Difference between structured and unstructured observation

At the first step of this assessment I need to outline what is involved in structured observation. The two main strategies that researchers can usually use to record their observations of events are the structured and unstructured observation. The former involves the recording of events of predefined types occurring at particular points in time, or within particular intervals. Structured observation typically produces quantitative data (information about the frequency of different sorts of events or of the proportion of time spent on different types of activity). This form of observation typically involves different threats to validity. Among the dangers with structured observation is that the predefined categories used, will turn out not to be clearly defined, so that there is uncertainty in particular instances about which category is appropriate. There may also be relevant events that do not seem to fit into any of the categories. This, however, is only gained at the cost of the information being collected on different cases or at different times often not being comparable (Research Methods in Education, Handbook, p. 44).

Furthermore, structured observation is easy to be described but difficult to be appreciated without actually engaging in the process. Very simply, it involves placing an observer in a social setting to observe all activities defined as of interest to the research. In essence, the method is derived from participant observation in social anthropology and the distinction which is sometimes made between ‘ participant’ and ‘ non-participant’ observation does not fully hold in practice: some degree of participation is inevitable. As William Howard Russell, the Victorian war correspondent for the Times said “ I stand and look around, and say thus does it appear to me and thus I seem

to see” so does the structured observation. The ‘ structure’ of structured observation is imposed by the aims of the research in the same way as such aims impose structure upon any method of data-collection. Just as is the case when open questions are used in interviews or self-completed questionnaires the researcher using structured observation recognizes that not all of the structure can be determined in advance and that some structure must be imposed on the data after they have been collected (Roberts, 1975, p. 309).

Researchers undertaking structured observational research usually look to use low-inference categories – in other words, categories that can be applied to instances with a minimum of contestable judgement on the part of the observer – in the hope of incurring only small elements of error and uncertainty. For example, low-inference categories for observing a meeting might include such things as ‘ Asks a question’, ‘ Expresses agreement’ and ‘ Makes a proposal’ “(E891 Educational Enquiry, Study Guide, p. 145). Furthermore, it is almost sure that some data obtained from structured observation contain errors, especially if observation is carried out under considerable pressure of time, leading the candidate to make wrong judgement in wrong boxes. However structured observation as a quantitative research has also been guided by at least some of the assumptions of positivism – from laboratory experiments, through structured observational studies of classroom teaching, to large-scale social surveys of the attitudes of teachers, students, parents, education managers and others. Indeed, over the course of the twentieth century, a great deal of educational research was influenced by a positivist approach concerned, for example, with identifying

the relative effectiveness of different teaching strategies and techniques (Dunkin, 1974, p. 6).

Coming to the second part of the assignment, I will try to introduce according to the best of my knowledge, the methodological philosophy of positivism. In concern to the tenets of logical empiricism, scientific progress in any discipline begins with the untainted observation of reality. This fact is expected to provide the researcher with an image of the real world from which cognitively generates an a priori model of the process to be investigated. The word ‘ positivism’ is nowadays used in such a wide range of ways that it has become almost meaningless, except that it is usually employed desperately to dismiss views or forms of research of which the speaker disapproves. The original meaning of the term contained some important elements. Widely, positivism can be characterised historically as a way of thinking about knowledge and enquiry that takes natural science, as it developed after the seventeenth century, as the model, and which seeks to apply the scientific method to new fields. Even though the term positivism was not invented until the nineteenth century, this idea was a central strand of eighteenth-century Enlightenment thinking, although it was by no means the only one and was certainly not accepted by all Enlightenment thinkers (E891 Educational Enquiry, Study Guide, p. 78).

One of the main elements of positivism is the idea that it is the task of research to identify standard repeatable patterns between cause and effect, identifying particular pedagogical strategies that reliably bring about a desirable educational outcome. However, there are questions about whether such patterns exist, what character they have if they do, and how we can

know them. Another feature of positivism is the idea that research must follow an explicit procedure, so that the idiosyncratic effects of who is doing the research can be eliminated and the replicability of the findings checked. Trying to build on this, the concept of evidence-based policy-making and practice is often promoted on the grounds that it is ‘ transparent’, since it is guided by explicitly specified knowledge whose validity is open to inspection even though this idea is subjected to dispute.

