

Lessons from the field: Applying the Good Reporting of A Mixed Methods Study (GRAMMS) framework

Roslyn Cameron¹, Trudy Dwyer², Scott Richardson¹, Ezaz Ahmed¹ and Aswini Sukumaran¹

¹School of Business and Law, Central Queensland University, Australia

²School of Nursing and Midwifery, Central Queensland University, Australia

Abstract: The aim of this paper is to apply a quality framework for mixed methods studies referred to as the Good Reporting of A Mixed Methods Study (GRAMMS) framework which was developed by O’Cathain, Murphy & Nicholl (2008). Mixed methods research is an emerging methodological movement and one which is gaining in popularity across business and management fields. Those who have studied the use of mixed methods research in business have noted that a common criticism of mixed methods studies reported in academic journals is the lack of a justification or rationale for the use of mixed methods and how the study has integrated the data or findings from the study. The aim of this paper is to apply and therefore demonstrate what needs to be documented when reporting a mixed methods study. To do this we have applied the GRAMMS to a piece of field research already reported to a community based audience. The study utilised an exploratory mixed methods research design over three sequential phases and involved a combination of both qualitative and quantitative data combinations throughout the three phases. The research and its findings are now being prepared for academic publication through the process of applying the GRAMMS framework. We have documented this process as a means of assisting novice mixed methodologists who may be struggling with how they might report this new and emergent approach to research. The GRAMMS framework consists of six main points which address the rationale for utilising mixed methods as well as issues relating to the methodological choices attached to data collection methods, sequencing, sampling, priority of data, points of integration and data analysis techniques. The value of the paper lies firmly in the documenting of the GRAMMS application process and therefore how to best write up community based mixed methods field research for an academic outlet and audience.

Keywords: mixed methods research, GRAMMS, extended mixed methods notation system, data transformation, skilled migrants

1. Introduction

This paper applies the Good Reporting of A Mixed Methods Study (GRAMMS) framework developed by O’Cathain, Murphy and Nicholl (2008) to a field study which has been recently completed in regional Australia. The study was community based and guided by a Community Advisory Committee (CAC) made up of representatives from the community. The CAC members represented regional employers, government departments and, community groups and as such, enabled us to claim this as an exemplar of community engaged research. The study investigated the contributions made by migrants to regional communities by exploring the economic, social and cultural contributions of skilled migrants and their families to Australian society and in particular to the economic and social sustainability of Australia’s regions. A key finding from the study was the fact there is no one national data collection mechanism which records the location and economic activities of skilled migrants once they enter an Australian port. This lack of data meant the research team and the CAC needed to employ innovative ways in which to build empirical data that would contribute to pieces of the larger picture and to thereby attempt to answer the research questions posited.

The study was conducted by a multidisciplinary research team in conjunction with the CAC over a nine month period resulting in a report which was published for a community audience. The report was written specifically with this audience in mind and does not contain the level of methodological reporting required for academic publication. The report is being used by various community groups in the region as evidence of regional cultural diversity and how this diversity is contributing to regional sustainability, community cohesion and cultural inclusivity. The research team now wishes to publish the research and its findings in academic outlets.

To this end more sophisticated analysis and data integration will need to be undertaken. The process of applying the GRAMMS guides the research team in a process of reflexivity to enable the team to plan this next stage of reporting for academic publication.

A common criticism of mixed methods research (MMR) is the lack of explicit documentation and transparency of the reporting of mixed methods studies. The GRAMMS was developed for this very reason as a result of the study undertaken by O’Cathain, Murphy & Nicholl (2008) on health services research. In addition to the GRAMMS framework we have also applied Haneef’s (2013) flow of empirical research products and content and Sandelowski and Barroso’s (2003) typology of qualitative findings to assist us position the study. We also utilise the Extended MMR Notation System developed by Cameron (2012) and Newman et al’s (2003) Typology of Research Purposes to aid us in this reflexive and transformative process.

We present an overview of the study in terms of the study’s research design, aims, objectives and research questions which is followed by a discussion of Haneef’s (2013) flow of empirical research products and content and Sandelowski and Barroso’s (2003) typology of qualitative findings, to position the current state of the analysis of the study’s findings within the research process and its products. This will be followed by the application of the GRAMMS framework to the study as a process of reflexivity for preparing the study’s data (qualitative, quantitative and integrated) for academic publication.

