

‘Re-imagining’ the classroom: exploring the learner’s sense of belonging

'We shape our buildings and thereafter our buildings shape us' Winston Churchill, 1943

Introduction

Place as more than merely a spatial concept, explored by Creswell (1996), has inspired this research project and allowed the researcher to consider how the classroom space itself is often overlooked. Although the space that surrounds us often goes unnoticed, Hare and Dillon (2016) shines light on it's power to shape our emotions, experiences and ways of seeing the world. The Curriculum for Wales (CfW) is driven by purpose rather than context and Hare and Dillon (2016) suggests that our learning spaces too, should be driven by a purpose. Countless hours are spent planning schemes of work and how we teach it to children, however not nearly as much time is spent thinking about *where* we are teaching. If the CfW has a vision to immerse learners in an authentic curriculum, surely we have to start with the space in which learners immerse themselves? Classroom design is often left to the sole responsibility of each individual teacher, resulting in limited consistency and a 'hidden pedagogy' that is often at the bottom of a teacher's priority list (Orr, 1997).

As a Geography specialist, the idea of 'being' in the world and feeling a 'sense of place' has always been at the forefront of the researchers mind and now whilst immersed in the classroom environment the idea of how the space is used and the impact it has on learner's sense of belonging has become of interest. Domeier and Wiebe (2020) argue for the re-imagining of the classroom space and this research aims to explore this idea to understand how classroom design influences the learners' sense of belonging. Whilst there is a plethora of research surrounding classroom design and its impact on student attention and attainment, there are significant gaps in the literature surrounding its impact on the learner's sense of belonging.

This research will explore classroom design as an 'affective' tool in transforming a space into a place of meaning. The research took place in gender mixed, English-medium school in Swansea, located in a rural setting. The research sample focused on a Year 7 form group class and a Year 8 Geography class.

Research question

How does classroom design influence the learner's sense of belonging in the school setting?

Literature Review

This literature review is structured thematically and will inform the research focus through drawing on literature that both supports and causes debate, whilst also highlighting any gaps in the literature.

A hidden pedagogy?

The classroom as merely a convenient place where learning happens is contested by scholars such as Orr (1997) who argues that classrooms are part of a 'hidden curriculum' that has the power to powerfully impact the learning process. This notion of the classroom as a tool to shape our experience is also explored by Nair (2011) who suggests that classroom design is often lost in the education system and an aspect of pedagogy that often falls at the bottom of educator's priority lists. This research seeks to fill gaps in the idea of the 'hidden' pedagogy and shed light on its importance.

'Cynefin'

The notion of 'cynefin' is a cross-cutting theme across the Curriculum for Wales (CfW) which is defined by the Welsh Government (2021) as "The place where we feel we belong" (pp. 14). Intwined in notions of culture, language, and history, fostering a sense of 'Cynefin' in learners is bound up in putting a sense of meaning into a place. Although the word itself is unique to us in Wales, Griffiths (2021) argues that the word is universal and can mean something unique to everyone wherever your Cynefin might be. For example, the Nordic Countries have similar guidelines of 'belonging' in their curriculum along with New Zealand whereby 'tūrangawaewae', translated as 'a place to stand' is at the core of their education (Berger and Johnson, 2015). Adams (2022), an advocate of 'place-based experiences', argues that the notion of Cynefin can only be experienced if children have the opportunity to connect with the natural world. Lippman (2010) supports this highlighting the importance of the interaction between the learner and the environment.

The concept of 'affect', coined by Anderson (2006), is bound up in the pre-cognitive realm as a transition that the body goes through whereby forces around us have the ability to subconsciously influence our feelings, emotions and experience. Creswell (2014) explores the idea of 'place' and how space is often transformed into a place of meaning through adding possessions to it. This research will explore this idea of transforming a *space* into a *place* in relation to the classroom design. Therefore, space in this research project will be looked at as a dynamic and fluid concept that can be re-conceptualised through 'affective forces' such as classroom design.

Traditional vs the 'active' classroom

In recent years, there has been an enhanced focus on whether the education system should be moving away from the 'traditional' classroom layout that incorporates ideas of clear boundaries between educator and the learner and structured seating. Rands and Gansemer (2017) look at a newly re-designed classroom which encouraged interaction and blurred boundaries between the teacher and students. The flexible and more open space, with

moveable chairs and tables, allowed learners to feel closer connections to those in the room and to feel a sense of community. Karripanon et al (2018) supports this idea of a flexible learning space which they argue increases learner autonomy and fosters collaboration. This idea of the interconnected relationship between the learning space and learners sense of community will be explored in this research project.

