**Book of Abstracts**

2018 Conference of the Mixed Methods International Research Association

University of Vienna, Austria, August 22 to August 25, 2018

This document contains the abstracts of the presentations and workshops held at the 2018 Conference of the Mixed Methods International Research Association. The presentations and workshops are listed in the order in which they appear in the conference program.

**First mix the claims; then mix the methods**

Nancy Cartwright, Durham University, Durham, UK

August, 22, 14.00 - 15.00, U10

Keynote speech

**Mentorship for Introductory Mixed methods research - MMIRA Sponsored Session**

Mandy Archibald, University of Adelaide, Adelaide, Australia

Collins, Kathleen (University of Arkansas-Fayetteville, USA); Burke Johnson, Elizabeth Creamer, Tony Onwuegbuzie, Donna Mertens, Vicki Plano Clark, Dominik Froehlich

August, 22, 15.15 - 16.45, SE33

Description: This mentoring session is sponsored by MMIRA. The purpose of this session is to provide beginning researchers (e.g., junior faculty, doctoral students) and researchers interested in learning about MMR an opportunity to share mentors’ expertise.

Format for Roundtables: The mentorship roundtables are 30-minute sessions wherein attendees meet, greet, and question a mentor on a pre-determined topic of interest (e.g., research design). During conference registration and throughout the conference, attendees will have the opportunity to sign-up for a mentorship session with one of six mentors. The sign up sheet will be located at the registration table. There will be a maximum of 5 attendees per mentor-table. The session will begin with a brief (e.g., 5 minute) overview of the selected topic and will then be open to questions and discussion. After the first 30-minute session, an announcement will be made and the second round of attendees will take their place at each respective roundtable. The session will be introduced, time-kept, and facilitated by Dr. Mandy Archibald. Local and internationally known mixed methods experts will be confirmed as mentors prior to the mentorship session.

Format for Group Discussion: To continue the dialogue within a whole group setting, at the conclusion of the second set of roundtables, mentors will be available to answer questions from attendees. The group discussion is 15 minutes. The session will be introduced, time-kept, and facilitated by Dr. Kathleen Collins.

Overall Structure of Session: The 90 minute time frame will be allocated as follows:

- 5 minutes: Introduction of MMIRA as the sponsor. Allow participants to locate their table of interest

- 30 minutes: Mentoring session 1

- 5 minutes: Change tables for session 2

- 30 minutes: Mentoring session 2

- 5 minutes: Organize group discussion

-15 minutes: Group discussion

Sign up Sheet Description (for attendees):

Are you interested in enhancing your understanding of mixed methods research (MMR)? What questions do you have for experts in the field of MMR? The purpose of this session is to provide beginning researchers (e.g., junior faculty, doctoral students) and researchers interested in learning about MMR an opportunity to share mentors’ expertise. The format is a small-group discussion with a mentor of your choice. This 90–minute session will allow attendees the opportunity to engage in discussion with two mentors. The session will conclude with a group discussion, whereby mentors will be available to answer questions from attendees. The process to sign up for the session is simple.

Identify a mentor

Sign your name below the name of the mentor in one of the 30 minute time-slots

Take note of the time and table number of your mentorship session, and please be punctual!

**The Quest for Integration in Mixed Methods Inquiry**

Noemi Novello, Università degli Studi di Milano-Bicocca, Italy

Decataldo, Alessandra (Università degli Studi di Milano-Bicocca, Italy)

August, 22, 15.15 - 16.45, U11

Within mixed methods inquiry, integration may follow two different aims: 1) a logic of complementarity, under which bringing qualitative and quantitative strategies together represents an attempt of information enrichment – to obtain a more comprehensive understanding of a phenomenon; or 2) a convergence perspective that focuses on the possibility to overcome single methods biases, through integration, considering that each technique has specific strengths and limitations. While the first objective appears rather unproblematic both theoretically and empirically, the second one poses some challenges, especially in relation to the elicitation of “meta-inferences”.

The purpose of our paper is to explore how the two perspectives of complementarity and convergence are intended and endeavored by mixed studies within the social sciences. In order to provide an answer to this issue, a research synthesis seems particularly appropriate, allowing an understanding of the existing strands within a specific research field. Expressly, it is supported here a research synthesis using a mixed strategy to investigate those studies located in the mixed methods area. This study partially refers to the framework of mixed methods research synthesis, which is «a systematic review applying the principles of mixed methods» [1, p. 662]. Still, this study would only consider mixed researches from a methodological point of view and it does not intended to merge findings from mixed, qualitative and quantitative researches.

After the identification and retrieval of relevant papers from a citation-based online database (Scopus, one of the most important within the field of social sciences), different analyses were necessary in order to answer to the research questions. An automated content analysis was helpful in order to classify the different approaches in the use of mixed methods, distinguishing between the theoretical level – what is declared – and the empirical one – what is implemented in the study. Facing a rather large amount of articles (4,785 records can be counted in the dataset and 2,985 papers were retrieved with full text), the choice was to lean only partially on manual coding, with a set of categories defined by us, and to take advantage of automated computer-assisted strategies. Moreover, in-depth interviews to selected scholars represent a chance to let actors’ point of view and perspectives emerge. Information from interview may also be compared to findings emerged from the analysis of papers.

Finally, results coming from the study presented here will be introduced, allowing a discussion on modalities in which the complementarity and the convergence aims of MMR emerge from the studies – both in the theoretical discourses and in the empirical research – as well as on the self-perception of mixed methods scholars.

[1] Heyvaert M., (2013), Mixed methods research synthesis: Definition, framework and potential, in “Quality and Quantity”, 47:2, 659-676

**Conceptual Models to Guide Integration during Analysis in Convergent Mixed Methods Studies**

Ellen Moseholm, Copenhagen University Hospital, Hvidovre, Hvidovre, Denmark

August, 22, 15.15 - 16.45, U11

Methodologists have offered general strategies for integration in mixed methods studies through merging of quantitative and qualitative data. While these strategies provide researchers in the field general guidance on how to integrate data during mixed methods analysis, a methodological typology detailing specific analytic frameworks has been lacking. The purpose of this paper is to introduce a typology of analytical approaches for mixed methods data integration in mixed methods convergent studies. We discuss three dimensions of data merging analytics, 1) the relational dimension, 2) the methodological dimension, and 3) the directional dimension. Five different frameworks for data merging relative to the methodological and directional dimension in convergent mixed methods studies are described: 1) the explanatory unidirectional approach, 2) the exploratory unidirectional approach, 3) the simultaneous bidirectional approach, 4) the explanatory bidirectional approach and 5) the exploratory bidirectional approach. Examples from empirical studies are used to illustrate each type. Researchers can use this typology to inform and articulate their analytical approach during the design, implementation, and reporting phases to convey clearly how an integrated approach to data merging occurred.

**Styles as an integration concept for mixed method research - Theoretical integration for mixed methods research**

Marco Schmitt, RWTH Aachen University, Germany

Barnat, Miriam

August, 22, 15.15 - 16.45, U11

Mixed Method Research is a multidisciplinary and highly diversified endeavor. This leads to ongoing unresolved discussions concerning the search for common standards of research conduct and evaluation. A central element seems to be the quest for an integration of qualitative and quantitative oriented techniques. Most of the time this quest leads to processual discussions on how to position these techniques in an unfolding MMR study. For example, we can observe complementary and generative strategies, as well as methods to ensure overall research quality (Caracelli & Greene, 1993; Onwuegbuzie, Johnson, & Collins, 2009; Plano Clark, Garrett, & Leslie-Pelecky, 2010). The missing link in these discussions is often a lack of concern with the epistemological commensurability, different levels of analysis as well as theoretical backgrounds of the methods used (Small, 2011). To overcome basic criticisms to MMR it is vital to focus not only on processual but also on theoretical integration. A theoretical framework can provide orientation with regard to questions of epistemology and analytical levels and therefore contribute to a common ground for research. However, there are different approaches to theoretical integration. Taking into account the literature, we will distinguish three ways of theoretical integration: a) The most discussed way is paradigmatical Integration (Sandelowski, 2000), which refers to broad theoretical threads like pragmatism. b) The approach most often practiced seems to be object-based integration, where theory about the research object guides the mixing of approaches. c) Additionally, we see conceptual integration as an underutilized way to achieve theoretical frameworks for MMR. Here, a theoretical concept provides the necessary guidance. We introduce conceptual integration with examples from network theory and analysis. Latest developments in the field introduce notions into network analysis that couple structural (and more quantitative) and meaning (more qualitative) dimensions more directly and thus are of value to a discussion concerning conceptual integration of MMR (Emirbayer, 1997; Mische, 2011). One such concept is Harrison Whites and Ann Misches “style” (Mische, 2003, 2008, White, 1992, 2008). It relates older ideas about blockmodelling and structural equivalence to new ideas about pattern recognition, signals and sensibilities of observers. Therefore, a style is concerned on the one hand with a quantitatively identifiable pattern (of relations), and on the other hand with the communicative value of this pattern as well as criteria for relating these pattern to relevant social identities. To analyze and evaluate styles, one has to mix qualitatively oriented techniques to understand sensibilities and signal quality of patterns with more quantitatively oriented techniques to observe and describe these patterns. Discussing some examples like persons as styles, online communities as styles, and publication cultures as styles we will highlight how conceptual integration works. We conclude with a comparison of the benefits and challenges of the different modes of theoretical integration.

**Sequential Mixed Methods Sampling: How Quantitative Secondary Data Can Support Qualitative Sampling Plans and Theoretical Sampling**

Andrea Hense, Sociological Research Institute Goettingen, Goettingen, Germany

August, 22, 15.15 - 16.45, U12

Mixed methods sampling has played a minor role in methodological discussions so far. In particular, there is a lack of information about practical implementations and critical reflections of sampling decisions and sampling steps showing the benefits and challenges of different approaches. Therefore, this paper demonstrates by drawing on an empirical example, how quantitative secondary data analysis (German Socio-Economic Panel, Linked Employer-Employee Data, Employment History) can support the empirically informed formation of contrast groups for qualitative sampling plans as well as field access to these contrast groups. Furthermore, I will show how an additional theoretical sampling can extend the empirically grounded composition of contrast groups and can build upon the quantitative secondary data. The discussion is based on a project with an explanatory sequential research design which combines quantitative secondary analysis with subsequent expert interviews with human resources managers in companies and narrative interviews with employees. The project focusses on the causes, practices, and consequences of employment relationships with an interrupted membership in the same employing organization (“recalls”).

**Thinking About Existing Data: Archival Mixed Methods Analysis Strategies**

David Reeping, Virginia Tech, USA

Repisky, Ashley (Virginia Tech, USA)

August, 22, 15.15 - 16.45, U12

After forming a purpose and research question(s), an inevitable set of choices to make during the design of the study involves deciding where to collect the data and from whom. While it is tempting to go forth and collect new data from the population of interest, a more practical approach exists; that is, simply using data already in existence. Considering the copious servers holding large files of quantitative and qualitative data, the potential to address a suite of research questions is ready to be tapped. While the researcher loses control over the design of the survey or experiment - in the case of using other researchers’ data - and must work to mitigate underlying issues of the dataset’s construction, considerable opportunities exist to not only save time and money, but creatively use mixing strategies beyond the inference stage - during analysis. Therefore, this demonstration session will focus on archival mixed methods analysis strategies. While all the data will be archival, the strategies are not exclusive to existing data.

To demonstrate the potential of archival mixed methods, we will present a series of examples of research designs using an existing dataset from a global engineering program at a large Mid Atlantic university. The dataset contains a wealth of qualitative and quantitative data including: journals maintained during a two week study abroad, three administrations of a cultural intelligence instrument, application data, and sixteen other items. Through exploring the available assignments and instruments, designs were proposed including the following components: purpose for using mixed methods, research questions, relevant data, and one of the strategies for mixing during analysis. The strategies to be discussed are: converting, extreme case sampling, creating a blended variable, blending across strands, and cross-case comparison.

Converting is a familiar strategy, as it is done using a simple data transformation from one strand to another - quantitative to qualitative or vice versa. Another common technique, extreme case sampling, involves selecting “cases” at the extreme ends of a sampling distribution due to their extraordinary nature. The remaining three approaches are used less in the literature. A blended variable is created through the consolidation of qualitative and quantitative data into a single variable, category, or factor while blending across strands uses a variable or category from one strand and tests it using data in another strand. Finally, cross-case comparison is the creation of holistic profiles by consolidating qualitative and quantitative data for purposes of comparison or testing. While each of the strategies could be used independently, multiple approaches could be used at once - which will be modeled within the examples.

In addition to the mixing strategies, approaches to thinking about identifying opportunities to mix in archival datasets will be presented.

**Atypical approaches to mixed methods integration: Data transformation via the qualitisation of quantitative data**

Delyth Wyndham, University of Chester, Wrexham, UK

August, 22, 15.15 - 16.45, U12

An explanatory sequential (QUAN→qual) mixed methods design presents the opportunity to transform QUAN data with a view to cogently informing the subsequent qual phase. Qualitising is seen much less often in the methods literature than quantitising (its opposite equivalent) and there is limited contemporary guidance on the data transformation process (Creamer, 2017). However, this connecting approach to integration has considerable practical merit and can evidence or further justify the need for a mixed methods study. The qualitising process can guide qual phase sampling, for example by informing a typology to identify which groupings can help best explain the QUAN results. Additionally, qualitising can substantiate or help refine the qual phase questions, for example when developing an interview schedule. Qualitising has potential to facilitate the emergence of insights otherwise obscured by or hidden within quantitative analysis and reporting (Sharland et al., 2017).

