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Abstract

Purpose: School-based programmes face a variety of personal, environmental and organisational challenges to implementation. Stakeholders can provide crucial contextual information to improve implementation. The objective of this study was to explore teachers' perspectives on implementation through a bottom-up participatory process.

Methodology: A qualitative participatory approach was employed. This comprised groups of teachers theorising and creating schemas of school-based implementation.

Findings: Two schemas were developed. Support, time, training and resources emerged as common components. Students and other educational stakeholders did not feature in either schema.

Research Limitations: The schemas were developed by teachers in Ireland. The findings are relevant to that local context and generalisability beyond this may be limited.

Research Implications: The developed schemas contain structural and content components that appear in published conceptual frameworks of programme implementation. Thus there is some correspondence between the views of published theorists and the current sample of teachers, particularly with regards leadership and teacher motivation. There are also disjunctures that deserve exploration, such as the lack of reference to students.

Practical Implications: Participatory schema development could be of particular value to trainers working with educators. The generated schemas provide useful detail on current perspectives, which could be valuable part of any training process, or the pre-planning stages of implementation.

Originality: This study describes a straightforward approach to revealing the perspectives of stakeholders that could help school-based implementation processes.

Key words: Implementation School Health Promotion, Participation, Participatory Methods, Teachers

Article classification: Research paper

Introduction

School-based programme implementation

The organisational infrastructure of schools facilitates a more systematic implementation approach for school-based programmes compared to programmes based in other settings (Dariotis *et al.*, 2008). Schools, however, are also complex and face multiple implementation challenges (Butler *et al.*, 2010; Dariotis *et al.*, 2008; Firth *et al.*, 2008). These challenges reinforce the importance of assessing implementation. The lack of high quality implementation information results in education leaders being unable to create policies or strategies to assist schools choose programmes which are realistically achievable (Durlak, 2016). It is argued that the exploration and assessment of implementation should receive as much attention as other components of programme evaluation (Horner *et al.*, 2014). To explore implementation adequately, information is required about specific programme elements, how they are delivered, and the features of the setting or context in which the programme is delivered (Barry and Jenkins, 2007; Barry *et al.*, 2017; Durlak, 2016). The need to explore context is highlighted in school-based implementation research in order to identify such features and to assist in identifying and addressing challenges (Butler *et al.*, 2010; Clarke *et al.*, 2010; Hill *et al.*, 2007).

Implementation quality impacts on the outcomes achieved from school-based programmes (Rimm-Kaufman *et al.*, 2014; Clarke *et al.*, 2014; Dix *et al.*, 2012; Durlak *et al.*, 2011). The quality of implementation is impacted by a number of factors. Some facilitators for school-based implementation relate to teachers: teacher training (Han and Weiss, 2005; Domitrovich *et al.*, 2008); and teacher characteristics, such as voluntariness (Nic Gabhainn *et al.*, 2010), knowledge (Cholevas and Loucaides, 2012), and high self-efficacy (Sy and Glanz, 2008). Other facilitators relate to the school environment, such as perceived administrative support (Ransford *et al.*, 2009) and having the required support from school leadership and peers (Langley *et al.*, 2010), particularly from the school principal (Kam *et al.*, 2003). External factors also have an impact such as the need for multi-level approval (e.g., from school boards and community collaborators) (Greenberg, 2010). Teacher perceptions of an intervention can either positively or negatively affect school-based programme implementation (Biggs *et al.*, 2008). Domitrovich *et al.* (2008) report that teacher attitudes towards a programme can promote or undermine implementation in schools, as can teacher self-efficacy and skill proficiency. Barriers to school-based implementation vary from having an overcrowded curriculum (Patton *et al.*, 2003), to poor implementation of core programme components (Ennett *et al.*, 2011), and

lack of teacher confidence (Larsen *et al.*, 2012). It is also important to consider teacher burn-out and its relationship to self-efficacy. For example, a recent meta-analysis reported that significantly larger estimates of the average effect sizes for the relationship between burn-out and self-efficacy were found among teachers compared to other workers (Shoji *et al.*, 2016).

