

Research Philosophy Debates and Classifications: Students' Dilemma

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Abstract: Research philosophy classifications such as ontology, epistemology, and axiology and their conflicting applications to the 'quantitative-qualitative' debates, are a major source of dilemma to research students in establishing their relevance to subjects areas and discipline. A number of studies have used different descriptions, categorisations and classifications of research paradigms and philosophies in relation to research methods with overlapping emphasis and meanings. This has not only resulted in tautological confusion of what is rooted where, and according to whom; but raises a critical question of whether these opposing views are enriching knowledge or subtly becoming toxic in the field? . This paper puts forth a student voice towards these debates and aims to provoke research advocates from their peripheral standpoint to become concerned about this subtle but deepening concern of students and their future impacts. A concerted effort in this direction should eventually result in the development of a planned, systematic framework and procedure that show some consensus to bail research students from these bewildering classifications and debates. The paper briefly reviews, discusses, and analyses these research philosophy classifications and debates and provides a mapping thereby through literature. Then, assesses how they impact on research students through case studies based on three North West Universities in the UK. Responses were elicited using structured interview questionnaires where students fall into different faculties and subject groupings for comparison purposes. Although the findings paint a grim picture of research, they are not conclusive to all UK students as the sample studied is skewed geographically. Future studies must survey the impact from other geographical locations. It is the conglomeration of these studies that will provide the 'real' magnitude of the impact on research students. This paper contributes to discussions on research methods and calls for a consensus in the field of research.

Keywords: research philosophy, debates, students, dilemma

1. Introduction

The difficulty in conducting research today is heightened by the incoherent classification of research philosophies such as epistemology, ontology, axiology and doxology and the quantitative-qualitative dichotomy debates, in a way that those who made it are unlikely to be affected by it. A number of studies (Saunders et al., 2009; Ritchie and Lewis, 2003; Guba, 1990; Guba and Lincoln, 1989) have used different descriptions, categorisations and classifications of research paradigms and philosophies in relation to research methods with overlapping emphasis and meanings. This has resulted in tautological dilemmatic confusion of what is rooted where, and according to whom – doubt as to how it informs future studies and potentially negative impact on those that are subject to their application especially, research students. The mounting debates have taken a distinctive turn that causes dilemma to research students in establishing its relevance to subject areas and disciplines. This paper briefly reviews, discusses and analyses the debates and classifications by way of literature reviewed. The dilemma is examined in this research through a series of case studies conducted with research students from three different North West Universities in the UK. The students are divided into different faculties and subjects groups to allow for comparison and to obtain different perspectives and understanding of these impacts. Carefully structured interview questionnaires are used to collect the data. The wide-range of questions employed enabled different facets of the debates to be assessed. The overarching aim is to find out whether and how these research philosophy classifications and debates impact PhD students' research work, such as their choice of research approach, and provide a mapping of these classifications, on one hand, and assess the implication for the future of research.

2. Research philosophical stance debates

Proponents of research philosophies (Saunders et al., 2009; Guba and Lincoln, 1994; Becker, 1996) have engaged and displayed their knowledge and beliefs in what appeared and got interpreted as paradigm "wars". Although their definitions of ontology, epistemology, and axiology have a common

theme with a bit of different meaning and emphasis; there seem to be no consensus in the classification and categorisation of these paradigms. A thorough literature review (Saunders et al., 2009; Will et al., 1997) of these philosophies and research methods has overlapping evolutionary process. The evidence ranges from the original presentation, description and categorisation outlined amongst other major philosophical advocates (Burrell and Morgan, 1979; Guba and Lincoln, 1989; Guba, 1990) to recent philosophical scholars (Saunders et al., 2009; Ritchie and Lewis, 2003). For example, Ritchie and Lewis's (2003) description and classification of ontological and epistemological stances is different from that of Saunders et al. (2009). Ritchie and Lewis's (2003) ontological perspective include realism; materialism, critical realism, idealism and relativism; and the epistemological perspective include positivism and interpretivism. Hence, Saunders et al.'s (2009) and Guba and Lincoln (1994) indicate a perspective that views philosophies (i.e. positivism, realism, interpretism, and pragmatism) from an ontological, epistemological, axiological stance. An even overlapping classification of these philosophies is that of Guba and Lincoln (1989); which links positivism, post-positivist, and constructivist to critical realism. A further example in the context of philosophy is pragmatism which, is thought to have evolved from realism described as Peirce realism by Thayer (1981). These philosophies are not entirely different. Put differently, they all share a common set of assumptions, and their commonalities identify these philosophies as examples of broader philosophies. However, whilst they share critical assumptions, they emphasize very different implications of those assumptions. And while they all focus on explaining methodological differences in research, they adopt different categorisation and classification. Given these differences, it is not surprising that these philosophical debates have generated a dilemma for research students. Indeed, recognising the potentially adverse impact on research students should call for a concerted effort to standardize the philosophies.