This paper explores a recognised approach to data transformation, whereby QUAN data is qualitised via the generation of narrative descriptions. Elliott (2005) describes narrative qualitising approaches as person-centred and highlights the comprehensive strategy outlined by Singer, Ryff, Carr, and Magee (1998). As recently demonstrated by Sharland et al. (2017) the initial steps of Singer et al.'s (1998) approach are a constructive way of generating narrative profiles (in their cases, life histories). The first two steps of Singer et al.'s (1998) strategy can be adapted to form holistic narrative profiles for discrete groups (Tashakkori & Teddlie, 1998). Rather than randomly selecting a set of participants in the first step as suggested by Singer et al. (1998), modal/average narratives (using mode or mean as appropriate to the data) can be developed to generate narrative profiles. In the second step, commonalities and variation within groups can be identified by creating a further comparative set of alternative narrative profiles. The modal/average profiles and comparative profiles may then be integrated to form holistic narrative profiles for each group of interest (Tashakkori & Teddlie, 1998). If indicated, the profiles can be analysed (e.g., using applied thematic analysis (Guest, MacQueen, & Namey, 2012)) to generate an initial set of codes/categories/themes which can be used (depending on the selected approach to qual analysis) as a starting point for analysis in the qual phase or for confirmatory purposes.

The utility of this approach is highlighted by an example longitudinal study, which (when contrasted with the large datasets of Sharland et al., 2017 and Singer et al., 1998) had a non-probability sample with a relatively small number of data points. The explanatory sequential study is used to show: the usefulness of qualitising for connecting phases; the practical advantages of the qualitising process and outputs; how qualitising can inform, supplement and/or confirm the subsequent qual phase; and challenges that may be encountered, and is an illustrative application of meaningful transformation-based integration in practice. The paper concludes by considering how to optimise conversion legitimation (i.e., generate quality meta-inferences) when qualitising QUAN data (Onwuegbuzie, Johnson, & Collins, 2011) and asking why this form of data transformation remains a fringe approach.

**Visual Joint Displays with Graphs and Images to Represent Mixed Methods Integration**

Timothy Guetterman, University of Michigan, USA

August, 22, 15.15 - 16.45, U13

Introduction:

Visual joint displays are a way to represent the integration of qualitative and quantitative research in mixed methods studies. Integration is an intentional process to bring together qualitative and quantitative research to generate new inferences (i.e., meta-inferences) that neither approach could alone. Constructing displays can facilitate the process of integration through their iterative development by providing a useful, cognitive framework for the mixing of methods. Joint displays are often in the form of a table (Guetterman, Fetters, & Creswell, 2015), but they may also include graphs or other images. This presentation focuses on joint displays that contain graphics or images that represent either quantitative or qualitative results, or both. The purpose of this presentation is to discuss the use of visual joint displays that contain graphics or images by reviewing their use in the published literature and recommending further innovations.

Method:

I conducted a literature search and review to systematically locate and analyze joint displays using graphics or images. First, I conducted a search for mixed methods studies using joint displays, tables, or matrices across Google Scholar, PubMed, ERIC, and the Academic Search Premier databases. The goal was to search an interdisciplinary group of journals that spans the social sciences, health sciences, education, and business fields. I screened articles for whether it included a joint display with an image or graphic and then analyzed articles for their mixed methods features: the mixed method design, qualitative and quantitative data sources, analysis methods, and integration methods. The goal of the analysis was to examine how researchers have used joint displays containing graphics or other images.

Results:

The results of my analysis indicated that the joint displays that incorporate graphics and images were typically side-by-side joint displays with a graph to represent the quantitative findings. The graphical and image joint displays were most common in convergent designs but found across designs. I will present the mixed features of the studies using these displays, the features of the displays themselves (e.g., types of graphs or images) and share five exemplar joint displays. The exemplar joint displays were selected because of the meta-inferences they communicate to the reader.

Methodological Implications:

Opportunities for innovating these joint displays include additional use of images (e.g., pictures), ways to visually share qualitative findings, other types of displays rather than side-by-side. Challenges to developing these joint displays may include the current software and the largely manual process of developing them. By sharing these exemplar, my goal is to help researchers consider the possibilities of representing integrated results in mixed methods studies.

**The analytic process of developing a joint display in a mixed methods study: An example from the use of Information and Communication Technology (ICT) in secondary schools in Jamaica project**

Tashane Haynes-Brown, The University of the West Indies, Kingston 7, Jamaica

Fetters, Michael (Department of Family Medicine, ANN ARBOR, USA)

August, 22, 15.15 - 16.45, U13

Joint displays of mixed data increasingly have become recognized as a powerful presentation of findings from empirical mixed methods studies. Here we argue for greater consideration of the development of joint displays as an analytical tool. To illustrate this claim we present an example of the mixed methods analytical procedures used in an explanatory sequential mixed method research project conducted in Jamaica. This project examined how teacher beliefs shape their decisions and actions in using Information and Technology (ICT) in secondary schools. Iterative versions of joint displays were constructed to merge the quantitative and qualitative data in a systematic way to find the most meaningful linkages between the two types of data and realize the benefits of mixing methods. To illustrate this point, we provide an illustration of how a joint display using bar graphs and observational qualitative data evolved and provided insights about the phenomenon of ICT use in the classroom that would not have been attained had the two data bases only been analysed separately. In the first iteration, we combined box plots and bar graphs from a Likert-scale beliefs survey with qualitative interviews and observational findings. In the second iteration, clusters of bar graphs were combined with observational data. In the third iteration we separated the clusters into individual bar graphs with more extensive qualitative findings in order to provide a more robust understanding of the individual constructs. This process shed light on a dichotomy between the quantitative and qualitative findings and resulted in further examination of the findings in order to explain more comprehensively what accounted for differences in teachers’ beliefs and use of information and communication technology in the classroom. The process we engaged in to develop the joint displays illustrates how building a joint display is an iterative analytical process that involves separating, redefining, reorganizing and discovering more robust relationships from the data is an analytical procedure. We conclude iteratively creating successively refined joint displays of mixed data should be considered as analytical approach with the finalized joint display manifesting as a representation of the merged findings.

**Developing Fully Integrated Joint Display Data Collection and Analysis Tools**

Jonathan Engelman, Kettering College, Kettering, USA

August, 22, 15.15 - 16.45, U13

This paper describes the creation and use of a joint display to collect and analyze data during a recent dissertation concerning conceptual change in physics education (Engelman, 2016). Joint displays help researchers integrate and present data sets more effectively (Fetters & Freshwater, 2015; Fetters & Molina-Azorin, 2017; Plano Clark & Sanders, 2015). A fully integrated mixed methods research design was used that required quantitative and qualitative data collection iteratively for each participant (Teddlies & Tashakkori, 2009). The need to collect data in this fashion drove the development of a joint display data collection and analysis tool. The quantitative strand included a pre/post-test that participants took before and after completing a set of interactive videos on the topic of Newton’s Second Law or Newton’s Third Law and was used to measure the effect of these videos on a participant’s learning. The qualitative strand included video of each participant completing the set of interactive videos as well as an audio-recorded video elicitation interview after the post-test. The qualitative data collection was designed to describe student experiences with each set of interactive videos as well as to observe and explore each participant’s conceptual change. A joint display data collection and analysis tool was developed to collect all this data for each participant in such a way that the quantitative data and analysis for a given participant informed the qualitative data collection and initial analysis for that participant. The dialogue between the quantitative and qualitative data as collected and analyzed through this tool allowed for greater insights into conceptual change than would have been made otherwise. This tool allowed for quick and efficient mixing of the data and yielded rich interpretations of how conceptual change took place for the study participants. With the growth of joint displays in mixed methods, exploring their development and use will be beneficial to the field of mixed methods research.

**Interactive Joint Displays in MAXQDA for Mixed Methods Data Analysis**

Stefan Rädiker, Berlin, Germany

August, 22, 15.15 - 16.45, U13

Data analysis software MAXQDA offers several possibilities to create joint displays in which qualitative data and quantitative data are presented in a single display (Guetterman, Creswell, Kuckartz, 2015). These displays allow users to integrate and mix different kinds of data for integration on the data level as well as on the results level.

One main advantage of using MAXQDA for mixed methods analysis is the ability to not only create static displays, but interactive ones. The interactive features allow users to adjust the display to their needs with a few clicks and to keep the connection to the original data material which was used to create the display at any time.

In the research tool demonstration I will focus on the ""Interactive Quote Matrix"". This joint display allows to build groups of cases by use of variable values (quantitative information) and to compare the coded text passages (qualitative information) of these groups. In the demonstration I will concentrate on the interactive functions of this display, especially the following:

Inspect different themes one after the other with a single mouse click

Include comments for coded segments

Add new or read existing notes on the original data material

Inspect the context of a coded passage in the original data material

Furthermore, we will take a short look at the ""Crosstab"" feature, which displays code frequencies (transformed qualitative information) by groups formed by variable values (quantitative information). This display has interactive functions to change the basis of calculated percentages and displayed numbers, to highlight values, and to select cases. It also can be used as a starting point to create an ""Interactive Quote Matrix"".

**Quantitizing qualitative data for use in a multi-level analysis: the case of explaining variation in emergency ambulance use**

Alicia O'Cathain, University of Sheffield, Sheffield, UK

Knowles, Emma; Bishop-Edwards, Lindsey

August, 22, 15.15 - 16.45, U14

Some patients who call an emergency ambulance are not transported to hospital. Some patients are offered telephone advice or treated at home. This is known as 'non-conveyance'. There is a two-fold difference in non-conveyance rates between the 10 large regional ambulance services in England in the UK.

We undertook a sequential mixed methods study to explain variation in non-conveyance rates between ambulance services. We undertook qualitative interviews with 50 managers and paramedics to identify factors affecting non-conveyance, followed by a statistical regression on 615,618 calls to test factors explaining non-conveyance rates between ambulance services.

Interviewees identified a range of patient-level, ambulance service-level and emergency and urgent care system-level factors affecting non-conveyance. When preparing the quantitative data set we could only identify data on patient-level factors and a few ambulance service-level factors. Therefore we further analysed the qualitative data within a multiple case study framework and quantitized themes for each ambulance service. This data was then used within a multi-level logistic regression.

We will present findings on factors affecting non-conveyance rates between ambulance services. We will show how patient-level factors did not explain variation between ambulance services but that ambulance service-level factors explained much of the variation. We will also discuss methodological challenges of quantitizing qualitative data, for example researcher and analyst blinding, direction of effect and credibility.

**Mechanisms and drivers of social inequality in phase II cardiac rehabilitation attendance: a Convergent Mixed Methods study**

Maria Pedersen, Denmark

August, 22, 15.15 - 16.45, U14

Background: Cardiac rehabilitation is an essential component of secondary prevention for patients with coronary heart disease. Social inequality in cardiac rehabilitation attendance has been a problem known for many years. To date the mechanisms driving inequalities in cardiac rehabilitation attendance are, however, still not fully understood. It is important to address these inequalities as patients with low socioeconomic position often face a higher burden of disease and modifiable cardiac risk factors and may thus be in greater need of attending a rehabilitation programme.

Aim: In this study, the purpose of the quantitative component was to investigate potential factors associated with cardiac rehabilitation non-attendance and to assess if these were differentially distributed among educational groups. The purpose of the qualitative component was to explore the patient experience of barriers to completion of cardiac among different socioeconomic groups. The overall aim was to explore the extent to which the qualitative and quantitative data converged and explain mechanisms and drivers of social inequality in cardiac attendance.

Method: The study was designed as a convergent mixed methods study (i.e. the quantitative and qualitative data were collected within the same timeframe). Joint displays were developed by merging findings from a quantitative prospective observational study (n=302) and qualitative explorative study with dyadic (n=12) and single (n=12) semi-structured interviews.

Results: Qualitative and quantitative findings primarily confirmed and further expanded each other; however discordant results were also evident. Socially differentiated lifestyle, health beliefs, travel barriers and self-efficacy were potential drivers of social inequality in cardiac rehabilitation attendance. Evidence of comorbidity, anxiety, depression and relatives as potential drivers of social inequality in cardiac rehabilitation attendance could not be provided.

Conclusion: This study integrated qualitative and quantitative findings related to factors affecting social inequality in cardiac rehabilitation attendance. Socially differentiated distributions of lifestyle and health beliefs as well as differential travel barriers are potential drivers of social inequality in cardiac rehabilitation attendance. Differential self-efficacy and experienced low self-efficacy regarding healthy lifestyle changes are potential drivers of differential lifestyles and thereby potential drivers of social inequality in cardiac rehabilitation attendance. The study adds empirical evidence regarding how a mixed methods study can be utilized to obtain an understanding of complex health care problems, e.g. social inequality in cardiac rehabilitation attendance. The study enabled a thorough and comprehensive understanding of some of the mechanisms driving social inequality in cardiac rehabilitation attendance. Moreover, mixing qualitative and quantitative data helped clarify the limitations associated with individual methods. The combined qualitative and quantitative data turned out to be useful for ensuring weakness minimization legitimation, i.e. that the weakness of one study design can be compensated for by the strength of a different research design. The design enabled expanded and divergent results to be found and discussed, e.g. enabled a discussion of how the quantitative, predetermined, and rigid variables failed to capture meaningful measures on their own.

**Marginalised young people's health system navigation: Using mixed methods in a narrative systematic review**

Fiona Robards, The University of Sydney, Westmead, Australia

Kang, Melissa (University of Technology Sydney, Ultimo, Australia); Usherwood, Tim (The University of Sydney, Westmead, Australia); Huckel Schneider, Carmen (The University of Sydney, Camperdown, Australia); Sanci, Lena (University of Melbourne, Carlton, Australia)

August, 22, 15.15 - 16.45, U14

Introduction

Systematic reviews are often complex and time-consuming, especially when considering multiple contexts, subject groups, study designs and analytical methods. This paper explores how a mixed methods approach informed a systematic review of how marginalised young people access, engage with and navigate health systems in the digital age. In particular, we describe the novel application of NVivo matrix queries in systematic reviewing. Mixed-methods analysis enabled the identification of differences between marginalised groups, since none of the studies in the retrieved articles targeted more than one group.