2. The mixed methods study: Case study of skilled migrants in regional Australia

The study in its abbreviated form was titled *A case study of skilled migrants in regional Australia* and was conducted in the Gladstone local government area situated in central Queensland. The region is surrounded by resource rich basins which feed the Queensland resource sector with coal and coal seam gas/liquefied natural gas (CSG/LNG). Gladstone has a history of heavy industrial development, along with a large commodities harbour and port. People are attracted to the region because of the employment opportunities this industrial environment offers, along with the natural beauty of the surrounding waterways including the Great Barrier Reef.

2.1 Aim and purpose of the study

The overall aim of this study was to investigate the contributions of skilled migrants and their families to regional business and communities and to identify the factors which attract and retain skilled migrants in key workforces in regional areas. The research questions posited for the study were as follows:

RQ1: What economic, social and cultural contributions do skilled migrants and their families make to regional business and communities?

RQ2: What are the issues encountered by business and communities when employing skilled migrants?

RQ3: What support does business and the community need to provide to ensure they attract and retain skilled migrants and their families in regional areas?

RQ4: What support do skilled migrants and their families need to better assist them settle, become active members of communities and remain in regions?

RQ5: What are the implications of the study findings for policy and practice?

2.2 Research design

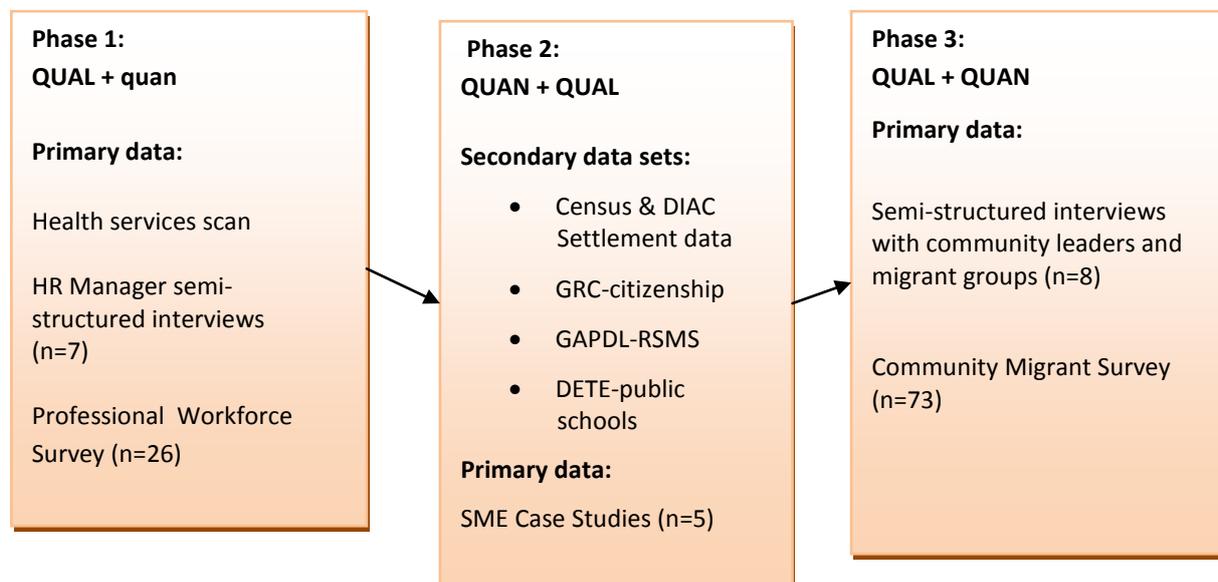
A sequential exploratory mixed methods design utilising both qualitative and quantitative data collection methods across three sequential research phases was employed for the study and was conducted over a nine month period. A sequential exploratory design utilises the first method (qualitative) to assist develop and inform the second method (quantitative) (Greene, 2007). This design is best suited to exploring a phenomenon

(Plano Clark & Creswell, 2008) and is useful when the researchers need to develop an instrument because one is not available (Creswell, 2009). Creswell and Plano Clark (2007) describe this design as follows:

In this design, the researcher first qualitatively explores the research topic with a few participants. The qualitative findings then guide the development of items and scales for a quantitative survey instrument. In the second data collection stage, the researcher implements and validates the instrument quantitatively. In this design the qualitative and quantitative are connected through the development of the instrument items. Researchers using this variant often emphasize the quantitative aspect of the study (Creswell & Plano Clark, 2007:77).