3. Philosophy and research approach debates

There is much ongoing debate on where a particular method (i.e. qualitative, quantitative or mixed method) is rooted or founded in relation to these philosophies (Johnson and Duberley, 2000; Bryman, 1984; Morgan and Smircich, 1980; Caelli et al., 2003). Even Guba and Lincoln (1994) acknowledged the ongoing patents of paradigm to research approach. Few exemplary discussions of these debates are provided on table 1 below:

Table 1: Philosophical debates for: Mixed methods, qualitative and quantitative approach

Philosophical debates for: Mixed methods, Qualitative and Quantitative approach	
Research approaches	Philosophical debates for the approaches
Mixed Methods	Mixed method is believed to be rooted in pragmatism (Denscombe, 2007; Johnson and Onwuegbuzie, 2004); but Barrett (2010) asserts the opposite and considers critical realism to be the theoretical foundation of mixed method research.
Qualitative approach	Guba and Lincoln (1994) identified four paradigms that compete in qualitative research, namely; positivism, post-positivism, critical theory and constructivism. However, other scholars (McNabb, 2008; Denzin and Lincoln, 2005) assert that interpretive and critical paradigms are central to qualitative approach. A detailed analysis of these debates is fully discussed amongst other scholars (Guba and Lincoln, 1994; Denzin and Lincoln, 2005).
Quantitative approach	Scholars (Polit and Beck, 2008; Steen and Roberts, 2011) assert that positivist and naturalist are philosophies for quantitative approach. Furthermore, Alvesson and Skoldberg (2009) add post-positivism, social constructionism, and critical realism as other philosophical stances.
Qualitative vs. Quantitative approach	The debates stretch further from which different philosophies is best for a single research approach (i.e. pragmatism against critical realism for mixed methods); to whether a particular philosophy is for qualitative or quantitative approach (i.e. positivism for qualitative vis-à-vis quantitative). This is best demonstrated in research findings by amongst other scholars (Bryman, 1984; Becker, 1996).

3.1 Philosophy debates for neither of the approaches

Whilst the scholars battle out on the foundation of philosophies or paradigms to research approach, Johnson and Onwuegbuzie (2004) argue that the differences in epistemological beliefs and logic of justification do not dictate what specific data collection and analytical methods to utilise, therefore, should not prevent the exploitation of any methods. In support of this, Guba and Lincoln (1994) stress that the rooting of approaches is secondary to paradigm and do no limit the use of either qualitative or quantitative from any research paradigm. Differences of trivial nature paid to philosophies in relation to research approach are greatly discussed by Becker (1996).

4. Philosophy and field of study debates

Then follows the debate on which philosophy is for social sciences or natural sciences? The survey findings by Orlikowski and Baroundi (1991) and Alavi and Carlson (1992), for example, report that the philosophies found to be widely applied and more popular in Information systems was positivism, and links the philosophy to the field of social sciences (Steinmetz, 2006). But, Polit and Beck (2008) associate positivism to natural sciences. In a different view, Bryman (1984) associates positivism to social research that applies natural science. This leads to subject rooting to different fields of study, for example, Information system's roots is found to be overlapping with different field of studies such as social sciences, computer science, and business studies (Orlikowski and Baroundi, 1991; Hirschheim, 1985; Steinmetz, 2006). Hence the debate boards on whether quantitative is for natural sciences (Polit and Beck, 2008; Steen and Roberts, 2011), and the case of qualitative approach in social sciences as is widely prescribed by Babbie (2007).

