise some money from outside but it, I think, it was just too much of a challenge" [P8:74].

"we did have a very limited budget" [P12:107].

"it was all to do with the budget, we only had a small amount of money" [P21:43].

Academics are concerned that there is "a really big gap" [P17] in bridging MOOC and higher education degrees. They highlight that HE institutions and senior managers do not fully understand the production costs (time and budget), as well as the potential and limitations of developing MOOCs. As a result, there is a lack of clear vision regarding MOOC future direction and sustainability. For example:

"it feels like there's a really big gap between that, and something like entering a degree. So I think at the moment, my view of MOOC is, it's a very, very effective way of making first contact with students, you know, and giving them that first stepping stone on something. Emm, but I haven't seen quite as many effective MOOCs that, take it forward from that point" [P17:50].

"for me it's a complicated business, I would say had the university being really committed to the idea of the point where they were prepared to fund it properly, we would have continued" [P8:38].

"I think that it's going to be a challenge in terms of making sure that it's properly resourced […] once you've got decision makers and budget holders who've got those sort of views, they think that a MOOC can just be written on the back of an

envelope and can be put together in the space of a month or something […] that kind of misunderstanding, it's going to really limit the extent to which any group of people can really put together meaningful stuff and make it happen […] I feel that higher education as a sector hasn't quite come to terms with what the potential and what the limitations are, on the use of MOOCs" [P9:290].

One participant proposed a "two-tier system" with designing MOOCs to offer affordable skills training while HE courses cater to the luxury elite education market, illustrated as follows:

"So for me, I was thinking about how MOOCs might evolve in the future. And we'd end up with like a two-tier education system, the cheap and cheerful online variety, focused around work, training, you know, those sort of skills that we think are employability skills that you would pay for on in dribs and drabs on the fly. And the luxury market, so they're Edinburgh or Durham or Southampton or Oxford, and they got loads of money, and they're having really good one to one conversations with their tutors, and you know, having virtual meetings with the leaders in their discipline fields and things" [P14:119].

"I think that MOOCs in developing will eventually cherry pick some of the easier subjects, […] things that don't require a lab could very easily, it would be much cheaper to do it through a MOOC type system than to attend a course" [P14:179].

Another interviewee expressed a similar consideration in designing MOOCs, stressing the differences between what MOOCs should offer compared to HE courses:

"we had a kind of balance between, the students paying to do the degree course (laugh), between, we're giving this content away for free on the MOOC, you know, we had to balance what are the degree course students getting, but the MOOC students are not getting […] gives them that money's worth. something we had to kind of justify to ourselves" [P22:23].

In summary, category E focuses on the relationship between designing MOOCs and HE provision, viewing designing MOOCs as broadcasting knowledge (both higher education resources and research findings) and marketing HE institutions and degrees.

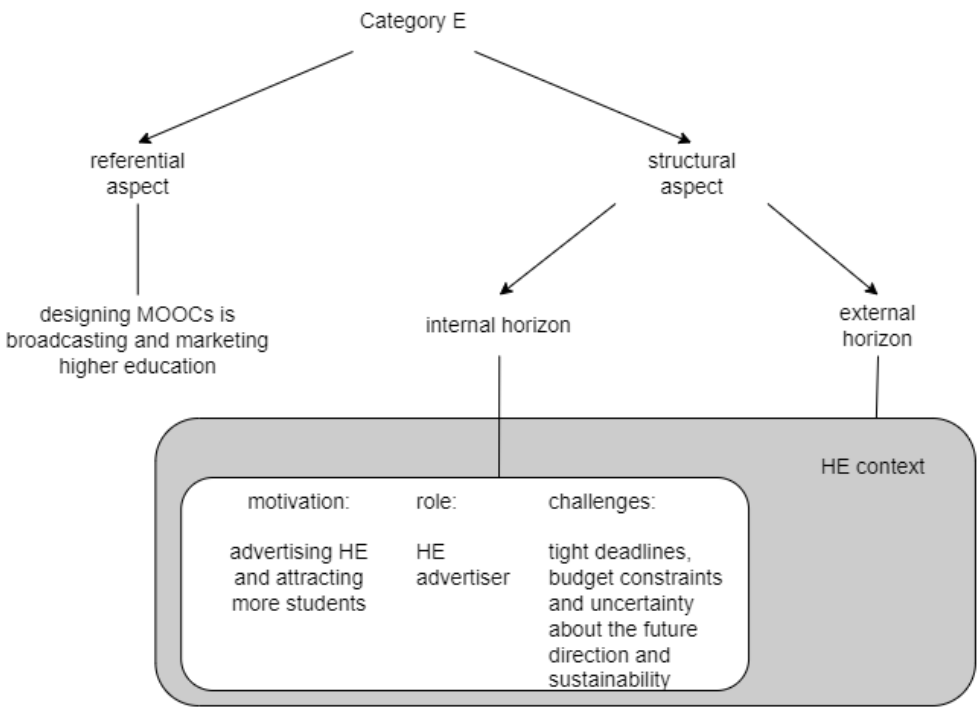

Figure 5.5 Category E referential and structural aspects

As illustrated in Figure 5.5, the referential aspect of category E is that designing MOOCs is broadcasting and marketing higher education. As to the internal horizon of the structural aspect, academics are motivated by the potential of advertising HE to a broader audience and attracting more students to HE through designing MOOCs. With this conception, academics see their roles as akin to that of advertisers. Their focus on this dimension is explicitly expressed: “we always thought one of the best outcomes of this course would be if it actually made people want to come and visit the area” [P04:65]; “there was a whole loads of marketing activity, so we were very active on Facebook and Twitter” [P14:215]. The perceived challenges associated with designing MOOCs in this category include tight deadlines, budget constraints and uncertainty about the future direction and sustainability of MOOCs, as supported by the selected quotes presented earlier. The external horizon of this conception is situated within the HE context.

5.7 Category F: Transformation perspective - designing MOOCs as a way of influencing and making changes to society

In category F, designing MOOCs is perceived as a way to influence the public and society, helping individuals make informed decision and drive positive changes in the world. This category views designing MOOCs in a much broader context beyond higher education, stressing their potential positive impact on society at large.

In this category, academics perceive designing MOOCs as targeting the public rather than just academics or professionals. For example:

> "*you aim it at the public, […] you're making it accessible for all rather than aimed at clinicians and academics" [P7:56]*.

> *"it is an important way for universities to actually engage with the wider public, as opposed to purely the people that are paying money to be part of the university community. So I do think it's got a real, a really positive aspect to it" [P9:290].*

Academics are motivated by the potential to effect real-world changes in their field, beyond theoretical knowledge in education:

> *"I'm not just doing a MOOC because I like education, I'm doing a MOOC because I want to change practice out there in the real world. And, and so for me, I want to have evidence, if possible, that people who've done the MOOC can either advocate better for their family members, or if they're health care workers, nurses, doctors and so on, that they can change and improve care that they give. So in a sense, the education for me, I've used a MOOC to allow that to happen, rather than just a MOOC for the sake of education" [P2:137].*

> *"I don't worry about it has to be the top rated MOOC in FutureLearn. I'm not worried about that. That isn't why I'm doing it […] I want them to find it useful and to use it as a mechanism to make changes" [P2:143].*

> *"I think that was one of the things about MOOCs is, it is quite video heavy, but if the videos have a really defined purpose and are showing authentic examples, then I think, you can just use them to convey a message, but then the people who*

are watching them can also then show them to other people, show them to their learners. You know, you can use them in that way […] because we're trying to change their practice" [P15:131,167].

With the aim of impacting the public, during the design process academics choose MOOC topics that are likely to influence society in everyday life and that everyone is already familiar with to some extent:

"I was considering what is it that is most relevant to the current list of context? Or, or what is it that people can actually if they are interested in further detail, they can read up on themselves in further resources" [P11:53].

"people are exposed to this all the time, and that means people are able to bring their own case studies and their own examples […] This is something that most people are engaged with already […] because as I say, this is part of everyday life, you know, we live in a mediated society, there's this increasing coverage of or interest in [topic removed], and how [topic removed] affects society. Emm, this is absolutely everywhere. This is in newspapers, on podcasts on radio. So we know that there's an interest in it, and then [topic removed] kind of lends itself to a MOOC, because, you know, these are ideas that affects everybody" [P12:131].

In this category, academics focus on providing different perspectives and expanding people's worldviews through designing MOOCs, going beyond the mere provision of educational resources and workplace skills, illustrated as follows:

"I think it's not learning about, what is learned about [topic removed], but it's broader than that. It's kind of, it was definitely kind of expanding people's worldviews and their experiences" [P3:227].

"I think you just give them a different perspective on life and a different perspective on different countries. You know, particularly, the majority of our participants were from the UK, and they have a really UK centric view of [topic removed] and life. And it was good to make them see that the UK isn't always the best at everything, or they could learn from other cultures and other countries, that there is some really interesting things going on in the world" [P7:158].

"it is about people expanding their horizons, finding new things that interest them. It's not about fitting people for the workplace, or giving them professional skills" [P9:119].

"[MOOC] students brought their experiences from across the world, a global perspective" [P10:101].

In this category, interviewees perceive themselves as public influencers and express their strong belief that academics should make an impact on society and people's lives, helping the public to make informed decisions. For example:

"it was part of quite a concerted campaign to just tell more people about [name removed] University, but I think, no we were entirely on board with that and I'm more than happy to promote [name removed] University but I think for me, the motivation was more, well this is an opportunity to actually get more people thinking about things, if we can bring about change, we can have a positive effect on, on people's lives" [P8:26].

"if I promote this idea more effectively [through designing MOOCs], I can change the world in a more, in a more significant way, […] even publishing in the most prominent disciplinary journals, I would argue that you're not going to achieve that" [P8:32].

"if you could generally raise the level of understanding in some of these areas, society could have a more informed decision. And we could make more progress as a society […] we could make decisions for hopefully, more effective decisions that based more on a reasonable understanding" [P8:44].

"I think it's an innate, it's not hard when you're concerned. You know, as I am with a global challenge, like [MOOC topic removed], you can spend a few hours, you don't have a specialist background, you can understand this, it will tell you something about some of those issues. […] watch my MOOC, and you can learn all about that, and you can then hopefully come up with a more informed view […] you have a much better chance of making the right decision" [P8:50].