Methods

The review followed the PRISMA guidelines (Moher et al, 2009) and was and registered with PROSPERO (registration number: CRD42017058602).

We defined marginalised young people (12 – 24 years) in socio-cultural and socio-demographic terms, rather than by illness. In order to obtain a broad and rich understanding of their experiences, we studied eight marginalised groups: homeless, living in rural and remote areas, gender and/or sexuality diverse, refugee and vulnerable migrants, Indigenous, low income, young offenders, and young people with a disability. We also included studies that explored parents and professional’s perspectives.

A literature search included four databases and Google Scholar. We identified 68 qualitative, quantitative and mixed method research studies that met the inclusion criteria and had been published from high income countries, in any language, January 2006 - February 2017.

We extracted study characteristics and key findings regarding barriers and facilitators to healthcare access, engagement and/or navigation for each study into an excel file which was uploaded as a survey to NVivo, specifying the fields that contained qualitative and quantitative data.

We employed a strategy described by Bazeley (2012) that integrated multiple data components during analysis. NVivo matrix queries were used to make comparisons across categories (marginalised groups, healthcare setting and health issues) to identify the conditions where themes were most salient. Matrix queries reported themes in rows and the categories in columns and provide both numeric data (the number of articles in which the theme was identified) and access to the qualitative data.

Results

Our qualitative analysis identified eight themes across all marginalised groups. Using mixed methods allowed the identification of variation in themes between groups: themes relating to access, engagement and navigation were more salient for some marginalized groups. In contrast, comparison of themes for different healthcare issues and settings, indicated the themes appeared largely consistent across these dimensions.

Conclusions

A mixed methods approach can help the systematic reviewer move beyond broad synthesis across groups to make between-group comparisons and allows the integration of multiple data types within analyses. Within this systematic review, a mixed methods approach enabled the identification and analysis of between group differences.

**The use of mixed methods in health research in Brazil: integrative review**

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Fabrizzio, Greici; Silveira, Luana; Preis, Lucas; Kopsel, Monica (Federal University of Santa Catarina, Brazil)

August, 22, 15.15 - 16.45, U14

Mixed methods research involves the combined use of quantitative and qualitative methods in the same research study, and it is becoming increasingly important in several scientific areas, including health research. The use of mixed methods allows for a deeper understanding of a phenomenon of interest than the use of either a quantitative or qualitative approach alone, especially when the phenomenon is complex. However the application of mixed method in research has become popular internationally, this can vary according to the country. The aim of this study was to review the use of mixed methods approaches in the health research field in Brazil. This integrative review of the literature guided by a formal protocol and considered the following question: How the mixed methods approaches are used in the health research field in Brazil? Data were collected in June 2017 from the electronic database Latin American and Caribbean Center on Health Sciences Information (BIREME), without a defined time frame. Inclusion criteria for reports were full text and abstract available online and published in Portuguese, Spanish, or English. The keywords used for searching were: "mixed method", "mixed methods", "mixed research", "mixed method research", "mixed approach" and "mixed study". A total of 115 results were obtained and the final sample consisted of 35 manuscripts. The 35 selected manuscripts were published by 29 different journals and emphasized nursing, psychology and public health field, such as the Revista Latino Americana de Enfermagem, Revista Psicologia: Ciência e Profissão and Cadernos de Saúde Pública; which published four (11,4%), three (8,5%) and two (5,7%) of the reports we selected, respectively. The first article was published in 2005. An increase in the use of mixed method was observed from 2008, with the largest number of publications was concentrated in the year 2015, with 12 (34,3%) manuscripts. São Paulo, Rio Grande do Sul and Santa Catarina were the main states of origin of the productions, with 20 (57,1%) articles. The hospital environment and primary care were the main settings researched with 6(17%) and 5(14%), respectively. The mixed methods strategy used was specified in 19 articles: sequential explanatory (n=11; 57,9%), concurrent triangulation (n=5; 26,3%), and sequential exploratory (n=3; 15,8%). It was not possible identify clearly the mixed method strategy used in 16 articles. John Creswell's books were cited as methodological framework by 10 (28,5%) articles. This integrative review showed that the use of a mixed method in health research in Brazil is increasing. However, it is important that this growth be accompanied by the use of the necessary rigor to integrate quantitative and qualitative methods. The health field deals with several complex and multifaceted situations. The mixed method approach can help in having a more comprehensive understanding of the structure and functioning of them.

**How do perceptions of financial preparation for retirement explain the relationship between financial preparation and retirement delay in Jamaica?**

Julian McKoy Davis, Mona Ageing and Wellness Centre, Kingston, Jamaica,

Eldemire-Shearer, Denise (Mona Ageing and Wellness Centre, Kingston, Jamaica)

August, 22, 15.15 - 16.45, U15

Retirement is an aspiration of most workers, however the prospect of retirement can sometimes be daunting. The literature reveals that globally there are growing trends of retirement delay juxtaposed to a complementary trend of pension reform of an increase in retirement age in some countries. The desire to remain active and inadequate financial preparations for retirement are two common reasons for this practice. Although the international evidence exists, there was a paucity of evidence to ascertain the situation in Jamaica, hence the need for this study.

An explanatory sequential design was used to examine retirement preparations as well as the perceptions about and the reasons for retirement delay. The theoretical framework applied to the study were the Life-Cycle Theory of Saving and the Construal Level Theory. A subsample of 90 respondents who indicated that they would delay retirement were taken from a nationally-representative community based sample of 477 Jamaicans between the ages of 30 and 80 years old. Key informant interviews were conducted to solicit expert perceptions about retirement delay. The data were integrated during analysis. The Mixed Method approach was instrumental in providing an overall view of retirement delay contextualized by expert opinions.

Approximately 40.0% (n = 36) of the sample were men. The majority 84.4% of the respondents were categorized as middle-aged (between 30 and 59 years old), while 15.6% were categorized as older adults (between 60 and 80 years old). Most middle-aged respondents were women (63.2%), whereas, the majority of older adult respondents were men (57.1%). The majority of respondents (66.7%) reported that they had made no financial preparations for retirement. Most respondents had primary level education as their highest level of education (44.4%). There was a significant relationship between delaying retirement and the following: age, education, rural or urban residence, retirement preparation and employment category. Respondents who had secondary level education as their highest level of education were 55.6 % less likely to delay retirement in comparison to respondents with primary education and below. Respondents who were self-employed were 4.8 times more likely to have delayed retirement than government employees. Retirement preparations was protective against delaying retirement by 72.3 %.

Qualitative themes relating to financial literacy and a temporal view of retirement emerged from the interviews with key informants. Retirement preparation knowledge was construed as being generally low. Additionally, key informants felt that many persons have a temporal view of retirement being a far-off reality. Retirement preparation was deemed a priority the closer an individual is to pensionable age.

Between the year 2011 and 2016, Jamaica increased the pensionable age for women from age 60 to age 65 (the same as men). This additional working time is favourable particularly for middle-aged women. In the absence of proactive policy intervention geared towards increasing retirement preparation, more persons in the labour force will inevitably consider working beyond the pensionable age. These findings have significant bearing on demographic ageing, labour relations as well as social protection policies and services.

**Physical activity and sedentary behaviour pre and post retirement: a mixed methods protocol**

Karl Spiteri, Sheffield Hallam University, UK / Malta

Broom, David; Grafton, Kate (Sheffield Hallam University, U.K.); Xerri de Caro, John (University of Malta, Malta)

August, 22, 15.15 - 16.45, U15

Background: Civil servants in Malta have a mandatory retirement age of 63 years. The retirement transition may influence physical activity and sedentary behaviour, and is identified as a trigger for lifestyle change.

Aim: We aim to investigate physical activity and sedentary behaviour patterns during retirement transition, in Maltese civil servants and identify possible determinants of any identified change. This abstract presents the research protocol that will be used.

Methods / Theoretical framework: Investigating changes in physical activity behaviour during retirement transition needs to consider a number of socio-environmental factors therefore a mixed methods (MM) approach appears relevant. MM allows for paradigmatic pluralism emanating from the debates on its various epistemological and ontological foundations. Greene & Caracelli (1997) first suggested the dialectic approach to MM. This research will use a dialectical approach in MM with the opposing epistemological stances of objectivism and subjectivism used to address the research question. Correlation methodology based on post-positivist paradigm will complement narrative methodology based on a constructivist paradigm. A two-year longitudinal study with a sequential design, consisting of a quantitative component leading to a qualitative component (QUAN →QUAL) will be undertaken. A survey on physical activity and its determinants based on the theoretical domain framework will be used to collect data 1 year (±6 months) pre and 1 year post-retirement in a stratified random sample of adults approaching retirement age working within the Maltese civil service. Subsequently, a maximum variance sampling approach will be adopted to carry out narrative interviews with participants’ pre and post retirement, to explore how the retirement transition might have influenced their physical activity and sedentary behaviour.

Integration: Integration will occur at the sampling phase, where the outcome of the survey will be used to identify participants with different physical activity levels. Integration will also occur at the analysis phase and at the interpretation phase using data crystallization. Survey results will be analysed using stepwise regression and interviews will be analysed using narrative analysis. Both analyses will then be merged to highlight the differences in the findings and to generate new research questions. This approach will ensure the qualitative component is equal to the quantitative.

Practical application: Contrasting findings are expected due to mixing at different levels. This will provide rich data and a deeper understanding of how adults might experience physical activity and sedentary behaviour changes during retirement transition. The individual’s experience of the transition and the population determinants are two separate realities which must be considered to inform policy. The integration of both realities will ensure more holistic policy making and it is anticipated this research will identify further research questions where these two realities contradict.

**The Dilemmas of conducting a Mixed Methods Phenomenological Research (MMPR)**

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August, 22, 15.15 - 16.45, U16

A Mixed Methods Phenomenological Research (MMPR) combines research methods that are associated with both the qualitative and quantitative paradigms, within a single research with a Phenomenological positioning (Mayoh & Onwuegbuzie, 2015). Phenomenology positions a researcher to explore a phenomenon through the conscious and lived experience of that phenomenon (van Manen, 2014). The PhD research informing this paper sought to explore the consequences of experiencing low achievement in high-stakes examinations, using secondary school leavers in Awka, Southeast Nigeria as a case study. The phenomenon of interest was low achievement in Nigeria’s high-stakes Certificate examination for secondary school leavers. At the end of secondary school education in Nigeria, students are expected to sit for an exit Certificate Examination. The result of this examination is used to certify students' successful completion of secondary school and it is also a pre-requisite qualification for admission into higher education.

Every year, many students experience low achievement in these examinations and there is little research evidence about what happens to them afterwards, particularly in relation to how these examinations impact their educational aspirations. This research considered it important to give voice to these group of young people by trying to understand what it is like to experience low achievement in these high-stakes examinations and to explore the ways that it is impacting their lives and educational aspirations. This was the impetus for a phenomenological positioning. However, due to the impossibility of giving voice to many young people because of time and financial constraints, mixed-methods was considered a viable option for allowing the voice of more people to speak for the aspect of the research that would provide contextual framing. This research utilised Life-Grids and interviews in the qualitative phase of data collection, and questionnaires in the quantitative phase of the data collection. The aim of this paper is to show how a phenomenological positioning informed the analysis and integration of data collected through mixed methods, and to draw attention to the dilemmas that were encountered while doing so.

Keywords: Mixed Methods, phenomenology, low achievement, high-stakes examinations, Nigeria

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**Unequal Access to Well-Rounded Education in American Schools: Mixed Methods Study**

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August, 22, 15.15 - 16.45, U16

The Program for International Assessment (PISA), an international test that assesses school-age students’ performance on mathematics, science, and reading, was first administered in 2000. Since its inception, American students have consistently ranked lower than students in dozens of other highly industrialized nations (Ravitch & Cortese, 2009). In 2009, the non-profit organization, Common Core, released a report titled Why We’re Behind: What Top Nations Teach Their Students But We Don’t. This report highlighted the connection between well-rounded education, defined as one that includes studies in the arts, music, history, geography and social studies from the onset of schooling, and students’ achievement on PISA (Common Core, 2009, p. vi). Although researchers (Lucas, 2001; Marks, 2013) and U. S. lawmakers (e.g., Every Student Succeeds Act, U. S. Department of Education, 2015) emphasize the importance of equal access to a well-rounded education that includes the arts and music, many school districts across the nation do not offer such learning opportunities.

The purpose of this mixed methods explanatory sequential study was to identify factors contributing to unequal access to a well-rounded education in American schools by using descriptive quantitative evidence on the status of school orchestra programs as a secondary indicator of such an education. The study was also designed to broaden the understanding of this evidence by qualitative exploration of multiple perspectives related to this phenomenon, including the theoretical model known as “Effectively Maintained Inequality (EMI)” (Lucas, 2001).

The analysis of descriptive data collected from school districts in one of the three states located on the West Coast of the U. S. revealed that only 23 of the 197 statewide school districts, (11.7%) offered orchestra classes. Additionally, variations were found among the three largest school districts in the state, with one school district offering orchestra classes in all 65 schools and at all levels of schooling (an example of equal access to well-rounded education) and the other two offering orchestra classes in only one school each, both at the high school level (an example of unequal access to well-rounded education). These findings warranted further qualitative investigation to increase understanding of this variability.

The first point of sequential integration in this study involved using the results of the quantitative phase to select participants and develop the interview protocol for the qualitative phase. Data for qualitative phase were collected through in depth, open-ended telephone interviews with three school administrators, one from each of the three previously mentioned school districts. Three themes emerged: (a) effects of public measures and educational policies on music and orchestra programs in schools, (b) common and uncommon obstacles for music and orchestra programs in schools, and (c) efforts towards better future for music education and orchestra programs in schools. The second point of integration took place at the interpretation level of the study and it involved the strategy of complementary analysis of varied data sources (Bazeley, 2018). Finally, EMI theoretical model was used to strengthen the interpretation of the quantitative results and their corresponding qualitative explanations.