5. Philosophy and subject debates

The philosophical foundation debate gave rise to contradicting arguments as to which philosophy is best for a particular subject. For example, three different philosophical views have been identified for information systems (IS), namely, critical social theory (Ngwenyama and Lee, 1997; Orlikowski and Baroundi, 1991). Pragmatism (Agerfalk, 2010; Goldkuhl, 2008); critical realism (Hjorland, 1998; Dobson, 2002). Yet, the survey findings by Orlikowski and Baroundi (1991) and Alavi and Carlson (1992) indicate that the philosophy found to be more popular in Information systems is positivism.

5.1 Pragmatist view to the subject of information system

Goles and Hirschheim (2000) brought pragmatism into Information systems. The importance of pragmatism to information systems has been acknowledged amongst others by Agerfalk (2010); and Baskerville and Myers (2004). The emphasis by these scholars is that information systems is often seen as pragmatic discipline with a prominence on practical research, theory and practical implications.

5.2 Critical social theory view to the subject of information system

The connection between CST and IS had been launched from two fronts: firstly, relationship between science, theory and practice; and the social action and meticulous knowledge in which it is based (Alvesson and Willmott, 1992). Klein and Hirschheim (1993) emphasised the relationship of pragmatism and IS to work, social and interaction. Examples of CST application to IS research include, amongst others, studies by Alstynne and Brynjolfsson (2005); Orlikowski and Baroudi (1991); and Basden (2002).

5.3 Critical realism view to the subject of information system

Several scholars (Scott, 2007; Carlsson, 1989; Barrett, 2010; Dobson, 2002) have endorsed CR as an epistemological stance for information systems. The emphasis is towards its ability to address natural and social sciences, which offer a platform for use of variety of methods. Hence, its ability to take a realist stance by pointing out the limitations of positivism and interpretivism individually, and subsumes critical social theory (Mingers, 2004; Wikgren, 2004).

6. Research terminology debates

Advocates of research methods (Srivastava and Rego, 2011; Saunders et al., 2009; Khotari, 2006) have used different terminologies that are contradictory one to another, which leave students staggering as to which is which, and why there is no consensus in the scholarly fields. Amazingly, even Johnson and Onwuegbuzie (2004) picked on some of this confusion; which was on the

reference or treatment of epistemology and method as synonyms. Yet, not much thought is given to how it impacts on students, who widely apply and rely on these scholars' guidance for research directions and clarifications.

6.1 Examples of terminologies on research approaches

A number of studies have used different descriptions of the main research approaches with common themes, categorisations and overlapping emphasis, which is, in fact, qualitative and quantitative. For example, quantitative is also known as empirical research (Hinchey, 2008); deductive, explanatory (Saunders et al., 2009; Engel and Schutt, 2005). On the other hand, qualitative is also known as exploratory research (Neelankavil, 2007; Engel and Schutt, 2005; Bernard, 2006); inductive (Saunders et al., 2009; Engel and Schutt, 2005); and formulative (Khotari, 2006). Whilst the latter scholars acknowledge the similarity of these approaches, some other scholars treat these approaches separately. For example, Hinchey (2008) clearly indicates that empirical research is quantitative, but, Srivastava and Rego (2011) described empirical and quantitative as separate types of research approaches. In a thorough review of these terminologies, it appears rather, to have amounted to a tautological confusion of these different descriptions of research approaches. This is because all other types of research approaches are variations of either one or combination of qualitative, quantitative, and the combination of the two often referred to as mixed method or multi methods depending on the, field of study (i.e. social science, natural science), or the source of scholarly reference (i.e. Saunders et al., 2009; Khotari, 2006, etc). In support of the fact that there are only three distinct approaches to research is Bryman (2006).

6.2 Examples of terminologies on research approach, techniques and strategies

Morgan and Smirch (1980) consider qualitative research as an approach rather than technique. But, the latter is referred to as paradigms by Cluett and Bluff (2006) cited in Steen and Roberts (2011). Newman and Benz (1998) use strategies and approaches interchangeably as reference for qualitative and quantitative in the same book; whilst Souders et al. (2009) refer survey, experiment, observation, ethnography, archival, grounded theory and case study as research strategies.