"I believe very strongly in impact-led research […] I believe very, very strongly that academics should be making an impact on society […] we essentially […] try

and generate these kind of MOOCs to have higher degrees of impact […] You're actually touching quite a lot of people's lives there. So it's actually a very efficient way of making impact on a lot of number of people at the same time" [P17:14,38,50].

Academics view MOOCs as an "open public space" [P1:65]. Designing MOOCs largely involves exposing their ideas to the public and advocating them to a wide range of audiences with different backgrounds and experiences. The perceived challenge with designing MOOCs in this category is the unpredictable response and reaction from the public, making it difficult to plan or manage potential conflicting perspectives and aggressive reactions, illustrated as follows:

"I didn't really know quite what sort of comments we were going to get […] I do find that quite difficult to manage […] if someone says something that really isn't okay, you know, how do you deal with that" [P4:95,143].

"so you're always gonna get criticism, one of the big areas for us was, a concern was about euthanasia, so people, you know, actively killing people, because at the end of life, we didn't want the MOOC to be taken over by that in the comments" [P7:128].

"again, it's the thing that people will say things online that they would never say, in person. It's much easier to be rude and critical" [P9:191].

"the biggest assumption we had as feminists online teaching [topic removed] is that people would be really horrible to us (laugh). Really worried about that. I know people who are kind of on social media, fending off constant troll attacks, getting death threats. So that was our biggest worry, actually, our biggest worry was that if you stick your head above the parapet as a feminist, you just kind of attract derision and hostility. So I think actually, although it's got nothing to do with learning […] that was a major worry, and kinds of concerns about how is this going to be moderated, so how are content creators protected in all this" [P12:155].

"So I know that […] it quite difficult to adapt […] to this kind of unknown audience and this kind of space where you really don't know what you're going to get" [P12:161].

"our concerns were more about the discussion forums, and whether we have people who would be posting inappropriate material in there that we'd have to withdraw; whether people would get into arguments and really start, you know, making the discussions an unpleasant place for other people to see […] I think those are the main concerns, it was the social side of it" [P14: 299].

In summary, category F focuses on expanding the public's worldview and enhancing their ability to make informed decisions. Academics in this category aim to transform both individuals and society. This conception goes beyond merely providing educational content; it seeks to foster critical thinking, broaden perspectives and inspire meaningful changes in communities beyond higher educational context.

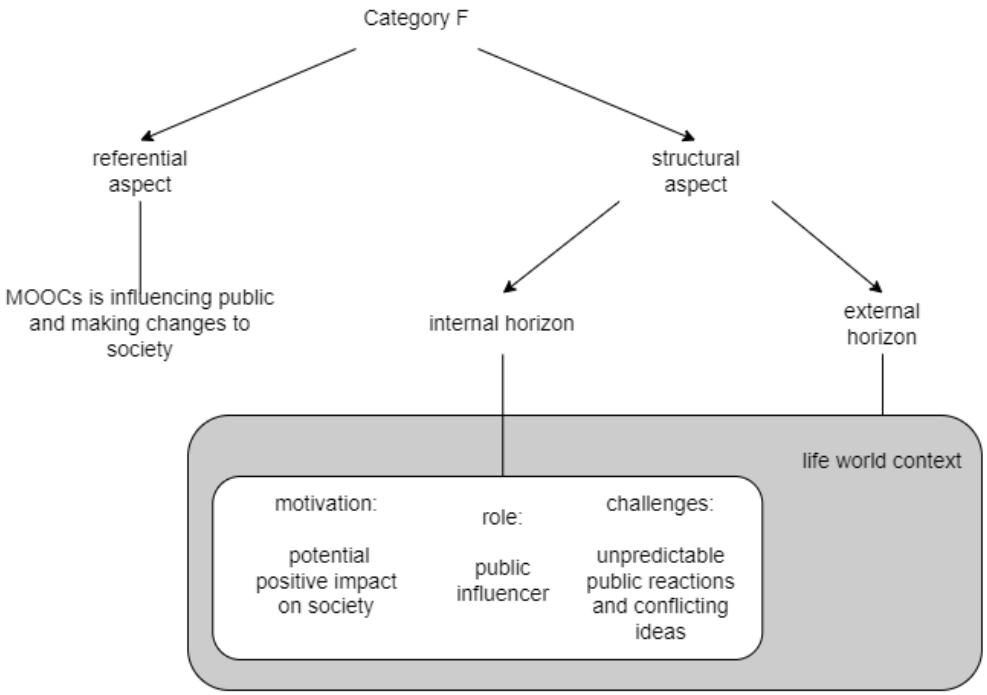

Figure 5.6 Category F referential and structural aspects

As illustrated in Figure 5.6, the referential aspect of category F is that designing MOOCs is influencing and making changes to society. In terms of the internal horizon of the structural aspect, academics are motivated by the potential positive impact on

real-world practices and society through designing MOOCs. With this conception, academics perceive their roles as public influencers, for instance, explicitly emphasising “impact on a lot of number of people at the same time” [P17:50]; and to “bring about change, [and] have a positive effect on people’s lives” [P08:26]. The perceived challenge associated with designing MOOCs in this category is the unpredictable response and reaction from a public audience, who might present very conflicting perspectives, supported by the quotes presented earlier. The external horizon of this conception is situated within the life world.

5.8 Summary

In this chapter, I explain the six categories of description representing six qualitatively different ways in which the research participants collectively understood designing MOOCs. Each of these categories is analysed and supported by quotes from participants’ interview transcripts to ensure they are empirically grounded. Furthermore, each category is interpreted with its referential and structural aspects, as well as the dimensions of variation marking the structural aspects of awareness.

Table 5.1 summarises the research findings presented in this chapter.

Categories of description	**Referential aspect**	**Structural aspect**		
		Internal horizon		**External horizon**
A: Content-focused perspective	Focus on producing course content. Designing MOOCs is seen as producing short, visually interesting and accessible learning materials.	Dimensions of Variation	Motivation: learners’ engagement with learning materials and retention. Role: content creator. Challenges: platform limitations and constraints.	Teaching and learning context
B: Social learning perspective	Focus on providing platform/channels for conversations.		Motivation: large scale online discussion and social learning. Role: social learning mediator.	Teaching and learning context

Categories of description	Referential aspect	Structural aspect		
		Internal horizon		External horizon
	Designing MOOCs is seen as enabling conversations and social learning.		Challenge: difficulty of massive scale online discussion facilitation.	
C: Teamwork perspective	Focus on working with others involved in the process of MOOC design. Designing MOOCs is seen as a process of working with others as a design team.		Motivation: opportunity to work as part of MOOC design team. Role: team contributor. Challenge: managing tension and disagreement in teamwork.	Course team design process context
D: Development perspective	Designing MOOCs is seen as an opportunity for individual professional development and institutional development		Motivation: prospect of individual and institutional teaching development. Role: teaching (development) explorer. Challenge: lack of recognition and support from the department and institution.	Teaching development context
E: HE perspective	Designing MOOCs is seen as broadcasting and marketing higher education.		Motivation: advertising HE and attracting more students. Role: HE advertiser. Challenges: tight deadlines, budget constraints and uncertainty about the future direction and sustainability of MOOCs.	Higher education context
F: Transformation perspective	Designing MOOCs is seen as a way of influencing public and making changes to society.		Motivation: potential positive impact on society. Role: public influencer. Challenges: unpredictable public reactions and conflicting ideas.	Life world context

Table 5.1 Outcome Space

In the next chapter, each of the six conceptions of designing MOOCs is compared with existing literature and further discussed. The second research question regarding the relationship between the different ways of understanding designing MOOCs is also addressed in the next chapter.

Chapter 6 Discussions and conclusions

6.1 Introduction

The aim of this research is to explore the qualitatively different ways in which UK HE academics experience designing MOOCs and to examine the internal relationships between these variations. This is addressed through two research questions: "What is the variation in the UK academics' experiences of designing MOOCs?"; "What are the relationships between these variations?" The first question was addressed in the last chapter. In responding to the second research question, this chapter analyses the similarities and differences between the six categories of description and compares them with the categories identified in the existing literature, discussing the opportunities and constraints each understanding affords in designing MOOCs. Critical variation across the six categories are also discussed in this chapter, probing and confirming the relationships between the different ways of understanding designing MOOCs that emerged from this study. The structural relationships between these understandings are identified and a hiearchically inclusive outcome space is constructed, demonstrating a progressive expansion of academics' awareness from the lowest to the highest level category. Selected excerpts from interview transcripts are included in this chapter. These excerpts are not mere repetitions of content from the previous chapter, rather, they are more concise and have been carefully chosen to illustrate progression from one category to another as academics' awareness expands.

Finally, this chapter concludes with a summary of the key findings of this study, a discussion of contributions to new knowledge, and insights to inform the policy and practice of designing MOOCs. Limitations of the research are acknowledged, followed by recommendations for future research.

6.2 Discuss categories of description in relation to existing literature

6.1.1 Categories A and B: Understandings within the teaching and learning context

Categories A and B are discussed together in this section as they are both situated within the teaching and learning context, making them comparable to academics' conceptions of teaching and online teaching found in existing literature.

The descriptions within category A centre around the relationships between the academic, MOOC learners and course content, aligning with the "teacher-centred/content-oriented" orientation described in Kember's (1997, p.264) conceptions of teaching framework. In this category, academics' focal awareness is rather limited and narrow, focusing merely on preparing and presenting MOOC content. Similarly, Haavind and Sistek-Chandler's (2015) research on MOOC instructors reports that academics perceive their role as producing course content and view "ongoing and continuous improvement of materails, strong content, and the inclusion of guest lecturers from the field" (p.340) as key to a successful MOOC. This conception emphasises teacher-defined and structured bodies of content and knowledge, akin to the "imparting information" and "transmitting structured knowledge" conceptions of teaching in Kember's (1997, p.264) synthesised model.