In contrast, the positivist philosophy, suffers from several limitations, especially when applied to social sciences. First, this approach, generalizes a universal statement of truth from observations of a certain number of positive instances. The strict inductionist approach is often inappropriate because speculation and creation of an a priori hypothesis are essential for a systematic procedure of theory building. Furthermore, the empiricist approach is based on the notion of pure observation, which is impossible in research, especially in social sciences, since observations are always subject to measurement errors. Finally, this approach assumes that knowledge is derived from an objective interpretation of assumptions, without any of the subjective biases or a priori knowledge of the scientist coming into play.

Furthermore, positivists have tended to believe that the success of natural science in modern times has stemmed from scientists’ refusal to go beyond what can be supported by empirical evidence. It is easy to forget how radical an orientation this was in earlier centuries, and perhaps still is in some quarters. It challenges religious claims to knowledge about the world, various kinds of speculative philosophy that do not pay close attention to what is

warranted by empirical evidence, and even any appeal to what is ‘ obvious’ to common sense. (E891 Educational Enquiry, Study Guide, p. 79).

The third component of my essay is the strengths and weaknesses of structured observation in concern of positivism. Although positivism has been a recurrent theme in the history of western thought from the Ancient Greeks to the present day, it is historically associated with the nineteenth-century French philosopher, Auguste Comte, who was the first thinker to use the word for a philosophical position. In his study of the history of the philosophy and methodology of science, Oldroyd (1986) says: “ It was Comte who consciously ‘ invented’ the new science of society and gave it the name to which we are accustomed. He thought that it would be possible to establish it on a ‘ positive’ basis, just like the other sciences, which served as necessary preliminaries to it. For social phenomena were to be viewed in the light of physiological (or biological) laws and theories and investigated empirically, just like physical phenomena. Likewise, biological phenomena were to be viewed in the light of chemical laws and theories; and so on down the line” (Silverman et al, (2000), p. 18). Furthermore, Comte’s position was to lead to a general doctrine of positivism which held that all genuine knowledge is based on sense experience and can only be advanced by means of observation and experiment. Firstly, Positivism here implies a particular stance concerning the social scientist as an observer of social reality and second the end-product of investigations by social scientists can be formulated in terms parallel to those of natural science. This means that their analyses must be expressed in laws or law-like generalizations of the same kind that have been established in relation to natural.

Positivists often had high hopes that science, and especially a science of human social life, would pave the way for substantial social and political progress, by undermining beliefs and practices that were based solely on superstition or tradition, and replacing them wherever possible with ones founded on scientific evidence. To a large extent, positivists have, adopted experimental physics as their model. As a result to this, it has been a strong tendency for them to insist that it is essential to use the experimental method, and the forms of statistical analysis modelled on it, to engage in the careful measurement of phenomena, and to look for causal or statistical relationships among variables. These commitments strongly imply the use of quantitative data (E891 Educational Enquiry, Study Guide, p. 89). Another characteristic of positivist philosophy is the view that, to develop knowledge, it is essential to follow special or transparent procedures or methods. The logic behind this is that it helps to eliminate the biases that can arise through the influence of the personal and social characteristics of the researcher. In addition, can achieve what is sometimes referred to as procedural objectivity. It also allows others to replicate the research, which in some regard is necessary in order to test whether the knowledge produced is sound, or whether it has been distorted by error or bias by the researcher.

Furthermore, positivism is the idea that research should follow a set of explicit procedures, so that the idiosyncratic effects of who is doing the research can be eliminated and the replicability of the findings checked. Building on this, the concept of structured observation policy-making and practice is often promoted on the grounds that it is ‘ transparent’, since it is guided by explicitly specified knowledge whose validity is open to inspection.

The link between positivism and the notion of structured observation does not necessarily mean that the idea that educational research can and should be designed to make a significant contribution to educational policy-making and/or practice. Indeed, one sign that the positivists impose on this commitment is that positivism has influenced various forms of action research. This often requires enquiry to be integrated into educational practice, rather than being detached from it in the way that much ordinary research is (E891 Educational Enquiry, Study Guide, p. 219). However, as in all methods so in this one strengths and weakness can be distinguished. Structured observation can provide good insights into how the different participants are behaving and interacting. In addition, may enable you to see things that are taken for granted by participants in the learning and teaching context. Their perceived lack of importance by participants may mean that they would not be picked up by other methods that explore participant perceptions.

In addition to the above, the task of the educational investigator often explains the means by which an orderly social world is established and maintained in terms of its shared meanings and how do participant observation techniques assist the researcher in this task. As Bailey mention some inherent advantages in the participant observation approach:

- Observation studies are superior to experiments and surveys when data are being collected on non-verbal behaviour.
- In observation studies, investigators are able to discern ongoing behaviour as it occurs and are able to make appropriate notes about its salient features.

