



Original research article

Understanding the user in low energy housing: A comparison of positivist and phenomenological approaches



Aimee Ambrose*, Barry Goodchild, Fin O'Flaherty

Sheffield Hallam University, United Kingdom

ARTICLE INFO

Keywords:

Low energy housing
Phenomenology
Positivism
The home

ABSTRACT

This paper, based on UK practice, sets out a series of examples of previous studies of low energy housing and housing modernisation which illustrate the main approaches to studying housing and energy issues. The four approaches exemplified are technical assessments, building oriented research, people oriented research and in-depth qualitative studies, each of which sit at different points along a spectrum running from positivism to phenomenology, with the former two examples sitting further towards the positivist end and the latter two further towards phenomenology. Through an assessment of examples of each approach, we explore the argument that qualitative and discursive research methodologies have a useful role to play, complementing more quantitative approaches in the field of domestic energy. The paper supports this view, underlines the importance of triangulation and recognises the continuing relevance of studies of building performance. It goes further, however, by questioning which of these approaches should take priority. It is concluded that open-ended qualitative research, exemplified by phenomenological and hermeneutic traditions, are better equipped to investigate the home, as experienced and, in doing so, to identify the range of factors that influence domestic energy consumption.

1. Introduction

The 2008 Climate Change Act established the world's first legally binding climate change target, aiming to reduce the United Kingdom's (UK) greenhouse gas emissions by at least 80% (from the 1990 baseline) by 2050 [1]. Domestic energy use is a major contributor to carbon emissions, currently accounting for more than a quarter of energy consumption in the UK, far outweighing the energy demands of either industry or transport [41]. This situation is not unique to the UK: the energy and carbon burden associated with domestic dwellings is a global challenge and is critical to the attainment of policy agendas including carbon reduction, energy security, the eradication of fuel poverty and allied to this, the improvement of health and wellbeing [2]. Improving the energy performance of domestic buildings is therefore an area where some of the greatest gains stand to be made in terms of carbon reduction and allied policy goals.

Ambitious carbon reduction targets require, in turn, large-scale investment in improving the energy performance of both the existing housing stock and new build, as well as evaluations of the impact of investment projects. Specific initiatives and exercises have been evaluated thoroughly, both in relation to their effectiveness in terms of reducing carbon emissions but also their acceptability to end users- a critical

factor in their ultimate success [3–5]. The user perspective is, moreover, particularly important in low energy and low carbon housing, given the extent of change to the urban fabric and the likelihood of radical changes in the appearance of buildings, their technologies and layouts, both internal and external. As programmes increase in scale, their impact and social acceptability becomes more problematic, especially in the context of a diversity of residential communities and user groups, varying by age, class, ethnic group, biography and so forth. Generalisations made across so many fundamental social divisions are bound to be suspect ([6], 69).

The literature on the user in building design, urban design and housing design is very extensive indeed and, in some cases, possesses a very long history. There is no single, specific gap to be plugged. Instead, as this article will seek to show, there is, rather a blank space in energy research, a space that needs to be explored and this is best done through conceptualising the basic approaches, whether discursive (qualitative) and interpretive or technical and statistical with reference to specific examples. Part of the aim of this paper is, therefore, to understand which approaches are best suited to understanding the user in low energy housing and whether some mixing of approaches is desirable. By user is meant the principal end user, usually the resident. By understanding is meant drawing out their actions and behaviour, their

* Corresponding author.

E-mail address: a.ambrose@shu.ac.uk (A. Ambrose).

valuations and perceptions and experience, all of which are inter-related.

A previous review of social research into renewable energy technologies by Devine-Wright [7], p. 11 suggests that ‘qualitative, visual and discursive research methodologies have a useful role to play, complementing more quantitative, empirical studies based upon questionnaire surveys.’ The obvious implication is to argue for a pragmatic mixture of approaches, combining qualitative and quantitative data [8]. Such is also the implication of methodological pluralism, with its insistence that findings generated by one method are triangulated against the findings generated by others. However, methodological pluralism, complementarity and triangulation all beg the question as to which approach should offer the starting point and therefore have priority. The answer, presented here and based on the experience of researchers from different disciplinary backgrounds, is that qualitative methods should be given a greater priority and that triangulation raises issues of philosophy and methodology that have rarely been explicitly discussed in relation to studies of housing and energy [2].

The paper has three main sections. Section 2 is a review of the main conceptual approaches. Section 3 discusses the selection of examples of the main approaches and then goes through each example in detail. Section 4 draws on insights from these case studies and highlights some key lessons for research in the field of energy-related research in the context of housing and home.

2. The main conceptual approaches to studying user and home

In principle, in the assessment energy of energy use in the home, four different approaches may be identified, as follows:

- Technical assessments that examine the building performance evaluation of low energy housing;
- Building oriented research that examine the energy performance of new build houses in use and therefore give at least some consideration to the user;
- People-oriented surveys, often dealing with ratings of satisfaction in use and statistical analyses of these rating;
- In-depth qualitative studies of schemes on completion.