7. Research design and methodology

This research adopted a qualitative approach and considered case study as strategy. This was mainly due to the strength of case study in answering 'how' questions and providing in-depth understanding of phenomena as widely described by Yin (2003). Structured interviews were considered as appropriate technique for extracting comparable findings, as echoed by Khotary (2006). The study focused on three North West Universities as case studies to provide in-depth perspectives of how research philosophical debates and classifications impact on PhD research students' understanding and decision of research approach. The aim was addressed by:

- Reviewing literature in order to map different philosophical debates by different scholars, from which the structured questions for interview purposes were derived.
- Purposively sampling PhD research students from different subjects, faculties, and Universities, and used both personal and telephone methods of interviews.

The purpose of focusing on three different University, PhD research students, diverse subjects, and varied faculties was to provide comparable multi-perspectives of impacts to understanding and their decision of research approach. Saunders et al. (2009) assert that this kind of approach is good for establishing whether the findings of one case occur in another case. At best, the limit to three Universities and the overall approach helped to eliminate some of the fervent criticisms against case study relating to control, access, time, and travel and analysis cost as expressed by among other scholars (Gable, 1994; Rowley, 2002; Darke et al., 1988). The selected cases in the North West are: The University of Manchester, University of Salford, and the University of Bolton. The usefulness of studying a limited number of cases in-depth have been discussed and expressed by John and Onwuegbuzie (2004).

7.1 Case analysis

The study collected at first data that aimed at providing profiles of 26 PhD students that were purposively sampled, from which comparison can be made for each faculty. The purpose for profiling was to gain insight into the extent of understanding of research philosophical debates and classifications by each PhD students and to find clues as to how the students decide on research

approach. This aided in providing evidence and determining similarities and differences in levels of understanding and decisions on research approaches. The total number of respondents from Bolton University was 16 (61.5%), from which 11 were in their final year, 4 in the second year, and 1 a first year student. Manchester University's respondents comprised of 7 (26.9%) students, from which 6 were in third year and 1 second year PhD students. Hence, Salford University participants were 3 (11.5%), of which 1 is on final year and two on second year. Respondents came from 61.5% male and 38.5% female students from diverse subjects groups which comprised of: business, science, engineering, music, art and theology. The breakdown of students faculties are: 46.2% social sciences, 19.2% humanities, 23.1% science, and 11.5 engineering (table 2). Data was coded and analysed through SPSS which allowed for some quantification, and mapping of different approaches chosen by PhD students in each faculty, and subjects; whilst enabling a point of in-depth comparison and contrast of impacts to understanding and decision making.

Table 2: Faculty distribution of respondents

Students' faculties	Percent	Valid Percent	Cumulative Percent
Social Sciences	46.2	46.2	46.2
Humanities	19.2	19.2	65.4
Sciences	23.1	23.1	88.5
Engineering	11.5	11.5	100.0
Total	100.0	100.0	

7.2 Case results: PhD students from Bolton and Manchester

The interview canvassed opinions on research philosophical debates in relation to its varied classifications, research approach, field of study, subject, and research terminologies debates.

7.2.1 Philosophical stance debates findings

This part of the study highlights key concerns, which PhD students' have towards research philosophy debates and its classifications. Of particular interest were the perceptions of understanding and relevance of research philosophies in choosing a research method. The findings indicate similar patterns of confusion in the classification and understanding of research philosophies by PhD students across different faculties and year of study. Whilst 61.5% of students indicated awareness of different classifications and debates surrounding research philosophies 7.7% of respondents mainly science and engineering students have never heard of the ontology, epistemology, and anxiety terms, and yet were on final year of PhD. The other 30.8% split of years in study and faculties were not aware of the classifications, though mindful of 'qualitative-quantitative' debates. Majority of respondents, 69.2%, reported that it was confusing and difficult to understand the debates and its classifications (see table 3). This came as a sharp contrast from 11.5% that thought research philosophies were easy and straight forward to understand. The students' grounds for difficulty and confusion include: ambiguity, different descriptions, and categorisation of same philosophy. Could this be confirming Silverman's (2010) dangerous view of research dichotomies? What does the future role as researcher and PhD supervisors entails for the 7.7% students on final year, and yet not aware of ontology, epistemology, and anxiety terms?