Because case study observations take place over an extended period of time, researchers can develop more intimate and informal relationships with those they are observing, generally in more natural environments than those in which experiments and surveys are conducted.

Case study observations are less reactive than other types of data-gathering methods. For example, in laboratory-based experiments and in surveys that depend upon verbal responses to structured questions, bias can be introduced in the very data that researchers are attempting to study.

(Silverman et al, (2000), p. 18).

In contrast to the above, firstly, structured observation neglects the significance of contexts-temporal and spatial-thereby overlooking the fact those behaviours may be context specific. In their concern for the overt and the observable, researchers may overlook unintended outcomes which may have significance; they may be unable to show how significant are the behaviours of the participants being observed in their own terms. Furthermore, structured observations as a quantitative method in concern with positivism can be time consuming. Getting a representative picture of the implementation over the duration of a pilot or embedding phase of a change in learning and teaching will involve attending more than one learning and teaching activity or event. Continuing, its activities may affect the behaviour of those involved in it and hence what you observe. Participants may be concerned about what you are actually evaluating. Academic staff may be concerned the quality of their teaching is being evaluated and students may be concerned their academic performance is

being assessed. The thinking that underlies participants' observed actions cannot be observed. Finally, structured observations are therefore used with other methods that seek insight into this thinking. Being able to make sense of the context of evaluation in a limited amount of time with limited resources may require some knowledge of the academic discipline and its culture.

At this part of my assignment, I will introduce the methodological philosophy of interpretivism. Interpretivism was introduced from German philosopher Max Weber. According to Max Weber from whom the interpretivist tradition is derived, the enterprise of social science could not be treated as similar to that of the natural science. He stressed on ' social action' which means the study of ' meaning' which the individual attaches to his/her actions. Interpretivism's starting point is its insistence on differentiating between the nature of the phenomena investigated by the natural sciences and the nature of those studied by historians, social scientists and educational researchers. Mainly, it argues that people in contrast atoms, chemicals or most non-human forms of life interpret their environment and themselves in ways that are shaped by the particular cultures in which they live. These distinctive cultural orientations shape what they do, and when and how they do it (E891 Educational Enquiry, Study Guide, p. 81).

Interpretivist does not reject the idea of scientific or objective knowledge, but they question the notion that the methods employed by natural science used also in the study of society or social sciences. He stressed on ' social action' which means the study of ' meaning' which the individual attaches to his or her actions. Furthermore Interpretivist criticize Positivists for

neglecting the fact that they are studying people who need to be explored in the ways they really think and act in different kinds of situations. Social institutions cannot be treated as separate entities or divorced from the subjective understanding or meaning that people have of them and society cannot be studied on the principle of causality as positivists stress, may make a great deal of sense in the natural world but according to the interpretivist, cannot be rigidly applied in the social world. People do not just react to external stimuli like biologically programmed living organisms. They actively interpret and control the situation and control their behavior, acting on the basis of their interpretations of what is going on, what is the best course of action. Many different responses are possible. There are three different interpretations of a single event, e. g.; there is no consistent cause and effect relationship. Whatever the response, an observer cannot make sense of your response without interpreting the meaning you attributed to your teacher’s behavior, for it is this meaning that explains your response, not the observable event on its own.

Interpretivists argue that all research methods involve complex forms of communication: therefore, coming to understand other people necessarily relies both on researchers’ background, cultural knowledge and skills, and on their willingness to suspend prior assumptions and allow understanding of other people’s orientations to emerge over the course of enquiry. Thus quite different ways of life and associated beliefs about the world can be located at different points in history and also coexist (peacefully or in conflict) at any time. Furthermore, this is not just a matter of differences between societies; there is also significant cultural variation within the large, complex societies

in which most of us now live. Interpretivists argue that we cannot understand why people do what they do, why particular institutions exist and operate in characteristic ways, without grasping how people interpret and make sense of their world – in other words, the distinctive nature of their beliefs, attitudes and thoughts.