It is worth noting that within this category academics consider the differences between designing MOOC learning materials and HE course materials. MOOCs are very different from traditional higher education courses in many ways. For example, "a MOOC generally carries no fee, no prerequisites other than Internet access and internet, no predefined expectations for participation, and no formal accreditation" (McAuley, Stewart, Siemens & Cormier, 2010, p.4) which exemplifies their openness. Compared to HE students, learners in MOOCs typically have more diverse educational backgrounds and experiences. They use MOOCs in various ways and for different reasons (Clow, 2013). As illustrated in Chapter 5, it is evident that academics take into account the "openness" of MOOCs and the diversity of learners when creating MOOC learning materials. It may seem to indicate a concern with learners and their learning but actually has more to do with having control over what they teach. Their focus remains primarily on course content, and it is taken for granted that designing MOOCs is all about providing expert content, so the "massive" number of learners does not make any difference to them:

> *"I don't think the number [of learners] matters […] they can just go on to the [MOOC] page and it gets ticked" [P1:185].*

Within this category, academics tend to confine "learning" and "engagement" to learners' interactions with learning materials and resources, without considering interactions among learners or between learners and tutors:

> *"I suppose the main thing is to have a variety of learning, types of engagement […] you know, they like listening to experts, or if they want to read something, or if they like to do a quiz" [P1:185].*

Ross et al. (2014) contend that MOOC design is tightly bound to academics' teaching philosophies. Emphasising the production of learning materials in designing MOOCs reflects a didactic, teacher-centred focus taken by academics in category A, which is seen as constituting a less sophisticated view of teaching than a learner-centred focus (Åkerlind, 2003, p.376). In Prosser et al.'s (1994, p.223) study, "transmitting concepts of the syllabus" and "transmitting the teacher's knowledge" are considered more limited views of teaching compared to other conceptions thus placed at the two lowest levels in the hierarchical outcome space. Similarly, in the existing phenomenographic literature on conceptions of online teaching, the conception focusing on information-imparting is commonly found as the initial category in the hierarchically ordered set of categories due to its limited view of teaching. For instance, the category of online teaching "as a source of subject information" identified by Roberts (2003, p.145); "for individual access to learning materials and information, and for individual assessment" emerged in González's research (2009, p.309); and "a medium for providing information" in González (2010, p.66).

In contrast, the descriptions within category B centre around interactions among learners and social learning opportunities in MOOCs, aligning with the "student-centred/learning-oriented" orientation described in Kember's (1997) conceptions of teaching framework. Conole (2014) notes that various pedagogical approaches are being adopted in different MOOCs, "some emphasising individual learning through interactive materials, others focusing more on social learning" (p.71). Academics who emphasise social learning concentrate on creating opportunities for communication and collaboration among learners rather than solely providing course content, reflecting a student-centred focus.

As Cormier (2008, para. 8) argues, the "expert-centered pedagogical planning and publishing cycle is too static and prescribed" for web-based learning. According to this view, learning in MOOCs is a complex and chaotic process, making it impossible for teachers to provide a defined set of learning materials that cater to learners from diverse contexts with different needs and interests. Instead, teachers should aim for "creating a context […] within which a conversation can grow" (Cormier, 2011, para.3). From this perspective, designing MOOCs involves not just creating a limited structure of educator-provided content to engage learners, but also enabling conversations and interactions among MOOC learners so that knowledge can be "constructed and negotiated in real-time by the contributions of those engaged in the learning process" (Cormier, 2008). One interviewee expressed this view as follows:

> *"move them away from thinking it's all about content […] you know, it's also about discussion and collaboration, and so on, and those are the things that are most important" [P19:71].*

Academics with this conception consider "openness" in a more inclusive way than those with conception A, extending beyond simply creating content for diverse learners to embracing "openness in practice" (Cormier & Siemens, 2010), which emphasises the active involvement of MOOC learners in the learning process:

> *"one of the things about MOOCs is you meet people from all over the world, from very different contexts, but you can learn so much from them, […] realise they're part of a really big community, who are giving each other advice" [P15:71].*

In addition, unlike those with conception A, who view the massive number of learners as irrelevant, academics with conception B take the impact of "massiveness" into account when designing MOOCs. As illustrated in Chapter 5, some academics express excitement about the large number of participants, noting that "in a sense we had just a huge class in some way" [P1:59] and "the excitement is that there's lots of other people learning there, so discussions and potentially […] that kind of massive scale collaboration [are possible]" [P19:29]. At the same time, they are concerned with how to address "the lack of personal contact" and "meaningful relationships" [P9:119] with learners in their design within this massive-scale teaching and learning context. One

interviewee expressed his view: “I’m not quite sure how you would do that effectively with such a large audience” [P8:158].

Based on previous discussion, in terms of both “openness” and “massiveness”, category B places learners and their social learning experiences at the centre, reflecting a student-centred focus taken by academics. As Åkerlind (2003) contends, the student-centred conception of teaching is considered to subsume the content-centred conception as it incorporates both qualitative and quantitative understandings of teaching and learning, whereas the content-centred conception lacks awareness of the qualitative dimension. Similarly, in existing literature on conceptions of online teaching, student-centered/learning-focused categories are also viewed as more sophiscated conceptions. For instance, the categories “for learning-related communication” and “for networked learning” identified by González (2009, p.310); “a medium in engaging in online discussions” and “a medium for supporting knowledge building tasks” emerged in González (2010, p.71); and “a distant relationship between students and online tutors” in Walter (2016, p.26) are all placed as higher-level categories than content-focused categories in the final outcome space.

In summary, as discussed in this section, academics understand designing MOOCs primarily from teaching and learning perspectives within both categories A and B, reflecting their personal teaching philosophies as individual academics. In other words, their views on designing MOOCs are largely confined to the individual level, focusing on their relationship with either the course content or learners’ social learning experiences, which are different from the “team-based” perspective discussed in the next category.

6.1.2 Category C: Team-based design process

Creating a MOOC is usually a team effort (Hollands & Tirthali, 2014). During the process of designing a MOOC, it is common that academics team up with other academics, learning designers, software developers, video production teams (Najafi et al., 2015) and sometimes learning researchers and librarians (León-Urrutia, White & White, 2016). However, this team-based approach often requires people to “collaborate in ways not native to higher education” (Salisbury, 2014). In Newell and

Bain's (2020) research on academics' perceptions of collaboration in HE course design, participants described the dominant culture in HE institutions as more supportive of individualised work practices, noting that "collaboration is not occurring" in their experience "with HE course design except in isolated and rare pockets" (p.756). This may explain why awareness of "teamwork" is usually absent in research findings on HE academics' conceptions of teaching (e.g., Kember, 1997; Prosser & Trigwell, 1996; Samuelowicz & Bain, 1992). Similarly, it is also absent in categories A and B discussed in the previous section, where the phenomenon of "designing MOOCs" is considered within the context of individual teaching and learning practice. The team-based course design approach in creating MOOCs indicates a move from teaching as a solo endeavour to a collective effort and allows individuals to contribute different areas of expertise (Hollands & Tirthali, 2014). Sari, Bonk and Zhu (2020) note that "since designing a MOOC is a daunting task, an instructor needs help from a team of MOOC support personnel" to overcome pedagogical and technical hurdles (p.156). Najafi et al.'s (2015) study reveals that academics experience designing and delivering MOOC as a team-effort and value the instructional and technical support they received during the process. Sari et al. (2020) also contend that "an effective MOOC course design needs full support from the entire MOOC team" (p.156), emphasising that the acceptance and understanding of effective work sharing and collaboration can ease the instructor's responsibilities. As illustrated in Chapter 5, participants' descriptions within category C frequently mention collaboration with others who have various expertise, particularly technical support and pedagogical advice. They perceive "designing MOOCs" as a collective effort, considering both the production of MOOC content (as in category A) and the facilitation of social learning (as in category B) as teamwork, with the experiential focus expanding to include not only their relationships with the MOOC itself, but also their relationships with others involved in the MOOC design process.

In Walter's (2016) study on academics' conceptions of online teaching, the category "as an opportunity for tutor's professional development and team communication" is identified as the more sophisticated conception compared to the other three "learner-oriented" conceptions in the final outcome space. Walter (2016, p.27) explains that

tutors enjoy “being part of a supportive online team” and this conception “is more complex because it involves the relationship tutor-tutor which is not present at the lower categories”. Similarly, in Smith et al.’s (2019, p.83) study on academics’ conceptions of course design in STEM subjects, the categories “course design as departmental collaboration” and “course design as collaborative change” are identified as the two more sophisticated conceptions in the hierarchy. Smith et al. (2019, p. 86) explain that they are broader conceptions as one “extends course design from individuals to collaborative activity within a department” and the other “expands beyond a department to embrace collective engagement with people across disciplines and universities”. It is important to note, however, the conceptions discussed above only capture the “supportive” and “collaborative” side of the team-based approach, while category C in this study also includes the “tension” present in the team-based design process, which was not reported in the existing literature discussed above.

Although category C represents a broader view that includes the relationships between academics and others involved in designing MOOCs – something absent in the previous categories - it is considered as limited in scope. This view situates within the specific context of the course design process and does not consider the wider implications for teaching development as seen in the more sophisticated category D, which is discussed in the following section.

6.1.3 Category D: Opportunity for development

The view of designing or teaching MOOCs as an opportunity for professional development is well-documented in the existing literature. Kellogg (2013) notes that MOOC designers believe creating MOOCs “is well worth the effort, because the courses allow for experimentation on a grand scale” and “gives teachers a chance to develop fresh methods for teaching science” (p.369). Doo, Tang, et al. (2020) report that many academics learn how to teach MOOCs informally and perceive MOOC teaching as having a positive influence on their professional development by “exposing them to a wide spectrum of students with different age groups, backgrounds, nationalities, prior knowledge, and learning preferences” (p.40). Similarly, Zheng et al. (2016) identify “professional growth” as a key motivator for academics to teach

MOOCs (p.211), with many viewing MOOCs as a testbed to improve and refine their teaching practices. Category D aligns with these findings.

As illustrated in Chapter 5, this category incorporates aspects from the previous categories such as content creation (as in category A) and social learning (as in category B) but goes beyond them to emphasise professional development. Within this category, both producing MOOC content and enabling social learning are seen as opportunities to experiment with new teaching approaches and learn new skills. The following excerpts illustrate such views:

> "*we were really experimenting with not just kind of new content, but whole new ways of doing the content" [P4:107].*
>
> *"I really did open, open my eyes is this peer-to-peer learning, which is something of course, I never really thought about. […] I feel that's also an aspect, which you wouldn't normally get. […] they're mutually supportive, you know, it's an aspect of learning that I've never seen before" [P21:155,161].*

Similar to the above description, Sari et al. (2020) note that the experience academics gain through MOOC teaching is "eye opening" (p.157). Ross et al. (2014) contend that, for academics who teach MOOCs, "the newness of the experience means that existing educational repertoires can feel inadequate, and that we, along with participants, are 'learning how to be' in the MOOC" (p.63). This view is expressed by one interviewee as the following:

> *"you need to kind of develop your understanding of what it means to teach, you know, in a massive online learning course, where you don't know personally your students and then you are workng with like, thousands of learners on a platform. And then how do you kind of, you know, set up the materails so that they are accessible, understandable, useful for globally" [P11:29].*

As illustrated in Chapter 5, academics speak about various strategies to expand their pedagogical knowledge and skills while designing MOOCs, such as observing or participating in active MOOCs, discussing with and learning from peers. Their descriptions correspond well with the academics' development strategies for teaching or designing MOOCs discussed in the existing literature (e.g., Richter & Krishnamurthi,

2014; Ross et al., 2014; Sari et al., 2020; Wong, 2016), supporting Doo, Tang et al.'s (2020) assertion that academics consider their professional development related to MOOCs as largely informal. Due to the lack of formal training or development opportunities, the process of designing MOOCs itself is seen as a key opportunity for learning and self-development.