Exploring school-based implementation

Exploring implementation is complex (Durlak, 2015). Part of this complexity is because there is no agreed definition of what constitutes correct implementation. Durlak and DuPre (2008, p. 342), identified a need for future authors to develop consensus on terms and “*operational definitions of relevant constructs*” of programme implementation. There are a number of core implementation concepts which are highly cited in the literature: adherence, exposure (dose), quality of programme delivery, participant responsiveness, programme differentiation, programme reach, monitoring control/comparison conditions, and adaptations (Dane and Schneider, 1998; Durlak and DuPre, 2008; Durlak, 2015). These implementation concepts are operationalised differently across studies. More than 20 contextual factors that influence the level of achieved implementation have been documented (Durlak and DuPre, 2008) and 14 suggested steps to follow to improve the likelihood of effective implementation (Meyers *et al.*, 2012). These multiple factors have been identified as interactive and are hypothesised to affect the implementation process in any given school (Durlak and DuPre, 2008; Wandersman *et al.*, 2008).

Meyers *et al.* (2012) provide an overview of the implementation process by synthesising the literature and selecting frameworks that described the “*main actions and strategies believed to constitute an effective implementation process related to using innovations in new settings*” (Meyers *et al.*, 2012: p. 465). In total, 25 frameworks were identified, with three specifically relating to school-based interventions (CASEL, 2011; Greenberg *et al.*, 2005; Hall and Hord, 2006). The CASEL (2011) framework details a ten step implementation plan, five sustainability factors, and places effective leadership at the core of implementing school wide social and emotional learning (SEL). The Hall and Hord (2006) Concerns-Based Adoption Model (CBAM) is a “*conceptual framework that describes, explains, and predicts probable teacher concerns and behaviors (sic) throughout the school change process*” (Hord and Roussin, 2013, p.139). The Greenberg *et al.* (2005) model describes the factors that affect

school-based Social and Emotional Learning (SEL) programme implementation under the headings of planned intervention and planned implementation support, actual intervention and actual implementation support, and contextual factors.

In all three frameworks, the pre-planning (readiness) and planning stages are emphasised (CASEL, 2011; Greenberg *et al.*, 2005; Hall and Hord, 2006) and school stakeholders are viewed as central to the overall process of implementation. Leadership forms an important part of each framework as school leaders of various types are identified, in addition to references to leadership at various levels. Training and continuing professional development are also highlighted. The role of the programme implementer is stressed with frameworks referring to implementer feelings and perceptions, willingness, readiness and further components that relate to an implementer's capacity to deliver a programme. These frameworks suggest that implementation is also affected by the quality and availability of resources and equipment; programme components; programme delivery; and how a programme is received. All of these factors operate within a systems and organisational perspective, recognising that context is important. All three frameworks also recognise the need for evaluation and identify components to explore when examining implementation emphasising the role of the programme implementer. The CASEL (2011) and Greenberg *et al.* (2005) frameworks are designed to be reflective of relevant theory, research, and practice and implementation is conceptualised through the lens of researchers. Hall and Hord (2006) place greater emphasis on the complexities of implementing a new initiative with the understanding that each person involved in a new initiative will have their own personal beliefs, attitudes, and approach.

While the frameworks address many of the complexities of implementation science, they have been developed from the viewpoint of researchers to apply to real world application of programmes. It has been argued that there needs to be a concerted effort to include decision makers and implementors in all stages of implementation and associated research (Peters *et al.*, 2013). Greenberg (2010) identified a need for continued development and refinement of models, while both Inchley *et al.* (2006) and Stewart-Brown (2006) called for further exploration of local implementation models. This study aims to contribute to this process by adopting a bottom-up approach to documenting the perspectives of teachers on implementation, and to demonstrate a methodological approach appropriate for helping to localise implementation planning.

