

# Significance of epistemology and ontology in education research



Drawing upon examples of research, critically consider the significance of the assumptions relating to knowledge, truth and values that underpin educational research

Within all research, regardless of the topical spectrum it derives from there exists three separate entities *Knowledge*, *Values* and *Truth* which underpin and provide a solid platform for all research to develop. Each entity is advocated for aiding researchers in them assuming their philosophical position, and as such, their methodological choices. With a specific focus on educational research, this essay will critically consider the significance of each three entities, and how apparent they appear within this area of research. Educational researchers are by nature inquirers whom seek to provide further understanding and knowledge, whilst upholding their own values and system of beliefs (Kuyini, 2017). It could be proposed there exists the challenge of researchers in education removing their own values and ensuring the values of educational practice is cemented throughout their research process.

An introduction to theories of knowledge *Epistemology & Ontology* and their importance to researchers, together with a brief outline and overview of knowledge, values and truth in relation to educational research will open the following section. Likewise, a summary of the two chosen educational research articles which will be analysed in this essay will be included. In the section's that follow, a critical discussion identifying examples on how researchers from both research articles acknowledge and employ their philosophical position which influences their knowledge, truth and values, will be met. By drawing on the works and views of philosophers such as <https://assignbuster.com/significance-of-epistemology-and-ontology-in-education-research/>

Ludwig Wittgenstein (1991), Martin Heidegger (1986) and Sandra Harding (1995) will provide further substance and understanding to the three entities in relation to philosophy. Bringing this essay to a close, the concluding section will reflect on the significance of knowledge, truth and values within educational research, highlighting issues each entity presents within the chosen articles and how transparent the researchers are concerning their philosophical position.

All researchers assume a philosophical position either epistemological or ontological, with these paving the way for their chosen methodologies to accumulate findings. Epistemology concerns itself with understanding how we can know the world (Hatch, 1997), which is different from ontology, with this stance focusing on social reality and the way people interact that informs how knowledge is created. To be more explicit, both are branches of philosophy with epistemology indicating that we know about something occurring because of the knowledge that we maintain, thus, answering the 'how' or 'what'. For Murray (2010), ontology refers to the study of the nature and being of a certain entity. It answers the question 'what is?', involving the existence and presence of a certain subject (Murray, 2010).

With the above in mind, it is important for researchers to occupy their chosen position as this refers to how they view and understand themselves in the creation of knowledge, Furthermore, England (1994) and Masschelein (2010) both make compelling case's highlighting that with research representing a shared space involving both the researcher and the participant's, both identities have the potential to impact the research process (England, 1994). For researchers who do not assert their '  
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positionality', this could have implications that reach beyond theoretical understandings. This issue is expanded upon by Khawaja and Lerche Morck (2009) whom discuss the researchers position impacting not only their research design, but the ethical nature of the research process (Khawaja and Lerche Morck, 2009). Secondly, as humans are bound by their subjective understandings, this can be problematic and viewed as a weakness for researchers. Meighan and Siraj-Blatchford (1997) add to this view by declaring,

*“ Researchers must be skilled in switching off their personal predilections and purposes in the name of objective research”* ( Meighan and Siraj-Blatchford, 1997).

Regarding *knowledge* , this term encompasses many meanings and according to Pritchard (2014), there exists different types of knowledge including *Propositional Knowledge* and *Ability Knowledge*. Propositional knowledge refers to a statement in which the case is evident, for example, five plus five equals ten. Ability knowledge is more common and concerned with know-how. To illustrate, I know how to ski yet, I do not thereby know a set of propositions about how to ski. Within the boundaries of research, *knowledgerefers* to a matter in which researchers are aiming to discover or add, and it could be assumed that propositional knowledge is more popular due to this type of knowledge being considered more reliable as it encompasses the component of justification. According to Plato's *Theaetetus* (1987), propositional knowledge involves two conditions: (1) the truth of what is believed and (2) the justification of what is believed (Plato, 1987).

Just as knowledge requires successfully achieving the objective of true belief, <https://assignbuster.com/significance-of-epistemology-and-ontology-in-education-research/>

it also requires success in regard to the formation of that belief. In other words, not all true beliefs constitute knowledge; only true beliefs arrived at in the right way constitute knowledge.