In addition, the team-based design approach (as in category C) is also viewed as an opportunity for professional development within this category. Salisbury (2014) notes that experiences with a team-based approach in MOOCs are rewarding for academics and open their minds to applying this approach in environments beyond MOOCs. Academics' experiences with MOOCs as a professional development opportunity are described as "building our capacity to conceptualize and drive subsequent change. To shape - rather than be shaped – by the digital era" (Salisbury, 2014, para. 8). Daniel (2012) argues that "good distance teaching calls for teams that support the academics with a range of skills. With such support MOOCs provide a great opportunity to develop new pedagogy" (p.12). This suggests that working within a team can potentially spark more innovative thinking on pedagogy, as peer review opportunities, which are often absent when academics work individually, can stimulate fresh ideas.

Academics, who hold the view in category D, expand their focal awareness beyond the current activities and considerations of designing MOOCs to include the broader impact on their pedagogical approaches for designing other online courses and degree programmes, as well as their perception of online education in general. This perspective is closely tied to their professional development as university educators. It aligns with prior research, indicating that academics believe designing or teaching MOOCs influences their teaching philosophy and pedagogical approaches in other instructional practices (Doo, Tang, et al., 2020; Lowenthal et al., 2018; Najafi et al., 2015). For instance, one interviewee said:

> *"my MOOC experience has influenced the way that I've set up my online courses this year, although they're not MOOCs, I've incorporated some element of the way that you would tame things and so forth to MOOC" [P5:77].*

Teplechuk (2013) observes that academics find engaging in MOOCs "a valuable experience for learning the intricacies of online courses provision" (p.47). León-Urrutia, Fielding and White (2016) report that teaching MOOCs enhances early career academics' online teaching skills and confidence. Kolowich (2013) also notes that academics find their involvement in designing or teaching MOOCs reshapes their views on what online education could achieve. Similar findings regarding academics' favourable attitudinal change resulting from their MOOC experience are reported by Evans and Myrick (2015) and Askeroth and Richardson (2019). The understanding of designing MOOCs in category D corresponds with these research findings.

While investigating academics' conceptions of online teaching, Walter (2016, p.27) identified a similar category of description termed "an opportunity for tutor's professional development and team communication". This conception includes two distinct aspects. The aspect of "team communication" is discussed in section 6.2.2, as it corresponds to category C in this study. Walter (2016, p.27) combines this aspect with "tutor's professional development" in the same category as "being part of a supportive online team" is considered beneficial for academics' professional development. However, in this study, "teamwork" and "professional development" are considered distinct enough to form two separate categories, although the latter is more inclusive.

Furthermore, the understanding in category D connects the professional growth of individual academics to subsequent institutional development. While professional development remains the primary focus, academics recognise that their personal growth through designing MOOCs not only benefits them personally but also contributes to their departments and institutions' abilities to keep pace with broader developments in the sector. As illustrated in Chapter 5, academics describe designing MOOCs as "a good opportunity to put our toe in the water" [P21] and ensure their institutions could "go on board" while "other institutions were developing MOOCs" [P10]. This aligns with one of the themes identified by León-Urrutia, White and White (2016, p.398), which highlights developing MOOCs as part of "an institutional strategy for keeping up with HE evolution". Awareness of this aspect reflects a broader perspective that extends beyond the individual or team level.

In summary, this category is considered as representing a more complex understanidng of designing MOOCs than the three previous categories by incorporting aspects from all of them and expanding awareness to include personal growth and subsequent institutonal devleopment resulting from their involvment in designing MOOCs.

6.1.4 Category E: Understanding within HE context

This category differs from all previous categories as it takes a broader perspective, stepping back to view designing MOOCs within the bigger picture of the HE landscape. Since the emergence of MOOCs, there has been extensive discussion and debate about their impact on and role within higher education. However, this aspect does not appear to be in the focus of the previous categories. Only in this present category do academics' descriptions of their experiences of designing MOOCs involve considerable reflection on the relationship between MOOCs and the higher education provision.

While educational innovation is identified as one of the main motivations for universities to offer MOOCs (Jansen, Schuwer, Teixeira & Aydin, 2015; León-Urrutia, White & White, 2016), Hollands and Tirthali (2014) argue that "MOOCs are being pursued at many institutions for reasons other than improvement of teaching and learning" (p.19). Their study highlights that the primary reasons for institutions investing in and offering MOOCs include extending reach and building and maintaining brand (p.8). Similarly, Teplechuk (2013) contends that, asides from improving campus-based educational materials, institutional motives primarily "range from retaining competitive advantage to brand recognition" (p.7). Furthermore, León-Urrutia, White and White (2016) note that "MOOCs as marketing for HEIs" is identified in previous studies on inside stakeholders' perspectives as a key institutional driver for developing MOOCs, aiming to raise the institutional profile and support recruitment efforts (p.401). Since these goals are seen as institutional responsibilities rather than individual ones, it is understandable that only academics who hold a broader view include this aspect in their focal awareness.

Academics realise that designing MOOCs involves more than just creating a "course" from a traditional teaching and learning perspective; it is also closely tied into institutions' motivations for investing in MOOCs:

> *"[aside from creating MOOC content], one of the other considerations was to try and promote the university as a place that people might then come […] that was really why the university was funding these MOOCs […] the hope of drawing in more paying students" [P1:41].*

> *"the University at the time was interested in developing a more global profile […] just to think about […] what we could do to help the university raise its profile" [P8:26].*

Academics who recognise this "institutional perspective" (Doo, Tang, et al., 2020) view designing MOOCs as a way to promote their institutions' interests, describing them as "a good advertisement for the breadth of expertise in the university" [P1:41]. As illustrated in Chapter 5, they choose MOOC topics that best showcase their expertise and departmental strengths in both teaching and research, aiming to support institutional branding efforts to attract more students. Compared to previous categories, this present category more explicitly discusses and compares designing MOOCs with standard campus-based or online HE courses. Participants frequently use terms like "differences" and "contrast" in their descriptions, such as "it's completely different to what I would call standard distance learning models" [P9:5]; "I think that's a very interesting contrast compared to something like degree" [P17:50]. They describe designing MOOCs as "little short courses" to "motivate people, excite them" [P17:50], or to "whetting their appetite" [P21:101]. Furthermore, as illustrated in Chapter 5, this category moves beyond the "institutional perspective" of attracting students to a specific institution, embracing a broader "HE perspective" of promoting interest in particular disciplines and higher education degrees more generally.

In the previous categories, academics' focal awareness primarily centres around issues related to their academic identity as university teaching staff and individual responsibilities, such as teaching and learning, working in a team and professional development. However, in this category, designing MOOCs is considered in a bigger

picture with attention paid to aspects related to the wider higher education landscapes which are not considered in previous categories. As León-Urrutia, White and White (2016) describe, once a university makes the decision to go ahead with a MOOC project, “an action plan is designed, often in the absence of protocols and previous experience. The allocation of budgets, roles, and responsibilities becomes a task which is new to most members of the MOOC team” (p.396). Academics involved in designing MOOCs inevitably find themselves taking on tasks beyond their typical academic activities, such as “advertising courses” [P20] and “attracting fee paying students to the university” [P10]. These new responsibilities differ significantly from their usual teaching duties, prompting in-depth contemplation about issues concerning the roles of developing MOOCs in shaping future models of higher education and sustainability practices, as illustrated in Chapter 5.

Associated with considering these wider issues, academics extend their focus beyond just learners and educators involved in designing MOOCs to include other MOOC stakeholders identified by Conole (2014), such as “institutional managers (in terms of considering their place alongside traditional educational offerings), policy makers (in terms of thinking of the longer term implications for the educational landscape), and venture capitalists (looking to get a return on investment)” (p.71). As illustrated in Chapter 5, academics are aware that the lack of understanding of production costs by “decision makers and budget holders” [P9] has become a significant constraint in designing MOOCs.

In summary, academics that hold understanding in category E expand their focal awareness to include aspects typically considered at the institutional level or across the entire higher education landscape, demonstrating a more sophisticated understanding compared to the previous categories.

6.1.5 Category F: Societal impact

In addition to providing high-quality education and conducting excellent research, social responsibility has become an important component of universities’ missions as a core function of higher education (Godonoga & Sporn, 2023). It is described as “an umbrella concept, which has evolved from being a moral duty to provide service to

society, to engaging external stakeholders in universities' core functions, and more recently to showing evidence of social impact" (ibid, p.445). Higher education has always played an important role in society (Godonoga & Sporn, 2023). As Thornton and Jaeger (2008) argue, it is vital for faculty and staff, to view themselves as part of communities beyond the campus, to care about the wider needs of society, and to take an active role in serving those communities. However, despite the increasing emphasis on "engagement" with the public and community both locally and globally, driven by higher education priorities, the awareness of social responsibility, particularly regarding social impact, is hardly evident in research findings on academics' conceptions of teaching or course design either in traditional campus-based setting (González, 2011; Kember, 1997; Smith et al., 2019) or online contexts (Ellis et al., 2006; González, 2009, 2010; Walter, 2016). While the importance of public engagement is increasingly acknowledged, Murphy and& McGrath (2018) argue that at an individual level, many academics still do not see engaging in or contributing to community development as a core part of their role (p.328).