Our study deviated somewhat from this description in two ways. Firstly, there was three phases in the research with two quantitative instruments developed (Professional Workforce Survey and the Community Migrant Survey). The Professional Workforce survey was disseminated at the end of the first phase and the second survey (Community Migrant Survey) was distributed at the end of the third phase.

Phase 1 of the research involved a scan of Health Services in the region (QUAL), semi- structured interviews with Human Resource managers (QUAL) and the development and distribution of a Professional Workforce Survey (quan). Phase 2 involved the collection and analysis of an array of secondary data sets (QUAN) and a series of five case studies (QUAL) of small to medium sized enterprises that had used skilled migration. The third Phase involved interviews (QUAL) with community leaders and members of various ethnic communities (Indian, South African, Filipino and Jamacian) within the Gladstone region followed by the development and distribution of a Community Migrant Survey (QUAN). Figure 1 provides a visual depiction of the overall research design which has been adapted slightly from that presented in the community report (Cameron et al., 2012).



Source: Adapted from Cameron et al., (2012:37)

Figure 1: Summary of research design and phases

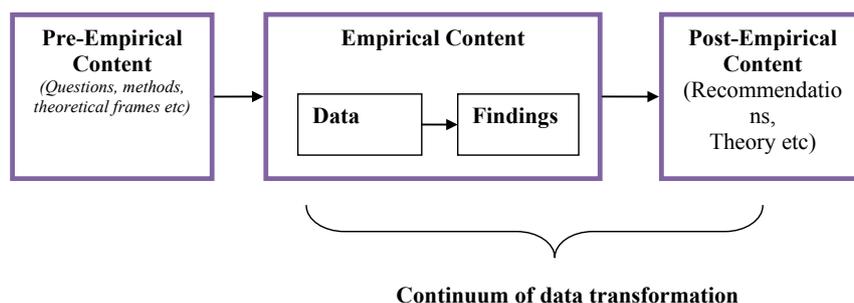
To a large degree the research was emergent and the difficulties faced in achieving access to data meant that decisions were made during the first and second phases to gain access to other data sources not planned at the initial stages. As a means to supplement the relatively failed attempt to obtain a statistically significant number of professional Workforce Surveys, the research team, in consultation with the CAC, opted for a series of case studies in Phase 2 and the development of a Community Migrant Survey in Phase 3.

2.3 Research team and community advisory committee

The research team was made up of academics from a regional university across three regional campuses and from three different discipline areas: human resource management, nursing and midwifery and tourism. The research team worked very closely with the Community Advisory Committee (CAC) who met regularly with the research team to advise, guide and provide access to secondary and primary data sources. As a result the study was an exemplar of community engaged research. Due to the composition of the CAC and the community engaged research approach taken, it was important the first research product from the research be targeted to the intended community based audience hence the publication of a report for the community (Cameron et al., 2012). The following section of the paper introduces two conceptual frameworks which assist the authors position the study for future data transformation and academic publication.

3. Research processes and products

This section of the paper introduces two conceptual frameworks: Haneef's (2013) flow of empirical research products and content and Sandelowski and Barroso's (2003) typology of qualitative findings) to assist us position the current status of the study within the boarder 'progressive development of research work products and report content' (Haneef, 2013:388). Haneef (2013) examined empirical research consolidation techniques for the purpose of presenting a generic overview or classification scheme of these techniques. As part of this process Haneef (2013) has broken down the elements of a research report. The resulting framework has been applied here to assist the authors in the process of data transformation required for academic publication of the identified community based study. Haneef (2013) refers to the breakdown of research report elements (depicted in Figure 2), as a simplified and notional version of empirical research. Empirical content includes the data collected and the findings which have been developed from it. The pre-empirical content includes 'material developed prior to data collection, such as theoretical frameworks, motivation, research questions, context, and methods. Post-Empirical Content includes material that is based on the findings as well as the experience from the research activity, such as generated theory, implications, discussion, and recommendations' (Haneef, 2013:388). In Figure 2 below we have added the concept of Sandelowski and Barroso's (2003) continuum of data transformation to provide a more comprehensive framework for the positioning of our study in the process being reported here. This second conceptual framework has also been helpful in assisting us to position the current study.