However, whilst the removal of spatial barriers created a sense of community, the study found that staff felt the classroom was disorientating and distracting. Hanley et al (2017) supports this in their study of visual displays on attention to learning, which found that rooms with high visual displays (HVD) led to poorer learning and attention scores than rooms with no visual displays (NVD). Therefore, this research will consider if creating a sense of belonging amongst students creates implications for students learning scores. There is a plethora of research on visual displays having an impact on academic progression and levels of attention, however there are gaps in the literature surrounding whether these visual displays can influence a sense of belonging and foster the notion of Cynefin in learners.

Students as co-designers

Although there is little research on the effect of visual displays on learners' sense of belonging, Domeier and Wiebe (2020) highlight the importance of learners and educators co-designing the learning space. This brings to light to idea that it is not just about what is in the space but how the space itself is constructed. Giving learners an active role in the design of the classroom allowed the students to feel a sense of pride and connection in their classroom (Domeier and Wiebe (2020). This idea of children playing an active role in the design of the classroom is also supported by Kangas (2010) and will be further explored in this research project.

The classroom as a 'living room'

Feng shui is an ancient Chinese art that involves arranging and designing the space in such a way that achieves balance and harmony (National Geographic, 2024). Shaffer (2012) advocates the use of bringing Feng Shui principles into the classroom. In contrast to Rand and Gansemer (2017) who promote a flexible and less structured space, Shaffer (2012) promotes using a focal point and a less scattered space to improve the sensation in the classroom.. Similar to scholars such as Nair (2011), who suggests classroom design is lost in the education system, Shaffer (2012) also calls for the physical space of the classroom to be brought higher up on the priority list. Transforming the classroom into a 'living room' is a concept explored by Domeier and Wiebe (2020) who suggest that re-imagining the classroom as a 'second home' offers a lifeline to children who perhaps do not have this sense of belonging anywhere else.

Research genre: case study

Exploratory approach

After researching the most appropriate and functional tools for this research study this research will take on an exploratory case study approach to explore the social phenomenon of transforming a *space* into a *place* of meaning, in relation to the classroom setting. Rather than testing, explaining, or comparing phenomenon, this case study will take on the approach of theory building as although there are ideas out there surrounding classroom design there are significant gaps in the research that this research seeks to become immersed. Therefore, in the context of this study, the definition chosen is “The primary purpose is to generate in-depth understanding of a specific topic, to generate knowledge and/or inform professional practice...” (Simons, 2009, p.21).

Although case study is a heavily used method in qualitative research Yazan (2015) highlights how it is contested terrain characterised by many opposing and varying approaches. As suggested by Yin (2002) this study will explore presumed causal links that have arisen from 'noticing' and will seek to identify an intervention that the researcher can pilot through the Professional Teaching Experience. As a piece of case study research, this project will not seek to provide conclusive results but instead aims to gain a better understanding of classroom design and its impact on the learner's sense of belonging and identify issues that can be explored in future research.

This research will align with a similar epistemological stance as Merriam (1998) and Stake (1995) whereby the researcher's epistemological commitments produce a study which is an interpretation or meaning making of other people's views. In contrast to this viewpoint, Yin's (2002) evades identifying his epistemological commitments and instead suggests his philosophical stance is towards the positivistic tradition (Yazan, 2015).

Strengths and limitations

Strengths of using a case study exploratory approach include the exploration of real-life situations which may not be captured through experimental research. Additionally Yin (1984) highlights that the data is examined within the context of it's use which gives the results a degree of authenticity, not isolating the object from it's context. Although there are many advantages of using a case study approach, it is still widely contested terrain. For example, Yin (1984) argues that case studies often have a lack of rigour, with biased views shaping the findings. Another common limitation is the difficulty in reaching a generalising conclusion and the idea of it being 'microscopic' due to it's small sample size (Yin, 1984). However, Yin (1984) also argues that parameter establishing is of far greater importance than a large sample size.

Participant selection

Upon the approval of the University, the researcher sent out consent forms to a Year 7 form group and a Year 8 class. A purposive sampling strategy was used to select information-rich subjects to inform the topic of classroom design. A Year 8 class was selected that were taught by the researcher in two different style rooms which would work as the intervention. A Year 7 form class was selected as the form room design encompassed a lot of the form class' work on the walls which could be used to explore if this created a greater sense of belonging amongst the pupils.

Research methods

This next section will explore the research methods used to conduct the research project, reflecting on literature, whilst critically evaluating the methods chosen in order to become a more ethically informed skilled researcher. It is important to note that not all the methods planned in the ethics form were carried out, due to time constraints. However, all methods listed below and conducted during the project are included in the ethics form.

