Learning to Share Space - Engendering Local Understanding of Placemaking Interventions

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Abstract

A disconnect between perceptions of functional design translation and end-user reality has reflected a nebulous understanding of equitable Placemaking interventions. Here we analyze the complex perceptions of a demographically diverse community with the aim of exploring what might engender local understanding of a ‘shared space’ Placemaking intervention. A mixed methods approach was employed to capture a rigorous data set and included in-depth interviews, focus groups, surveys, experiential workshops and observational analysis. The study identified a core phenomenon of local misunderstanding of both the strategic aims of the intervention and the functional aspects of how to use design characteristics of the shared space. Furthermore, analysis suggested that perceived paucity of appropriate communication or instruction on how to use the space compounded motivation to cultivate behavior change through functional adaptation to the revised built environment, thus, potentiating malleable attitudes toward themes emerging from causal conditions such as reinstatement of ‘known’ built environment characteristics. The study presents several key concepts around the central theme of understanding shared space in a Placemaking intervention scenario and puts forth evidence-based recommendations for obviating challenges symptomatic of outlined gaps in local knowledge. The themes can be used as analytical tools for further research into the problematised multidimensional aspects of shared space concept and furthermore, contribute to development of knowledge transfer approaches within urban design packages and normalization techniques.

1 Introduction

The Scottish Government’s approach to Placemaking is featured in its ‘Designing Streets’ policy (Scottish Government, 2010). Within the frame of Placemaking the term Shared Space has seen particular prominence as local authorities seek to respond by designing more equitable spaces for all users. However, firm understanding of the Shared Space concept has not seen the same prevalence, particularly among those whom the recalibrated street intervention was intended to serve. Many infrastructure interventions which have used design elements of the Shared Space concept, have been interpreted as literal iterations of Shared Space. As a result of a multitude of complex components, the term has become problematic. Furthermore, inability to comprehend the functional purpose of Shared Space design elements applied to the infrastructure has effected intervention efficacy in some cases.

Part of wider research, the study uses one example of a local street design project which has become known as a Shared Space to articulate an evidence base which captures and describes local understanding of the infrastructure intervention which has occurred. It is important to stress that the study is not an appraisal of Shared Space as a concept, nor an analysis of its application in this instance.

The study sought to measure local perception, attitudes and understanding of the Placemaking intervention in addition to measuring changes in those values over time. The objective of the study was to understand these values and through analysis of local knowledge, capture what intercessions might address those challenges. The study employed a Constructivist Grounded Theory methodology; since local people themselves were the sample most representative of the end-user group and thus
appropriately positioned to describe the phenomena of interacting with and making an experiential analysis of, the substantial Placemaking intervention which had occurred.

The study used Cowgate, a main street in the town centre of Kirkintilloch, Scotland, as the lens by which to analyze local understanding since design elements of the Shared Space approach have been applied within the large-scale regeneration and Placemaking of its main street. Additionally, the Cowgate was selected for the study as there existed a documented profile of both civic and political schism and associated activity around it, which included divergent interpretations of the intervention.

2 Placemaking

Over the last decade national government has increasingly defined its vision for development planning incorporating interconnected outcomes around sustainable, resilient, connected and carbon conscious spatial development of place (Scottish Government 2010, 2014a). Placemaking is distinguished within this agenda as a catalyst for sustainable socio-economic growth with this assertion manifest within supporting policy and an array of outputs as facilitative resources (Creating Places Scotland; Place Standard; The Scottish Government 2010). These directive cascade into Local Government policy recorded within local development strategies, plans and guidance, where Placemaking principles are applied explicating their inherent relationship with sustainable economic growth and national priority delivery (Glasgow City Council, 2017; The City of Edinburgh Council, 2016; Dundee City Council, 2014; Aberdeen City Council, 2017; The Highland Council, 2017; East Dunbartonshire Council, 2016). Placemaking is thus defined by national government as; ‘a creative, collaborative process that includes design, development, renewal or regeneration of our urban or rural built environments. The outcome should be sustainable, well-designed places and homes which meet people’s needs by harnessing the distinct characteristics and strengths of each place to improve the overall quality of life for people’ (Scottish Government, 2014b).