**Using Q-methodology to uncover stakeholders' views in an interpretation use argument (IUA) in the field of educational measurement**

Jerome De Lisle, The University of the West Indies, St. Augustine, Trinidad and Tobago

August, 22, 15.15 - 16.45, U16

Mixed methods research (MMR) may have the capacity to illuminate critical issues even in the mostly quantitative field of educational measurement (Collins, Onwuegbuzie, Frels, & O’Cathain, 2011). In standard setting, several researchers have explored panelists’ views using both quantitative and qualitative methods (De Lisle, 2015). The field of test validation offers another such opportunity. Test validation is an ongoing process to gather and evaluate evidence to support inferences and decisions based upon the test scores. Kane (2013) proposed an argument based approach in which the first step is to construct an interpretation/use argument (IUA) followed by a validity argument, in which evidence is sought for the proposed claims (Brennan, 2013; Chapelle, Enright, & Jamieson, 2008; Shaw, Crisp, & Johnson, 2012).

Kane (2006, 2015) made the IUA claims/assumptions central to the validation process. For high stakes tests, Kane (2002) argued that proposed inferences/uses must also be credible to stakeholders who might arrive at different conclusions based upon their values. Ryan (2002) explicitly called for the inclusion of perspectives from different stakeholder groups when validating high stakes assessments. In this study, I wanted to better understand stakeholders’ perspectives on the policy claims/assumptions of the 11+ examinations in Trinidad and Tobago (De Lisle, 2012). These examinations are very high-stakes because of the stratified secondary school system (London, 1989). Despite unintended adverse consequences, the examination retains some degree of legitimacy even among children (De Lisle & McMillan, 2017). Could it be that stakeholders consider the examination to be a “neutral referee” distributing scarce and valued resources? (Olmedilla, 1992)

To better understand stakeholder views, we used Q-methodology, a cross-disciplinary approach predating the current MMR movement (Ernst, 2011; Ramlo, 2016). Newman and Ramlo (2010) considered this qualitative-quantitative approach in the first MMR handbook. Q-methodology was ideal for this study because it captures the qualitative intensity of valuing (Stenner & Stainton-Rogers, 2004). The Q-concourse consisted of 60 statements extracted from policy documents. The final Q-sample were 37 statements categorized as domain description, evaluation/scoring, generalization, explanation/extrapolation, decision/use and negative consequences. The P-set consisted of 97 stakeholders-34 parents, 31 teachers, and 32 students aged 9-12. Both national organizations and schools were sampled, with 20 parents coming from the National Parent Teachers Association and 22 teachers from the University of Trinidad and Tobago. The rest of data came from stakeholders at four purposively selected school sites.

For each stakeholder group, two factors were obtained based upon analysis of z-scores. For parents these were (1) negative consequences and (2) selection as useful and efficient. For teachers, (1) limited validity and (2) improvement through classroom and performance assessment. For students (1) negative, unfair consequences and (2) high value with diagnostic possibilities. These findings suggest that the continued legitimacy of the 11+ in Trinidad and Tobago is founded upon both undisclosed fears and hopes for a fairer design through continuous classroom assessment. These views were consistent across stakeholders. I conclude that the pattern analytic capacity of Q-methodology offered an elegant and parsimonious ‘theory’ on the perceived credibility of claims from the stakeholder’s perspective.

**A is for . . . ? Eliciting teachers' assessment constructs using Repertory Grids**

Myles Grogan, Kansai University, Osaka, Japan

August, 22, 15.15 - 16.45, U16

This study, currently in its initial phase, investigates how six language teachers perceive students who get the grades that they give. It takes place in a large university in Japan, and is part of a larger project aimed at exploring what teachers’ grades from a compulsory language course mean to different assessment users. Using repertory grids, developed for use with Charles Kelly’s Personal Construct Theory, this research asks how teachers construe grades in terms of what they observe in their students behaviours, attitudes, or skills.

According to assessment literature, assessment allows test users to make inferences. Groups such as the International Language Testing Association stress that the goal of assessments need to be clear for this to happen (ILTA, 2007). However, rather than specific linguistic criteria, in this setting only general goals are given. Instead, teachers are required to use a norm-referenced approach with a quota of grades for each class. Given the absence of a target language use domain (Bachman & Palmer, 2010) or similar concepts from criteria-based testing, what are administrators, employers, or other institutions to make of the resulting grades? This grading approach seems to be a response to funding issues, making the consequences of adapting such an approach a pressing concern.

Repertory grids collect data on how individuals “construct” their perspective on a topic, and is best thought of as a structured interview technique (Fransella, Bell, & Bannister, 2004). This study asks teachers about a sample of students (“elements” of the grid) receiving each level of grade in a class. Comparing these students, teachers create “constructs,” or notable qualitative features of the students. Constructs are always bipolar (“outgoing” versus “shy”) rather than simple negating (“enthusiastic” versus “unenthusiastic”), and creation and clarification of these ideas make up much of the interview process. Once a construct is created, each student can be rated according to that construct, allowing further quantitative analysis. Content analysis allows for comparison between teachers and the constructs they use, slowly creating a picture of what can be inferred about each particular grade.

At present, four teachers have completed the interview, and a further two are scheduled for interview in January 2018. Initial findings suggest that learning behaviours such as completing assignments, helping classmates, and taking an active role in class correlate well with success. Some factors such as poor placement or a weak background in language study may correlate with poorer performance.

Experience gained in this study suggests the repertory grid technique provides highly relevant data for investigations into topics such as assessment and pedagogy. In addition, it offers participants in either research or professional development activities a useful and rewarding opportunity for reflection. As a technique, repertory grids provide a useful quantitative complement to Grounded Theory approaches (Hadley, 2017) or certain forms on narrative inquiry. Following the main content, the presentation will conclude with discussion of the appropriateness of Repertory Grids as a possible mixed method tool for further res

**Using mixed methods designs to investigate the effects of educational interventions**

Tobias Jenert, University of St. Gallen, St.Gallen, Switzerland

Bosse, Elke (University of Hamburg, Germany); Barnat, Miriam (University of Applied Sciences, Aachen, Germany); Buchholtz, Nils Frederik (University of Oslo, Norway); Brouwer, Jasperina; Jansen, Ellen; Flache, Andreas; Hofman, Adriaan (University of Groningen, Netherlands), Judith Schoonenboom

August, 22, 15.15 - 16.45, U18

Symposium

Discussant: Judith Schoonenboom

In educational research, controlled intervention studies are widely regarded as the ‘gold standard’ and effect sizes the most useful indicator for ‘what works’. Yet, such findings are often hard to transfer to educational practice for different reasons. For example, tested interventions only fit a narrow context or economic circumstances do not allow for a large-scale implementation. In our symposium, we discuss how mixed methods in educational research help to generate scientific evidence that is both rigorous and meaningful to practitioners.

Bosse & Barnat: How to make sense of conflicting findings in mixed-methods research: Studying the effects of support programmes for first-year students

One central challenge of mixed-methods research is drawing meta-inferences from quantitative and qualitative findings. A domain-related discussion on integration can enhance general strategies for developing feasible research designs. In our case of a study on the effects of interventions in higher education, for example, combining interview and survey data failed because individual reports on student development conflict with statistical findings. To make sense of such inconsistent findings, we suggest that both the theoretical assumptions and the empirical instruments in the field need to be scrutinised.

Buchholtz: Benefits and challenges of Mixed Methods approaches in didactical research

Didactical research is concerned with the principle of the utility of findings and developments, which – based on a constructive development research understanding – should enable individuals to learn subject-relevant content. In an analytical research understanding, the utility principle means to derive maximum benefit from knowledge about the types, conditions, and modes of teaching and learning processes in order to provide analytical knowledge for e.g. educational policy or curricular decision-making. I will discuss how didactical research can benefit from mixed methods methodology regarding the use of evidence in research practice.

Jenert: Using Mixed Methods to inform educational design decisions

As a methodology, Design-Based Research aims to overcome the schism between empirical rigour and practical usefulness by testing and further developing educational interventions in real-life contexts. However, it remains challenging to draw actual design decisions from empirical data and the link between research and design is theoretically underdeveloped. Referring to four-year DBR project I will illustrate how conventional survey-based evaluations can lead to under-complex assumptions. Effects of interventions could be better understood by mixing survey data with qualitative accounts and social network analysis.

Brouwer et al: Beyond numbers: Mixed methods to investigate small group teaching

Learning communities (LC) have been increasingly implemented in higher education. After the transition to university, students need to build a new peer network, which might be facilitated by LC. This study addresses the questions: (1) How do LC contribute to study-related help seeking and friendship formation? (2) How do students value LCs? Results from longitudinal social network analysis combined with qualitative data (mixed methods design) revealed that students developed more help seeking relationships and friendships in their LC than outside their LC and appreciated their LCs because of this facilitation. Mixed methods provides a thorough understanding in the underlying mechanisms of educational interventions.

**Moving along the scale from naturalistic to instructed L2 learning: exploring the impact of the learning environment on the construction of implicit and explicit grammatical knowledge**

Alexandra Schurz, Wien, Austria

August, 22, 15.15 - 16.45, U22

The field of second language acquisition (SLA) has shown a long standing interest in implicit and explicit knowledge, i.e. the unconscious and conscious grasp of underlying features in language. While the occurrence of learning morphosyntactic features under implicit conditions has been demonstrated by a high number of studies (e.g. Reber 1967; Williams 2005), explicit learning conditions were often found to be more effective (e.g. Norris & Ortega 2000). Yet, despite a plethora of laboratory-based studies, there is still a lack of research exploring naturalistic L2 learning conditions and their effects on implicit and explicit knowledge. Since implicit knowledge is seen to best represent actual language competence (Ellis 2005; Doughty 2001; Gotseva 2015), naturalistic studies on how to achieve high levels of such knowledge would be extremely worthwhile. Therefore, the impact of individual learner differences, such as the learner’s starting age and length of instruction, and the amount and type of exposure, need to be investigated (Rebuschat 2013: 598).

This gap in research is sought to be filled by exploring and contrasting two learning contexts with different levels of extramural exposure to English. While in Sweden L2 learners are provided with massive out-of-class exposure that begins in early childhood, in Austria such contact usually starts in teenage years and is less extensive. By comparing these environments, their relative effectiveness in constructing implicit grammatical knowledge will be pinned down, and the potential impact of factors such as the amount of exposure and the type of instruction will be explored. The research question “To what extent do Austrian and Swedish learners of L2 English possess implicit and explicit morphosyntactic knowledge and what are potential contributing factors?” will be studied by conducting an experiment at three Austrian and three Swedish lower secondary schools. 240 students will perform an oral narrative test and a timed grammaticality judgment test as measures of implicit knowledge, and an untimed grammaticality judgment test and a metalinguistic knowledge test as measures of explicit knowledge (see Ellis 2005). Finally, as a means to collecting information about the subjects’ prior exposure to and instruction of English, a learning experiences questionnaire and teacher interviews will be included in the empirical study.

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**The Mixed Methods Emergent Multiphase Design**

Lisbeth M Brevik, University of Oslo, Norway

August, 22, 15.15 - 16.45, U22

This paper aims to present the emergent multiphase design as a way of conducting robust longitudinal mixed methods (MM) research, to analyse adolescents’ use of English in Norway. Norwegians are among the most proficient speakers of English, although English does not have the status of a second language and has traditionally been regarded a foreign language. Since little is known about this phenomenon in Norway, the emergent multiphase design enabled a stepwise analysis, where each of the four phases influenced the next. The purpose was to identify English reading proficiency across national and local samples of 16-year-olds (quantitative analyses) and to understand how these adolescents used English in and out of school (mixed analyses).

Many MM studies rely on multiple purposes of mixing (Poth & Onwuegbuzie, 2015) and this study uses aspects of Greene’s (2007) purposes; triangulation, development, initiation, expansion. While researchers are increasingly recognising the usefulness of applying more than one methodological approach (Bazeley & Kemp, 2012; Creswell & Clark, 2011; Johnson & Christensen, 2013; Johnson & Onwuegbuzie, 2004), questions remain about how to integrate approaches. The study was quantitatively driven across four phases (Creswell & Clark, 2011), as multiple quantitative data (reading tests, surveys, language logs) were combined with qualitative data (interviews).

Phase 1 was designed as a quantitative analysis of national reading tests (September 2012) in L1 and L2 in upper secondary school among 10,331 students (16-year-olds). Surprisingly, the test results identified a group of students (n=463) who were poor L1 readers and simultaneously good L2 readers, who were labelled “Outliers”. To examine this group further, particularly to understand why they were markedly better readers in L2 than in their L2, Phase 2 was initiated. Since the majority of the Outliers were vocational students, two vocational schools were invited.

In Phase 2 (September 2015), I mixed quantitative data to identify Outliers (n=5) at the new school (test results) and what, how and why they read in L2 and L1 (survey, interviews). Phase 3 (September 2016) replicated Phase 2 to identify Outliers (n=21) at the second school. Findings from Phases 2 and 3 showed that the Outliers’ use of English out of school explained their L2 reading proficiency. Since data were collected at one point in time in these phases, Phase 4 was initiated to follow Outliers over time, to corroborate findings. Five Outliers kept a student log daily over two weeks (October 2016), and participated in a final interview three months later (January 2017).

The integrated analyses over four years provided a depth and richness of the material that would not otherwise have been possible (Greene, 2007; Maxwell, 2004; Teddlie & Tashakkori, 2006, 2010). Including fewer dimensions would not have provided the same insight into the richness of the material. The main methodological contribution of this paper arises from the MM emergent approach, based on qualitative and quantitative data, in obtaining students’ perspectives on their L2 reading comprehension.