Research method 1 – Questionnaire

Two questionnaires were conducted in this study. Questionnaire B was given to a Year 8 Geography class and Questionnaire A was given to a Year 7 form class. The sole difference in the questionnaires was the first question asking, “*how do you feel in this space*” (appendix 1), where a different photograph was used relating to the participant’s unique classroom.

Consent form

Due to the age of the participants, consent forms were given out to parents (*Appendix 3*) with a study information sheet to sign and return to the researcher. Upon receipt of the consent form the researcher assigned, via google classroom, access to complete the survey.

Clear focus

After identifying important areas for investigation, the researcher went back to the research question to decide which questions needed to be asked to answer the research question, as suggested by Youngman (1982). A simple strategy of maintaining this focus was to have the research question written on a post-it note and to have it in clear view when conducting and writing all aspects of the project.

Youngman (1982) suggests that only after completing all the preliminary work on planning, consulting and deciding what the research wants to find out, is it appropriate to start designing the questionnaire. After exploring the seven types of questions identified by Youngman (1982), Open and Scale questions were chosen as the most effective to answer the research question.

Open questions

Yaddanapudi and Yaddanapudi (2019) highlight that although it may take the respondent more time to answer, open questions often result in greater depth of information and can lead to making the research project more original and valuable. However, this research project found a substantial lack of depth and information when asking open questions. Borgers et al (2000) suggest that the cognitive growth of children has significant implications on the question-answer process. This research project did not take enough consideration into the age of the children and made assumptions, when designing the questionnaire, which could be a result of the lack of depth of information in the answers. For example,

Borgers et al (2000) highlights that the child must firstly understand the question and determine the intended meaning. Taking time to also present what the study is about before the participants complete the questionnaire would also have been beneficial to give the participants more of an understanding of the research project. Although the purpose of the study was explained at the start of the questionnaire (Appendix 1), it may have been more effective to convey this verbally.

Moreover, Borgers et al (2000) highlights that at ages 11-16, children are very context sensitive, and a lack of motivation and boredom can negatively impact the quality of the data. This could potentially be the reason for the lack of the detailed responses as opposed to a lack of understanding of the question.

Ambiguity and imprecision

Youngman (1982) suggests that words that have a common meaning to one person might mean something completely different to another. Although this was taken into consideration when writing the questions, there were some questions which after reading the results, were ambiguous. It was not until afterwards that the researcher could see how ambiguous the question was which allows the researcher to reflect on this for future practice. For example question 5 of the questionnaire "*which classroom would you most prefer to be in*" (Appendix 1) was vague and led to a huge variety of responses when asked "*why?*". The words "*be in*" were selected instead of the word "*learn*" as this study was exploring learner's sense of belonging in a space rather than how classroom design impacts how they learn in a space. This was a difficult element of designing this questionnaire as it felt more natural to ask the participants "*which space would you prefer to learn in*" as oppose to "*be in*", however the latter was chosen as it aimed to focus on the research question.

Closed questions

To attract a higher response rate and keep the respondent interested, this study chose a mixture of open and closed questions. Coined by Liker (1932) an '*agreement*' style Likert scale was chosen as a set of responses for the closed questions, to discover the level of feeling towards the learner's sense of belonging in the classroom. Mellor and Moore (2014) highlight how little consideration has been given to the capacity of children's ability to respond to Likert scales that accurately summarises their attitude or opinion. Based on Piaget's (1954) suggestion that children age 11-16 have developed the capacity to think in abstract terms, the Likert scale was chosen as a suitable method to assess judgement. A limitation in this study of using the Likert Scale was that using the technology software of 'google form' did not give the option to expand on the reason **why** the participants selected their answer on the scale. Having this follow up question would have allowed the researcher to delve deeper into the reasons behind the participant's answer.

Yaddanapudi and Yaddanapudi (2019) suggest piloting the questionnaire prior to sending it to participants, to check validity and reliability. This will be carried out in future practice and would have been immensely beneficial to this research project to ensure that all the relevant content is covered to answer the research question.

Research method 2 - Observation

Field notes

To explore how classroom design influences a learner's sense of belonging, semi-structured observational field notes were collected (*Appendix 6*). The observation was focused on observing the physical layout and design of the classroom but also had an element of being open-ended to not limit possibilities.