The multi-faceted nature of Placemaking can be considered as both a process and philosophical approach with conceptual genesis of citizen place developed by scholars and practitioners such as Jacobs (1993) and Whyte (1980) most noted for catalyzing a paradigm shift. The Placemaking paradigm has been embraced more latterly by prolific practitioners, in particular Gehl (1971) and Gemzøe (1996) with the importance of human life characteristics and the antecedent rationale of these elements explicated as imperative for successful Built Environments, with Gehl postulating; “First life, then spaces, then buildings – the other way around never works” (Gehl, 2008). This is to say, that prioritizing the community and its distinctive attributes as a unique asset for informing collaborative design and planning of any given location is the fundamental crux of Placemaking.

As postmodernity in Urban Planning has sought a remedial to the modernist disregarding of public specificity there is an inclination towards the application of Placemaking by Infrastructure delivery practitioners from a process perspective (Irving, 1993), in several iterations, which respond to respective drivers. The authenticity of Placemaking as a concept can be affected by this. Thus, the hypotheses that respective attainment of understanding of the Placemaking output as it exists in the Built Environment becomes symptomatic.

Many factors determine the authenticity of a Placemaking process; principally the integrity with which the process employs the multitude of principles which it embodies (Project for Public Spaces, 2017). The Project for Public Spaces (Project for Public Spaces, 1999) defines these principles as follows (Table 1):
As Placemaking projects and the prioritization of their drivers can be so diverse, the inclusion of all of these principles in their authentic form cannot be relied upon. Placemaking processes, particularly introduced at a local level, can be affected by numerous pragmatic constraints;

- Availability of funding resources
- Availability of appropriate practitioner / officer resources
- Prerequisite alignment with other strategic projects
- Availability of public engagement and consultation expertise

The reality of those resourcing factors inevitably has an implication on;

- The community engagement and participation methodology
- Capacity to engage a truly representative, inclusive sample of consultees
- Capacity to attain an appropriate communications campaign
- Capacity for responsive monitoring and evaluation

Since adopted, Placemaking strategy seeks to respond to settlements and communities as places with inherently unique characteristics and attributes, which move beyond just the spatial. We can then say that Placemaking concepts can be supported by an equally refined strategy to ensure that the unique characteristics of the demographic of that community are also considered. It is postulated that grasping the demographic of a community is an important determinant to achieving Placemaking that is understood and thus utilized as a functional asset within that community. As such, the profile of a community is as important as the profile of the strategic plan for that community.

The responsibility of regions and local authorities to deliver crucial social and economic regeneration strategies is certain and one which drives Placemaking proposals, which are increasingly ambitious in philosophy and approach respectively.

### 3 Shared Space

Imrie (2012) evidences that Local Authorities have enthusiastically responded to the perceived potential of ‘Shared Space’ within public realm and Placemaking contexts. The Chartered Institution of Highways & Transportation (CIHT) concur (The Chartered Institution of Highways & Transportation, 2018). Manifestations of fostered convivial in the civic sphere as a result of these interventions proposed a broader potential for the application of the Shared Space concept.

Among ambitious urban design Placemaking approaches, the concept termed as ‘Shared Space’ has seen a renewed prominence. However, Saviskas (2016) cautions that the term can be more
appropriately considered as a ‘theoretical way of thinking about streets’ noting that the literature suggests ambiguities which inhibit consensus regarding a universal definition of the term ‘Shared Space’ (Saviskas, 2016). As with the term Placemaking, Shared Space has many iterations depending on the assignment of particular project priorities, geographical characteristics and the aligned disciplines of Transport Engineering or Urban Design. Therefore it is useful to think of a Shared Space as an interpretation of the concept, associated with the interconnected design approaches used to create the physical space, which may or may not utilize thematically similar terminologies.

Whilst iterations have existed in the built environment for generations as a result of spatial circumstance and lack of defined, regulated road traffic infrastructure, the conceptual origins have been most notably developed from a road traffic safety engineering perspective by Monderman (Van den Brink et al., 2010). Monderman hypothesized that the perceived phenomena of diminished responsibility of road users was symptomatic of heavily engineered road infrastructure expounding; “We’re losing our capacity for socially responsible behavior...The greater the number of prescriptions, the more people’s sense of personal responsibility dwindles.” (Monderman, 2006) Thus, Monderman developed a conceptual proposition, which philosophically interrogated if the reduction and / or removal of traditional traffic engineering in streets would engender a more cautious, intuitive and communicative responses in vehicular movements.