Methodology

Participatory approach

As noted by Dooris and Barry (2013), there is a need for both theory-driven research and testing of suitable methods when researching settings-based implementation processes. Participatory research diverges from traditional linear methods and explicitly attempts to address power discrepancies between the researcher and research participant. It has been defined as the “*co-construction of research through partnerships between researchers and people affected by and/or responsible for action on the issues under study*” (Jagosh *et al.*, 2012, p. 311). Participation is viewed as a core competency of health promotion and public health (Mantoura and Potvin, 2013), a central strength of which is the “*integration of researchers’ theoretical and methodological expertise with non-academic participants’ real-world knowledge and experiences*” (Cargo and Mercer, 2008, p. 327).

The qualitative participatory method used in this study is adapted from the work of Nic Gabhainn and Sixsmith (2005; 2006), which has previously been employed with students, teachers and parents (Sixsmith *et al.*, 2007). The approach draws on both the photovoice method (Wang and Burris, 1997) and the Delphi approach to consensus development (Pill, 1971). Photovoice is rooted in the production of knowledge and aims to enable participants to record and reflect their community's strengths and concerns, to promote critical dialogue, and to reach policymakers. The Delphi method is an iterative process explicitly designed to produce consensus among participants. These methods have been adapted in the current study to suit the needs of the research question and are described below.

Pilot

The methods and initiating question for teachers were trialed in a full pilot with teachers test prior to recruitment for the study. Feedback from pilot participants was used to phrase the initiating question.

Study design

This study employed a cross-sectional, single group design.

Sample

Nine teachers participated in this study, six were primary and three were post-primary school teachers. The mean level of teaching experience was 25 years (ranging from 3 to 46 years). The participants formed a convenience sample. They were recruited via a gatekeeper who distributed information on the study to a group of teachers attending a Teacher Education Centre for unrelated training.

Procedure

Research environment

The research was conducted in single room and teachers were seated at two tables. All teachers participated in a group warm-up activity whereby all teachers introduced themselves. The research was explained and consent sought for both participation and audio recording of the process. The research question was provided verbally and on a flipchart for teachers. The researcher remained in the room throughout the process and responded to all queries from teachers.

Stage 1 - Data generation

Teachers were first asked: 'What would you need to implement a new programme in the school?' Each teacher was asked to brainstorm on their own and then to write each of their individual ideas on a single piece of card.

Stage 2 - Category creation

Next the cards were collected, combined and shuffled. Teachers were divided into two sub-groups, each was given half of the cards and invited to assign the cards into categories. The sub-groups created as many categories as they wished. Once created, the categories were given a title by the sub-groups which was affixed using a separate index card. Each category thus comprised a collection of index cards and a title. At this point the sub-groups were free to add extra dimensions (categories) if they so wished and extra blank index cards were provided for this purpose.

Stage 3 - Schema development

The categories created by each of the two sub-groups were swapped between them, and the sub-groups were invited to create a schema (a structured/organised framework) with the

category labels. Sheets of A2 paper, reusable adhesive putty, and markers were provided to assist the sub-groups in the construction their schema. It was explained that the schema could be in any shape or form. Teachers were invited to add arrows if they felt a relationship existed between any of the categories in their schema. It was explained to that the arrows could be unidirectional or bidirectional and that there was no limit on the number of arrows. Each schema comprised the organisation of a group of categories.

Stage 4 - Feedback

The entire group was brought back together and teachers were asked for feedback on their schemas and the overall research process.