Research setting

Similarly to Barrett et al (2015), architectural observational data collection was carried out in three different types of classrooms, all in the Humanities AoLE. However, one could question how representative this chosen sample was to reflect a learner's sense of belonging in a **school setting**. In order to represent the school setting it would have been more effective to use a range of classrooms across the AoLE's, to reflect the larger entity of the school setting, rather than just humanities-based classrooms.

Photo documentation

Photo documentation was collected on the three chosen classrooms to allow the spatial and aesthetic data to be captured and analysed. A mobile phone camera was used for this and uploaded to the university cloud and then deleted on the mobile device. Field notes captured by photo documentation are explored by Creswell (2009:38) as "broadening the range of vision".

Observation schedule

Although the observation was not observing a lesson, an observation schedule (*appendix 7*) was beneficial to ensure the researcher had what they needed to answer the research question. For example, a checklist on all aspects of the physical room to observe was included to ensure continuity.

Data Presentation and Analysis methods

This chapter will explore the methods used to report the data collected with reference to relevant literature to support discussion.

Thematic analysis

Scholars such as Macguire and Delahunt (2017) & Braun and Clarke (2006) are pioneers of thematic analysis which focuses on identifying patterns in what participants say and using it to derive themes. This research project used thematic analysis to both present and analyse the qualitative data using the six-step process proposed by Braun and Clarke (2006).

After familiarising oneself with the data it is suggested by Braun and Clarke (2006) to generate preliminary codes to describe the data. The researcher used different colours to 'chunk' the data to identify themes ready to analyse. Gibbs (2007) argues that coding is not merely labelling the data but instead making connection and link to the research question and to other data collected. Inspired by Stanley Milgram, this research will use the visualisation tool of 'word clouds' to present the data. This method is suitable as the responses received from the questionnaire were very short answers, with a lot of the same words being used.

Positive implications of using thematic analysis in this research project was how it fuelled new insights and ideas to come to light along with it being a flexible approach. Although it is an accessible approach for novice researchers, Braun and Clarke (2006) highlight some potential pitfalls that can arise from this approach which this research project has taken into consideration. For example, this study has been immensely aware of not mismatching the data and the analytic claims. The researcher has consistently made sure that any claims made can be supported by the data and that compelling examples were chosen to demonstrate the themes.

Researcher positionality

Researcher positionality needs to be considered and the potential impact it could have upon the analysis of the data. However, Berger (2015) highlights that research can never be 100% objective and that the researcher is part of the process. Therefore, although the researcher can be aware of their own position in the research, no research is going to be 100% valid or reliable.

Ethical considerations

As stated in the ethics form (*Appendix 5*), section H, question 2; the researcher "will ensure confidentiality and anonymity of those participating in the research at all times and ensure appropriate and secure storage of data". Conflict of interest, according to BERA (2018) is another issue in ethics which related to the relationship between the researcher and participants, which in the context of this study was teacher/pupil. To establish a transparent and clear relationship during the research process, the researcher maintained neutral through differentiating between the teacher-pupil relationship and the researcher-participant relationship.

Due to age of the subjects in this study being under 16 years of age, parents were required to give informed consent. Details of this can be found in Section E of the ethics form

(Appendix 5). For pupils to give *assent* to take part in the questionnaire, a section at the beginning of the questionnaire explained the aim and purpose of the research with a question “*Please confirm your assent below to take part in this questionnaire*” (Appendix 1). Although this question was recognising children’s rights to participate in the decision making of the process, using the word ‘assent’ in the questionnaire was limiting as it could be questioned that they perhaps did not understand the meaning of the word ‘assent’. In future studies the researcher would rephrase this question to make it more age appropriate to the subject of the study.

Results and Analysis

Turning a ‘space’ into a ‘place’

The two first questions in Questionnaire B (Appendix 1) were designed to enable a comparison between the two responses as the respondents shift between learning Geography in *Figure 1* on certain days and *Figure 3* on other days. *Figure 1* depicts a



Figure 4 - Appendix 2



Figure 3 - "How does this classroom make you feel?" - 'Word cloud'

'Second home'

Interestingly in a Questionnaire A (Appendix 1) the researcher carried out with a Year 7 tutor group, one respondent answered to the same question as above "*it feels a bit like home..*". This notion of re-imagining the classroom as a second home is explored by Domeier and Wiebe (2020) who suggest that creating classrooms as a space where learners belong offers a sense of respite to those who perhaps do not experience this elsewhere. *Figure 8* shows a visual map created by the class form tutor depicting the pupils 'special places'. This idea of visually displaying what was deemed as a 'special place' to learners in the tutor group works to create a sense of cynefin and could be seen as a reason why a respondent in the questionnaire answered, "*it feels a bit like home...*". *Figure 8* also supports this idea of visualising displaying a learners cynefin to foster a sense of belonging in the room. This highlights how classrooms design has the potential to influence a learner's sense of belonging in the school setting, using displays as an 'affective' tool to create a *feeling* that cannot be seen but is instead *felt* amongst learners.

