

Researching social stratification in higher education: Methodology and paradigms

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Introduction

Researchers of sociology of education, like other researchers in the behavioural and social sciences, are often faced with the dilemma of choice of paradigms, methods and methodology. The controversy regarding the propriety of either adopting a wholly qualitative approach, and thereby presenting readers with the “dissonant music of inequality” of stratification, or going completely quantitative and subsequently presenting readers with the mathematics and statistics of the same phenomenon is yet to abate. A middle-ground approach that has increasingly gained currency has been to leverage the strengths of both the qualitative and quantitative strategies through the adoption of the mixed methods approach and, thus, limit the weaknesses—perceived or real—of the two traditional and dominant approaches to research. Others have had to question whether the strict separation of the quantitative and qualitative research spheres is an exercise in futility, since the boundaries of the two domains can sometimes become blurred (Anyan 2016; Bryman 2012; Creswell 2014; Denzin & Lincoln 1994; Flyvbjerg 2006; Savenye & Robinson 2005). The choice of the mixed methods approach, however, is only half the

battle; the researcher is then confronted with the adoption of an “appropriate” paradigm(s) to give some grounding to their methodological choices. It is also often the case that the researcher’s beliefs tend to dictate the methodological pace. Either way, thoughts and considerations would have to be given to both the methodology and paradigms in the research process.

This chapter does not set out to join the qualitative–quantitative rift. I shall rather devote this space to highlight the evolution of the mixed methods approach and its use in higher education research. The discussion further extends to pragmatism and the transformative research paradigms, their association with the mixed methods approach as well as some of the challenges accompanying their adoption and use.

Mixed methods

The mixed methods research strategy, otherwise known as *multimethod* or *mixed methodology*, emerged in the late 1980s and early 1990s as a “third force”, complementing the two traditional approaches (qualitative and quantitative) with its use and spanning fields like sociology, education, management, evaluation and health sciences. The works of Tashakkori and Teddlie (2003; 2010)—*Handbook of Mixed Methods in the Social and Behavioural Sciences* sought to offer a more comprehensive overview of this research strategy. Its paths can further be traced to the emergence of a number of journals such as the *Journal of Mixed Methods Research*, *International Journal of Multiple Research Approaches* and *Fields Methods* (Creswell 2014; Hall 2013). Morgan (1998), however, traces the origin of mixed methods to the late 1950s and mid-1960s and credits Donald Campbell and the works of his colleagues on unobtrusive measures as pioneering this research strategy. The term *mixed methods* is generally used to refer to research that has elements of both the qualitative and quantitative research strategies. The mixing of both quantitative and qualitative data, supposedly, is geared towards achieving a “stronger understanding of the problem” or question than either of the traditional strategies could provide

(Creswell 2014, 215; Bryman 2012). However, Sandelowski (2003) believes that it is merely a methodological fashion.

Creswell (2014) has identified three different rationales and values for the adoption of the mixed methods approach. When researchers choose mixed methods by virtue of being able to draw on the strengths of both the quantitative and qualitative approaches, while minimising their limitations, they are operating on what he calls the *general level*; that is to say, the primary reason for adopting the mixed methods approach are the perceived greater strengths and fewer limitations resulting from the combination of the two traditional approaches, as opposed to the use of either a wholly qualitative or quantitative approach. Those who adopt it on the grounds of access to both kinds of data, as well as being able to bring some elements of sophistication and complexity to appeal to enthusiasts of new research procedures, are operating at the *practical level*. A *procedural level* user would argue that the use of the mixed methods approach brings a more comprehensive understanding to the research problem by facilitating a comparison of different perspectives from the data, the interpretation of the quantitative data with the qualitative, among others.

A number of scholars have identified different ways of classifying and designing studies that adopt the mixed methods research strategy. Morgan (1998) observes that the combination of both quantitative and qualitative research designs has been done such that there are some elements of complementarity and division of labour for each of the strategies. These have been achieved through the making of two primary decisions: (1) a *priority decision*, which pairs the principal method with a subordinating one, and (2) a *sequence decision*, which determines whether the subordinating method precedes or succeeds the principal. To illustrate Morgan's (1998) proposition, if a researcher decides to carry out a survey of students with disabilities in a given higher education system, and he or she decides to interview a few students to inform what goes into the survey design, it is obvious that the quantitative approach has been chosen as the principal method in the priority decision. Since the interview comes first, it is then given the highest weighting as far as the sequence decision is concerned.