Wakefield et al. (2018) note that HE institutions use MOOCs as a way to enhance their social responsibility efforts by addressing educational inequalities, promoting inclusiveness, and contributing to "community development, health and wellness, human rights, and philanthropic endeavours" (p.39). Some academics may recognise that their involvement in designing MOOCs contributes to these efforts. Doo, Tang, et al. (2020) identify academics' motivations as including a "desire to provide services to the community and public" (p.32). They elaborate on this by citing examples as satisfying the public's need for more information on important societal issues through developing MOOCs. Similarly, León-Urrutia, White and White (2016) identify "MOOCs as HEI's social mission" as a theme (p.398), revealing that developing MOOCs is perceived by internal stakeholders (mainly academics and designers) as a means to fulfil HE institutions' social responsibilities, such as transferring knowledge to the wider public and extending the universities' mission of education and research to benefit society (Godonoga & Sporn, 2023). These perspectives demonstrate an awareness of the societal impact of developing MOOCs, which correspond well with the participants' statements within category F in this study. For example:

> *"my understanding […] as a means to, emm, well, make education more accessible to populations, to people, and to get away from kind of the financial tyranny of universities" [P2:35].*

The above excerpt indicates an intention of addessing public educational needs, resonating with Najafi et al.'s (2015) observation that expanding public access to high quality learning resources is perceived by academics as a key motivation for their involvement in MOOCs. Beyond simply broadening access, academics also stress reaching and connecting with people outside of the immediate academic community: "it is an *important* way for universities to actually engage with the wider public" [P9:290].

The distinction between the present category and the previously discussed categories is evident in participants' choices of terms in their utterances – as shown both in the excerpts stated previously and those in Chapter 5. In the previous categories, interviewees typically refer to "learners" or "students" when describing their MOOC design considerations (e.g., "when learners are active, they're much more likely to have effective learning" [P15:71]; and "we will be getting students who are with a wide range of abilities" [P18:29]), indicating a clear educational context. However, within category F, besides "learners", the term "public" is more often used in their descriptions, signalling a broader societal focus that extends beyond the higher education setting. Participants also describe MOOCs as "an open space" [P1], suggesting they perceive MOOCs as public spaces for extending academic perspectives through open communication, with the impact of designing MOOCs going beyond traditional educational objectives of a course. This view is exemplified by the statement:

> *"this is a really good opportunity to take those more academic ways of thinking about these things that we all experience, and making them public. So discussing those in a new kind of public sphere" [P12:53].*

The societal focus of category F is also evident in academics' descriptions of reaching a wide audience through MOOCs. For example, in category E, participants' descriptions primarily emphasise the advertising advantages of reaching large audiences to

showcase their expertise and promote degree programmes, such as designing MOOCs as "a good way to reach a mass audience, kind of let people know about what we do" [P12:23]. In contrast, category F includes this aspect but places a stronger emphasis on achieving a meaningful impact. P8's expression is a good example: while he acknowledged that designing MOOCs is part of "a concerted campaign" to "promote [the] university", he emphasised that his motivation was the opportunity to "get more people thinking about things […] bring about change […] [and] have a positive effect on people's lives". Here, participants view the broad reach of MOOCs as a means to effect significant change, as one notes: "it's actually a very efficient way of making […] impact on a lot of number of people at the same time" [P17:50]. This understanding resonates with the category termed "global impact on students" by Zheng et al. (2016), which is characterised as "impact an enormous population of students" and "aligning with [academics'] altruistic goals of giving back to society" (p.210).

As reviewed in Chapter 2, the literature on academics' conceptions of teaching suggests that focusing on students' worldviews or their understanding of subject matter is often regarded as indicative of holding a more sophisticated teaching conception (Prosser et al., 1994). Accordingly, categories related to supporting students' conceptual change are often recognised as representing the highest level in the hierarchy of conceptions of teaching (Dall'Alba, 1991; Prosser et al., 1994; Trigwell et al., 1994). Participants' descriptions in category F show a clear intention to facilitate conceptual development and change, as seen in statements like "expanding people's worldviews" [P3:227] and "expanding their horizons" [P9:119]. However, this idea is extended further in this present category, moving beyond the educational purpose of merely influencing learners within a specific MOOC and instead associating it with a broader impact on the public. For example, one interviewee explained that she got involved in designing MOOCs to effect real-world change and improve practice "rather than just [designing] a MOOC for the sake of education" [P2:137]. Another interviewee spoke about how the messages conveyed in MOOCs can influence far beyond the learners in the course, as participants may further demonstrate and advocate these ideas to a wider audience outside of MOOCs. Academics with the understanding represented by category F pay significant attention to "making an

impact on society" [P17:14]. This is exemplified by P8's expression that his aim was not only to "raise the level of understanding", but also to "make progress as a society", "have more informed decisions" and "change the world in a more […] significant way".

In summary, with the external horizon of category F extending to the broader life world, designing MOOCs is perceived as an opportunity to influence and change society. Academics holding this conception stress reaching a broader audience beyond higher education settings to create a wider impact on society through designing MOOCs. This category represents the most sophisticated understanding among the six categories, as it incorporates elements from the previous categories (transcripts from this category showed reference to aspects of the phenomenon present in the previous categories), but not vice versa. The unidirectional and inclusive nature of this expanded awareness is exemplified in the chosen quotations.

The previous discussion, building on existing literature, offers a detailed analysis of the six categories of descriptions, revealing a hierarchical relationship between them. This emerging structure will be further clarified in the next section by examining the critical variation that characterise academics' different ways of understanding the phenomenon of designing MOOCs.

6.2 Discussion of critical variation and outcome space

"The hierarchy of inclusiveness that phenomenographic analysis searches for is one of increasing breadth of awareness of different aspects of the phenomenon being investigated" (Åkerlind, 2003, p.378). These aspects are referred to as "dimensions of variation" (Marton & Booth, 1997; Marton & Tsui, 2004). In this study, the different ways that academics understand designing MOOCs are characterised in terms of different combinations of awareness of critical dimensions of variation of this phenomenon. Experiencing a phenomenon is, in essence, "experiencing variation in critical aspects – central features – in order to discern a phenomenon as a meaningful whole" (Kullberg & Ingerman, 2022, p.2). The critical dimensions of variation "mark aspects of the similarity and difference between the categories" and "allow the inclusive relationships between the categories to be elaborated" (Åkerlind, 2005d, p.145). In this research, three critical dimensions of variation were identified, which

relate to motivations, the roles academics experienced, and the challenges of designing MOOCs.

The first dimension relates to academics' motivations for designing MOOCs. In category A, academics are motivated by the opportunity to create appealing online content for diverse learners. In category B, academics are motivated by the potential to engage learners in large-scale online conversations beyond interaction with content. Within category C, academics are motivated by the opportunity to work within a team with varied knowledge and expertise in designing MOOC content and interactions. In category D, motivation comes from developing their own knowledge and skills as well as strengthening institutional competitiveness. In category E, academics are motivated by the potential of advertising higher education to a broader audience and attracting more students. Finally, in category F, academics are motivated by the potential to influence real-world practices and benefit a wider society. This shows that academics' motivations vary from self-interest to altruistic motivations (see Table 5.1).

The second dimension has to do with the roles academics experience when designing MOOCs (see Table 5.1). In category A, academics view themselves as content creators, with MOOC learners being the recipients and audience of the course materials and resources. In category B, academics perceive themselves as social learning mediators, who create a platform or channel for MOOC learners to share ideas and communicate with others. Within category C, academics perceive themselves as contributors as part of a MOOC design team, working with others in the MOOC design process. In category D, academics perceive themselves as pioneers in exploring and experimenting with designing a new type of course. In category E, academics perceive themselves as advertisers for higher education. In category F, academics perceive themselves as public influencers, with impact beyond the HE context.

The third dimension relates to the challenges of designing MOOCs (see Table 5.1). In category A, the challenges are primarily associated with the constraints and limitations of MOOC platforms when producing course materials at an individual level. The perceived challenge in category B lies in the pedagogical aspect of an individual's teaching practice, which is mainly about the difficulty of facilitating large-scale online discussion. In category C, the perceived challenge centres around managing tensions

and disagreements within a team during the design process. In category D, the challenge is linked to a lack of recognition and support at departmental and institutional levels. In category E, the challenges include the pressure of tight deadlines and budget constraints at the institutional level, as well as uncertainty about the future direction and sustainability of MOOCs across the HE sector beyond individual institutions. Category F focuses on challenges at the societal level, concerning the unpredictable response and reaction from the public.

As discussed previously, the three critical dimensions of variation present in all six constituted categories and vary across them from lesser to more complex, revealing that the constituted categories are logically related in a hierarchy of increasing complexity and inclusivity (Marton & Booth, 1997). The categories and the structural relationships connecting them form the outcome space (Åkerlind, 2024), as depicted in Table 5.1.

Each category in the outcome space represents "both a holistic meaning and a unique combination of different dimensions of awareness" (Åkerlind, 2005b, p.123). Category A, at the base of the hierarchy, is seen as associated with the least complex way of understanding designing MOOCs. As the category ascends, the ways of understanding become increasingly complex and powerful. Category F at the top of the hierarchy is seen as associated with the most complex understanding of the phenomenon and inclusive of all other categories below it (Marton & Booth, 1997).

6.3 Conclusion

6.3.1 Summary of findings

This research aims to explore and understand the qualitatively different ways in which HE academics experience designing MOOCs and the internal relationships between these variations, through addressing two research questions: (1) What is the variation in the UK HE academics' experiences of designing MOOCs? and (2) What are the relationships between these variations?

Six categories of description have been found: A. Content-focused perspective; B. Social learning perspective; C. Teamwork perspective; D. Development perspective; E. HE perspective; and F. Transformation perspective.

Academics with understanding in category A have a very limited focus and perceive designing MOOCs as producing course content. They emphasise the importance of creating various learning materials with certain features and attributes to engage a wide range of learners. Within category B, academics focus on fostering learner communication and discussions to cultivate a social learning experience. Although this category demonstrates expanded awareness beyond merely providing course content, the view remains confined within teaching and learning context at an individual level. In category C, designing MOOCs is perceived not as an individual endeavour, but rather as a team effort. Academics with understanding in category D are found to be focused on both their professional development and institutional development. This category incorporates aspects from the previous categories and sees producing MOOC content, enabling social learning and teamwork all as opportunities for personal growth and institutional advancement. Category E takes a more expansive perspective, positioning designing MOOCs within the bigger picture of the HE landscape. Academics with this conception are found to be focused on the relationship between designing MOOCs and the overall higher education provision. Category F represents the most sophisticated way of experiencing the phenomenon of designing MOOCs. Academics with understanding represented by this category perceive designing MOOCs as a means to influence the public and society within a broader context beyond higher education.