Analytical framework

As this research study was participatory, the data were both generated and subsequently analysed by the teachers who took part according to the stages detailed above and as evidenced in the schemas created from each other's data. Through discussion and working in small groups, teachers led an adapted inductive approach to the analysis. The main deviation from traditional inductive analysis was during the 'open coding' stage which, for this research approach, sits in between the 'idea generation' and 'category creation' stages. The adapted 'open coding' analytical stage took place in a group context and was solely through dialogue between teachers while grouping and creating categories from their index cards. Although similar to an 'open coding' process; the approach was fluid, teacher-led, and focused on category and not code creation and therefore should be considered an adaptation. The final analytical stage of abstraction was applied when the teachers created schemas with the categories created and indicated the relationships between categories (if any). The audio tapes of the category creation stage were used to extract verbatim quotations from teachers to elucidate the process and these are included where relevant in the results below.

A second layer of abstractive analysis was the final stage of analysis. This was a broader level of abstraction which involved comparing and contrasting the schemas and to comparison of the findings to the extant literature. This final stage represents a marked shift away from presenting the data in solely participatory fashion whereby, for the purposes of this paper; there is an additional lens to situate the findings within the literature.

Results

The cards, categories, and schemas developed by participating teachers are presented sequentially in this section, alongside description of the process undertaken by the teachers.

[Insert table one here]

Category creation

Group A developed six categories from 28 individual cards. The individual cards that comprise these six categories are detailed in Table 1. Time was raised very frequently, and was the first category to be created by the group. As one teacher said, *“time is major”* and another stated: *“there’s certainly a category there”*. After creating this category, the teachers in this group referred to the importance of time and the major role it plays in programme implementation. It was suggested that spending time on a new subject affects both time management and attitudes towards other subjects.

Another category created by teachers was labelled ‘incentives’. One teacher was unsure about what type of category to create for these components. This teacher suggested incentives but looked to all the other group members for their opinion. No member could think of any other fitting category name and ‘incentives’ was eventually agreed upon. It was agreed that ‘advertising’ did not belong in the incentives category and it was then set to the side.

The ‘Public Relations (P.R.) - Perception is everything’ category was formed after a lengthy discussion among teachers. Some teachers were trying to interpret the meaning of the ‘good advertising’ card, with one teacher stating: *“what they really meant is that you’d have to advertise it amongst the staff and sell it to them”*. The teacher who had created the card was in this group and identified that it was theirs; they explained what they meant by ‘good advertising’: *“having implemented a couple of new subjects down the years, the staff wouldn’t have a clue, what’s that about? (gives example of a programme)... and I found with parents and other things that you kind of have to put it out there and almost have a kind of information night”*. Some teachers liked the concept of an information night.

The group moved on to discuss the card ‘early win’. It was decided that an ‘early win’ was about Public Relations (P.R.) and getting the programme off to a good start. This component

was then paired with the ‘good advertising’ card and the ‘P.R.’ category was created. A teacher said “*perception is everything*” which was approved by the group and written beside the category title. During the later development of the schema, the ‘incentives’ and ‘P.R.’ category were merged.

This ‘resource’ category was created quickly and easily by the group and prompted little discussion. Similarly, the ‘training’ category was clearly and quickly identified by the group. The category ‘collegiate or management support’ was created following some discussion among group members. Initially this category was labelled collegiate support. However one member of the group felt that the different types of support were not accounted for. A brief discussion took place about the different forms of support and the group agreed to broaden the category by calling it collegiate/management support.

Group B developed three categories from 28 individual cards (see Table 1). The group created their categories rapidly and with much less discussion than group A. The category ‘department directive’ was the largest developed by the group B and is very broad. The term Department and the abbreviation DES both refer to the national Ministry of Education. The remaining categories were ‘internal support’ and ‘time/support’.

Schema development

Both groups created schema with the categories that had been developed by the other group. Each schema is presented and the process for their development is described below. Group A developed their schema with the categories from Group B. Schema A is presented in Figure 1, where directional arrows indicate the relationships between the categories.