For Bryman (2012), the purposes of the study should guide the design to be adopted. He spells out 18 different ways of combining quantitative and qualitative data, including: (1) *triangulation*—when seeking a mutual corroboration of findings; (2) *offset*—to leverage the strengths and limit the weaknesses of both the quantitative and qualitative approaches; (3) *completeness*—the notion that combining qualitative and quantitative research would result in a more comprehensive enquiry; (4) *process*—when the assumption is that quantitative research would cater to the structures of social life while the qualitative would give a sense of the process; (5) *different research questions*—when the assumption is that each of the research questions is best suited to either a quantitative or qualitative research and (6) *explanation*—when one of the two approaches is expected to explain the results generated by the other. He adds that mixed methods could also be used on the grounds of *instrument development, sampling, credibility, illustration, diversity of views*, among others.

Creswell (2014) has also set out two broad categories for the design of mixed methods research—basic and advanced. The basic mixed methods design comprises the *convergent parallel, explanatory sequential* and *exploratory sequential*. As the names suggest, the *convergent parallel* is adopted when the goal is to merge data from both the quantitative and qualitative to show the extent of convergence or divergence, and with the view to achieving a comparison of the perspectives from both sets of data. The *explanatory sequential* seeks an in-depth understanding and an illumination of the results from the quantitative data. Put simply, the qualitative data is used to explain the quantitative results. When the development of better instruments for measurement is the goal, the *exploratory sequential* comes in handy. As regards the advanced mixed methods design, Creswell (2014) further identifies the *embedded, transformative* and *multiphase* designs. The *embedded* design is used to gain an understanding of the views of participants, for example, for an experimental intervention, while the *transformative* is used in situations in which the needs of a marginalised group in society need to be understood in the pursuit of an agenda for reform and action. The *multiphase* design would

be more suitable in situations in which formative and summative evaluations are needed for a particular intervention programme.

A closer look at the classifications of the mixed methods designs, as spelt out by the three authors (Bryman 2012; Creswell 2014; Morgan 1998) indicates that they share practically the same characteristics. The main differences, as far as I can see, are nomenclatural.

Paradigms

The adoption of a particular method or methodology for a research enquiry would satisfy just one component of the research process. Researchers need to be clear and explicit about the paradigm(s) or philosophical assumptions underpinning their research, since they tend to drive the data gathering, analysis and interpretation. Bryman (1988) defines a paradigm as “a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, [and] how results should be interpreted” (p. 4). Conversely, Guba (1990) sees it simply as “a set of beliefs that guide action” (as cited in Creswell 2014, 6). A paradigm is otherwise known as a *worldview* (Creswell & Plano Clark 2007; Teddlie & Tashakkori 2009), *epistemologies* and *ontologies* (Crotty 1998) and a *mental model* (Greene 2007), to mention a few. In the literature, four types of paradigms can generally be found: *positivism*, *constructionism*, *transformative* and *pragmatism* (Creswell 2014; Hall 2013). Some authors reason that since positivism and post-positivism are more suitable to quantitative research and constructionism (social constructivism) to qualitative research, mixed methods researchers would be better served by going with the transformative and pragmatist paradigms (Creswell 2014; Hall 2013).

Hall (2013) argues that mixed methods researchers are faced with three options in their quest for an appropriate paradigm(s) to underpin their research. They can either adopt an *a-paradigmatic stance* or a *single or multiple paradigmatic stance*. He rebuffs the proposition for the adoption of an a-paradigmatic stance to research, as proposed by Patton (1990), for example,

which encourages researchers to sidestep the issue of paradigm by ignoring it altogether. He contests that research can be paradigm-free and that the fact that researchers do not explicitly state the paradigm(s) underpinning their research does not mean they do not implicitly have one. “Epistemology and methodology are related in that the epistemological position adopted constrains the type of data considered to be worth collecting and in the way that data is to be interpreted” (p. 75). Regarding the multiple paradigmatic stance, Hall (2013) opines that since proponents do not state which of the paradigms should be mixed and how this should be done, it makes its adoption problematic. For him, mixed methods researchers would find that the use of a single paradigm would be the best fit, stating the transformative and the pragmatic as the most suitable.