The critical variation is analysed and discussed, demonstrating an expanding awareness of designing MOOCs. An outcome space is established, which illustrates the hierarchical relationship between the six categories of description. This hierarchy reflects increasing complexity of awareness of the phenomenon, with category A representing the least sophisticated understanding, with a narrow focus on content production, while category F representing the most complex and inclusive way of experiencing designing MOOCs with a broader view. Higher level categories incorporate elements from lower-level categories, but not vice versa, as outlined earlier.

6.3.2 Contributions to knowledge and methodology

This qualitative study makes unique and valuable contributions to both knowledge and methodology.

This research contributes to knowledge about HE academics' understandings of designing MOOCs. Its focus on academics' perspectives is meaningful and valuable given that most MOOC research has predominantly centred on learners. The research is novel in that it explores the qualitatively different ways academics understand the phenomenon of designing MOOCs, an area with limited prior research. Although some existing literature touches on academics' perceptions and experiences with MOOCs, little attention has been paid to the specific phenomenon of designing MOOCs.

By employing phenomenography, the study identifies distinct categories of description representing academics' understandings and maps the internal relationships between them, constituting an outcome space that offers a holistic picture of the collective experience of a group of UK HE academics designing MOOCs on the FutureLearn platform. This outcome space extends existing literature by revealing how these understandings vary and connect. As Irvin (2006, p.272) notes, phenomenography "exposes the full range of variation present and relates understandings together in logical and often hierarchical ways (Marton, 1981, 1986)." By uncovering the variation in HE academics' understandings of designing MOOCs and the relationships between these variations, this study offers a perspective that goes beyond existing accounts and contributes significant new knowledge to the field.

From a methodological perspective, this research extends the application of phenomenography to a new empirical research context: HE academics' experiences of designing MOOCs. It demonstrates how phenomenography effectively uncovers variation in understanding and constitutes an outcome space within this new context, showcasing the power and value of this methodology for investigating variation in professional practices and experiences. It also provides valuable insights and guidance for future novice researchers in similar or related areas using this methodology by offering a detailed reflective account of conducting a phenomenographic study.

6.3.3 Informing policy and practice

This study has both policy implications and practical significance. First, the research findings inform policy by providing evidence of the variation in HE academics' understanding of designing MOOCs. Despite being key stakeholders in the process, HE academics' perceptions and experiences are often overlooked or taken for granted. Academics are typically asked to follow predetermined procedures and instructions during MOOC design (Haavind & Sistek-Chandler, 2015), with little acknowledgement of their diverse understandings. The findings reveal a diverse range of ways in which academics perceive and understand the phenomenon of designing MOOCs, providing valuable insights that highlight the need for MOOC providers, HE institutions and senior managers to directly take account of this variation when formulating policies related to the design and development of MOOCs.

Second, the findings reveal that not all academics see designing MOOCs as an opportunity for professional growth. For example, in lower-level categories academics expressed frustration with platform limitations (e.g., category A) and struggles with designing activities to facilitate massive-scale social learning (e.g., category B). In contrast, in the higher-level category D, overcoming these challenges were perceived as valuable professional development opportunities. These findings suggest that, in practice, offering initial workshops and meetings during the early stages of designing MOOCs can encourage them to recognise the potential for professional growth, such as acquiring new skills and exploring innovative pedagogical approaches. The different ways of understanding designing MOOCs uncovered in this study can be used to expand academics' awareness and bring their understanding of this phenomenon in focus to a wider perspective. This can make the process of designing MOOCs more effective. These findings can also be taken to suggest the need for policymakers and HE institutions to formalise and integrate "designing MOOCs" into academic development programmes, as opportunities for academic professional development in this area remain limited (Doo, Tang, et al., 2020).

Thirdly, the findings give insights into how the HE sector can better support academics involved in designing MOOCs. Within category E, academics with an awareness of the "HE perspective" view designing MOOCs as part of broader university strategies and

HE development goals. However, this conception is associated with concerns over insufficient institutional support, uncertainty regarding the sustainability and future direction of MOOC development. As Zheng et al. (2016) noted, “current university policies and infrastructures do not provide them the support they need” (p.216). These findings highlight the need for policymakers and senior university management to better understand the significant time and cost involved in designing MOOCs and to articulate a clear vision for MOOC development within strategic documents. The findings can be taken to suggest increasing investment and institutional support in practice to empower academics and ensure the effective growth and sustainability of designing MOOCs.

Finally, category F, the most complex and inclusive understanding identified in this study, signifies a societal impact focus on influencing the public and society beyond higher education. This finding suggests the need for deeper awareness within HE of MOOCs’ potential for societal impact and public communication – an aspect that remains insufficiently recognised, even among senior management in HE. It also provides valuable insights for MOOC providers and HE institutions, encouraging them to actively consider the broader societal contributions of developing MOOCs as part of their social responsibility initiatives, thereby creating meaningful public impact. Additionally, it highlights the importance of effectively communicating this vision to academics involved in designing MOOCs. This finding can be used to expand academics’ awareness, encouraging and strengthening their commitment to designing MOOCs that drive meaningful societal impact.

The following section will discuss the limitations of this research and provide suggestions for future research.

6.3.4 Limitations and future research

As discussed in Chapter 3, phenomenography shares the general limitations often associated with qualitative methodologies, particularly criticisms regarding its validity and reliability. In section 3.7, I elaborated in detail on the measures taken to ensure the trustworthiness of this phenomenographic study, including purposeful sample selection, the careful design of interview questions, dedicating considerable time and

effort to ensure accurate data transcription, and an iterative process of data analysis. While I acknowledge that data interpretation in phenomenographic research unavoidably involves a relationship between the data and myself as the researcher, I took steps to maintain "interpretative awareness" (Sandbergh, 1997), such as thoroughly documenting my research process to ensure transparency and presenting my research findings at seminars and conferences (Wang & Sime, 2022a, 2022b), providing opportunities for the research community to scrutinise the rigour of my study and probe the validity of its results.

It is necessary to acknowledge that phenomenographic research outcomes remain descriptive rather than explanatory (Åkerlind, 2005c; Bayuo et al., 2024; Trowler & Wareham, 2007). In this study, phenomenography is used to capture a snapshot of a group of academics' understandings at a particular time, describing variation in their experiences without seeking to explain why they perceive the phenomenon in a certain way. Exploring the underlying reasons for participants' understandings or examining cause-and-effect relationships would require different types of inquiry, which fall outside the scope of this study. While a theoretical lens could be applied to further interpret the findings and suggest actions for change, this would extend beyond the boundaries of phenomenographic research as phenomenography does not aim to provide explanations or theoretical interpretations beyond the descriptions of variation.

Another limitation of phenomenography is its focus on collective experience rather than individual experience (Åkerlind, 2003; Bowden, 2005). As a result, the research findings cannot be used to connect individual participants with any specific categories. To investigate the richness of individual experiences, alternative research approaches such as longitudinal studies and case studies would be necessary, as recommended at the end of this thesis for future research.

In terms of contextual limitations, this study is set within a UK-based context with participants limited to academics from UK universities. The research findings are specific to academics' experiences of designing MOOCs on FutureLearn, a UK-based MOOC platform. While this focus offers valuable insights, it does not account for experiences of academics in other countries or on other MOOC platforms.

Furthermore, this study examines only academics' experiences, without including other key stakeholders involved in designing MOOCs, whose perceptions and experiences may differ.

In light of the research findings and limitations, several possible directions for future research can be considered:

First, this study focuses on UK-based academics' experiences of designing MOOCs. Future research could explore how academics in other counties experience or understand the same phenomenon. Since other countries have different MOOC providers beyond FutureLearn, with different pedagogical approaches and technical features, further studies could investigate academics' experiences of designing MOOCs on other platforms. Additionally, research could also examine academics' experiences in designing MOOCs within specific disciplines; it would be of interest to see how academics in different disciplines perceive designing MOOCs.

Second, while this research investigates academics' perspectives, further phenomenographic studies could explore understandings of designing MOOCs by other stakeholder groups, such as instructional designers and learning technologists. Comparing and contrasting these findings with the outcome space established in this study would contribute to a more comprehensive understanding of how different stakeholders experience this phenomenon.

Third, some research findings were not included in the outcome space as they did not form part of the key themes of expanding awareness. For example, one interviewee from a computing discipline described their experience of designing MOOCs and noted limited evidence that MOOCs could attract more women to computing, highlighting broader issues of gender balance in HE. Future research could further explore these gender-related dynamics in designing MOOCs from academics' perspectives, providing deeper insights into barriers and potential interventions.

Finally, future studies could employ different research methodologies to capture the richness of individual academic's experiences. Longitudinal studies tracking academics' understandings of designing MOOCs over time could offer deeper insights into how their perceptions change in response to institutional and technological developments,

as well as their own professional growth and experiences with designing MOOCs. Other research approaches could also be used to explore why academics perceive designing MOOCs in certain ways, contributing to a more nuanced understanding of their motivations, challenges and perceived roles in the process of designing MOOCs. For example, a case study examining the design of a MOOC from multiple stakeholder perspectives while considering contextual influences.

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Appendix 1. Interview Schedule

Stage 1: introduction of project, consent to be recorded, confirm teaching experience in HE (subject and years)

Stage 2: primary questions and follow up (conception and approaches are intertwined and can't be separated in the interview process as different stages)

1. Can you tell me how you initially got involved in designing a MOOC?
2. At that time, from your understanding, what was a MOOC? (How would you describe it to someone who had never heard of it? What are the main differences between a MOOC and a traditional HE course?)
3. Can you use some examples to explain how you considered the MOOC characteristics you just described when designing a MOOC?
4. Can you describe the whole process of how you did with creating a MOOC right from the beginning to the end? (Potential probing: how many weeks? How did you make that decision? What kind of resources and activities did you design for this MOOC? OR describe what kind of resources and activities you designed for a particular week in a MOOC? You just said you did x, so what's next? You mentioned x, why x is important to you? I'm interested in x, can you say a bit more about x?

*if participants mention HE course design – probe: do you think the MOOC designing process you just described is the same or different from how you design a traditional HE course?

* if participants mention team work – probe: how would you describe your role played in the MOOC designing process related to other people involved in creating this MOOC?

5. During the designing process did you have any assumptions how learning would occur in the MOOC you designed? Did you have any expectations about what learners would do in the MOOC you designed?
6. Did you find any elements or aspects challenge to design in a MOOC? (Or harder to design comparing to other elements and aspects?)