Source: Adapted from and Haneef (2013) and Sandelowski and Barroso (2003)

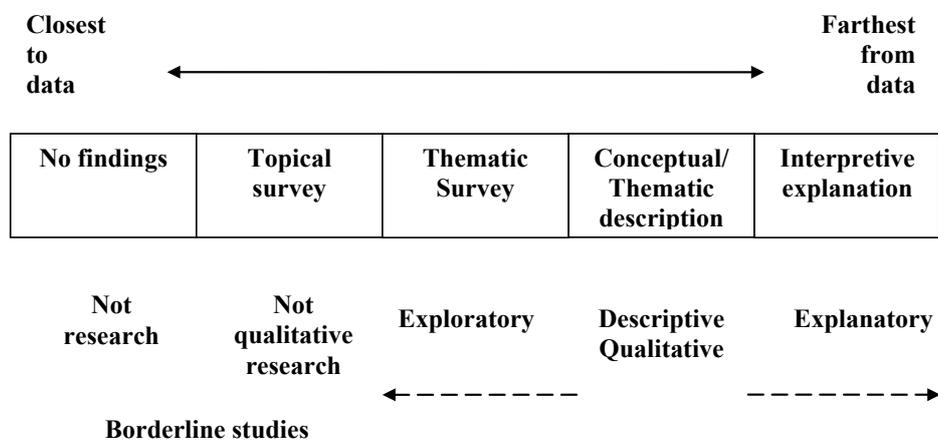
Figure 2: Flow of empirical research work products and report content

The typology of qualitative findings developed by Sandelowski and Barroso's (2003) and depicted in Figure 3 adds another dimension to the positioning of our research study despite the fact this framework relates to qualitative research and the study we have conducted is mixed methods. Sandelowski and Barroso (2003) developed this typology to explain the differences between qualitative findings in health research, 'What our typology does do is place findings on a continuum indicating degree of transformation of data, from findings that remain very close to data as given (e.g., a summary of informational contents from a manifest content

analysis of data) to findings representing many transformative moves away from data (e.g., a phenomenology of self-transcendence)' (Sandelowski and Barroso (2003:907-8). Figure 3 illustrates the categories in the typology on a continuum indicating their interpretive distance from data. A reference to the continuum of data transformation from this typology is mentioned in Figure 2.

Sandelowski and Barroso (2003) see a key feature of the typology as being:

... its emphasis not on what authors named their analytic and interpretive methods but rather on the contents and form of what they presented as the findings in their reports of the studies they conducted....A focus on the findings themselves reveals the kind of analytic and interpretive work actually performed, no matter what the research rhetoric.... Such factors as the presence, amount, and absence of verbal text, metaphoric language, quotes, numbers (e.g., frequencies, means, percentages), tables, figures, and other textual and visual displays revealed more about the methodological orientation of a study than any statements of method in the method sections of reports (Sandelowski and Barroso, 2003:909).



Source: Sandelowski and Barroso (2003:908).

Figure 3: Continuum of qualitative findings

The Sandelowski and Barroso (2003) typology/continuum assists us in positioning our study at its current state of data interpretation, or more specifically at the point directly following the production of a research product aimed at a particular community based audience. The degree of data transformation of the data reported in the community report for our study is much lower on the continuum of data transformation described by Sandelowski and Barroso (2003) than is anticipated for future academic publication. The process of applying the GRAMMS framework will assist us to progress the data analysis along this continuum.

We have positioned the published report from the study (Cameron et al., 2012) as the community based constituent audience research product from the study. It is important to indicate the intended audience when reporting research whether these be, practitioners, policy makers, funding agencies, community groups, general public, specific research communities or academic researchers. The Cameron et al., (2012) report is a research product intended for a particular audience with certain levels of data analysis and transformation best suited to the consumption and use of that particular audience. The typology allows us to position this report on the continuum at the exploratory stage with the aim of progressing the data transformation to the descriptive stage of the continuum.

Both Haneef's (2013) flow of empirical research products and content and Sandelowski and Barroso's (2003) typology are useful tools for researcher reflexivity. They enable researchers to step back from their research and begin to view and place the progress of the research along a continuum whereby they can begin to judge

the level of data transformation they have achieved and/or plan to achieve, ultimately with the view to publication. Both frameworks can assist researchers and research teams engaged in large long term projects but can also be very useful for those individual researchers undertaking doctoral research or individual studies can assist candidates and researchers benchmark their progress and set goals for future timeframes.