**Mapping MM research skills development across the formality-informality learning continuum: Implications for recognition and credentialing**

Roslyn Cameron, Australian Institute of Business, Adelaide, Australia

August, 22, 17.00 - 18.45, U10

This paper explores the education and training programs/activities that are available for the development of MM research knowledge and skills through a broad web-based environmental scan of the different forms of learning in relation to MM research. These MM research learning opportunities have been mapped across the formality-informality continuum of learning (Colley et al 2003). The formality-informality continuum consists of four aspects of learning: process, location and setting, purpose and, content. The continuum has been expanded upon with addition aspects of learning added (Organisation, Delivery, qualification level and level of recognition) and utilised to map the education and training opportunities identified in the scan (refer to Table 1). These learning opportunities have been increased greatly with the prolific growth of technology-enabled education resources such as: Web 2.0 and mobile learning, social networks, virtual worlds and simulations, massive open online course (MOOCs), open education resources (OERs) and badges. In 2002, UNESCO first introduced the term OER to refer to the ‘provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes’ (UNESCO, 2002, p. 24). With this expansion of informal learning opportunities comes the related issue of the recognition of that learning and the potential for credentialing that learning.

The findings of this scan point to a vast array of MM research learning opportunities across the formality-informality continuum. An interesting line of future inquiry would be to explore the role the Mixed Methods International Research Association (MMIRA) can play in the formal recognition of MM research skills development activities (Mertens et al, 2016). Many professional bodies and associations already do this in relation to recording continuing professional development (CPD), criteria for awarding professional membership categorises and for accrediting training programs (Lester, 1999; Lubinescu et at., 2001). It is anticipated that presentation of this paper will further the dialogue around these issues and the potential future roles the MMIRA might explore in relation to promoting quality professional development in MM research internationally.

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**Teaching Managers how to do Mixed Methods Research? An empirical approach.**

Christine Salmen, Department of Education, University of Vienna, Austria

August, 22, 17.00 - 18.45, U10

This submission is based on my creating and teaching “Qualitative and Quantitative Methods”, a course for a 1st semester cohort of part-time MA students at a University of Applied Sciences in Austria. At three contact hours a week, the aim of the class is to introduce 38 students to “the way researchers think”, as was explained to me, and to prepare them for writing their MA thesis at the end of the 4th semester.

As a novice Mixed Methods researcher, I approached this opportunity with utmost respect, knowing it would be a work-in-progress yet also an opportunity to teach and explain, exemplify and argue what I had learned. The limitations were clear: First, the course’s title promised a comprehensive introduction to methods that neither I nor anyone can provide in a semester. Second, Mixed Methods was missing yet that was my interest, my growing expertise and an excellent approach to offer varied insight to those students, particularly. Third, I believe in teaching with authentic material in authentic settings to people who engage both with that material as well as with each other actively, in doing what it is they are learning. Within these cornerstones I began to create my course.

At the time I submit this abstract, the course is ongoing and I have created numerous materials and activities, both in-class as well as for independent study. I have spun a lecture narrative informed by two questionnaires asking the cohort for their interests in the beginning, and what they had felt to be helpful and what they were still struggling with mid-November. One more will follow in January and a final one after the course ends by submitting their papers by 7 February 2018.

The seminar paper is to be each student’s empirical project, designed and completed during the semester. Finding a narrow, feasible research question turned out to be quite a process that, I can say by now, has been completed successfully by all students. Data collection is ongoing and data analysis will be implemented into class time. I open every January session by analyzing material open class. From my own PhD project, I will provide text as well as secondary quantitative data analysis. From my diploma thesis, I provide interview material as well. Students then analyze their data in groups, so to try out various approaches and reflect on their project together.

The goal is not mastery; that would overburden the class with unrealistic expectations. Rather, students use various research instruments and experience what happens to the material and to their research question.

In my contribution, I shall give comprehensive insight into the design, materials, collected student data as well as findings from teaching this class. I shall share student feedback and suggestions about this class, too. I designed this course like a research project, so consequently at the end, I shall discuss findings critically. As such, my class turns out to be a research project in itself.

**The challenges of engaging widening access tourism, hospitality and events undergraduates: best practices in teaching and learning mixed methods research**

Violet Cuffy, University of Bedfordshire, Luton, UK

August, 22, 17.00 - 18.45, U10

The capacity to undertake and engage with research ‘requires a combination of theoretical understanding, procedural knowledge and mastery of a range of practical skills’ (Kilburn et al., 2014, p. 191). Nevertheless, research methods is often taught in a manner which is divorced from procedural and practical application. Winn (2006) argues that teaching research methods to undergraduates presents a number of dilemmas, including the development of effective means of providing students with practical experience and the difficulty of engaging their interest in a subject which for many, is not intrinsically appealing and to which some have a long-standing aversion. Moreover, within tourism, hospitality and events programmes, cohorts are rarely supported by research method specialists. Rather, they are usually faced with a revolving door of cross disciplinary lectures and seminars delivered by a diverse group of academics, hourly paid lectures and/or doctoral candidates. Inevitably this creates a less than desirable and incoherent experience for the learner in the already heavily-contested area of mixed methods research. This is particularly challenging in the current context of widening access to Higher Education (HE) comprising learners with diverse backgrounds, skills and learning abilities (Cuffy 2013).

This study seeks to examine this dilemma by gaining deeper understanding of the best practice for teaching mixed method research at the undergraduate level within the changing landscape of HE. The study examines the impact of developing the project based portfolio as an integral part of the teaching and learning approach as both a formative and summative exercise. The key philosophy here is to explore the principle of learning by doing a key ethos of lifelong learning.

The research involves an initial pre-test survey to establish student’s prior knowledge and attitude towards the subject matter. A mid-point survey test is conducted to monitor knowledge development and attitude change. Additionally, students will submit reflective blog post journaling their journey during the course. Data captured from the pre-test will be used to develop a survey instrument implemented at the end of the course to evaluate the overall impact in terms of student interaction and the usefulness of the practical approach to positively influence student learning and engagement with the research process. A final focus group will be done to further capture knowledge growth and attitude changes toward the subject matter.

Although proponents of mixed methods research have suggested areas in which a mixed methods approach is potentially superior to a single method design, there has been intense debate regarding whether or not it is even appropriate to combine multiple methods that are often based on radically different paradigmatic assumptions (Denzin and Lincoln 1994; Guba 1987). Considering the strength of mixed methods research with respect to understanding and explaining complex organizational and social phenomena, there is clearly a need for researchers to conduct and publish research that employs mixed methods (Cao et al. 2006; Mingers 2001). It is hoped that the results of this study will be used to impact practice as well as contribute to the literature debate on mixed methods research.

**Developing Communities of Practice for Mixed Methods Research: Experiences from Two Reading Groups**

Marcy Antonio, University of Victoria, Victoria, Canada

Archibald, Mandy (University of Adelaide, Australia); Toraman, Sinem (University of Cincinnati, USA); Poth, Cheryl (University of Alberta, Canada)

August, 22, 17.00 - 18.45, U10

Background

To support the establishment of mixed methods research (MMR), Denscombe (2008) recommends building communities of practices (CoP) that go beyond an epistemological focus and examine the inconsistent and shifting ideas within a paradigm. CoP learning is seen as a social process between individuals with shared interests (Lave & Wenger, 1991; Wenger, 1998). In this paper, we respond to Denscombe's (2008) call to demonstrate how to apply CoP to the MMR paradigm by reflecting upon the experiences of health science and education researchers at different career stages.

Methods and Conceptual Framework

We draw upon two MMR-doctoral reading groups established in different Canadian Universities (CoP1: University of Victoria; CoP2: University of Alberta) to identify benefits and challenges in forming, establishing, and maintaining MMR-CoPs. We apply Wenger's five stages of CoP development (Wenger, 2009; Wenger, McDermott, & Snyder, 2002): 1. potential (i.e., shared interests), 2. coalescing (i.e., group formation), 3. maturing (i.e., established identity), 4. stewardship (i.e., broadened focus), and 5. legacy (i.e., group ends) to these case examples. In doing so, we offer direction for practitioners seeking to establish a MMR-CoP within and between institutions.

Case Examples Summary

The two CoPs shared similarities in their context and formation. Both groups independently 'coalesced' between 2011-2012, when postdoctoral/doctoral students sought resources to support their MMR study. CoP1 was started and led by nursing students due to a lack of available MMR-specific courses. CoP2 was facilitated by student and faculty members across the departments of Educational Psychology and Nursing, and established by students after completing an inaugural MMR doctoral course. At both initial CoP meetings, members discussed the 'potential' for a MMR reading group.

The two CoPs had differences in formality and overall goals that resulted in distinct approaches to shared learning during the ‘maturation’ and 'stewardship' stages. CoP1 kept within the confines of a reading group, but shifted from epistemologically focused discussions to practice-based efforts as members began data collection. In contrast, the middle stages for CoP2 involved project expansion, when members shared their knowledge to the broader MMR practice through collaborative research, leading to conference presentations and manuscripts.

CoP Considerations

Several original members in both CoPs have moved on; CoP1 continues to meet with new members across multiple disciplines and universities, whereas CoP2 is on a year hiatus. This speaks to the natural progression of a CoP: after the completion of dissertations and publications, it is common for members to leave (Wenger, 2009). The final 'legacy' stage introduces a distinct consideration in developing MMR-CoPs. Although both CoPs support a broader 'legacy' through the development of researchers who can translate their knowledge to the MMR paradigm, there may not be the direct 'legacy' in sustaining the group for future doctoral students who seek local MMR resources. Through this comparison of reading groups, we can begin to identify key features and strategies associated with MMR-CoPs that can inform the creation of communities focused on supporting MMR learning and practice.

**Deepening and expanding evaluation findings through mixed methods: One evaluator's reflections**

Kate Winter, Kate Winter Evaluation, LLC, USA

August, 22, 17.00 - 18.45, U11

This paper argues that program fidelity and impact can only be understood fully through the incorporation of qualitative data and analysis, despite the growing call in the US for external program evaluation to utilize highly quantitative approaches (RCTs, regression discontinuity designs, etc.; see for example, the What Works Clearinghouse). Not only are there numerous benefits of utilizing mixed research methods in conducting external evaluation of federally funded initiatives in US higher education, there are significant limitations to relying on quantitative approaches alone. To support this argument, this paper discusses both the need for, and the inherent shortcomings of, quantitative approaches in understanding “what works” in higher education interventions. This discussion leads to the need to supplement quantitative data and methods with qualitative data and methods.

Drawing on experience with two federally funded initiatives in US higher education, which both gave preference to proposals with evaluation designs that met What Works Clearinghouse (WWC) standards, this paper first details the quantitative approaches that were designed to meet WWC standards without reservations (the highest rating), as well as how the designs had to be infused with qualitative data collection and analysis strategies to fully understand what worked, for whom, and in what circumstances. These cases provide an excellent vantage point into how mixed methods can deepen and expand what we learn through external program evaluation. Both evaluation designs utilize mixed methods, but the elements meeting WWC standards without reservations are the RCTs employed, one at the individual level and the other at the cluster level. Both projects seek to improve 4-year graduation rates of students from disadvantaged backgrounds (low socio-economic status, member of a historically underrepresented minority group, first generation in the family to attend postsecondary education, etc.), utilizing activities to support increased student engagement, sense of belonging in college, academic achievement (course grades), and persistence to timely graduation. Data routinely collected by the institutions (courses taken, course grades, term to term and year to year retention, and graduation), and student demographics, comprise the majority of the quantitative analysis that meets the WWC standards. Qualitative data from focus groups of student participants, as well as interviews of faculty and staff involved in provision of treatment, provide invaluable insights into what the formative quantitative data show. Observation data provides evidence of changes taking place in classrooms and within the interactions of students. Finally, matched responses to a self-report survey instrument that is administered before and after the treatment period, to both the treatment and control group students, are explored for relative changes and qualitative insights into how various experiences are perceived by students to have impacted their success.

This paper is written for anyone with interest in evaluating the fidelity and impacts of projects designed to increase the academic outcomes of college and university students, particularly those curious about mixed methods approaches. It also targets mixed methods researchers interested in applying their craft in evaluative settings.

**Evaluation of Veteran-Directed Home and Community Based Services program expansion: a mixed-methods case study approach to evaluate implementation in diverse program settings**

Nina Sperber, USA

August, 22, 17.00 - 18.45, U11

Background: The US Veterans Affairs (VA) Health Care System has planned a staggered rollout of a participant-directed long-term care program (Veteran-Directed Home and Community Based Services, VD-HCBS) to systematically evaluate impacts for Veterans and the healthcare system. This mixed-methods protocol has been designed within the context of the planned rollout and program evaluation to specifically identify factors that facilitate successful program implementation by local sites. The objective is to examine the relationship between implementation strategies, contextual factors and outcomes. We will apply the Consolidated Framework for Implementation Research (CFIR) and Expert Recommendations for Change (ERIC) to direct our inquiry into implementation contexts and strategies and produce information grounded in implementation science that can be generalized across contexts. Methods: This study will be conducted using mixed qualitative and quantitative methods to clearly demonstrate trends in both implementation and care that support a successful program rollout, with illustrative examples and details to provide perspective about what these trends mean to programs on the ground. This evaluation will also provide a multidimensional picture of experience with implementation, drawing from both institutional and individual level data. This is a case-oriented analysis, with our primary unit local VA sites implementing this program and their community-based partners (N=16 sites, 32 coordinators). We will use a three-stage team approach to analyze data, adapted from Damschroder (2013), with two data collection phases, ultimately integrating data at case-level to describe program implementation from two to eight months after program initiation. First, we will use directed content analysis to code data, with codes developed a priori based on CFIR and ERIC constructs. Second, we will aggregate coded data from individual interviews into case memos and identify whether constructs are manifested as facilitators or barriers, rating coded text according to strength and valence (with 5 possible points, from -2 strong barrier to +2 strong facilitator), and describe what implementation strategies are used. Third, we will integrate quantitative and qualitative data using Configurational Analysis (CNA), a case-orientated method built expressly for analyzing causal chains, identifying necessary and sufficient factors for outcomes using Boolean algebra. Although quantitative methods are used to elicit patterns in data, analysis requires close familiarity with qualitative data and theoretical framework to interpret results. Outcomes will be level of unmet need for personal care, satisfaction with program, and difference between the expected and actual number of Veterans enrolled. Implication: We are able to incorporate an implementation evaluation into the VHA’s systematic roll-out of the VD-HCBS program to rigorously capture and evaluate context surrounding the program’s implementation and outcomes. Using CNA, we will be able to evaluate the best combinations of strategies that result in desired user satisfaction or program implementation outcomes. Results will be provided to program partners on an ongoing basis to inform expansion of VD-HCBS or assistance for struggling entities. Because we are using a theoretical framework to guide data collection and analysis, findings from this evaluation will be generalizable to other facilities within the VA healthcare system and can be useful for other complex healthcare organizations.