7. I am curious, after you have put the MOOC together but before its first run on FutureLearn platform, did you ever have any concern or worry it would not work in any way? (Can you explain in which aspects? And why?)
8. Now that you have experience designing a MOOC (or MOOCs), I wonder, from your perspective, what makes a well-designed MOOC?

Conclude question: Do you have anything to add? Are there any aspects that haven't been discussed yet, but you'd like to share?

Appendix 2. Selection of interview reflective journal

Interview P2 reflection

- Perhaps ask why "bite size" "small block" in MOOC design? If they mention "bite size" then ask "What's the purpose?" probe further what do they expect to achieve by designing in that way? What's the assumptions there about learners?"
- 12' "dynamic, and exciting and interesting" - if they mention "dynamic, exciting, interesting". Then ask "can you give me an example of how you considered dynamic in designing this MOOC? What does dynamic mean? Can you give me an example of what kind of activities or resources you designed to make it exciting? And What kind of activities or resources you designed in the MOOC to make it interesting?
- In general, I think I did pretty well in this interview to probe the underlying meaning further: for example, about the "small elements", "build a community"….
- When interviewee cough – I should have checked if she was ok or needed a break or take some water
- I shouldn't ask the interviewee to describe how she did with creating "the first MOOC", I should let her choose one as an example.
- Maybe I should dig it further about academic relationships with others when designing MOOCs? The help, support, knowledge and skills learned etc? e.g. "you mention that you have worked with e-learning team during designing this MOOC, so how do you feel about working with them? Can you give a specific example to describe how did you worked together with them"
- "it's not just academic talking" - it's an interesting conception
- I think there is a need to consider how to ask them about consideration of the "massive" number of students.

Interview P3 reflection

- 5'24" "it's a way of contacting and connecting with people that you wouldn't otherwise be able to reach". This is talking about as a teacher/ an academic/researcher to reach audience, possible to probe further about how she conceptualise "reach" in designing MOOCs? Only if they mention this element
- I shouldn't have said "so your focus is...", "so your main worry is..." – try not to use this conclusive statement to define any situation or interviewee's description. If don't know what word to use, just say it's interesting you mentioned xxx, or ask can you tell me a bit more, can you give an example...
- I think in interviews I should ask more comparison type questions to let them compare the difference between designing a MOOC and designing a traditional HE course.
- I shouldn't have said "put together into different chunks" - chunks is a new term I introduced. I should either say xxx helped you to put things together or say xxx told you what is going to work and not going to work.
- This is a good question: when you design this MOOC, did you have any assumptions about how learning would occur in that MOOC? But some academic might not understand so a different way to ask is "can you give a specific example (either an activity or a resource) - to describe when you design it what did you try to achieve?"
- "How you would expect them to do things when you design different things in that MOOC" is too wide and vague. "During the design, did you have any expectations? What Learner would do in the MOOC you design?" is too wide and vague. Could ask: can you use an example of a particular activity or resource you designed in this MOOC to explain what did you trying to achieve by designing it? Follow up question: or "can you use an example to describe what did you expect learners would do with a particular activity or resource or element?

Weekly reflection:

The 5 interviews last week went well in general. Before each interview I wrote down the interview questions on a few A4 size paper with enough gap in between the questions so I can make notes during the interview. When I wrote down the questions, I went through them in my head and imagined what kind of answer the interviewee would possibly give and how I would follow up in different cases. I listed possible follow-up questions and different ways of asking primary questions on the paper in case I need to use them during the interview.

Appendix 3. Selection of data analysis reflective journal and coding memo

Figure A3.1: Selection of data analysis reflective journal in Microsoft OneNote

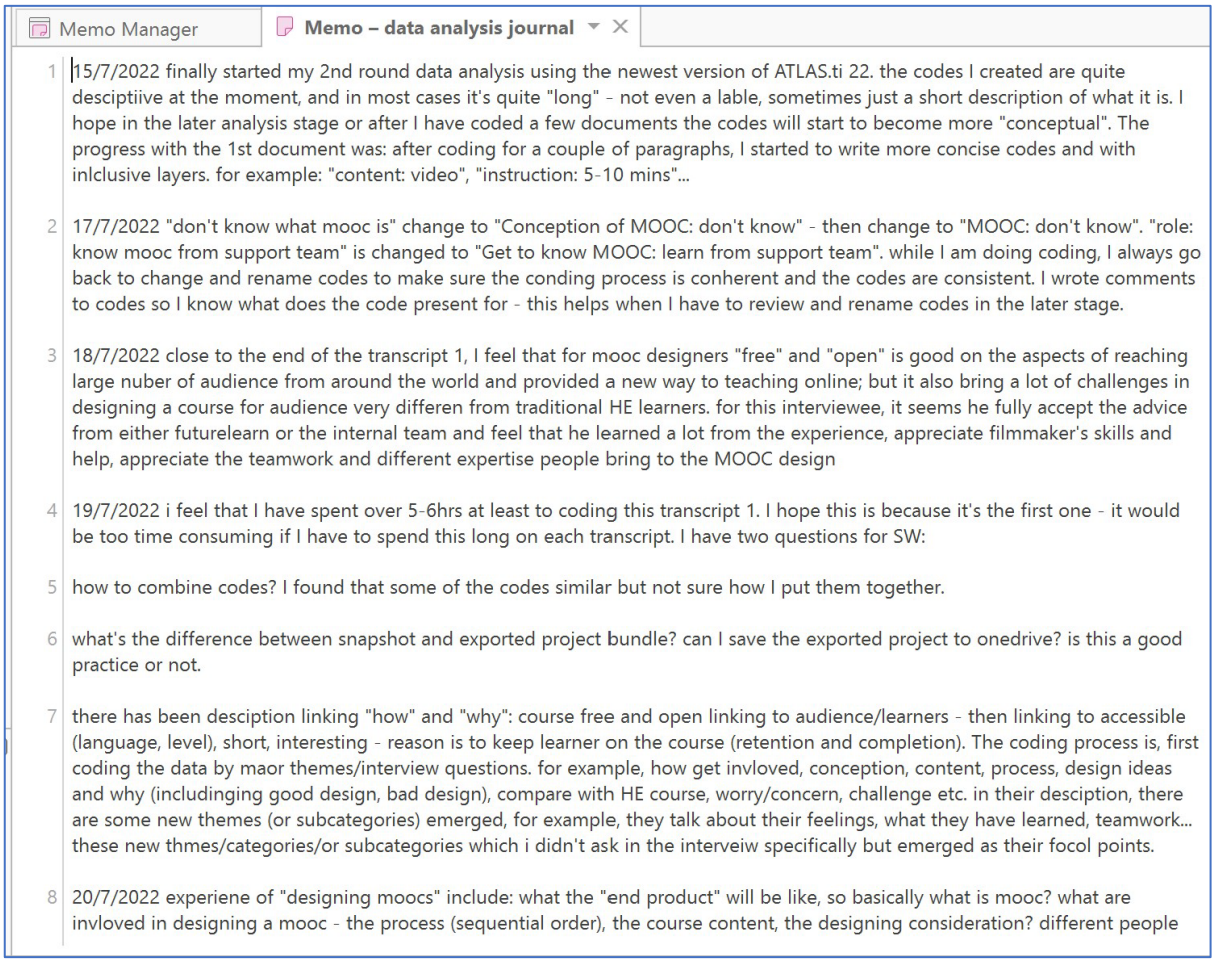

Figure A3.2: Example of coding memo in ATLAS.ti

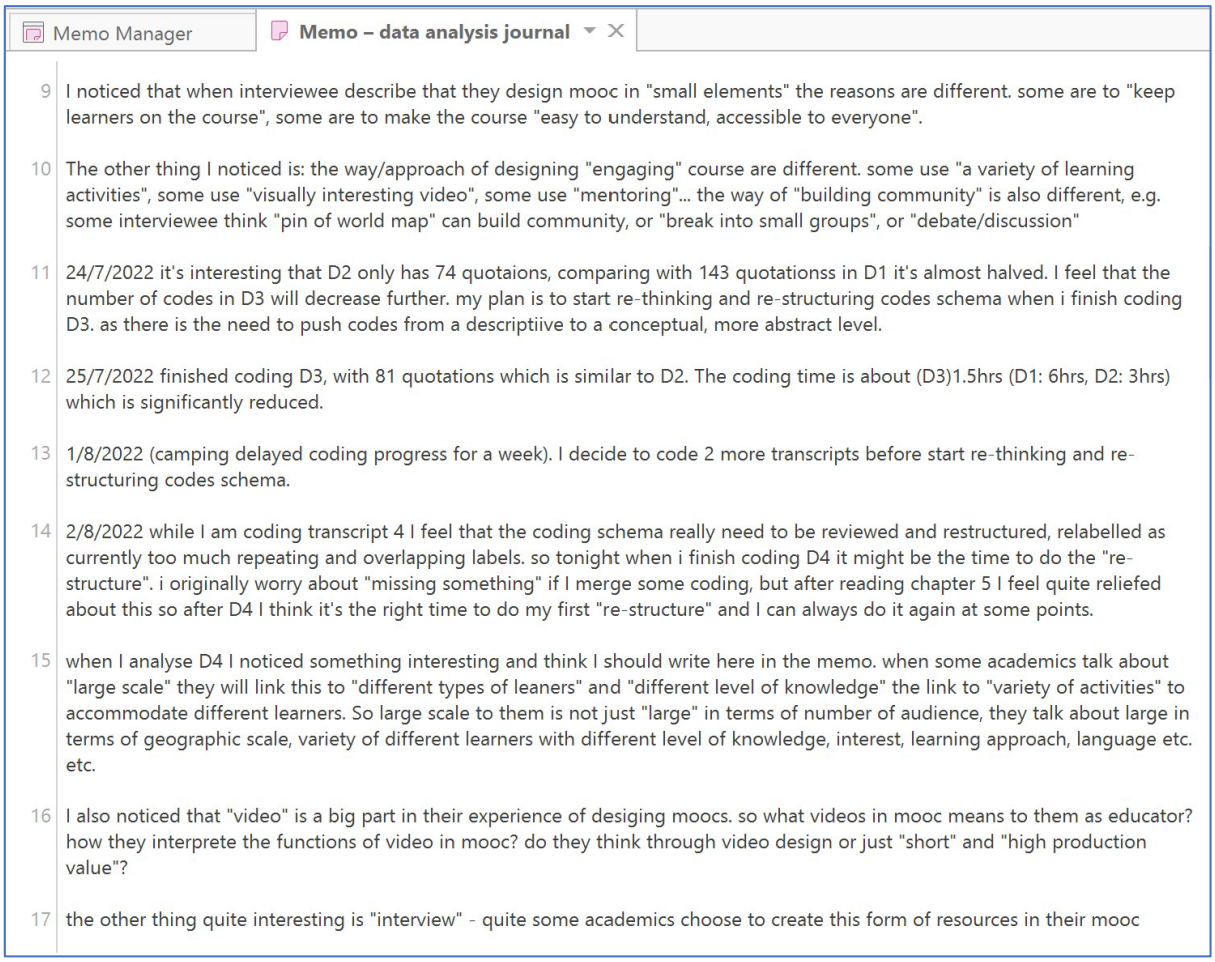

Figure A3.3: Example of coding memo in ATLAS.ti

Appendix 4. Example of key points and summary notes

Typed key points of P9 interview conversations during listening to the recording: (listened on 8 December 2021)

MOOC is obviously distance learning, but in, in pretty much every other respect it's completely different to what I would call standard distance learning models.