Through experimentation and the positioning of behavioral phycology within the theoretical foundations of the concept, Monderman developed a responsive design approach. The design approach decluttered streets of regulatory order apparatus towards a street which by design, sought to purposively inhibit traffic speed, induce road safety and encourage active mobility (Hamilton-Baillie 2008; Imrie, 2012; Kennedy et al, 2005).

The shared space approach has seen several interpretations and definitions including;

The department for Transport (2011) summarizes Shared Space as a ‘design approach that seeks to change the way streets operate by reducing the dominance of motor vehicles, primarily through lower speeds and encouraging drivers to behave more accommodatingly towards pedestrians”.

Respectively it has been interpreted and defined as “ A Street or place designed to improve pedestrian movement and comfort by reducing the dominance of motor vehicles and enabling all users to share the space rather than follow the clearly defined rules implied by more conventional designs” (The department for Transport, 2011)

Both definitions are equally fair interpretations however, feature the distinct positionality of vehicle user or pedestrian. Karndacharuk et al, (2014) concurs with these interpretive definitions appending the additional aim of the shared space is to utilize road space as ‘place’ where mobility, access and ownership occur. The interpretive nature of the shared space philosophy thus generates obvious complexities.

4 Complexity layers of Shared Space

The discourse describes fundamental complexities innate to Shared Space as a philosophy and as a conceptual urban design approach. Not less that the approach features several layers for consideration. These layers have been identified through the literature, developed in the wider study and presented within this study as ‘complexity layers’.

Karndacharuk et al, (2014) found that the authenticity of a Shared Space is defined by the application and presence of a particular set of design elements and its functional efficacy so affected by such. CIHT (2018) research determined that a cohort of designers have understood definitions of shared space as a ‘single space that is shared’. Although there are instances where this is appropriate for some projects,
it may not be an appropriate definition for other projects, particularly ones which feature clear divisions of respective space for users. It is postulated that such spaces can be best described as iterations of the shared space concept, which feature particular design approach elements congruent to the concept. As an example, design approaches, which interpret the concept, have been reviewed, analyzed and categorized as follows (The Chartered Institute of Highways & Transportation, 2018):

<table>
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<tr>
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<th>Pedestrian-Prioritised Streets</th>
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<tr>
<td>2</td>
<td>Informal Streets</td>
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<tr>
<td>3</td>
<td>Enhanced Streets</td>
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*Table 2: Recommended street design approaches (The Chartered Institute of Highways & Transportation, 2018)*

These iterations should not be confused with other conceptual iterations such as Woonerf (Living Street, Homezone etc.) and Complete Streets. CIHT delineates the specific detailed design element characteristics of each iteration within their review. This study has categorized the CIHT system as and within ‘Objective complexities’.

Further complexities surround fundamentals of Shared Space, not less the safety aspects of which it was born. The discourse offers a consensus that reducing the speed of vehicular traffic is the primary intervention to allow diverse usage of space. Empirical studies suggest traffic slowing also reduces occurrence of injury and the severity of injuries when vehicle - pedestrian impacts do occur (Bunn et al, 2003; Pucher & Dijkstra, 2003).

Using a combination of design and behavioral psychology to induce perception of risk in the absence of regulative road order and thus creating ‘legible ambiguity’, behavior modification is instigated and resultanty the speed of traffic slowed. Kennedy et al (2005) refer to this as ‘psychological traffic calming’ which is complex by nature and hypothesized here as presenting a problematized area due to the absence of behavioral psychology input by clinicians within the design stage.

Imrie (2012) argues that Shared Space is ‘disembodied urban design’ which does not succeed in capturing the complexities intrinsic to the act of motion in the Built Environment and moreover, that it actively propagates ‘existential insecurity and ontological uncertainty’ within certain user populations, particularly those with visual impairments. It is hypothesized that this view proposes a paradox with the concept of ‘psychological traffic calming’. Moreover, ‘psychological traffic calming’ theoretically relies on multiple certainties among all Shared Space users, for example; the physical and mental ability to navigate the space. Thus, this layer of complexity falls into the ‘Subjective Complexities’ category within this study.