**Professionalism in program evaluators and the status of the field: A comparative case study of Canada and the United States.**

Sandra Ayoo, University of Minnesota, Minneapolis, USA

August, 22, 17.00 - 18.45, U11

I am a doctoral candidate at the College of Education and Human Development, University of Minnesota, USA. I want to share my mixed methods research experiences at the Vienna conference. I am investigating the extent to which program evaluation is becoming a profession in Canada and in the United States (US) and whether evaluation is a semi or mature profession in these countries. My research paradigm is a comparative case study design using mixed methods strategy including document review, interviews, and online survey of members of the American Evaluation Association (AEA) and Canadian Evaluation Society (CES). This study employs a sequential data collection mixed methods approach conducted in four phases.

First, I conducted literature review to understand professionalization theories and to develop a professionalism conceptual framework to frame my study. In addition, I searched PubMed and Ovid databases using key terms such as “measurement of professionalism” which yielded 446 articles, only 426 had abstracts and only four articles had measurement instruments. Second, I interviewed 26 evaluation practitioners in Canada and in the US last summer to get conceptual clarity and their experiences on the four constructs in my conceptual framework: autonomy, expertise, ethical dispositions, and innovation and research. Third, I generated items for my proposed professionalism assessment tool for program evaluators (PAToPE) from interview data and existing instruments since existing items have already undergone some degree of validation and demonstrated acceptable psychometric performance. The initial pool of items was reviewed for face validity by the Evaluation Studies faculty on my dissertation committee and secondly by a panel of eight evaluation experts from Canada, the US, and Europe for content validity. I am finalizing the instrument for piloting with members of Minnesota Evaluation Association to conduct psychometric item analysis to establish the reliability of PAToPE instrument and the suitability of each item.

Fourth, I shall administer the instrument online as a survey to members of AEA and CES to validate and to answer my research questions. I am currently coding the interview data using MAXQDA software and will use Stata to analyze the quantitative data. I shall integrate the findings and draw inferences about my conceptual framework through triangulation to give equal weights to both qualitative and quantitative evidence.

A little bit about myself, I come with over 17 years of professional practice prior to enrolling in the Ph.D. program in September 2014. I worked for ten years in conflict and humanitarian situations and seven years in program evaluation, mainly in international development. I have a Master’s degree in Rural Development from the University of East Anglia in the UK and a Bachelor’s degree from Makerere University in Kampala, Uganda. I have presented twice on negotiation skills for program evaluators at the American Evaluation Association conference in Washington, DC in 2017, and in Atlanta, Georgia in 2016 both as an independent speaker. I was also a panel presenter on “Grounding the AEA evaluation competencies in the broader context of evaluation professionalization” in an AEA sponsored session in Washington, DC in 2017.

**YES, S.I.M. is a useful methodological approach**

Rossano André Dal-Farra, Canoas, Brazil

August, 22, 17.00 - 18.45, U12

Mixed Methods Research in childhood and elementary education is a challenge for researchers, mainly in kindergarten. Thus, researchers need to develop a strategical approach to understand, as John Creswell (2015) says, numbers and stories, magnitudes and meanings.

In this article, I am proposing the S.I.M., or Measuring Images by Scores, considering the inverted order. “Sim” in Portuguese means “yes”. The methods were applied with young children (4 and 5 years old) in environmental education activities, elementary school children in environmental education, health, nutrition and basic sanitation (7 to 11 years old) and middle school and high school students (12 to 17 years old) in basic sanitation (Rocha et al., 2014; 2015; Loureiro; Dal-Farra, 2017; Vargas et al., 2017).

The approach can be associated with photovoice or other possibilities. Each student obtains images or, with the teacher or researcher, chooses images obtained from their own photos or the internet. Drawings are also a good possibility. These possibilities become easy and profitable with the integration between the data (Fetters et al., 2013; Dal-Farra; Fetters, 2017).

After the images are shown to the children, the children evaluate them with scores from 1 to 5, or in kindergarten, Like (1) or Dislike (0), and integrate the images with short interviews to approach the meanings related to the grades. Additionally, it is possible to make a distinction in the data separating high and low scores to analyse with open-ended questionnaires or interviews aiming to understand the differences in attributed grades.

It is becoming easier to understand the conceptions and the perceptions about environment, nature, food and health by constructing educational practices adequately to improve social practices related to these subjects.

In kindergarten, it was possible to know that children prefer gardens with cut grass rather than high grass; some insects are considered good, like ladybugs, and others are considered dangerous, especially insect larvae because “they burn”. By showing photos about neighbourhoods to elementary schoolers, it was possible to understand the students’ meaning about garbage, sewage and basic sanitation problems. The children attributed low grades for the place where they live, mainly when compared with other neighbourhoods The perceptions about violence and transit insurance were interesting but worrisome. Studies are in progress to improve the knowledge and the perceptions about the interrelationships of the four dimensions of basic sanitation, especially considering drainage aspects, as people associate the subject only with sewage and water supply.

S.I.M. could also be useful with non-literate people and is a powerful way to help teachers, health professionals and other professionals understand the people with whom they are working, and the integration with other approaches is benefiting studies in education.

**Mixed methods in educational research: popularity and friendship formation in mixed ethnicity primary schools in Hungary**

Akos Bocskor, Corvinus University of Budapest, Budapest, Hungary

August, 22, 17.00 - 18.45, U12

For many students peer group affiliations, such as friendships or antipathies, are the most salient aspects of school life with serious developmental implications on a variety of factors involving well-being, self-esteem, mental health and school performance. Moreover, high status or popular students are profoundly influential, thus they can contribute to the spread of both positive and negative behavioural patterns in the peer group. The present study focuses on the dynamics behind friendship formation and (perceived) popularity in mixed ethnicity (Roma, non-Roma) primary school classes in Hungary. The research took an emergent mixed methods design: it complemented one wave of a longitudinal survey data collection (N of classes = 53; N of students = 1054) with focus group interviews (N of classes = 10; N of students = 141). Multilevel regression and network analysis methods were applied to the quantitative data and qualitative thematic analysis to the interviews. The qualitative analysis both complemented and refined quantitative results while, simultaneously, clarified some of the dynamics behind friendship formation and popularity in the observed classes. For instance, it exposed the importance of physical strength, which was not included in the survey, and clarified the role of smoking, which was too sensitive and a somewhat controversial issue in these peer groups.

**Using mixed methods in family research: parental time and technology usage in families with adolescents**

Kitti Kutrovátz, Corvinus University of Budapest, Budapest, Hungary

August, 22, 17.00 - 18.45, U12

This study demonstrates the methodological process and challenges of applying mixed method research to explore the time parents and their children spend together and the effect of technology usage on this time. This presentation discusses the procedure of research design and data collection and describes some dilemmas of data analyses in my PhD research project.

Although there is an upward trend in the time parents and children spend together, there is also intensifying parental anxiety about whether they are spending enough and sufficient time with children. Furthermore, there is growing evidence that a ‘squeezed’ feeling of time characterizes the lives of contemporary families. Moreover, the technology usage shapes the way the families spend time together and the intensive technology usage is particularly typical of teenagers. However, research on the effect of time-scarcity on family members’ relationship is rather neglected in empirical studies and investigations concerning family dynamics mostly focus on parents and ignoring the perspective of children. Furthermore, available time budget research data enable the examination of the quantity of parental time, these datasets can only provide limited explanations how these interactions determine and influence the family’s dynamics and the parent-child relationship. Besides, qualitative investigations can reveal some important and still unexplored aspects of family functioning, family research mainly neglects this type of approach.

Consequently, this paper applies mixed methods approach to investigate the manifold subject of parental time, it examines the parents’ and their teenage children’s subjective perceptions on parental time and explores the patterns of technology usage that influences this time. This mixed methods research involves a representative parent-child linked survey and linked, semi-structured interviews with both parties (at least one parent and the child) separately. The study considers how the mixing of these approaches occurs at the diverse stages of the research process and how this might enrich the investigation. Furthermore, this elaborates how the typologies of mixed methods promote the creation of research design, however, these also result in difficulties during the practice of research. Lastly, some dilemmas of the ongoing process of data analyses are identified.

We argue, that on the one hand, using mixed methods approach enables to comprehend the characteristics of parental time use and of the technology use in Hungarian families. On the other hand, this contributes to a more specific and detailed insights on perceptions, preferences and interactions that might reveal the complexity of family dynamics. Furthermore, investigating children’s opinions from diverse approaches also enables to get broader and deeper insights on their perspectives and this might be a suitable practice to handle some of the methodological challenges in research with children.

In conclusion, this project, by examining parental time, sheds new light on how mixing qualitative and quantitative approaches might enhance the comprehension of the complexity of contemporary lives of families.

**Sampling and Recruitment in Mixed-Methods Child Protection Studies**

Mónica Ruiz-Casares, McGill University/CIUSSS du centre-ouest-de-l'île-de-Montréal, Montreal, Canada

August, 22, 17.00 - 18.45, U12

Every year up to 1 billion children are victims of violence, with the highest rates in low- and middle-income countries (LAMICs) (Hillis, Mercy, Amobi, & Kress, 2016). To escape violence, many children end up living in the streets or in institutional care. Despite the need to protect children’s rights and wellbeing globally, child protection research in LAMICs has received limited attention to date. At times, the absence of prior scientific evidence and population-based censuses and registries pose challenges to researchers wanting to draw robust conclusions that apply to the study population. Other times, safety and ethical concerns and lack of financial resources, set limits to what is feasible and, ultimately, the scope of a study. A better understanding of the reality of young people in these settings is, however, needed to develop, implement, and evaluate interventions to advance children’s rights and wellbeing worldwide. Mixed-methods designs are increasingly advanced to triangulate information, uncover unexpected patterns, and generate new research questions in this field.

An effective sampling and recruitment strategy is a key piece of a mixed-methods study design. In fact, it is crucial to achieving the research objectives and answering the research question(s). Whereas probability sampling—more common in quantitative approaches, aims to achieve representativeness, purposive sampling—frequently used by qualitative researchers, selects individuals and communities to reflect the diversity and breadth of the study population. Mixed-methods researchers often use both of these sampling strategies in an effort to increase external validity as well as generalizability. Quantitative, qualitative, and mixed-methods researchers need to carefully ponder sample size and sampling design considerations as these will determine the extent to which they can draw unbiased and robust results and generalize their findings. Access to or development of a strong sampling frame in resource-poor and/or unstable settings, pondering of cultural and contextual norms, and ethical and pragmatic considerations, are some of the factors that add to the complexity of sampling in LAMICs.

This presentation will describe and critically analyze strengths and weaknesses of the sampling and recruitment strategies used in mixed-methods child protection research, with special attention to two studies in LAMICs. One entails a Child Protection Knowledge, Attitudes, and Practices study comprising population-based household surveys and individual and group interviews with adults and 12-17 years-old children, as well as visual methods with 7-11 years-old children in Central and Western Liberia. The other one is an experimental study to assess impact and process of a parenting program to prevent violence against children in Indonesia. Dialogue with the audience will be encouraged, particularly to discuss alternative approaches to study child protection in resource-poor and humanitarian settings.

Hillis, S., Mercy, J., Amobi, A., & Kress, H. (2016). Global Prevalence of Past-year Violence Against Children: A Systematic Review and Minimum Estimates. Pediatrics.

**Social Networking in Learning Global Englishes in the technology enhanced classes: An Exploratory Mixed Methods Study.**

Sakilahmed Makarani, Jazan University, Jazan, Saudi Arabia

August, 22, 17.00 - 18.45, U13

Social Networking has changed the cultural landscape of global societies. Besides being powerful medium for social communication, FaceBook, Youtube, and Whatsapp, have changed the nature of entertainment, and learning. Traditionally, the academic scholarship focuses on social network, digital technologies, identities, and mobile learning. The paper aims to discover and critically examine the role of Mobile Social Networking in the English language learning communities. The study explores how the student identit(ies) and cultural practices evolve using digital technologies in multimodal learning environments as discursive practices. The present exploratory mixed method study employs grounded theoretical model using critical reflexive and recursive techniques using Atlas-ti for Qualitative and SPSS for Quantitative Data to analyze multimodal data generated by the multi-phrase mixed methods study. The result offers the implication for changing role(s) and nature of relationship between traditional learning practices and tools in learning Global Englishes in the technology enhanced applied linguistic classes in Saudi Arabian context.

**Collaboration resistance in cross-border clusters. Mixed methods perspective on borders**

Sebastian Zimmer, Goethe-Universität Frankfurt, Frankfurt, Germany

August, 22, 17.00 - 18.45, U13

The paper analyses whether the territorial border in a cross-border cluster can be depicted in formalized indirect communication structures in the shape of geographically grounded co-authorship networks by combining numerical data from patents, publications, and the geographical setup with narrative data from interviews and supervising institutions.