[Insert Figure one here]

The group created Schema A quickly and with little discussion. The participating teachers placed ‘incentives’ and ‘perception’ on the top of the schema as, according to the group, there was a need for this to be correct. This category included components that related to exploring teacher interest and willingness to teach the subject. Participants interpreted the components of the incentives/perception category as being integral to programme success. This is further

exemplified by the placement of bidirectional arrows from the incentives/perception category to both the resources and time categories. When discussing the schema, teachers alluded to the priority of programme acceptance over all of the other programme components. One teacher highlighted that if the incentives and perception of a programme were not right, there would be difficulty at the training stages. The process of creating Schema A was described by a teacher:

“We took your (nods to other group) headings and what we felt was that the incentives and perception ... if they’re not correct, then you won’t get as far as here (points to training, time and resources) ... so any of the incentives ... and perception create whatever goes on here, if you haven’t got them correct then you’re in difficulty as regards the training and what happens and we saw these very much tied together the training, resources and time because they’re to some degree internal but they’re also external ... then we felt the base of it really was ... that you need the collegiate and the management support, is what ye have (looks to other group), and also to tease out that without this as a base (collegiate/management support) ... then the whole thing isn’t a success”.

Group B created their schema with the categories developed by group A. Schema B is presented in Figure 2.

[Insert Figure two here]

The group discussed how to present the categories and the possibility of creating a hierarchy. They also discussed the need for both time and support from the Department of Education but that these elements were also required from the school. It was decided that everything was interdependent but the group debated which was most important: *“sure you could get the training and resources and no-one would want to do it”*. One teacher commented that *“it’s the person at the top that makes all the decisions”* and this prompted further discussion. It emerged that the support from management was considered most important, with one teacher stating: *“you could have all the money in the world and all the resources and yet it couldn’t be implemented because the localised level... if it’s not going to be accepted, it’s not going to*

happen". Following this, the group decided to put 'department directive' in the middle with everything else originating from it.

The different types of support were discussed and this evolved into a conversation about the practicalities of implementing a new subject. This included two teachers relating real life examples of trying to implement a new subject from their own teaching experience. Teachers mentioned that there was the incentive to do it, but not enough time. Finally, the category 'time' was placed at the top of the schema.

The importance of Department of Education support and directive was discussed again with comments such as: "*if the Department pushes it, you have to do it, there's no question*", "*if it's going to be examined in the junior cert or leaving cert¹, we have to do it*" and "*the department has to force you really*". The model was then finalised, with the unidirectional arrows originating from department directive to both the internal support and time/support categories. The process of creating Schema B was described by a teacher:

"Everybody felt really unless the directive came from the Department that schools wouldn't implement a new subject, so without that nothing at all would happen and as I suppose this is here, the internal support is the school and you know what's happening internally in the school needs the support from the department and so the time and support as well can be both external and internal but really we all felt that without the, the department pushing it you just couldn't implement a subject, that was central to the whole thing."

Comparing the schemas

Interest and willingness

In both schemas emphasis was placed on the importance of: interest, willingness, incentives, and perception. Localised acceptance was highlighted by both groups and it was felt that without such support, there would be difficulties with implementing a new programme.

Supports

¹ The Junior and Leaving Cert. are state examinations for post-primary students.

The need to be equipped with the appropriate skills was highlighted in both schemas, as was the importance of support in various forms and at different levels. ‘Collegiate/management support’ formed the base of schema A. This was indicated by placing the category at the bottom of the schema and using bi-directional arrows between this category and the rest of the schema. Within the category ‘collegiate/management support’, facilitating factors for programme implementation were broad-ranging and included: ‘general support’, ‘colleague support’, ‘equipment provision’, ‘school management support’, ‘qualified teachers’ and a ‘subject co-ordinator.’

In Schema B, ‘department directive’ contained the most components of any category and formed the core of the schema. This category was particularly multifaceted ranging from budgets and training to having a good rationale for the subject to be taught. The concept of support was stressed in both schemas, with perceived fundamental forms of support for programme implementation forming either the base or the core of the schema. In addition, the benefit of learning from other schools and teachers (often referred to as cluster training and support) was emphasised in Schema A.