The naming convention of Shared Space has become fundamentally important to the perception of a scheme or project. The appellative has innate complexities and has been proposed as a barrier to meaningful discussion around the broader issues (THCWEC, 2017; Hamilton-Baillie, 2008). CIHT (2018) has also concluded that practitioners found the term indistinct, thus problematic, since it is often connected to a variety of preconceptions. Furthermore, CIHT recommend that use of the term be abandoned and replaced by terms that describe the design approaches. The challenges related to the terminology are complex in that Shared Space is often not fully understood but it is, however, recognized and so, often misinterpreted. This phenomena is pronounced, particularly when projects are being consulted on or challenged. Associated complexities are interlinked with the understanding and handling of the philosophical concept and the synthesis and prescription of the urban design approach and its elements by practitioners. This layer of complexity is categorized here as ‘subjective complexity’
These empirical arguments underpin the complex features of Shared Space. For the purposes of the wider research the crude complexities have been divided into the following (Figures 1 and 2):

**Objective Complexities:** Conceptual Authenticity > associated with regulatory constraints > associated with design > associated with project priorities > associated with conceptual and/or approach dilution > associated with material aspects of the built environment > associated with the evaluation of positivist data; such as, spatial attributes, traffic modelling, traffic and pedestrian flow etc.

*Figure 1: Objective Complexity model of Shared Space, Muir 2018*

**Subjective Complexities:** Behaviour Change > associated with behavioural psychology > associated with risk compensation phenomena > reliant on psychological and perceptual capacities and the normative ‘stabilities’ of those factors > reliant on human physiology > reliant on temporal dimensions > reliant on ethnographic characteristics.

*Figure 2: Subjective Complexity model of Shared Space, Muir 2018*

5 Understanding Shared Space

Engwicht (1999, 2006) offers that practitioners of street design and the user-group that they are designing for, must realize all opportunities to highlight human presence and activity within the Built Environment if Shared Space design is to truly impact road user behaviour. However, as discussed, achieving authentic Shared Space, which responds positively to its aims and to the requirements of its user group can be complex. It can require appropriate and effective synthesis of practitioner methodology and the same equally for participatory methods within the design process, including rigorous analysis of the intricacies of collected participatory data.

Eubank-Ahrens (1987) notes that “in changing neighborhoods, conflicts invariably arise between the established older order and that which is newly arrived. Further, the different behavior of various age groups (has) an impact on the usability (and legibility) of public space”. Shared Space has been met with schism among user groups. A 2015 report stated sixty-three per cent of respondents had an antipathetic experience of shared space, furthermore thirty-five per cent reported active avoidance of it (Holmes, 2015). This schism has become evident through documented instances where Shared Space interventions have been disseminated in the public sphere and in some cases permeated political agenda with requests for action or rubric. Moreover, the validity of equalities arguments have similarly been analyzed among practitioners who must grapple the competing needs of all users including vulnerable groups, in order to ratify design approaches and communicate them.

This study hypothesizes a connection between user understanding and the efficacy value of an intervention, which uses Shared Space principles. The study sought to capture how the infrastructure-user cohort understands an intervention, considering the complexities, which underpin the shared space
6 Methodology

The study uses one example of a local street design project which has become known as a Shared Space, to articulate an evidence base which captures and describes local understanding of the infrastructure intervention which has occurred. The study used Cowgate, a main street in the town centre of Kirkintilloch, Scotland, as the lens by which to analyze local understanding since design elements of the Shared Space approach have been applied within the large-scale regeneration and Placemaking of its main street. Additionally the Cowgate was selected for the study, as there existed a documented profile of both civic and political schism and associated activity around it, which included divergent interpretations of the intervention.

Part of wider research, the study employed a Constructivist Grounded Theory methodology; since local people themselves were the sample most representative of the end-user group and thus appropriately positioned to describe the phenomena of interacting with and making an experiential analysis of the substantial Placemaking intervention which had occurred. Purposive sampling sought to capture an inclusive, demographically diverse participant cohort. A mixed methods qualitative data collection approach was employed to capture data sets which had potential for triangulation and thus contribute rigor. The mixed methods included; in-depth interviews - half of which were longitudinal, surveys, focus groups, observational analysis and experiential workshops.