The four approaches can, in turn, be organised along two dimensions, as shown in the Diagram below (Diagram 1).

Technical assessments and building-oriented research are mostly positivist in character, though they vary in the extent that they include surveys of or discussions with people, both users and institutional actors. Positivist approaches are typically characterised by a focus on objects rather than the subjects. They assume that the researcher, the self, is detached from the object – the object (the world ‘out there’); in addition, they commonly rely on quantitative research methods and technical instruments, including rating scales that seek to measure

attitudes and are rooted in psychology and environmental psychology. If positivist studies engage with users at all, this is likely to be in a light touch manner and considerations of society or social practice are largely excluded. People-oriented surveys and in-depth qualitative studies conform, in varying degrees, to the tenets of phenomenology and other forms of interpretive research that involve the direct engagement with the user. Phenomenology can broadly be defined as ‘the study of structures of consciousness as experienced from the first-person point of view’ [9].

Approaches closer to positivism and allied to the tradition of environmental psychology are far more common in domestic energy research (illustrated here by the examples of ‘technical assessments and ‘building oriented research’). This approach has been characterised by Shove [10] as an ‘ABC paradigm’ that involves both a strategy for social change and a model of research. The ABC paradigm assumes that social change, in particular changes in consumption patterns, depends ‘upon values and attitudes (the A), which are believed to drive the kinds of behaviour (the B) that individuals choose (the C) to adopt’ ([10], p. 1274). At the same time, this paradigm seeks to explain behaviour (B) with reference to personal attitudinal variables (A) and contextual constraints (C). In others words, subscribers to this model believe that values and attitudes can be used to predict behaviour and choices within contextual constraints. Whatever the detailed variant, the ABC approach, like other positivist approaches, involves a separation of the subject (the self) from the object (the world ‘out there’) and tends to focus on the individual and the household (or on aggregates of these) rather than society or social practices.

In essence, the ABC paradigm is commonly associated with a highly quantitative methodology intended to reveal patterns of energy consumption and their determinants. To give a specific example: the UK government department formerly known as the Department of Energy and Climate Change (DECC) invested heavily in the preparation of a large-scale database, the National Energy Efficiency Data (NEED) Framework that covers millions of cases and enables a systematic examination between four variables, namely property types (age, form, size), the take-up of energy saving measures, household type (notably income) and the level of energy consumption (as recorded by energy companies) [11]. Analysis of this database has in turn enabled an initial identification of the factors that predict low and high levels of energy consumption. The analysis has provided a global overview. The detailed and complex interactions between occupants and their homes and the routines of daily life and how these affect energy consumption have received much less attention from policy makers in their pursuit of models capable of prediction.

There are several reasons why the ABC paradigm and its positivist assumptions have proved so influential. First, the language of attitudes, behaviour and choice fits in well with the language of personal responsibility and therefore, with much of the discussion of environmental ethics and sustainability in business ([10], p. 1274). Second, the separation of object and subject aids simplicity and helps to identify design and technology as separate, independent variables. Thus, in the NEED database, different energy saving measures may be isolated to see whether and to what extent they are associated with reductions in energy consumption. Third, the positivist model aspires to prediction and generalisation and is therefore well suited to the demands of official research.

However, not all positivist studies within the field of housing energy can be characterised according to the ABC paradigm and building performance evaluation (illustrated in our examples by ‘technical assessments’) deserves a particular mention in this context. The typical building performance evaluation consists of a mixture of technical measurements (i.e. air tightness, u-values, thermal retention etc.), sometimes supplemented by a basic, standardised satisfaction survey and a ‘walk through’. Proponents of this approach might argue that the walk through and associated observations cover phenomenology and that the satisfaction survey covers perceptions. However, the

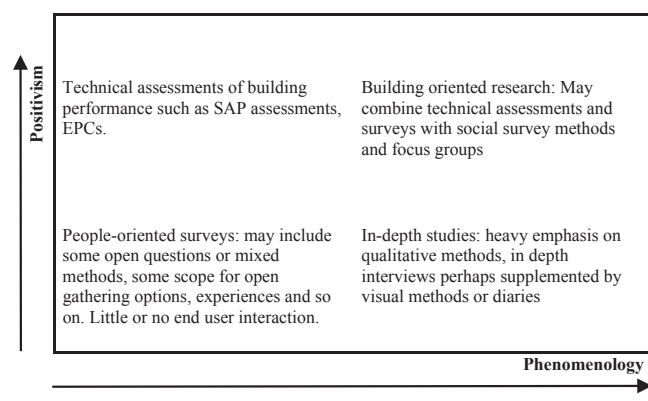


Diagram 1. Classifying the different approaches.

Download English Version:

<https://daneshyari.com/en/article/6463762>

Download Persian Version:

<https://daneshyari.com/article/6463762>

[Daneshyari.com](https://daneshyari.com)