Sandelowski and Barroso's (2003) primary purpose for developing their framework was to assist researchers in being competent readers of research reports. 'A competent reader of qualitative research will understand the report as an after-the-fact reconstruction of a study and, therefore, be able to read reports for what they represent about what was likely done as opposed to what was claimed or intended. Our typology is primarily in the service of achieving that competence' (Sandelowski & Barroso, 2003:919). It is argued here that competent readers also become competent writers. The practice of critiquing and assessing research products can greatly improve a researchers own writing and therefore the quality of their own research products.

4. GRAMMS framework

The O'Cathain, Murphy and Nicholl (2008) study analysed 75 health services research reports through a quantitative documentary analysis of Department of Health funded research in England between 1994 and 2004. The aim of their study was to assess the quality of these mixed methods studies. The study found that the main quality issue was a 'lack of transparency of the mixed methods aspects of the studies and the individual components. The qualitative components were more likely to be poorly described than the quantitative ones' (O'Cathain, Murphy & Nicholl 2008:96-97). In terms of attempts to integrate the qualitative and quantitative data there were few if any attempts to do so as there was a 'tendency for researchers to keep the qualitative and quantitative components separate rather than attempt to integrate data or findings in reports or publications' (O'Cathain, Murphy & Nicholl 2008:97).

The study sought to examine the quality of the mixed methods studies in terms of describing and justifying the use of mixed methods, the use of mixed methods research designs, levels of transparency around the qualitative components of the studies and levels of integration of data and findings. The GRAMMS framework mirrors these concerns. Some of the questions generated by the study to assess the quality of the reported mixed methods studies included: Is the use of MMR justified and the MMR design described? Is the role of each data collection component clear and described in sufficient detail? Are these methods congruent with the research questions posed? Have issues of rigour and validity been addressed? What type of integration has been stated and is this appropriate to the design? Is there clarity about which findings have emerged from which methods and are the inferences appropriate? (O'Cathain, Murphy & Nicholl 2008).

As a result of the research and analysis the study produced the Good Reporting of A Mixed Methods Study (GRAMMS) framework to encourage quality reporting of mixed methods studies. This six-item framework includes prompts about the 'success of the study, the mixed methods design, the individual qualitative and quantitative components, the integration between methods and the inferences drawn from completed studies' (O'Cathain et al., 2008:92). The GRAMMS includes the following set of quality guidelines:

1. Describe the justification for using a mixed methods approach to the research question
2. Describe the design in terms of the purpose, priority and sequence of methods
3. Describe each method in terms of sampling, data collection and analysis
4. Describe where integration has occurred, how it has occurred and who has participated in it
5. Describe any limitation of one method associated with the presence of the other method
6. Describe any insights gained from mixing or integrating methods

(O’Cathain et al., 2008:97).

The paper now begins a process of reflexivity by applying the GRAMMS as a means to position the next stage of the data analysis and integration of our own study. Each of the six steps of the GRAMMS will be systematically applied to the study and will generate recommendations to enable the future submission of research products (journal submissions) for academic audiences.

5. The reflexive process: GRAMMS

The following section of the paper reflexively addresses each of the six key prompts from the GRAMMS framework.

5.1 Describe the justification for using a mixed methods approach to the research question.

Researchers demonstrate and prove validity when they ‘can show the consistency among the research purposes, the questions, and the methods they use’ (Newman, Ridenour, Newman & DeMarco 2003:167). There needs to be methodological logic between the key aspects of the research. The justification of the use of a mixed methods research design was not fully explained or explored in the original research report to the community, suffice to say that it was used to address a complex problem:

Mixed methods ‘are used when the phenomena being studied is considered complex and beyond the reach of a single method’ (Morse & Niehaus 2009, p.15). Mixed methods research provides opportunities for presenting a greater diversity of divergent views and can provide stronger inferences (Teddlie & Tashakkori 2003, p. 15)’ (Cameron et al., 2012:36).