- **12 in-depth semi-structured interviews** were conducted with a demographically diverse sample. Interviews were conducted face to face to maximize qualitative rigor in the dataset. 6 of the interviews formed part of a temporal data collection strategy which occurred at key time-points between 2015 and 2017 in order to measure any occurrence of change in understanding, perception, attitudes and usage potential over time. Interviews were transcribed and a process of manual codification applied. A thematic analysis of coded data was performed and data summarized.

- **2 Surveys of 197 people were undertaken**, in 2016 and 2017 respectively, again to measure any occurrence of change in understanding, perception, attitudes and usage potential over time. Survey content during both data-collection periods was uniform. A user-intercept approach was used to conduct the surveys and both surveys were open for 4 weeks in order to address any challenges associated with capturing the target number within a localized area. Surveys were captured anonymously with the exception of age range and presence of disability being asked. The survey data was digitally analyzed and responses correlated. A weighting adjustment with one auxiliary variable was performed. Results were output as a percentage of participant sample and interrogated for emergent themes.

- **2 focus groups were conducted** with participants between the ages of 12-17 years. One focus group was with a classroom cohort and the other was with a youth-group cohort. Focus groups consisted of a detailed viewing of the Placemaking interventions, followed by a survey and group discussion. The research design for both focus groups was uniform. The survey data was digitally analyzed and responses correlated. Results were output as a percentage of participant sample. The survey data and focus group discussion data were interrogated for emergent themes.

- **An observational analysis was conducted** by observing a multi-user cohort within the infrastructure over a 2 hour ‘peak time’ period over two days; one weekday and one weekend day where interactions between users and usage of Placemaking infrastructure were monitored. This
was to supplement other data collected. Data capture occurred when there was a presence of human characteristics of uncertainty; physical or verbal cues, or both. Including, if there was the presence of a delay in vehicular commitment to a manoeuvre. This was based on what Alhajyaseen et al (2012) calls the update-frequency of decision making (at intersections) and Hassan & Massof’s (2012) model for measuring street-crossing decision variable functions (including those with visual impairments). The data was tabulated, counted and assigned a value congruent with emergent themes present in supporting data sets.

- **Finally, 2 staggered experiential workshops** took place during 2017. The experiential workshops involved participants from the interview sample with the exception of one participant who was since deceased. The experiential workshop was chosen in acknowledgement of a spectrum of learning processes to address any learning limitations that a traditional learning experience may impose on participants. The workshop sample included a multi-generational cohort and 3 participants who considered themselves to have a disability. The workshop sought to provide an experiential and communicative intervention regarding delineation of the Placemaking infrastructure. A description of the intervention, as ascertained in the wider research study, was offered and a guided tour of the infrastructure, including instructions for use was applied. Following this, a short survey was conducted with the workshop cohort to ascertain and measure understanding of the Placemaking infrastructure post-experiential workshop. The research design for both workshops was uniform. The survey data was digitally analysed and responses correlated. Results were output as a percentage of participant sample.

All data sets used a process of triangulation for cross-verification.

7 **Results**

7.1 **Semi-structured interviews**

Key focused themes which emerged from the interview data have been analyzed and the results summarized below (Figure 3):
Figure 3: Emergent themes from interview results

- Adverse attitudes towards infrastructure change (Potential for change over time)
- Failure to understand the strategic aims of the intervention
- Failure to understand how to use infrastructure
- Perceived absence of formal communication of how to use the new infrastructure
- Recognition of benefits juxtaposed with uncertainty of how to navigate the infrastructure (Static usage-potential phenomena)
- Appetite to use new infrastructure effectively and as intended
- Opinion, awareness & understanding most influenced by local & social media (Secondarily by word of mouth)
- Excessive focus on perceived demands of one disability group
- Instructions have potential to augment benefits to mobility-impaired
7.2. Surveys

Survey data results of 2 data collection exercises in 2016 and 2017 are summarized and shown below (Figure 4):

* Data from longitudinal survey samples
** Data from 12-17 focus group survey sample

Figure 4: Survey results
7.3. Focus Groups

Data results of 2 focus group exercises captured emergent themes. The results are disseminated below (Figure 5).