Interestingly, within educational research that has been conducted since the start of the twenty-first century, there has emerged a leading perspective of knowledge, *Emergentist*. Constructed by Osberg and Biesta (2007), the emergent perspective involves creating new knowledge which is drastically separated from existing knowledge thus, this new knowledge transcends and therefore calls into question the knowledge that preceded it (Osberg and Biesta, 2007). Formed on their argument that education in practice is continually progressing, Osberg and Biesta (2007) consider educational practice as an unfinished process, not characterised by closure. And as such, educational research which is supported by justified findings should follow suit.

On the contrary, the notion that new knowledge involves justification does not necessarily mean that knowledge requires absolute certainty, which introduces the view of *Fallibilism*. This view advocates that it is possible to possess knowledge even when one's true belief might in fact be false (Feldman, 1981). For instance, if the weatherman declares that there is a 90% chance of rain, and as a result I formed the belief that it would rain, then my true belief that it would rain would not be true purely by luck. Even though there was a chance that my belief might have been false, there was a sufficient basis for that belief for it to constitute knowledge. In light of this, it could be suggested that to constitute knowledge, a belief must be both true and justified, which lead onto the *Truth* entity.

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As summarised by Biesta (2007),

*“ Research is able to give us truth, this ‘ truth’ can be translated into rules for action, and that the only thing practitioners need to do is to follow these rules without any further reflection on or consideration of the concrete situation they are in”* (Biesta, 2007, p. 11).

In general, it appears plausible to believe that the purpose of research is to seek truth, and as reported by Clark (2007), researchers maintain a commitment to the pursuit of truth (Clark, 2007). Interestingly, literature produced by Radford (2013), Pring (2000) and Bridges (1999) on educational research all place a heavy emphasis on truth emerging from a ‘ what works’ notion, which derives from the *Correspondence Theory* of truth. ‘ What works’ essentially follows that research which delivers findings and results that are employed with positive responses, must be true. Situated within the epistemological sphere, correspondence theory relates to a statement by which it’s truth or falsity is determined by how and whether it corresponds to the world. For philosopher Ludwig Wittgenstein (1991), this theory surmises that truth is a connection to reality, and for this reason, to be true is to accurately label, express or conform to the real world or aspects of it. Consequently, this theory does have criticisms with their being concerns on how to understand the nature of the connection, and likewise, by analysing truth as correspondence, is this perhaps exchanging the mystery of truth for a greater mystery? Providing further criticism, philosopher Martin Heidegger (1986) held the view that the world is primarily the place where objects are encountered, with humans being in the world before

encountering the objects, therefore, the truth cannot be found in any  
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statement of the world because it is impossible to take any possession of the world as an object. (Heidegger, 1986).

Returning back to the 'what works' notion, when reflecting on educational research over the past two decades, a majority of this research has greatly impacted on informing policy and improving practice. To illustrate the Higher Education Academy publishes research undertaken by both researchers and practitioners in their designated areas, with the aim of utilising this research to progress and identify areas of educational practice which require attention. One case study, *Empowering artists of the future through a transformational feedback model* (2016) was commissioned by Guild Hall School with the aim of implementing a powerful transformative feedback practice within their performing arts programme. Their rationale for this research was due to noticing how performing arts students were unresponsive to elements of the current feedback model, and with this, a new practical feedback model that would help these students gap between their potential and current performance was required (Higher Education Academy, 2015). The findings of this research led to Guild Hall School employing a feedback model that targeted reflective practice which led to 'double-loop' learning (Higher Education Academy, 2015).

Turning now to *Values* which are ideals and beliefs that aid all humans to purposefully evaluate conditions, interpret right or wrong, assess actions and influence both perception and behaviour. Within philosophy and as a theoretical discipline, value theory has many branches which offer different directions. In terms of researcher's values, several lines of evidence suggest researchers possess similar values however, for this essay, the Inter <https://assignbuster.com/significance-of-epistemology-and-ontology-in-education-research/>

Academy Council (2012) identify seven important values which will be of focus.

- Honesty
- Reliability
- Fairness
- Accountability
- Objectivity
- Skepticism
- Openness

Like the above, Merton (1973) positioned a set of values that researchers should occupy as these are an inherent part in the practice of research,

- (1) Communalism: Common ownership of scientific knowledge
- (2) Universalism: All scientists can contribute to the advance of knowledge
- (3) Disinterestedness: Scientists should not work for their personal gain
- (4) Organised Skepticism: Results should be examined critically before they are accepted) (Merton, 1973).