It is recommended that the next iteration of the reporting of our study and its findings will contain a full justification for using the overall mixed methods research design and will also explicitly address each data collection method within each Phase. Each of the five research questions will be discussed in terms of how the data could be most effectively and appropriately integrated to answer the questions. This discussion will draw upon: the lack of national, state or regional data collection mechanisms, the complex nature of the phenomenon being investigated, the lack of a substantial research base to draw from (as identified in the review of literature), the difficulties gaining access to data sources in industries experiencing high pressures related to world commodity prices, mergers and acquisitions and re- structuring and limited resources and timeframes.

5.2 Describe the design in terms of the purpose, priority and sequence of methods

In the report published for the community from our study the purpose was not made as explicit as it could have been. For future academic publication this will need to be addressed by drawing upon the literature within the MMR community which refers to purposes for utilising mixed methods research. To this end the typology of research purposes developed by Newman et al’s (2003:175) will be applied. This typology contains nine main research purposes:

- Predict
- Add to the knowledge base.
- Have a personal, social, institutional, and/or organisational impact.
- Understand complex phenomena.
- Test new ideas.
- Generate new ideas.
- Inform constituencies.

- Examine the past.

Our research, as it was reported to the in late 2012, had a key purpose of informing constituents of the wider community. Newman et al., (2003) have provided more specific sub-purposes under each of these nine main research purposes. For the main category of “Inform constituencies”, a further seven more specific purposes are listed as follows:

Inform constituencies.

- Inform the public.
- Heighten awareness.
- Public relations.
- Enlighten.
- Hear from those who are affected by treatment/program.
- Describe the present.
- Comply with authority

(Newman et al 2003:177).

Of these, all with the exception of the last (*Comply with authority*) were directly related to the purpose and intention of our research. Other research purposes that will be tabled in future reporting of the research will include “Add to the knowledge base”, “Understanding a complex phenomenon” and “Measure change-measure the consequences of practice”. These purposes will be prioritised and discussed in much greater detail. We will also draw from the purpose for utilising MMR developed by Greene, Caracelli and Graham (1989): Triangulation; complementarity; development; initiation and; expansion.

The priority and sequence of the methods across all the phases of the study was influenced greatly by the timeframe, funding and contextual issues (access to data sources) and to a large extent the choices made were emergent. The priority and sequence of methods was described and documented in the methodology section of the community report with a figure similar to that of Figure 1 in this paper (see Figure 6 in Cameron et al., 2012: 37), however greater detail will need to be included in future submissions for academic audiences

It is recommended that to address this item from the GRAMMS, Newman et al’s (2003) typology of research purposes and Greene, Caracelli and Graham’s (1989) purposes for utilising MMR will be employed in a discussion of purposes for using a MMR design followed by an in depth discussion mapping the methodological choices made for the use of mixed methods across the three phases and corresponding explanations for the multiple data collection processes and instruments that were employed. The use of the jigsaw puzzle metaphor will be utilised in this discussion to assist with meaning making. Metaphors are literary devices used to describe qualitative (Richardson, 1994) and mixed methods research (Bazeley & Kemp, 2012).

5.3 Describe each method in terms of sampling, data collection and analysis

One of the best ways to describe the sampling, data collection and analysis in a mixed methods study is to utilise the newly developed Extended MMR Notation System developed by Cameron (2012), especially when the study is phased and as complex as the one being reported. Cameron (2012) developed this system by expanding on the existing and established mixed methods notation system which has evolved and been commonly adopted by the MMR community when reporting MMR studies (see Creswell and Plano Clark, 2007). The Extended MMR Notation System summarises the discussion and description that needs to be detailed in the body of the reporting (data sources/samples, sample sizes, data collection instruments and the analysis undertaken for each data collection method). The Extended Mixed Methods Notation System notates data samples as either primary or secondary (DS:Primary or DS:Secondary), identifies sample sizes [S-SIZE:

(n=45)]and whether data collection instruments and data analysis techniques are either qualitative or quantitative (INST:ql or ANSIS:QT). An example of this is presented in Figure 4 which depicts the Extended Notation System for Mixed Methods Research applied to Phase 1 of the research.