A disconcerting finding is the fact that 23.1% research students from science and engineering faculties (majority of respondents from the faculties) were less concerned and did not have much knowledgeable on the philosophical debates and classifications, and felt it was less crucial in their studies. This perception is more inclined to be in dis-accordant with the rest of other faculties' students (76.9%), who indicated a disentangled view describing them variously as, necessary but irrelevant vis-à-vis relevant but unnecessary, or necessary and relevant. The views of science students combined with those that were thorn in between unnecessary and relevance is in accordance with Becker's (1996) unnecessary view of differences paid to philosophies in relation to research approach. Of greater interest however, was the students' rationale for associating with research philosophies. Only 7.7% suggest that their inclination to philosophy is more of personal belief; with some 38.5% indicating that their inclination is influenced by qualitative and quantitative approaches association to a philosophy. The significant mix of students (19.2%) from science, humanities, and social science (excluding the 7.7% that never heard of the terms), claim to have been influenced by their supervisors towards a particular philosophy. Although 7.7% indicated a kind of negative enforcement towards the philosophies, it will be highly risky to assert any positive or

negative influence by supervisors. Therefore, the question of supervisors' influence towards a particular philosophy remains a research question. Whereas, 30.8% claim to be influenced by a combination of self belief and research approach, a small number, 3.8%, from social science claim to be influenced by field of study.

The students' primary view of research approaches to philosophies creates intellectual dissonance, that is, in contradictory belief to Guba and Lincoln's (1994) secondary view of approaches rooted in philosophies. Interestingly, the 30.8% students who assert a combination of self belief and research approach as their motive towards research philosophy have no firm philosophical stance. Put differently, their research philosophy changes with the research approach and problem. Clearly, there is a huge disparity in research philosophies as viewed and understood by students sampled and that described by the majority of research philosophy advocates (Saunders et al., 2009; Ritchie and Lewis, 2003; Polit and Beck, 2008).

Table 3: Comprehension of classification and debates

Comprehension of classifications and debates		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very straight forward	3	11.5	11.5	11.5
	Confusing	14	53.8	53.8	65.4
	Difficult to understand	4	15.4	15.4	80.8
	Other	2	7.7	7.7	88.5
	No Response	2	7.7	7.7	96.2
	99.00	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

7.2.2 Philosophy vs. research approach debates findings

A little over 30% of respondents indicated that qualitative approach can be viewed from any philosophical stance (table 4). Of the number of respondents (53.8%) that associated the qualitative research approach to some kind of philosophy, the breakdown is as follows: interpretivism – 19.2%, critical realism – 11.5%, realism – 3.8%, positivism – 15.4%, and critical social theory – 3.8%. The majority, 19.2%, sides with the position of a number of existing literatures (McNabb, 2008; Denzin and Lincoln, 2005).

Table 4: Philosophical stance for qualitative approach

Phil. stance for qualitative		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Interpretivist	5	19.2	19.2	19.2
	Positivist	4	15.4	15.4	34.6
	Critical Realist	3	11.5	11.5	46.2
	Realist	1	3.8	3.8	50.0
	Critical Social Theorist	1	3.8	3.8	53.8
	Other	8	30.8	30.8	84.6
	No response	3	11.5	11.5	96.2
	Never heard of the terms	1	3.8	3.8	100.0
Total	26	100.0	100.0		

The apparent lack of awareness of the relationship between the research approaches and the underlying philosophies surface in the cases for quantitative and mixed methods. (see table 5 and 6 for breakdowns). In summary, the majority of students could not link a particular approach to a particular philosophy. There seem to be an inclination towards books that are in similar view to Johnson and Onwuegbuzie (2004); Guba and Lincoln (1994), who do not limit the use of approaches from any philosophical stance. The rationale for their views of philosophies varies from topic under study, research approach to research books for the majority of respondents (30.8%). Since majority of respondents indicated awareness of different classifications and debates, but their views of philosophies leaned towards books in line with Guba and Lincoln (1994) and Johnson and Onwuegbuzie (2004), would this imply that students found less confusion and more flexibility in the non attachment of philosophies to research approaches? Although there are patterns of confusion in understanding philosophies, there was almost universal agreement that research problems inform the research approach by most students (50%). Hence, the other 46.2% split between philosophical

stance – 15.4%; faculty preference – 15.4%; combination of approach, subject, and philosophy – 15.4%. The former is consistent with the majority of research methods advocates (Saunders et al., 2009; Khotari, 2006; Polit and Beck, 2008). Research students disagree, in part, with the manner in which the advocates of each philosophy put them forward. While they are supposed to be complementary, research students find them incoherent and are left in a dilemma, because there is lack of consensus among the writers of the research literature.