Pragmatism

As the name suggests, the pragmatic paradigm adopts a “what works” approach to research enquiry, with a view to finding solutions to the research problem at hand, using all the means and approaches available, without focusing on any particular research method (Anyan 2016; Creswell 2014; Patton 1990; Rossman & Wilson 1985). The counter argument against the “what works” approach is that it is difficult to predict what works until the research is completed and the findings have been interpreted (Hall 2013). The key tenets of this paradigm include: (1) non-committal to any particular paradigm or system of reality; (2) the intended consequences of the research determines what should be researched and how; (3) freedom to choose research techniques, methods and procedures; (4) researchers consider all the different approaches at their disposal for data gathering and analysis, without due regard to the quantitative–qualitative divide; and (5) the research contexts may be political, social or historical (Cherryholmes 1992; Creswell 2014; Morgan 2007). As far as the case of mixed methods researchers goes, Creswell (2014) believes that “pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis” (p. 11). Bergman (2008, 14) criticises pragmatism for being “vague

and methodologically unsatisfactory”, since it does not take into account the difficulties one might encounter in combining both the qualitative and quantitative approaches to research.

Transformative

According to Mertens (2010), the transformative paradigm functions as an “umbrella for research theories and approaches that place priority on social justice and human rights” (p. 473). It is relevant for researching issues of discrimination and oppression in all its appearances, including ethnicity, race, gender, poverty, disability, immigrant status and the “multitude of other characteristics that are associated with less access to social justice” (p. 474). Its application can be extended to studies that examine the power structures that perpetuate social inequities (Anyan 2016; Mertens 2010). The transformative paradigm was previously referred to as *emancipatory* (Cohen et al. 2005; Mertens 2009), but Mertens (2009) renamed it as *transformative*, seemingly stressing that with the research being conducted, the researcher has an agentic role in the transformation of society, not merely seeking emancipation for others—the oppressed and powerless (Anyan 2016).

The transformative paradigm is claimed to have emerged in response to that of the constructivist, which is critiqued for its weak advocacy in regard to championing an agenda that will transform the plight of the underprivileged in society, despite its strength in seeking to understand the research problem from the viewpoints of participants (Anyan 2016; Creswell 2014; Mertens 2010). Transformative research “provides a voice for [the] participants, raising their consciousness or advancing an agenda for change to improve their lives” (Creswell 2014, 10). This paradigm can be integrated with theoretical perspectives such as feminism, queer theory, disability theory and critical theory. The focus of the transformative paradigm on issues of social justice and marginalisation is rather deprecated as giving it a narrow focus in regard to its applicability in social scientific research (Hall 2013), with Tashakkori and Teddlie (2003) going as far as relegating it to “the purpose of a research project” (p. 860) instead of seeing it as a research paradigm. Be that as it may,

to sociologists of higher education, it is a force to reckon with, and the issue of its wider applicability in the social sciences should be a matter of secondary importance.

Mixed methods, pragmatism and the transformative paradigms in higher education research

The number of studies on stratification in higher education that have employed mixed methods, including an explicit statement of the paradigm underpinning the research, are quite few. Readers are often left to infer the genre of the research. Berg's (2010) *Low-Income Students and the Perpetuation of Inequality: Higher Education in America* employed both qualitative and quantitative data by using national data on family income and education, interviews with college students and faculty as well as classroom observation in order that "the reader is provided with both a comprehensive review of the literature and statistics, but also vivid stories coming from interviews with low-income students" (p. 5). He does not, however, explicitly state that a mixed methods strategy was employed for the study. It is obvious from the data gathered and the intent for doing so that the study was underpinned by a pragmatic philosophy or worldview. From the outset, Berg (2010) identifies with the very community he was researching by telling his own story of marginalisation. "This is a book of real life stories and I feel obliged to tell mine...I did have a college experience colored by my social position" (pp. xiii, xiv). By forthrightly telling his own story, Berg (2010) was indirectly communicating to the reader the possible biases with which he pursued the study. His work further intersected issues of race, class and gender. Clearly, this work also bears the marks of the transformative paradigm discussed earlier. This argument is strengthened by the fact that the author presents an agenda for change in his concluding remarks:

The passionate efforts of many in the education community alone cannot change the basic unfairness of our society. We must do better. The fate of those students presented in this book, and those like them to come, as well as that of our society as a whole, rest upon our actions. (p. 167)