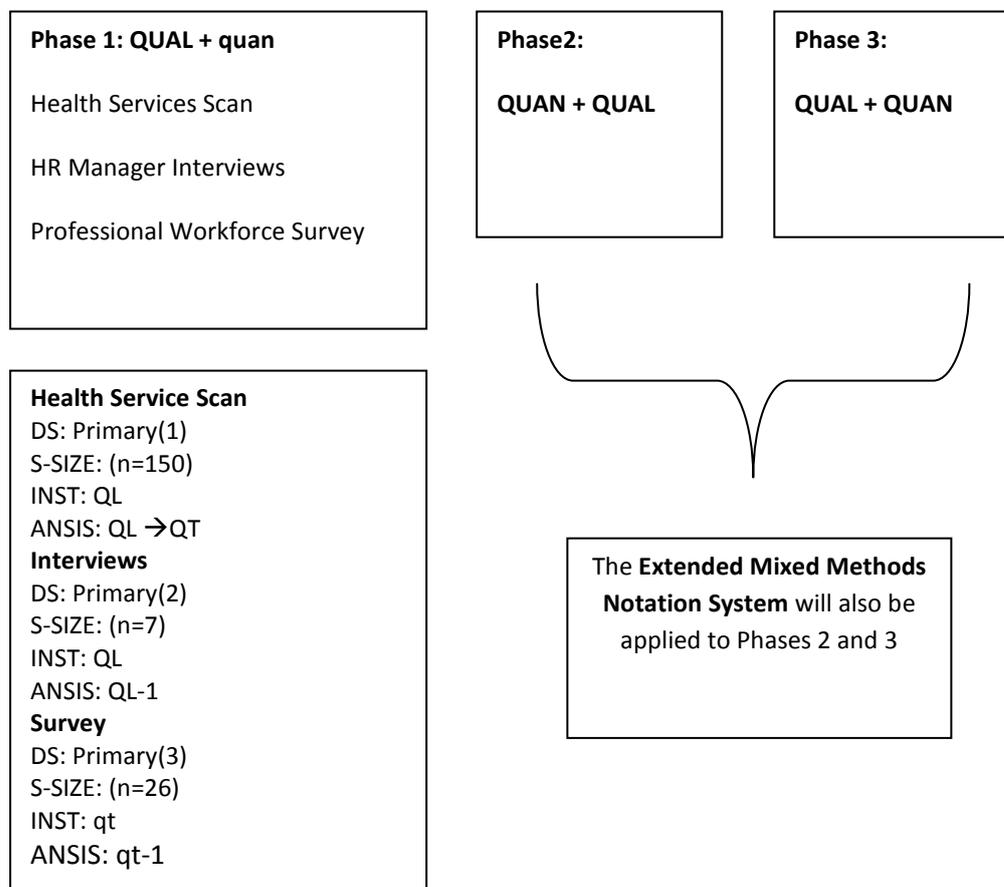


Figure 4: Applying the extended mixed methods notation system to Phase 1

Given the second point of the GRAMMS, the authors will ensure the explanation and visual depiction of the study for future academic publication will be enhanced through the application of this system. This will provide greater clarity in terms of the purpose, priority and sequence of the methods across the three phases.

5.4 Describe where integration has occurred, how it has occurred and who has participated in it

Data integration was not reported in the community report which was written and presented to the community in late 2012 (as per the project timelines). It contained basic sets of descriptive data and analysis. For some data collection methods the samples were too small to be of statistical significance and so planned analysis could not be undertaken. More sophisticated data analysis is now occurring in preparation for academic publication. The writing of this paper is part of that data transformation process and will be influential in determining what data integration will be analysed and reported. The use of the Extended Notation System for Mixed Methods research mentioned above will assist in this process as the system notates data sources (primary and secondary), sample sizes, data collection instruments and data analysis techniques for each data collection method. This will be particularly useful when documenting data integration where various configurations of data integration is described and presented to address the research questions posed. It is recommended that for each research question data integration will be presented. An example of how this will be configured is presented below in relation to RQ1:

RQ1: What economic, social and cultural contributions do skilled migrants and their families make to regional business and communities?