The role and impact of territorial borders has become visible again with the strongly increased refugee flow especially into the European Union (EU). The EU has been an often-cited case of disappearing borders and growing chances of cross-border collaboration. Yet, the current reaction to the refugee situation points towards a strong territorial border awareness of the nation states. This indicates that while the territorial borders are physically overcome by continuous developments in information and communication technologies, the border remains as a cognitive element that hinders the knowledge flow necessary for successful cross-border innovation strategies and poses a challenge to entrepreneurs that would like to expand beyond the border. To depict the level of influence of the cognitive remainders of territorial borders and the connected hindrance to innovation, a normative communication perspective is taken to overcome limitations existing in the current literature on regional innovation systems and cross-border collaboration. The conceptualization follows the idea of ‘communication constitutes organizations’ which allows for documents to be regarded as the end of a communication episode between individuals. Given that in a co-authored paper, the authors must have communicated to create the outcome of their collaboration (patent or publication), this allows for the creation of a collaboration network among the authors.

This is necessary for building a research design focused on knowledge flows, that allows for the usage of multiple methods to understand the role, function and impact of the territorial border on collaboration. The mixed methods approach taken in this study focusses on the single-embedded case study ‘Medicon Valley’ as an embedded design framework. Situated between Denmark and Sweden in the Öresund region and literally bridged across the territorial border, it is the best-known case for a working long-term collaboration as a cluster across a neighbouring border. Using as a quantitative foundation the co-author network derived from patents and publications, it is transferred to a geographical map of Medicon Valley to provide three types of information: (1) visually observe the position of the territorial border, (2) display specific decisions in the network, (3) calculate the redundancy of the network. The knowledge gained is used to identify core actors for the next step, in which interview partners (co-authors and experts) provide qualitative information about specific observations in the network: e.g. strange decisions, structure and policy influences, institutional effects. Finally, in the last step, all numeric and narrative data is combined to optimize the network and depict the role of the territorial border and its potential threshold towards collaboration.

**Mixed Structural Analysis: A new method to inquire into social relationships in "a mixed way**

Dominik Froehlich, Department of Education, Vienna, Austria

August, 22, 17.00 - 18.45, U13

In this presentation, I will show how Mixed Structural Analysis (MSA), a newly developed mixed variant of Qualitative Structural Analysis (QSA; Herz, Peters, & Truschkat, 2014), can be applied to investigate social relationships in quantitative and qualitative terms. In short, QSA is a method applied within the framework of social network analysis (Borgatti, Mehra, Brass, & Labianca, 2009), which is based on interview transcripts and network maps (concentric circles; Kahn & Antonucci, 1980) that are created ad-hoc during the interviews. While this does allow for an informative qualitative analysis of the interview data, I purport that replacing the ad-hoc network maps with a quantitative pre-survey has important advantages. First, the sampling procedure for the (cost-intensive) interviews is more informed. By adding a standardized quantitative survey upfront (cf. sequential explanatory designs; Creswell, 2009), the researchers are able to invite interviews that are more likely to be fruitful in terms of the research question (e.g., in terms of focusing on contrasting or similar cases). Also, this makes the research process more economical, as the likelihood of interviews that do not add a lot of interesting new data is decreased. Second, by having quantitative and qualitative components, the potential for common method bias is reduced (Podsakoff, Mackenzie, & Podsakoff, 2012). This is even more true when the quantitative component is executed long before the potential interviews, allowing to triangulate the data across time.

Next to theorizing about the advantages and applicability of MSA, I will present empirical data to demonstrate how MSA works. For this purpose, I will use primary quantitative and qualitative data that has been collected in 2017 from new teachers and public speakers to inquire how embeddedness in social networks influences their learning.

In sum, MSA is presented as a new method within the frameworks of multiple and mixed methods and social network research.

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**Mixed Methods in Health Information Systems Evaluation: Four Case Studies**

Paulina Sockolow, Drexel University, USA,

Randell, Rebecca (U.K.); Dowding, Dawn (USA); Favela, Jesus (Mexico)

August, 22, 17.00 - 18.45, U14

Symposium

With the increasing use of qualitative methods in the evaluation of interactive information systems in healthcare, the use of mixed methods (MM) is also increasing. Traditionally, informatics evaluators have used quantitative research methods to collect data on measurable health information technology (HIT) outcomes. This approach is based on the premise that HIT has measurable attributes, as do the people who use it and the processes it supports. However, this approach involves significant challenges, as most HIT systems are complex and are introduced into complex health care environments. HIT can impact delivery of care or human interactions, and the practice setting and the politics can impact system implementation success. To better understand these complexities, informatics evaluators use qualitative approaches when they analyze how or why particular interventions did or did not work in specific healthcare contexts. MM research provides a framework for carrying out both quantitative and qualitative approaches within a single research study. We use four case studies to illustrate some benefits and challenges of using MM in HIT evaluation.

Case study 1 assessed an electronic health record’s impact on clinical process in a home care agency. The concurrent nested MM research design prioritized quantitative data with nested qualitative data. Quantitative data was accessed from multiple information systems (workflow, patient outcomes, reimbursement) and from survey responses (clinician satisfaction). Qualitative data was collected from interviews and observation. MM analysis entailed sorting results from each data source by theme and summarizing themes in a matrix.

Case study 2 evaluated the impact of an electronic health record on nursing specific patient outcomes in 29 hospitals. A concurrent mixed methods design was used, with both data sets given equal status for analysis and reporting results. The quantitative data, nursing sensitive patient outcomes, was extracted from the electronic health record. Qualitative data was gathered from ethnographic observation and interviews.

Case study 3 assessed the impact of robotic surgery on teamwork in the operating room at multiple sites. The MM approach involved iterative analysis accompanying concurrent testing and refinement of theories and subsequent data collection. Quantitative data was collected using a structured observation tool and questionnaire. Qualitative data was gathered from ethnographic observation and interviews. MM analysis entailed integration of qualitative and quantitative data in matrix displays.

Case study 4 assessed the impact of a cognitive assistance system on family caregiver burden for patients with dementia. The MM approach was concurrent. Quantitative data was extracted from the system usage log and from three questionnaires. Usage log data was used to design the interview instruments. Qualitative data was collected from observations and interviews.

The diversity of the research experience provides a broad overview of approaches in combining robust analysis of outcome data with qualitative methods that provide an understanding of the processes through which, and the contexts in which, those outcomes are achieved. However, MM challenges include the amount and disparate nature of data from multiple sources, and the synthesis of these data. Furthermore, MM use often entails further data collection to explore divergence in results.

**Changing the Process of Mixed Methods Research: A Family Intervention Behavioral Program for Adolescents with Autism Spectrum Disorder in Japan**

Mariko Hirose, Kwansei Gakuin University, Nushinomiya, Japan

Creswell, John (University of Michigan, Ann Arbor, USA)

August, 22, 17.00 - 18.45, U15

This presentation will show the investigation of effects of a behavioral program for families of .adolescents with Autism Spectrum Disorder (ASD). This program lasted for five years in central Japan, and consisted of collaboration among Kwansei Gakuin University, Kobe City, and a branch assistance office in Kobe. In Japan, there has been no support programs for families of adolescents with ASD, and yet, the social withdrawal of adolescents (“hikikomori”) is a major problem in Japan. The serious attention to this problem began in 2005 in Japan, and the Kobe City Program began in 2013. This study investigated the success of the program in four phases. The first phase was to gather the needs of the families of the adolescents through a questionnaire consisting of qualitative open-ended questions. This survey showed a wide variety of problems, but the investigators felt that small steps in an applied behavioral analysis (ABA) program was needed. Starting in 2014, a phase two four-session program for mothers was begun. GHQ-12 (psychiatric health measure), the Family Involvement Behavior Inquiry, and the Positive/Negative Affect Scale were used as the quantitative measures to assess the effectiveness of the program in a quasi-experimental design without a control group. Phase three consisted of one-on-one qualitative interviews with mothers as a followup to the experimental trial. However, this qualitative data showed that the mothers needed to change their behaviors in the home, that the mothers did not feel support, and a more rigorous trial was needed. Consequently, in phase four, a second intervention trial was conducted that consisted of an experimental and control group and minor modifications in the program activities. In total, this multi-phase mixed methods intervention sequential design advanced a plan to develop and test a rigorous experimental intervention.

Throughout this investigation stretching from 2013 to 2017 several important process and design changes occurred. This could be assessed by reviewing the plan for the study formed at workshops in Japan given by the Japanese Society for Mixed Methods Research in 2015, and a followup workshop at the University of Michigan in 2016. These initial plans for the project can now be compared with the final dissertation submitted in late 2017 by the senior author on the project (Hirose). These changes consisted of: 1) the overall design of the project became simpler with fewer steps in the design diagram 2) based on the initial trial results and the qualitative data, a second rigorous intervention trial was needed 3) the program content was further changed for the second trial to explore more the behaviors and involvement of the mothers in their homes 4) the qualitative interviews in phase three showed the need for specific support for mothers rather than generalized help, and this led to individualized support and retraining for the support staff and 5) differences between the quantitative and qualitative data showed the need for joint displays that arrayed the data for comparative interpretation.

**A mixed methods analysis of a fundamental motor skill intervention for children with autism spectrum disorder**

Andrew Colombo-Dougovito, University of North Texas, Denton, TX, USA

Block, Martin (University of Virginia, USA)

August, 22, 17.00 - 18.45, U15

Autism spectrum disorder (ASD) is a complex neurodevelopmental disorder characterized by deficits in social communication and pervasive repetitive behaviors (American Psychiatric Association, 2013). Further, ASD is one of the fastest rising childhood developmental disorders; now affecting 1 in 68 children according to the Centers for Disease Control and Prevention (Christensen et al., 2016). In addition to the hallmark characterizations of this condition is a growing body of research (Lloyd, MacDonald, & Lord, 2013; Liu, Hamilton, Davis, ElGarhy, 2014; Staples & Reid, 2010) that suggests that individuals with ASD also demonstrate delays in the development of gross motor skills. Despite mounting evidence of delay, few interventions have targeted gross motor skills as an outcome (Staples, MacDonald, Zimmer, 2012). Three recent studies (Bremer, Crozier, & Lloyd, 2016; Bremer & Lloyd, 2014; Ketcheson, Hauck, & Ulrich, 2016), among others, demonstrate the increasing awareness of this issue; however, continued theory-based research is needed to build an effective motor intervention for children with ASD.

The purpose of this parallel, convergent mixed methods design study was to test the validity and effectiveness of a fundamental motor skill (FMS) intervention for children with ASD that uses dynamic systems theory (DST; Newell, 1986). The intervention was based on intentional manipulations of task constraints—hereafter referred to as task modifications—to build FMS. Using a purposive sample of 5 parent-child dyads—in addition to two comparison groups of children without ASD—this study incorporated both quantitative and qualitative data to understand not only how the task modifications work to influence the motor performance of children with and without ASD, but how potential changes in motor performance—or the perception of—was understood by parents of the children with ASD. Furthermore, this study sought to understand how the intervention affected the daily lives of the individual and their family.

Results revealed that a motor intervention based on DST may: (a) significantly improve gross motor performance of children; (b) provide an effective means to build motor skills in children with ASD; and (c) allow for a high level of engagement and successful practice. Furthermore, parent interviews suggest that there are number of barriers to physical activity, as well as many potential benefits. Further, results suggest that the home environment may play a mediating role in the gross motor gains made during a school based intervention—acting as an environmental constraint for the child. Lastly, when looking at changes in motor performance compared to themes discussed by parents, data suggest that motor skills may play a role as a mediating factor in a child’s physical activity level. Additionally, the results suggest that direct changes from increases in motor performance may have delayed indirect changes in other developmental skill and in the child’s life.

**Children with ADHD: Parental experiences and healthcare use**

Britt Laugesen, Clinical Nursing Research Unit, Aalborg University Hospital, Aalborg, Denmark

Grønkjær, Mette (Aalborg University Hospital, Aalborg University, Aalborg, Denmark)

August, 22, 17.00 - 18.45, U15

Background

Attention deficit hyperactivity disorder (ADHD) in children and adolescents is a common mental disorder, with core symptoms that impair several domains of functioning. These domains include social relationships, education and family life. Parents play an essential role in supporting the child, yet they find caring for the child with ADHD challenging and everyday life is disrupted. The child’s everyday life includes visits to various health care settings, as children with ADHD require multi-faceted support, including support from hospital-based healthcare services and healthcare professionals. There is a paucity of literature on parental experiences and characteristics of hospital-based healthcare use.

Aim

The overall aim was to integrate qualitative and quantitative data to provide new insights into the parental experiences, the complexities of everyday life, and hospital-based health care use, among children with ADHD. Three studies were undertaken. The aims of Studies 1,2, and 3 were:

To identify and synthesize the best available evidence on parental experiences of living with a child with ADHD, including their experiences of ADHD health care and other services (Study 1).

To explore parental experiences of care professionals in hospitals in Denmark influence the everyday lives of families with a child with ADHD (Study 2).

To compare the mean number of medical and psychiatric hospital-based services in children with and without ADHD, and to assess the independent effect of ADHD on hospital-based service use. The aim was also to identify , parental, and socioeconomic-related risk factors associated with medical and psychiatric service in children with ADHD (Study 3).

Methods

The research design was a multistage mixed methods study with a core convergent design. Three studies were undertaken. Study 1 was a systematic review of qualitative evidence aggregating findings from 21 research papers; Study 2 was a focused ethnographic study including participant observations and interviews with 15 parents of children with ADHD in medical and psychiatric hospitals. Study 3 was a historical cohort study using nationwide registers to follow a cohort of children in the first 12 years of life examining medical and psychiatric health care use. Findings from Studies 1, 2, and 3 were integrated through narrative weaving and joint displays.

Results

The integrated findings showed that: 1) parental stressors affect everyday life and hospital-based service use; 2) the parents have concerns for their child from early childhood, and fight to have their concerns validated; and 3) health care professionals are important for parents to navigate the persistent challenges of everyday life.