All researchers maintain their own values to which they have strong attachments and commitments to, as well as their ' professional minds' which dominates their research. A study conducted by Banks (1998) found that for a proportion of social science researchers, although their research is a product dominated by their minds, their personal values can have a cogent influence on their research. Echoing this study, Glen (2000) discusses the problems that can arise for researchers when their values conflict and with



this, the requirement for *Objectivity* is essential. Philosopher Sandra Harding (1995) hails strong objectivity as encouraging researchers to move beyond their own preconceptions and biases, to pave way for empirical evidence that justifies conclusions (Harding, 1995). One technique researchers can undertake to ensure their personal values remain separate from their research is through practicing personal reflexivity. This exercise involves the researcher drawing parallels and considering how their own values, life experiences and assumption can influence their research. These influences are then eliminated which leads to the research being unbiased.

Nevertheless, it could be argued that for qualitative research within social science, there should be elements of bias. One rationale for this is due to researchers within this area aiming to make sense and interpret meaning into 'their world'. Instead of avoiding all personal connections, such researchers should acknowledge this and employ their account of being a human to add to the richness of their findings.

The two research articles which will be analysed throughout this essay are Montero et al (2014) *Social Factors Involved in Second Language Learning: A Case Study from the Pacific Campus*, and Busse & Walter (2013) *Foreign Language Learning Motivation in Higher Education: A Longitudinal Study of Motivational Changes and Their Causes*. Both articles are empirical by intention, with them being chosen due to their prerequisite to explore the motivations for students learning a foreign language, thus they are inductive by nature. The main purpose of article one by Montero et al, (2014) was to explore whether contextual factors including social background and educational history of students at the University of Costa Rica, impacts on

their motivation to learn the English language. Published almost twelve months earlier. The main purpose of article two by Busse and Walter (2013) was to gain an in-depth understanding of first year students enrolled on German degree courses at two UK universities' experiences as seen from a motivational perspective and more specifically, the changes in student's motivation that can be observed in the first year (Busse and Walter, 2013).

### *Knowledge*

Researchers in article one firmly positioned themselves within the epistemological paradigm, with them investigating acknowledged social and contextual factors such as parental roles that appear to be influencing the effective learning of a foreign language. With the researchers asserting that established knowledge acted as a hypothesis for this research, it appears they were less concerned with 'adding' to knowledge and more concerned with 'uncovering' further layers to it. Furthering this, one might assume the researchers pre-determined their findings which aligns with the theory *Positivism*, due to its implicit orientation towards prediction and control. Coined by philosopher Auguste Comte, 'positive philosophy', represents a singular understanding of the nature and evolution of knowledge, together with the application of this understanding to issues of social progress. Concentrating on the qualitative method of a closed and semi-structured questionnaire utilised by the researchers in their quest for knowledge, the inclusion of such method could be a prime example of knowledge only being significant in terms of harmonising this with the researchers already established knowledge.

Different from article one, researchers in article two positioned themselves firmly within the ontological paradigm, through their attempt to discover and construct knowledge of first-year experiences of students of German from a motivational angle (Busse and Walter, 2013). With the researcher's pursuit to both uncover and add to knowledge, they included a more personal approach to the research by interviewing participant's, which is known as being receptive to capturing meanings in human interaction (Black, 2006). Considering this and the researchers aim to understand context bound motives and meanings, it is evident they employed the *Interpretivist* approach. For Neuman (2000), interpretivist researcher's already maintain prior insight and knowledge of the research context however, they assume this is insufficient in developing a fixed research design due to the unpredictable nature of what is perceived as reality (Neuman, 2000).

In terms of the knowledge discovered within this research being true due to its justification. Expertly, and keeping in mind their pursuit to add knowledge, the researchers employed a longitudinal mixed-methods approach and with this, were able to generate propositional knowledge; as presented in their results section. By employing mixed methods over a twelve-month period this enabled the researchers to gain a deeper, more broader understanding of their participant's state of mind. Interviewing participants for example was open to topical trajectories in the conversation that may have strayed from the set questions (Potter and Hepburn, 2005), whilst the *Likert Scale Questionnaire* is known for being effective in measuring attitudes, beliefs and opinions. It is against this backdrop that the knowledge generated could be considered wholly justified. Adding further

substance to this view, O’Cathain (2010) contends that mixed methods introduce a component of integration which provides readers more confidence in the results and conclusions they draw from the research (O’Cathain, 2010).