However, it is important to note here that this response came from Questionnaire A, given to a tutor group, who are in that room every morning. Whereas the Questionnaire B was given to a Year 8 Geography class who are only in the room three times a fortnight. Therefore, the frequency of being in the room could have an impact on the way learners feel in the space, regardless of how the room is decorated. This is a potential topic to explore in future research.



Figure 8



Figure 9

Co-designing the classroom

Figure 5 seeks to explore the idea of learners taking an active role in the design of the classroom and how this impacts on a learners sense of belonging.

Would you like to have more input into how your classroom is designed? For example, the table layout and what is displayed on the walls.

11 responses

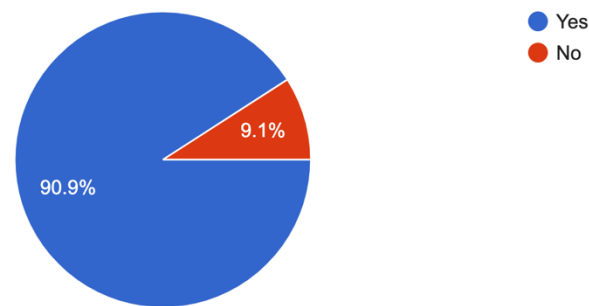


Figure 5

One respondent from the questionnaire who answered *yes* gave the explanation of “*I would then feel a part of the room and more sense that I belonged there.*” This idea of learners and educators co-designing the learning space is explored by Domier and Wiebe (2020) who argue that it is not the final product of the classroom space that it is of most importance, but instead the construction and process of creating the space involving the learners. This research evidence supports this in that the respondent in the questionnaire wanted to have more input into the classroom design to enable them to be more a part of the room. Therefore, whilst classroom design in this research was an ‘*affective*’ tool in transforming the space, there is a huge potential for future research to explore the process in which the space is transformed, in relation to a learner’s sense of belonging.

Traditional vs the active classroom

The response to Figure 6 revealed 100% of the participants chose *option 2* with the reasons **why** collated in the word cloud in Figure 7. Option 1 showed a more ‘traditional’ classroom, whereas option 2 represented a more ‘active’ classroom. Encouraging interaction and blurred boundaries between teachers and students is explored by Rands and Gansemer (2017). Evidence from Questionnaire B suggests that the more open and flexible style space creates a more inviting and welcoming atmosphere for learners. This supports Karripanon et al’s (2018) idea that a flexible learning works to foster collaboration whereby learners can feel closer connections to others in the room.



Figure 6

Conclusion and Recommendations

To conclude, this research has allowed the researcher to be an integral part of an enquiring profession, joining with other teachers to share ideas and contribute to a wider community of knowledge. Contributing to becoming a skilled researcher, this research has added to the professional development of the researcher and allowed substantial reflections on what it takes to carry out research in a school setting. Within the school context, using a questionnaire as the primary research tool to collect data had significant limitations. Although observational field notes and photo documentation were used to support the questionnaires, the age of the participants were not considered enough to ensure the researcher was able to answer the research question in full. Assumptions were made when designing the questionnaire that perhaps did not consider how well the respondents would be able to understand the meaning behind the question.

However, the research was able to contribute to the body of research surrounding how classroom design is perhaps a 'hidden pedagogy' that needs more attention in the teaching profession. This study has added to the body of research surrounding classroom design as an '*affective*' force that contributes to how learners '*feel*' in a space. Findings from the research also highlighted potential themes for further future exploration, such as the process behind classroom design influencing a learner's sense of belonging.

The researcher seeks to further explore this topic through carrying out a more robust piece of research that can answer the research question on a deeper level. Using the limitations of this research to move forward, the researcher seeks to use a multi-method approach, utilising methods such as semi-structured interviews. Potential ideas for future research could include how different subject rooms influence a learner's sense of belonging in different ways. For example, the difference between a tutor group classroom, a Geography classroom and a Humanities classroom.

This research is a small glimpse of how classroom design influences a learner's sense of belonging and further research is needed for more far-reaching conclusions to be drawn. Creating a greater awareness of transforming *spaces* into *places* of meaning is of great importance to the researcher and could be used as a tool to integrate into the CfW, allowing learners to form their own cynefin.

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