Good's (2015) *Improving Student Learning in Higher Education: A Mixed Methods Study* was pursued as an embedded mixed methods study, which neatly fits into Creswell's (2014) advanced mixed methods category. Good (2015) clearly states the paradigms underpinning the study. Her description of the paradigms mirrors what Hall (2013) calls the multiple paradigmatic stance:

While my primary stance was pragmatic, I shifted worldviews during different phases of the study. Specifically, I approached the quantitative data analysis as a postpositivist, the qualitative analysis as a constructivist, and during the study's integration phase I applied my pragmatic worldview again. I intentionally shifted paradigms at different stages to be true to each method's philosophical underpinnings. (Good 2015, 45)

The main research strategy for the study, which sought to evaluate the impact of a faculty development intervention programme (jmUDESIGN) on student learning, was identified as the quantitative strand, while the qualitative strand was used to understand the experiences of the faculty. Thus, in reference to Morgan's (1998) categorisation of mixed methods designs, the priority decision was assigned to the quantitative strand, with the qualitative playing a complementary role. As regards the purpose for the adoption of the mixed methods design, the elements of triangulation, completeness and explanation according to Bryman's (2012) classification, discussed earlier, are also visible.

Persistent Elitism in Access to Higher Education in Ghana, designed as a dual-case study, was pursued as a mixed methods research, and as far as the priority decision was concerned, greater weighting was given to the qualitative strand. However, for a more comprehensive understanding, quantitative data were gathered, analysed and interpreted concurrently with the semi-structured interviews. The quantitative data served not only as a confirmation or disconfirmation of the arguments put forward by the participants (students, graduates, officials of higher education institutions and government), but also complemented and, in some cases, "supplemented" the qualitative data, as the case might be. Anyan's (2016) study further intersected five variables of stratification—gender, parental education, family income, geographical

location and disability—focusing primarily on the situation and experiences of students, particularly those at the margins of Ghanaian society.

Paradigm-wise, the study could best be described as employing a multiple paradigmatic stance. Elements of the constructivist, pragmatic and transformative paradigms could be seen. The difficulties associated with data collection in the research context primarily informed the pragmatic stance, in addition to the use of multiple conceptual frameworks; all available means were employed to understand the research problem. The following justification was offered for the adoption of the multiple paradigmatic stance:

...the integration of both the constructivist and transformative paradigms (pragmatic) ensured that the participants, particularly the students at the margins, were not only given a voice and heard, but also an agenda to make the distribution of HE opportunities more equitable for the historically underserved but majority groups in the Ghanaian society, such as students from the rural areas and schools, those with disabilities and from very poor income groups was put forward. (p. 74)

Further, the author's statement of bias and motivations for the pursuit of the research, as well as the presentation of recommendations based on the findings of the research, were deemed to reduce the stratification observed, making higher education in Ghana more equitable for disadvantaged students, which is indicative of the transformative paradigm.

Museus and Griffin (2011) lament the manner in which the use and overreliance on a unidimensional analysis for the study of individuals and groups in higher education tend to limit the understanding of such groups. In their work *Mapping the Margins in Higher Education: On the Promise of Intersectionality Frameworks in Research and Discourse*, they propose intersectionality research as a measure to counter such limitations, arguing that “[t]he failure of higher education researchers to make the intersections of social identities and groups more central in research and discourse limits the existing level of understanding of and progress in addressing equity issues in higher education” (p. 10). In addition to the benefits of intersectionality, the authors further allude to sociologists of higher education profiting from the

“potential of mixed-methods research in better understanding how multiple identities shape the experiences and outcomes of populations in higher education” (Museus & Griffin 2011, 11).

Conclusion

The mixed methods research strategy is yet to become commonplace in higher education research, due in part to it being a relatively novel approach compared to the traditional qualitative and quantitative research strategies. I forecast that its use will increase, particularly among those interested in the sociology of higher education, who pursue research that demands the intersection of different variables to gain a fuller picture and understanding of social phenomena. Like the two traditional strategies, it merits adding that the mixed methods approach has its own limitations, despite its obvious strengths. The researcher needs to be certain as to whether or not the research enquiry in question justifies the use of a mixed methods design. It should by no means be regarded a methodological “silver bullet”. The paradigmatic orientation, the nature of the research problem and the research questions and objectives should serve as useful guides in the choice of a research strategy.

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