Table 5: Philosophical stances for quantitative approach

Phil. stance for quantitative		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Interpretivist	4	15.4	15.4	15.4
	Positivist	2	7.7	7.7	23.1
	Critical Realist	4	15.4	15.4	38.5
	Other	12	46.2	46.2	84.6
	No response	3	11.5	11.5	96.2
	Never heard of the terms	1	3.8	3.8	100.0
Total		26	100.0	100.0	

Table 6: Philosophical stances for mixed methods

Phil. stance for mixed method		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical Realist	3	11.5	11.5	11.5
	Realist	4	15.4	15.4	26.9
	Other	13	50.0	50.0	76.9
	No response	5	19.2	19.2	96.2
	Never heard of the terms	1	3.8	3.8	100.0
	Total		26	100.0	100.0

7.2.3 Philosophical debates vs. field and subject of study findings

Although 38.5% students indicate awareness of different philosophies endorsed for their field of study and subject areas, the majority 57.7% attest no knowledge paid to field of study and subjects, rather limit their awareness of differences to ‘qualitative-quantitative’ debate. There was minor uniform connection of a single philosophy to field or subject area since the majority had limited knowledge. Those that were aware, claim to have justified their selection of one over another by associating the particular philosophy to research problem, values, and supervisors. However, noting the difficulty and confusing in navigation through the philosophies, labelling it a grey area. For example, out of the 34.6% science and engineering students, only 3.8% linked quantitative to positivism. This is in sharp contrast to the gospel preached by advocates of positivism (Polit and Beck, 2008; Alvesson and Skoldberg, 2009); who assert that positivism is the philosophical stance for science and engineering. It further confirms earlier reports by these students that philosophical stance was less relevance to their research. Similarly, only 19.2% linked qualitative to interpretivism out of the 46.2%; another contrast to advocates of social sciences (McNabb, 2008; Denzin and Lincoln, 2005). An arising question is whether philosophical stance is not drummed much to science and engineering students in comparison to other faculties? Or the gospel preached by advocates of: positivism to science and engineering; and interpretivism to social science is not heard or applied? Is it becoming more less important to students?

7.2.4 Research terminologies debates findings

The majority of students’ 65.4% description of research terminologies seems to be in favour of books that describe research terminologies similarly to Saunders et al. (2009), as compared to those that use the terms interchangeable like Newman and Benz (1998). However, a significant minority 34.6% give a disconnection that is neither right nor wrong subject to references, between research proponents’ and students, the impact of which is directly related to the proponents’ different descriptions of same research terminologies. In the final view, 84.6% students’ calls for consensus, training and clarity that would facilitate diversity between students’ and proponents’ of research, with 15.4% questioning philosophical value and relation to their studies.

8. Conclusions and recommendations

The majority of PhD students, regardless of their year of study, subject and faculty, held a universal perception of confusion and difficulty in understanding research philosophical debates and classifications. The fact that almost every PhD students interviewed showed some form of dilemma towards research philosophical debates and classification, beckons a need for consensus by philosophical advocates. The contradictory perception between research students and philosophical advocates symbolize an alarming disparity, which research institutions and scholars, for the credibility of research, must consider taking decisive actions. This study has put forth a thought provoking discussion pertaining to the impacts of the debates on students' understanding and choice of approach, and encapsulates the debates as evidenced in the literature reviewed. However, the onus remains with research methods and paradigms' advocates to develop frameworks and devices that would bail research students from the dilemma, and rather provide systems that help students' get a grasp of a difficult field. In reflection of the findings moving forward, the question is for proponents of research philosophies and methods to assess, whether the difference are enriching students' knowledge as intended? Or becoming toxic to the field of research and minds of young researchers? If enriching the knowledge, how come the majority of students' find it difficult and confusing? And if the confusion suggests some slow poison to the field of research, how is this going to impact the future generation? Especially where, final PhD students have not heard of the terms and those with knowledge of the terms find it hard? How does it impact supervision of prospective PhD students?

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