Time, training, and resources were highly repetitive components and featured in many of the categories in both schemas. On the design of resources, Schema B included a component which relates to the design of subject materials by practicing teachers with specific subject experience and the improvement of the implementation of the subject if it is examinable. The importance of leadership was identified in both schemas and is evident in Schema B with ‘department directive’ forming the core of the schema and in Schema A, with ‘collegiate/management support’ forming the base.

Stakeholders

The role of the programme implementer, incorporating implementer feelings and perceptions, willingness, readiness and capacity to deliver a programme, and specific programme features, including curriculum and design, were also referred to throughout the schemas but to a lesser degree. Teachers primarily focused on the planning process and *how* the programme would be implemented.

There was little reference to other school stakeholders; programme delivery or how a programme was received; systems and organisational perspectives (including context); or

assessment and evaluation. There was a lack of reference to programme implementation monitoring, evaluation, and sustainability in both schemas. The way in which the programme would be delivered or students' responses did not feature as important factors.

Schema structure

The teachers' schemas are both presented as a hierarchy. In schema A, the base is the foundation of the schema from which the rest of categories emanate. In schema B, there is a core to the schema, upon which all other categories rely.

Discussion

The schemas developed by teachers, and the discussions which accompanied the process, illustrate the complexity of implementing school-based programmes from the perspective of teachers. The need for localised acceptance was emphasised by teachers which incorporated components such as interest/willingness, incentives, and perceptions of a programme. Support, time, training and resources emerged as common components. Students and other educational stakeholders did not feature in either schema. Structurally, the schemas are presented as a hierarchy and leadership is presented as structurally fundamental to both of them as it features in either the core or base of schemas.

The main components identified in both schemas were leadership and support. Leadership is identified as an important factor in the implementation process for example, in terms of setting goals, reaching consensus, offering incentives, and managing the overall process (Durlak and DuPre, 2008). This was discussed by teachers and also demonstrated through the positioning of leadership/support at the base/foundation of the schemas. The positioning of elements which relate to leadership at the core or base of the schemas is similar to the CASEL (2011) framework which places effective leadership at the core of implementing school wide social and emotional learning. The Greenberg *et al.* (2005) model places leadership at various stages of the implementation process, recognising the role leadership plays in planning a programme and programme support, the actual programme delivered, and at a contextual level. Teachers' reference to support in both schemas mirrors the complexity of the notion of 'leadership.' In the current study teachers identified the importance of collegial, school-level, parental, and the

Department of Education support in their schemas which all relate to leadership in either in an individual, institutional, or national capacity.

Teachers identified interest and willingness as important parts of the implementation process. The need to investigate teachers' interest and the appropriate promotion of a school-based programme links to the pre-planning implementation stages. The need for acceptance of a programme was also identified by teachers. As previously identified in other studies, teacher perceptions and attitudes towards an intervention are important factors to consider and can positively or negatively impact on implementation levels (Biggs *et al.*, 2008; Domitrovich *et al.*, 2008). Pearson *et al.* (2015) identified the need for pre-delivery consultation with parents and staff as vital when preparing to implement a school-based health promotion programme. As identified by Elias and Arnold (2006), even the strongest programme will fail if implementers are not aware of the problems or remain unconvinced of the programme necessity, or the requirements of a programme.