Coming to this part of my assignment I need to mention the strengths and weaknesses of structured observation within the context of interpretivism. As we know, structured observation involves a researcher watching and listening to actions and events within a particular context over a period of time, and then making a record of what he or she has witnessed. A distinction is sometimes drawn between participant and non-participant structured observation, indicating that the role of an observer may vary a good deal. He or she may play a participant role in the setting or the events being observed, or may play no such role other than observer. The primary concern behind this distinction is reactivity – in other words, the extent to which, and the ways in which, the behaviour of the people studied is shaped both by the fact that they are being studied in a given way and by the particular characteristics and participant role of the researcher (E891 Educational Enquiry, Study Guide, p. 121). Generally speaking, qualitative researchers use relatively structured observation as a supplement to other sources of data. Furthermore, researchers undertaking structured observational research generally seek to use low-inference categories – in other words, categories that can be applied to instances with a minimum of contestable judgement on the part of the observer – in the hope of incurring only small elements of error and uncertainty. For example, low-inference

categories for observing a meeting might include such things as ‘ Asks a question’, ‘ Expresses agreement’ and ‘ Makes a proposal’. As a result, this is one of the reasons why interpretivism has encouraged a shift towards qualitative method.

Qualitative methods are usually taken to mean unstructured or structured observation, ethnography, focus groups, and etc. that involve researchers in actively ‘ listening’ to what the researched say. The popularity of the term ‘ paradigm’ is traceable to Kuhn’s work on The Structure of Scientific Revolutions; 7 it can be defined as a ‘ total matrix of beliefs’ about theories, research questions and research data (Oakley, 1999, p. 155). These observations and experiences are one way of representing the conflict between different ways of achieving knowledge about the world that amongst social researchers are known as ‘ qualitative’ and ‘ quantitative’ methods. A commonly accepted alliance has developed between research method and research subject, according to which ‘ qualitative’ methods are often used to privilege the experiences of oppressed social groups. What I argue is that this division of methodological labour is, firstly, socially and historically constructed and secondly is problematic in terms of the potential of ‘ qualitative’ methods to produce an emancipator social science with trustworthy knowledge claims. However, this qualitative method as all the other research methods has strengths and weaknesses points. Taking the advantages strengths at the beginning, I can definitely mention that usually the data is based on the participants’ own categories of meaning and the research is only useful for studying a limited number of cases in depth. Not only that, another major advantage of the method is that the researcher can

describe complex phenomena something that you can rarely find in any other method.

Structured observation is one of the most straightforward ways to gather information via the school or classroom having a strong connection with the researcher of interpretivism and get a picture of what happens. It is often a good way to begin to explore a situation you want to know more about. It can also be useful to add information to other sources of data you may be collecting for your action enquiry. However, it is important to be aware that as an observer you can often affect the situation you are trying to observe. Generally the role of the observer can be ‘ pure’ (unnoticed, part of the wallpaper) or participatory (e. g. participate in what is going on in the situation observed). The latter use qualitative, structured approaches of observation; the former might use a mixture of both quantitative and qualitative approaches. Whilst the ‘ pure’ observer uses an instrument (e. g. proforma) for the observation, the participant-observer is the instrument. One very common example could be the finding of the class teacher in finding out how children solve a multiplication problem. As a ‘ pure’ observer she or he will use an observation checklist, ticking boxes as she or he observes the pupil on a pre-determined problem-solving activity. Then, as the ‘ instrument’ himself or herself, she or he may ask the pupil what he or she did, why he did it, and may even set him another, but similar, task, to see if he uses the same strategy. By doing so, the teacher will influence the outcome, but in the context of teaching and learning this may be a valid method of structured observation.

Taking the above simple example into consideration someone can definitely determine not only the strengths but also the weaknesses of the method used. From the point of strength, the researcher Can conduct cross-case comparisons and analysis and provides understanding and description of people's personal experiences of the phenomena. Furthermore, the researcher can study dynamic processes, and determine how participants interpret constructs. In addition, qualitative researchers are especially responsive to changes that occur during the conduct of a study and may shift the focus of their studies. In contrast, biases can be developed. Data analysis is often time consuming and the results are more easily influenced by the researcher's personal biases and idiosyncrasies. Meaning that all perceptual processes involving the taking in of information by observation and its subsequent internal processing are subject to bias. Our own interests, experiences, and expectations are likely to influence what we pay attention to and do make a conscious effort to distribute your attention widely and evenly. Finally, It is more difficult to test hypotheses and theories with large participant pools but knowledge produced might not generalize to other people or other settings (i. e., findings might be unique to the relatively few people included in the research study.