**Figure 5: Emergent themes / narrative from focus group results**

We should be included because many of us will go on to stay in the town

The town is now more modern and clean, but it is confusing so that makes it feel dangerous even if it’s not

We should be part of the discussion because it impacts our lives - we have to go to school in it

I avoid the main crossing because I don’t know how it works

It would be less stressful for me and my mum if we knew how it’s meant to work

Knowing how the road layout works is important for us so that we can use it properly

Data from 12-17 focus group discussion sample
7.4. Observational analysis

Results of the observational analysis are described below in Figure 6. This data is caveated with several limitations (described below) and has been included to merely illustrate its use in triangulation.

Neither pedestrian volume nor motorized vehicle volume were recorded, nor interrogated within this study so the number is not representative of pedestrian or vehicular traffic flow. Observational analysis was simply performed to verify claims about user understanding of the infrastructure. Other observations included a perceived traffic slowing in anticipation of the junction and vehicles maintaining a perceived low speed during interactions with other vehicles through the junction. This claim cannot be verified since no speed measurement instrumentation was used.

![Figure 6: Observational analysis results](image)

7.5. Staggered experiential workshops

Data collected post-experiential workshop evidences the results of the communicative intervention which occurred. Results are summarized and shown below in Figure 7.
Understanding the infrastructure
Measuring understanding, perception, attitudes and usage potential post-experiential & communicative intervention

88.9%
Of people understood the purpose of the changes*
a 75% rise since 2016

100%
Clear on how Catherine St. junction is intended to be used by all users

100%
Clear on how uncontrolled crossing points are intended to be used by all users*

55.6%
reported experiential and communicative intervention assisted understanding 'much more'*

44.4%
reported experiential and communicative intervention assisted understanding 'somewhat more'*

100%
reported experiential and communicative intervention positively affected confidence in using the infrastructure*

* Post-experiential & communicative intervention sample survey data

Figure 7: Observational analysis results
8 Findings

The study identified core phenomena of local misunderstanding of both the strategic aims of the intervention and the functional aspects of how to use design characteristics of the shared space. Conversely, the study found that for some mobility impaired persons the infrastructure intervention presented clear perceived benefits; e.g. reduced road crossing widths benefited those with slowed capacity for mobility. Additionally, there existed a degree of recognition of the asset-potential of the infrastructure from younger cohorts and their guardians on the assumption that they would be knowledgeable on how to use it as intended.

It was identified that there was an appetite among the user-cohort to understand the space and that instructional experiential approaches were among those considered most appropriate. Analysis suggested that perceived paucity of appropriate communication or instruction on how to use the space compounded motivation to cultivate behavior change through functional adaptation to the revised built environment. Thus, potentiating malleable attitudes toward themes emerging from causal conditions such as reinstatement of ‘known’ built environment characteristics. This is to say that those who did not understand the function and how to use the infrastructure were not invested in it so were easily influenced regards the concept of reverting aspects of the design back to what was formerly there.

It was identified that instructional approaches such as infrastructure safari; i.e. being shown how to use the infrastructure elements and instructional seminars had a positive effect on engendering understanding and consequently, understanding the aims and objectives of the scheme. Respectively, analysis identified that learning interventions on how to utilize the infrastructure were constructive, which in turn, positively impacted user perception and confidence.

9 Conclusions

The study presents several key concepts around the central theme of engendering understanding of Shared Space approaches in a Placemaking intervention scenario and puts forth evidence-based recommendations for obviating challenges symptomatic of outlined gaps in local knowledge. The themes can be used as analytical tools for further research into these problematized multidimensional aspects of shared space approaches and furthermore, contribute to development of knowledge transfer models within urban design packages and normalization techniques.

10 Recommendations

It is recommended that identifying and moreover, expounding the Shared Space approach for any given project by appraising its authenticity to concept, assists the assessment and subsequent determination of appropriate terminology for the Shared Space iteration, where it cannot be classified as Shared Space from a purist perspective. Furthermore, further research is recommended to investigate the full scope of potential communicative pedagogical strategies and their appropriation within the design and intervention delivery package.

11 Limitations of the Study

Sample size across all methods, even when triangulated does not guarantee representativeness: The interview sample represents 0.0007% of the population of Kirkintilloch; the survey samples represent 0.01% of the population of Kirkintilloch. Transferability of results is likely to vary dependent on localized setting. Measuring engendered understanding assumes that participants had capacity to learn.
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