Teachers debated the underlying impetus for implementing a new programme in schools. It was identified that a programme must be mandated from the national Department of Education to be delivered. Despite this, it became clear through conversations, and in the schemas developed, that a programme would have to be accepted locally and also advertised to relevant stakeholders (although there was no reference to the inclusion of students). This tension between directed programme implementation and the interest and willingness to implement a programme was not discussed in detail between teachers although differing opinions on the matter were voiced. It would appear that even mandated programmes may not be delivered if they are not locally accepted. Exploring teachers' perspectives can inform the local adaptation of programmes to suit specific implementation needs and assists in uncovering some core aspects needed for local ownership. Local ownership is described as the adaptation of a programme in a local setting whereby adaptations made to a programme are considered to be a crucial element in deriving a sense of 'ownership' (Durkak and DuPre, 2008; Dusenbury *et al.*, 2003). These localised changes, however, must be balanced in a way that does not compromise the core of the intervention (see Buston *et al.*, 2002; Wight and Buston, 2003). This leads to deeper questions about school-based programme planning and also programmes which may be deemed more challenging to teach (such as sex education).

Facilitators of school-based implementation were identified by teachers. Time was identified as an important category as was training. Adequate teacher training is central to effective programme delivery (Domitrovich and Greenberg, 2000; Greenberg *et al.*, 2005) but also to teacher confidence. McGoey *et al.* (2014) reported that a majority of teachers highlighted ‘serious barriers’ to implementation. For example, 70% of teachers emphasised a serious lack of time as a barrier to implementing interventions (McGoey *et al.*, 2014). This is an interesting finding as although an intervention may succeed with regards acceptability, teachers may not feel that it is possible to effectively implement the intervention due to other factors. Although teacher burnout is often discussed in the literature (Shoji *et al.*, 2016) this sample of teachers did not refer to burnout specifically. There was however much discussion about the need for support and time.

It was also relevant to compare the structure of the published conceptual models and frameworks (CASEL, 2011; Greenberg *et al.*, 2005; Hall and Hord, 2006) to the developed teachers’ schemas. The teachers’ schemas were comparable to the CASEL (2011) framework, which places effective leadership at the centre. The hierarchal nature of the teacher-developed schemas differed to the published frameworks which situated concepts related to governance in the contextual part of the model and not as central or at the top, thereby dictating processes. This divergence is an example of the potential usefulness of exploring these issues in local or national contexts.

Quality assurance

Quality assurance was enacted in a number of ways. Particular attention was focused on the comprehensiveness of the initiating research question. This was achieved during the pre-planning stages and also based on feedback from pilot participants (through the recommendation that the research question was clarified and provided both visually and verbally to participants). The execution of the method in practice was in strict accordance with the research protocol and this also ensured that ethical principles were upheld. In order to support transparency on the process and underlying methodological assumptions: decisions taken during the pre-planning, analysis and write-up stages were clearly documented, detailed reflexive field notes were taken during application of the method, and continuous discussions were held with other researchers with experience of utilising a similar methodological

approach. The analytical approach and all aspects of the data have been described in detail to promote trustworthiness.

Limitations

There are limitations to this research approach, which requires participants to mainly work in groups and therefore, inter-personal interactions can impact on participation and decision-making processes. The method is task-focused, which can limit the amount of discussion generated at both the individual and the group level. It requires a self-directed approach to the exploration of participant's views rather than facilitator-led approaches that are frequently utilised in qualitative research. The focus is on participant involvement in a planned research activity, which simultaneously prompts discussion between participants. Although the role of the researcher in the process is greatly reduced, it should be noted that the research question was developed in advance and was not under the control of participants.

It is likely that the initiating question influenced the data generated by participants. This is inevitable as it is used to stimulate participants as part of the research process. The initiating question was piloted and subsequently altered following consultation with the pilot participants, but nonetheless could not be considered a universal question capable of stimulating participants into generating all relevant knowledge or perceptions.

A further methodological limitation concerns the limited extent to which it was possible to document interaction between participants. Group sessions were both audio-recorded and observed and notes on interaction were taken. However given the interactive nature of the activities that participants were involved in, and the cross-talk that was thereby generated, it was not possible to reliably link participants' statements with one another. Thus the quotes employed above cannot be considered to have been validated by other participants.