Involved in MOOC: interest and experience in distance learning.

Design: 1. in terms of getting the academics to really focus on what you need to do for a MOOC and the kinds of activities you need, that was **a struggle.** 2. we're stuck with the films, because they are so expensive to create. 3. one of the **challenges** that we have is that we are leaning on academic colleagues, and simply giving them more work, as far as I'm aware, they don't particularly get any benefit themselves, other than the potential for positive interactions with students that they would never encounter otherwise.

MOOC: signing up as a student to understand what is MOOC. gave me a sense of the kinds of rhythm. prepared me for understanding what it was we were getting into.1. So the fact it's divided into weeks,2. the fact that everything is released at the same time,3. that you, emm, that people work through it at different paces. 4. People join it at different times and continuously joining the course when it's running 5. Large – number of participants 6. Pre-designed and not responsive 6. Huge range of prior knowledge 6 invisible learners in such course, can still enjoy it. 7 it's free, can have certificate but not assessed, no credit bearing or towards qualification. a learning as a leisure activity learning as a, for the sake of learning, it is, it is about people expanding their horizons, finding new things that interest them. It's not about fitting people for the workplace, or, or giving them professional skills.

Compare to HE (standard): MOOC: That all they've got is the material and they obviously can access the discussions that previous students have engaged in, but they're not getting that same level of support; standard HE distance learning course: everybody works together, through and you get, you get very high level of support. MOOC is free and HE course costs you a lot of money. As a teacher - sense of

differentiation and consider prior knowledge, but this is actually really quite hard to do on a MOOC, where the expectation is that everybody does everything, unless they don't fancy it, and they skip through". and certainly compared to the kind of assessment that you get on conventional distance learning, it's, it's a world away. t's the massive (laugh), it's the massive bit that makes it a problem.

Design: Futurelearn have a quite **prescriptive**, so it's not as if you could do anything amazingly radical anyway。 They, they, they don't want you to do that: 1. Length of video. I don't think it's really about the quality of the learning experience, it's about, it's that there seem to be based on how long they think people will pay attention for. 2. Number of video. 3. formatting of some of the pages is, is quite, is quite simplistic. I would say. So it's can be difficult to really make it appealing, visually appealing to a learner. there's very little freedom of movement on this for you to actually make something that feels distinctive. there's a strong sense of the **Futurelearn brand**. And whilst I can understand why they want to do that, it's not, hmm (laugh), yeah, and it's not, not something that I'm personally terribly comfortable with. I would rather that we had our own **University MOOC identity**. 4. No freedom or flexibility/options/functions to use tools, or options/change to visually appearance. And the fact that we, we had included this word in order to make it more **accessible t**o people, for whom this area was completely new, that would know nothing about the topic that we were discussing； it's hard to meet some learners expectations and in that case, in HE or standard DL model since it's small group you've got the potential to kind of defuse that situation, and to explain to them that, Whereas on the MOOC you don't, you've got no way of interacting with any of the learners, other than through the MOOC when it's essentially public. I hadn't quite understood until I was in the position of being part of the course to myself that you have **no way of contacting people individually**. And equally, they can't contact you individually. It's all done in this public format. And that's very different. it's really significant aspects of the course design in the detail of what we have on each screen is the **language** that's being used (level, not too complex, not reference backward and forward…) and it is very different from standard academic writing. **Number of participants/learners is not a factor** to be considered in design "I don't think it makes a particular difference to how we design

it", maybe this is part of the reason why FutureLearn is so **prescriptive**. because they are saying…these are the kinds of things that we want to see you doing. quality control what we were offering was appropriate.

Process: see previous developed MOOCs to see how they worked; film making with help from learning developers; the key thing is really getting the, getting the, the course team on board; a lot of time asking people to get things done; scripts/quiz/questions/

Challenge: 1. it is very challenging to create the videos to be meaningful within that very strict time frame. I do struggle over why videos have to be only five minutes long. 2. Course team/academic commitment, workload, deadline etc. academic overburdened 3. you can't, you can't add staff or in response to the set of learners that you've got, can't change/add course content on the go based on feedback and conversation with learners 4. Quiz is challenge, as in this discipline no one word answer.

Assumptions: wide range of leaners with different time spent on the course and different pace.

Expectations: variation of learners with different engagement level (actually it's still P9's assumption).

Worries and concerns: trust learning developers who helped to check everything. Worry about cross-referencing links; academic over-burdened

Well-designed MOOC: visually engaging; accurate transcripts of videos; clarity from the outset what you are offering; a fairly consistent structure, but certainly I wouldn't suggest trying to make something uniform, consistency is more to do with the visual branding, the tone, the sense of, you know, the way that, that language is used even though you've got different lead educators for different weeks. Structure e.g.- Introduction/reflection/word cloud.

Viewpoint of Degree MOOC: it does concern me, seen as a way of doing it on the cheap, really devalues the currency of a degree.

Summary: (summarised on 8th December 2021)

Designing MOOC is different from standard distance learning models in terms of level of support learners received and different pace of learners (lots of learners don't join the discussion).

Designing MOOC because the department felt it was something that was important that we should offer.

Designing MOOC is a struggling process to make colleagues focus on designing engaging activities.

Designing MOOCs doesn't have any benefit for academics except for potential interactions with students that they would never encounter otherwise

Designing MOOCs is something put extra work to academics and not part of their job so there is an element of stress associated with it.

Designing MOOC means you are creating a course which all the communication are in public format and no way to contact learner individually.

Designing MOOC is very prescriptive and have a strong FutureLearn brand.

Designing MOOC is to design free leisure activity learning, no credit bearing course which is not assessed and not towards qualification.

Designing MOOC is to create a "pre-designed" and not responsive course, lack of meaningful interaction through synchronous activity, from pedagogical point of view.

Designing MOOC is to create a course that you don't know how to work out the student's development and support them especially the "invisible" leaners – lack of meaningful pedagogical relationship. Similar to experience of reading book or watch documentary.

Designing MOOC is to create a course that online discussion can lead to helping each other, but can lead to misunderstanding.

Designing MOOC is "no differentiation" design.

Designing MOOC means it's challenged to help learner "conceptualise" but only deal with "facts", which is hard in some particular disciplines

Designing MOOC is to make them feel a bit more confident about taking part rather than if it's all very challenging, high level academic debate all the time.

Designing MOOC means design a course format that HE hasn’t fully realise it’s potential and limitations.

Designing MOOC means design a course to involve wider public rather than just people inside HE.

Designing MOOC is to design a system for delivery of information. It is not a system for facilitating learning in a deep way due to the impossibility of developing individual relationships with the learners of support. It's the massive (laugh), it's the massive bit that makes it a problem.

Appendix 5. Development of the categories of description

The first draft of categories	A: Designing MOOCs is to produce a series of short, visually interesting and accessible learning materials to engage learners with different abilities B: Designing MOOCs is to learn new skills and experiment with a new approach to education C: Designing MOOCs is to create social learning experiences and bring people together for conversation D: Designing MOOCs is to broadcast higher education and showcase research to public E: Designing MOOCs is to use research-informed higher education to influence people, make impact on society and change the world
The second draft of categories	A: designing MOOCs as personal development B: designing MOOCs as teamwork C: designing MOOCs as creating collaborative learning experience D: designing MOOCS as marketing HE institution E: designing MOOCs as influencing public/society and making changes to the world
The third draft of categories	A: designing MOOCs as personal development B: designing MOOCs as teamwork C1: designing MOOCs as producing short, visually interesting and accessible learning materials C2: designing MOOCs as creating opportunities for social learning experience D: designing MOOCs as broadcasting and marketing

	E: designing MOOCs as influencing and making changes
The final draft of categories	A: content-focused perspective - designing MOOCs as producing short, visually interesting and accessible learning materials B: Social learning perspective - designing MOOCs as enabling conversations and social learning C: Teamwork perspective - designing MOOCs as a process of working with others as a team D: Development perspective - designing MOOCs as an opportunity for individual professional development and institutional development E: HE perspective - designing MOOCs as broadcasting and marketing HE F: Transformation perspective - designing MOOCs as a way of influencing and making changes to society

Appendix 6. Profile of participants

Participants	Gender	Discipline	Teaching experience (years)	Age range	HE institution
P1	M	Religious Studies	>30	>60	A
P2	F	Health and Medicine	>30	>60	A
P3	F	Language	>15	30-45	A
P4	F	History	>10	30-45	A
P5	M	Health and Medicine	>30	45-60	A
P6	F	Environmental Science	>15	45-60	A
P7	F	Health and Medicine	>20	45-60	A
P8	M	Environmental Science	>30	>60	A
P9	F	History	>20	45-60	A
P10	F	Library Science	<5	30-45	B
P11	F	Language	>20	45-60	A
P12	F	Sociology	>15	30-45	A
P13	F	Medicine	>30	45-60	C
P14	M	Education	>30	>60	D
P15	F	Education	>20	45-60	E
P16	M	Medicine	>20	45-60	E
P17	M	Computing	>20	45-60	A
P18	M	Computing	<5	35-45	A
P19	F	Education	>25	45-60	F
P20	M	Computing	<5	30-45	F
P21	M	Psychology	>20	45-60	B
P22	F	Computing	>15	30-45	A