RQ1	Data
Economic contributions	<p><i>Phase 1:</i> Health Services Scan (QUAN) , Interviews with HR Managers (QUAL), Aspects of Professional Workers Survey (eg occupations and educational qualifications) (QUAN)</p> <p><i>Phase 2:</i> Population capital data from secondary data sources (QUAN), Case studies of SMEs (QUAL)</p> <p><i>Phase 3:</i> Interviews with community leaders (QUAL)</p>
Social Contributions	<p><i>Phase 1:</i> Aspects of Professional Workers Survey (eg joining of community groups and volunteering) (QUAN)</p> <p><i>Phase 3:</i> Interviews with community leaders and representatives from ethnic groups (QUAL), Aspects of Community Migrant Survey (QUAN)</p>
Cultural Contributions	<p><i>Phase 1:</i> Aspects of Professional Workers Survey (QUAN)</p> <p><i>Phase 2:</i> Data from secondary data sources that demonstrate levels of cultural diversity within the region (QUAN)</p> <p><i>Phase 3:</i> Interviews with community leaders and representatives from ethnic groups (QUAL), Aspects of Community Migrant Survey (QUAN)</p>

5.5 Describe any limitation of one method associated with the presence of the other method

In the original report written for a community audience limitations were addressed in terms of the limitations of the secondary data collected in Phase 2 of the study. The discussion on the limitations of the study will need to be more comprehensive for reporting the study to academic audiences and will flow on from the application of the Extended Mixed Methods Notation System to be applied when addressing item 3 of the GRAMMS.

It is recommended that the limitations of using the methods chosen with the presence of the other methods will be addressed in reporting this research to academic audiences through a discussion of the limitations of each data collection method, within each of the three phases of the research and, across the three research phases. Given the exploratory nature of the study and the three phase structure, the metaphor of a jigsaw puzzle and jigsaw puzzle pieces will be employed to create and transfer greater meaning in this discussion.

5.6 Describe any insights gained from mixing or integrating methods

The mixing of methods was necessitated by the data void the research team uncovered in attempting to obtain reliable empirical evidence as to the presence and numbers of skilled migrants and their families in a regional area in Australia. This in itself was a significant finding. Much greater insights and an array of perspectives were gained from the use of a three phased MMR design as could not have been obtained from single (monomethod) or even multi method research designs. These methodological approaches would not have been able to address the data void or collect an array of perspectives (multiple data sources) or obtain the richness of data required to address the research questions posited. The combination of both secondary (QUAN) and primary data (QUAN and QUAL) collected from a variety of data sources within the community enabled the study to put together some of the pieces of the puzzle to what is a complex phenomenon. As a

result, snippets of data, from across a range of data sources within the community were collected given the limitations in respect to resources and timeframes.

It is recommended that the study address these insights comprehensively both in the methodology and findings/discussion section of any future reporting of the study for academic audiences. This needs to be done honestly and with a high level of transparency and objectivity.

6. Conclusion

The purpose of this paper was to apply the Good Reporting of A Mixed Methods Study (GRAMMS) framework to a mixed methods research study so as to progress the study to academic publication from its humble first public appearance as a report for community consumption. The paper has outlined this applied undertaking and the frameworks and tools which have assisted in this reflexive and transformative process. What has resulted is a reflexive process guided by the GRAMMS and the desire to share our lessons from the field, in the hope that such an exercise will inform and assist other researchers in their quest to transform and report mixed methods studies well.

The paper presented an overview of the study (research aims, objectives, research questions and research design) before introducing the first of six conceptual frameworks and tools to assist the authors in this reflexive and transformative process. The first was Haneef's (2013) flow of empirical research products and content, followed by Sandelowski and Barroso's (2003) typology of qualitative findings. These frameworks allowed us to position the current state of the analysis of the study's findings within the research process and its products. This was followed by the application of the GRAMMS framework which allowed us to document a set of actions needed to prepare the study's data (qualitative, quantitative and integrated) for academic publication (as opposed to the community based constituent audience the study has already been published for). In addition to these frameworks the Extended MMR Notation System developed by Cameron (2012), the Typology of Research Purposes (Newman et al., 2003) and the MMR purposes (Greene, Caracelli, & Graham, 1989) was added to assist us document key items under the GRAMMS.

The value of the paper is threefold. Firstly, the paper offers researchers a guided reflexive narrative and plan, informed by several frameworks and tools, for the transforming of community based MMR study for academic publication. Secondly, the paper's explicit attention to the GRAMMS framework reinforces the need of those engaging in MMR to ensure they are reporting this research rigorously through explicitly documenting and arguing their respective methodological choices. Thirdly, the paper encourages the "competent reader" as outlined by Sandelowski and Barroso (2003), as well as, encouraging the competent MMR writer by offering an exemplar on how to address and counter the critiques commonly espoused in terms of mixed method research products.

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