The two group activities, categorisation and schema development, are designed to mirror consensus development on which issues 'belong' and are related to one another. As a self-directed activity, this is not led by an experienced facilitator who could ensure that all group members have an equal input or that they understand the language or category titles being employed. Thus there is always the possibility that some participants did not fully agree with group outputs or did not fully understand the content of the developed categories.

It is important to acknowledge that the data and schemas presented here have been developed by a relatively small group of only nine teachers in a single location and thus the findings presented here are localised to that context. Such an approach was inherent to this study and drew on recommendations for such from Inchley (2006) and Stewart-Brown (2006). The method of participant recruitment, via a Teacher Education Centre, also presents threats to data interpretation. All participants were engaging in professional development and thus they may not be representative of teachers in general. While the teachers were clearly interested in contributing to knowledge development and possibly in the issue of programme implementation no data were collected on their implementation experience. All Irish teachers have been involved in programme implementation and curriculum change in recent years, thus all participants will have had some experience of implementation, but we do not know whether they were leaders in this area or if they were more generally sceptical or negative.

The lack of generalisability of the findings is an important limitation. While recognising the heterogeneity of the participants, they are all practicing in a relatively small geographic location and have some but not all professional characteristics in common, and it is impossible to determine the extent to which the same findings would result from a different group of participants. Nevertheless we propose this approach to assist in localising implementation planning within a school or geographical area and in that context it would be important that representatives of the relevant constituency be involved.

Implications of this study

Research implications

The findings from this study imply that there are structural and content commonalities between the developed schemas and published conceptual frameworks of programme implementation. Specifically with regards leadership and teacher motivation, it can be argued that there is some connection between the views of published theorists and this sample of teachers. There are also gaps that deserve further research, particularly the lack of reference to students and the concept of 'P.R.'.

The methodological approach described can be viewed as a simple, useful, and engaging way of exploring participants' views in a group setting. It can also be viewed as an alternative method to more traditional approaches, such as focus groups. As identified earlier, discussion

and engagement in the process is impacted by the specific research context and interpersonal characteristics. If applied with a group of teachers familiar with one another, or already working together in a specific setting, the quality of the interaction, and the value of paying attention to the discussions within groups is likely to be higher. There is potential to adapt this methodological process to include more structured discussion time to facilitate greater exploration of teachers views complementary to the dialogue created through task completion. To an extent, this would alter the naturalistic process of interaction between teachers but, if it was restricted to after schema creation, it may facilitate more conversation between group participants, and thus more insight into their views.

Practical Implications

Participatory schema development could be a useful resource for trainers working with specific groups of educators. The generated schemas provide detail on current perspectives, which could be helpful at key points of any training process. Furthermore, there is potential for this methodological process to be utilised during the pre-planning stages of programme implementation, either within a specific context such as school self-evaluation or development planning, but also for groups (for example, researchers, policy-makers, educationalists, and programme developers) aiming to develop or modify an existing curriculum or programme. With regards to the local ownership and local adoption of programmes, these data suggest some key factors that are potentially important in educational contexts across Ireland and other western countries.

Conclusion

The participatory research process provided useful, localised, insights into Irish teachers' experiences and perceptions of implementation. Teachers identified core areas for school-based implementation which related to: leadership and support in various forms and at various levels; time, training and resources; and incentives and willingness to teach. For some teachers, willingness and incentives to teach a subject took precedence over everything else. The top-down decisions which drive curriculum change were identified as important although it was recognised that there was a need for local acceptance of such changes. Students did not feature in any of the perspectives on implementation from teachers and were not considered as stakeholders who needed to be considered in terms of implementing a new programme.

Similarly, references to implementation monitoring, evaluation, or sustainability did not emerge from the teachers work.

The approach to schema development described is not complex or demanding of participants. The method relies on the existing perceptions and experience of participants and does not require participant training or substantive content input. The use of this method of data generation, categorisation and schema development would be useful to trainers and evaluators in targeting their work.

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