### *Values*

As touched upon earlier, all researchers possess values that are inherent, yet for their research to remain objective and free from bias conflict, there is a requirement for researchers to achieve value neutrality and adopt research context values. In view of this and critically considering both research articles, it could be argued that there exists a mixed significance towards such values. Researcher’s in article one for example do not appear to acknowledge the value of scepticism, as their results and conclusions appear with no proposition for further re-examination and improvement. Conversely, it appears researchers in article two embrace the value of scepticism with them acknowledge in their conclusion the need for further research, to illustrate

*“...in order to address these problems in a holistic way, more profound changes through further research in the first-year curriculum have to be undertaken” (Busse and Walter, 2013).*

The value of objectivity is a concern for both articles due to the fact that all researchers were active practitioners within the research setting. With this possibly causing ethical dilemmas such as power relations, is it fair to believe it could have likewise caused issues in terms of the researcher’s values? Bearing in mind Méndez’s (2013) which highlights the inevitability of <https://assignbuster.com/significance-of-epistemology-and-ontology-in-education-research/>

researchers being influenced by their perspective and values, henceforth it is impossible to have conduct objective, value free research (Méndez, 2013). In addition to this, there is also concern that participants may have felt obliged to participate to not hinder their progress within the research setting.

Likewise, the participants may have engaged in a manner which they believed to be appropriate to the research setting, one example of this could be a participant not revealing their true feelings as not to produce a negative portrayal.

One positive acknowledgment of the value openness, or universalism as coined by Merton (1973) is evident in research article two, with these researchers addressing in their conclusion that they have conveyed to others their evidence and reasoning on which their conclusions are based, in the event of so those conclusions being further examined. By encompassing this value, these researchers, although working independently and towards a specific goal, are open to the possibility of their research being 'open' to other researchers for progression.

### *Truth*

There appears to be an important significance of truth evident within both research articles, with all researchers providing justified knowledge through propositions and assertions. As mentioned previously, the literature presented advocates that researchers in educational research reach their truth from a 'what works' notion. With this in mind it is also important to state that a researcher's truth stems from their positionality and values. The *Pragmatism* theory declares that truth is interpreted in terms of the practical

efforts of what is believed and their usefulness; whether something is ‘workable’ in practice (Calcaterra et al, 2011). Regarding research article two, the researchers reached their truth through reinforcing their ontological position and employing appropriate mixed methods, with these methods complementing their position whilst addressing the overall aim of this research. To demonstrate,

*“ Methodologically, we drew on research instruments, particularly questionnaire’s in which five areas’ including ‘ Self-Efficacy, Intrinsic Motivation and Wish for Language Proficiency” (Busse and Walter, 2013)*

As this research was to gain an in-depth understanding of first year students enrolled on German degree courses at two UK universities’ experiences as seen from a motivational perspective and more specifically, the changes in student’s motivation that can be observed in the first year One might assume the researchers understood that a higher level of truth would emerge from their research if the methods employed were deemed useful and appropriate i

Returning to Biesta’s (2007) quote in which he states that truth can be translated into rules which should be followed regardless of the concrete situation they are in (Biesta, 2007, p. 11), could it be said that with this view, the notion of both research articles holding truth may differ for readers?

Research article one for instance was undertaken in one higher education in central America, with the social and contextual factors examined being personalised to this setting. If the exact findings of this research were implemented in a UK higher education institute, the consequences could be

drastically different. To this end, certain readers may not believe research article one to contain absolute truth as it's truth can only be applied to the research. A further drawback of truth within research article two involves the researchers offering participants the opportunity to edit their transcripts,

*“ Interviews were fully recorded and immediately transcribed. The transcripts were sent to participants for possible correction, giving them a chance to amend what they had to say”* (Busse and Walter, 2013).

which introduces the question, does this flaw limit the trustworthiness of the findings? One can believe this does in fact limit the findings in terms of how trust worthy they are, as they have been ' tampered' with, and the participants have had time to reflective on their initial answers and edit them accordingly.

Drawing this essay to a close and referring to the title, by conducting research into whether the three separate entities are significant within educational research. Although the two research articles chosen were very similar in their research area, both held different positionalities and it is through this that the significance of each entity fluctuated. Concentrating on knowledge, all researchers thought about how they were paradigmatically and philosophically positioned which aided in their generation of knowledge and supports

Adding to this, the researchers in article one discuss in their conclusion that the knowledge uncovered not only reverberated their initial knowledge,

For values, ultimately, the significance of this entity within both research articles

Research methods cannot be value free in their application because one's own values will always impact upon research processes.

Subsequently, could it not be reasoned that research is not merely a search for truth but a critical inquiry or diligent investigation to seek facts and ascertain an issue.

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