Part six, is the last part of my assignment. The searching question in this part has to do with all of the discussion done on the previous sections. Up to now, structured observation was the core of our assignment and the way researchers develop their task. As a result, I have discussed the structured observation from the point of positivism and the quantity method on the one hand and the structured observation from the point of interpretivism and the

qualitative method on the other hand. However since Gage wrote his fictional history, what has actually happened is in fact quite complex and varies across countries. The trend against positivism continued, and what we have called constructionism emerged as an important influence alongside interpretivism and ‘ critical’ research. However, in the early years of the twenty-first century, there have been signs of a second phase, the re-emergence of positivist ideas, partly as a result of calls for practice to become evidence-based. Nevertheless, at present, much educational research continues to take a qualitative approach. Alongside, the revival in support for quantitative methods in some quarters, there have also been increasing calls for ‘ mixed methods’ or triangulation research – that is, research that combines quantitative and qualitative approaches and more methods. The justification for this is often the kind of pragmatism to which Gage appealed. It is suggested that, by combining quantitative and qualitative methods, it is possible to gain the benefits of both and avoid the weaknesses of each when used on its own (E891 Educational Enquiry, Study Guide, p. 89).

Coming to the point, the difference between positivism and interpretivism is rather subtle than a difference in focus, but it is still important. Examine the situation historically, the conflict between positivism and interpretivism dates from at least the middle of the nineteenth century, although it only arose clearly within the field of educational research during the second half of the twentieth century. Usually, positivists’ researchers have generally assumed that it is possible to document recurrent and standard patterns of relationship. At first between people’s background experiences and their

attitudes, and then between their attitudes and their behaviour. On the other side of the coin, interpretivists' researchers have suggested that these relationships are much more contingent and diverse, as the historians have emphasised the uncertain course of history and this is not simply the playing out of a set of universal laws. This is what Gage means when he says that interpretivists reject " the assumption of the uniformity of nature" and " linear causal models" (E891 Educational Enquiry, Study Guide, p. 81). It is worth to mention an example at this point to raise the difference among them. Positivists assume that it is possible to document attitudes by getting people to respond to a standard structured questionnaire. Interpretivists, however, argue that all research methods involve complex forms of communication: therefore, coming to understand other people necessarily relies both on researchers' background cultural knowledge and skills, and on their willingness to suspend prior assumptions and allow understanding of other people's orientations to emerge over the course of enquiry.

Further to the point I have raised concerning the two other methods, i. e., the mixed method or triangulation, I have the feeling I need to elaborate on at least at one of them. The triangulation, in social science, is defined as the mixing of data or methods so that diverse viewpoints or standpoints cast light upon a topic. The mixing of data types, known as data triangulation, is often thought to help in validating the claims that might arise from an initial pilot study. The mixing of methodologies, e. g. mixing the use of survey data with interviews, is a more profound form of triangulation. Denzin wrote a justification for triangulation in 1970 and is credited by some with initiating the move toward integrated research that mixes methods. However other

authors in other contexts have used ‘ mixed methods research’ both before and after Denzin’s summary was written. For instance, Lenin used a mixture of quantitative data tables along with a political-economy analysis of charged words used in his classic research monograph, The Development of Capitalism in Russia (1898). We would today say that his work used methodological triangulation of discourse analysis (a qualitative methodology), and survey data (a quantitative methodology), to study the end of the Russian peasantry and the early beginnings of working class conflict with employers in Russia (Wendy O., 2004, p. 3).

Continuing the above and according to researchers from case studies to econometric analysis, educational research has a long tradition of employing both qualitative and quantitative methods, but the usual juxtaposition of qualitative research against quantitative research makes it easy to miss the fact that qualitative research itself encompasses a multitude of different approaches. Qualitative work can be positivist: It can attempt to document practices that lead consistently to one set of outcomes rather than another, to identify characteristics that commonly are related to some policy problem, or to find strategic patterns that hold across different venues and with different actors. Qualitative work also can be interpretivist: It attempts to understand what general concepts like “ poverty” or “ race” mean in their specific operation, to uncover the conscious and unconscious explanations people have for what they do or believe, or to capture and reproduce a particular time, culture, or place so that actions people take become intelligible.

In conclusion, observation methods are powerful tools for gaining insight into situations. As with other data collection techniques, they are beset by issues of validity and reliability. Even low inference observation, perhaps the safest form of observation, is itself highly selective, just as perception is selective. Higher forms of inference, whilst moving towards establishing causality, rely on greater levels of interpretation by the observer, wherein the observer makes judgements about intentionality and motivation. In this respect it has been suggested that additional methods of gathering data might be employed, to provide corroboration and triangulation, in short, to ensure that reliable inferences are derived from reliable data.

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