Conclusion

ADHD in children affects the everyday life of the families as well as healthcare use in hospitals. Children with ADHD use more medical and psychiatric services during the first 12 years of life than children without ADHD. The findings encapsulate a vulnerable everyday life, and point to the importance of families being met with acceptance and respect in hospital-based health care services from early childhood. It is important for health care professionals, regardless of specialty, to engage with the individual families and to contribute to consistency of the health care experience.

**Hospitalized children's pain experience. The effect and influence of a hospital clown intervention in acute and repeated painful procedures**

Helle Kristensen, Aalborg University Hospital/Aalborg university, Gistrup, Denmark

Haslund-Thomsen, Helle (Aalborg university Hospital/Aalborg University, Denmark); Elgaard Sørensen, Erik (Aalborg University Hospital/Aalborg University, Denmark)

August, 22, 17.00 - 18.45, U15

Background: Hospitalized children describe the pain associated with painful procedures as one of the worst experiences during hospitalization. These experiences can be traumatic for children and their families. Most children are acutely hospitalized with no chance to prepare the child for painful procedures, while others experience repeated hospitalizations. Previous negative pain experiences are known to have major consequences for future admissions and procedures. Therefore, different interventions for pain relief is needed. Hospital clowns is a part of the team on pediatric wards in Denmark, and experiences showed a certain atmosphere of smiles and joy when hospital clowns are present. International studies have shown positive effects of hospital clowns on preoperative anxiety in children, but there is limited knowledge of the impact on the child’s pain experience related to painful procedures.

Aim: To investigate the effect and influence of a non-pharmacological intervention with the hospital clown on hospitalized children’s pain experience and coping during painful procedures. It aims to assess pain experience and coping in both short, and long-term treatment and care.

Methods: With the overall aim to collect different and at the same time complementary data on the topic, a two-phased study using a convergent design in the first part (study 1A and B), followed by a qualitative study (study 2) is conducted.

Study 1A: A prospective, randomized open-label trial that will identify whether exposure to the hospital clown has an effect on short-term hospitalized children’s pain experiences.

Study 1B: An ethnographic study to uncover the relationship between the child, the hospital clown and the pain experience and coping during painful procedures in short-term hospitalization.

Quantitative and qualitative data are collected concurrently.

The participants are recruited from the same database, with unequal size.

The methods are prioritized equally and have equal importance for addressing the research questions.

Integration is performed by bringing the two databases together for analysis and for comparison – quantitative data are collected with a pain score instrument, qualitative data is collected using parallel questions.

The data is analyzed separately

By merging the two sets of results into an overall interpretation assessing in what way, the results about children’s pain experience converge or diverge.

The results and findings from study 1A and B clarified the rationale for planning of study 2 with participants recruited from a different sample.

Findings from study 2 is analyzed separately.

Study 2: An ethnographic study to uncover the influence of the hospital clown on children with cancer by repeated painful procedures, as well as uncover if a relationship may have a potential long-term impact.

Finally, the results and findings from study 1A and B are discussed and compared with findings from study 2.

Perspectives and implications for practice: The study is expected to contribute in qualifying and developing future targeted interventions for pain management for hospitalized children. The knowledge is expected to strengthen a focused and theoretically interdisciplinary collaboration with hospital clowns in the Danish health care system.

**Developing a Model of Global Competency Research: A Mixed Methods Longitudinal Approach**

Jennifer Petrie, University of Pittsburgh, Pittsburgh, USA

Murrell, Audrey; Schultz, Bryan (University of Pittsburgh, Pittsburgh, USA)

August, 22, 17.00 - 18.45, U16

In this presentation, the authors propose a mixed methods model for developing global competency research. Our interconnected world demands globally competent workers. Careers increasingly require cross-cultural skills, international travel and placement, and the development of ethical and sustainable global partnerships. Relatedly, global competency research has expanded over the past two decades as a tour de force in assessing intercultural skill development and 21st century career skills. Numerous terms and definitions exist describing global competency including intercultural competency, cross-cultural competency, global citizenship, and cultural intelligence (Anderson, Hubbard, & Lawton, 2015; Griffith, Wolfeld, Armon, Rios, & Liu, 2016; Shadowen, Chieffo, & Guerra, 2015; Stemler, Imada, & Sorkin, 2014; Thomas, 2017). Although progress has occurred in global competency research, the field suffers from a one dimensional quantitative focus with limited robust methodologies that are static in nature (Alizadeh & Chavan, 2015; Griffith et al., 2016). Assessments and metrics abound, but few studies report strong internal validity, longitudinal design, and replication (Alizadeh & Chavan, 2015; Griffith et al., 2016). Researchers indicate a strong need to develop more robust methods when assessing global competency (Alizadeh & Chavan, 2015; Bucker, Furrer, & Weem, 2016; Griffith et al., 2016; Matsumoto & Hwang, 2013; Nguyen, Biderman, & Mcnary, 2010). Numerous scholars therefore further suggest that there is a need to use mixed methods within global competency research (Alizadeh & Chavan, 2015; Griffith et al., 2016; Matsumoto & Hwang, 2013). This paper attempts to fill these gaps. This presentation examines the conceptual theory of global competency, proposes a new global competency framework, and presents a mixed methods model for guiding global competency research.

In line with the Mixed Methods International Research Association Global Conference Theme, “Gaining New Ground: Deepening and Expanding the Field of Mixed Methods Research,” the authors propose presenting the paper, “Developing a Model of Global Competency Research: A Mixed Methods Longitudinal Approach.” The paper reconsiders methodological approaches to global competency research. To help articulate the proposed mixed methods model, the authors present the lessons learned from a longitudinal mixed methods research project assessing undergraduate business students’ global competency skill development. The authors used ProSuite’s content analysis software QDA Miner and WordStat to analyze 346 student study abroad blogs. This research also employed qualitative interviews and a pre-post quantitative Global Competency Aptitude Assessment tool. The inclusion of a mixed methods design allowed for nuanced cultural meanings and new knowledge dimensions to be recognized, organized, and assessed. The ability to analyze large-scale text qualitatively and quantitatively provided more detail, anecdotes, and variation. A more complete picture of what global competency means for career integration and workforce development was illustrated in our initial findings. A conceptually stronger definition of global competency also emerged from our mixed methods project. Additionally, a broader understanding of global competency outcomes of undergraduate business students emerged through the research and will be discussed in this presentation.

**Using mixed methods to unpack the multifaceted social transition experiences of international postgraduate students**

Jenna Mittelmeier, Open University, Milton Keynes, UK

Jindal-Snape, Divya (University of Dundee, U.K.); Rienties, Bart (Open University, U.K.); Zhang, Kate-Yue (American University of Paris, France); Chen, Yakun (Dongbei University of Finance and Business, China)

August, 22, 17.00 - 18.45, U16

International postgraduate students undergo multiple social transitions when studying for a PhD abroad. For instance, international students must navigate building relationships with fellow students, with previous research outlining the positive impacts of friendships with host students (Hendrickson, Rosen, & Aune, 2011), co-national peers (Mittelmeier & Kennedy, 2016) and fellow international students from other countries (Montgomery & McDowell, 2009). Postgraduate research students often also work closely with staff members and build social supports within their academic departments (Wisker, Robinson, Trafford, Warnes, & Creighton, 2003). However, international students’ social support systems go beyond their immediate contacts within their university environments, as they maintain relationships with family and friends who are often physically located outside of the host institution country (Jindal-Snape & Rienties, 2016; Rienties & Hosein, 2015). This means that international postgraduate students typically develop complex and multidimensional social support networks (Schartner, 2015).

At the same time, it has been outlined that international postgraduate students often face difficulties in their social transition experiences. For instance, current research has highlighted that international students often form few friendship with peers from the host country (Gareis, 2012; Williams & Johnson, 2011). Physical distance from pre-established family and friends can also exacerbate loneliness and lead to feelings such as guilt and homesickness (Jindal-Snape & Ingram, 2013). Postgraduate students in particular are likely to experience high levels of stress, depression or loneliness (Panger, Tryon, & Smith, 2015). As such, more attention is needed on the mechanisms through which international postgraduate students build and maintain social relationships and potential practices for supporting these transitions.

To address this need, the Social Transition Research into International Doctoral Experiences (STRIDE) was a year-long project that sought to understand and unpack the holistic social support networks of international postgraduate students across three institutions in two countries. A mixed methods design was used to triangulate and complement findings through multiple quantitative and qualitative perspectives, including social network analysis surveys, longitudinal reflective diaries, focus groups, interviews, and reflective essays. This complex design allowed for a dynamic and transformative understanding of international postgraduate students’ social transition experiences, outlining suggestions for providing support. A comparison across multiple institutions also provided an additional lens through which students’ experiences were analysed, unpacking institutional and departmental effects. The project findings indicated a wide range of factors that impacted social transitions, including departmental support mechanisms, PhD cohort development, age, family dynamics and academic workloads. At MMIRA 2018, we will outline these findings through a discussion around the mechanisms through which our findings were pieced together using multiple data sources, highlighting links between research methods and claims. Similarly, descriptions on how a mixed methods design deepened our understanding of a complex social phenomenon will be contributed.

**Reporting the Cross-Cultural Study of Facial Expressions: Universal vs. Culturally (A Comparative Review Analysis)**

Ira Darmawanti, University of Vienna, Austria, Vienna, Austria

August, 22, 17.00 - 18.45, U16

Facial expression as a part of nonverbal communication has a crucial role in daily life because it can have a function to send a message to others. The study related to facial expressions are still debatable until nowadays. Some investigators argue that facial expressions are universally recognized by cross-cultural participants. On the other hand, the universality of facial expressions has been questioned. Some studies give evidence that the facial expressions are culturally (not universal) among groups of participants from different nations (cultures). Also, even though there are many studies discuss facial expression either universal or culturally, the studies that try to investigate the comparison between universal and culturally related to facial expressions are still rare. Therefore, this present study examines some studies that mention facial expression are universal and culturally. The purpose of this study is to identify and describe in term of which facial expression can be recognized from both sides, universally or culturally, methodology and the goal that each study has already conducted. This present study tries to assess the similarities and differences from both sides. Some literature review from both perspectives are required to be analyzed. The analysis is based on some critical point, such as facial expression, recognition, interpretation, universal, culturally (not universal), cross-cultural study, method, purpose. The result of this study is still being analyzed and will be used as a preparatory study for further research regarding facial expression.

**Methodological Advances in the Partnering of Qualitative Traditions with Mixed Methods Research**

Elizabeth Creamer, Virginia Polytechnic Institute and State University, Blacksburg, USA

David Feldon and Colby Tofel-Grehl, Timothy C. Guetterman and Michael D. Fetters, Peggy Shannon-Baker, Georgia Southern University and Cherie Edwards, Virginia Polytechnic Institute and State University, Mandy Archibald, University of Adelaide and Nancy Gerber, Drexell University, Nataliya Ivankova and Nancy Wingo, University of Alabama at Birmingham, Judith Schoonenboom, University of Vienna

August, 22, 17.00 - 18.45, U18

Symposium

Prominent figures in the field have questioned if conventional configurations of mixed methods designs have downplayed the potential of a qualitative strand with a strong emergent quality to contribute to analytical insight. Hesse-Biber (2010), for example, charges that there is a ""methodological orthodoxy"" in how mixed methods is practiced and that it is biased toward a quantitative and positivist mindset. Provocatively labeling it as ""positivism in drag,"" Giddings and Grant made a similar claim when they asserted: ""Although it passes for an alternative methodological movement that purports to breach the divide between qualitative and quantitative research, most mixed methods studies favor the form of analysis and truth finding associated with positivism"" (2007, p. 52).

There are indications of the emergence of a more expansive vocabulary about mixed methods research designs as multi-phase and iterative. Particularly when the net is cast broadly to consider publications in a wide range of academic fields, there is evidence of growing attention to the idea of fully integrated mixed method research where the intention to integrate data sources weaves throughout all phases of the research process

This symposium consists with a panel of authors who recently completed an article for a special issue of the American Behavioral Scientist with the title, Methodological Innovation in Mixed Method Research. The purpose of this symposium is to demonstrate the versatility of mixed method approaches to research by illustrating how innovative, distinctive methodologies are being developed on the basis of variety of methods conventionally identified with qualitative traditions. These include mixed methods uses with phenomenography, case study, visual methods, and action research. Presenters use case studies from diverse fields to illustrate innovative methodological approaches to mixed methods research. The symposium presents an opportunity for a provocative conversation among the authors, as well as between the presenters and members of the audience.

Objectives

* To introduce new mixed method methodological approaches to research.
* To use exemplars from diverse academic fields to illustrate innovative applications of different methodological approaches to mixed methods research.
* To identify different ways that qualitative and quantitative approaches can be integrated in meaningful ways throughout the research process.
* To propose further innovative applications of mixed method approaches.

Papers in the Session and Authors

1. Phenomenography as a Platform for Mixed Methods Research, David Feldon and Colby Tofel-Grehl, Utah State University
2. Two Methodological Approaches to the Integration of Mixed Methods and Case Study Designs: A Systematic Review, Timothy C. Guetterman and Michael D. Fetters, University of Michigan
3. The Affordances and Challenges to Integrating Visual Methods in Mixed Methods Research, Peggy Shannon-Baker, Georgia Southern University and Cherie Edwards, Virginia Polytechnic Institute and State University
4. Integrating Art with Mixed Methods Research, Mandy Archibald, University of Adelaide and Nancy Gerber, Drexell University
5. Applying Mixed Methods in Action Research: Methodological Potentials and Advantages, Nataliya Ivankova and Nancy Wingo, University of Alabama at Birmingham

**How language learning research could benefit from Mixed Methods? Focusing on Plurilingual Repertoires' construction**

Susana Ambrósio, University of Aveiro, Aveiro, Portugal

Araújo e Sá, Maria Helena (University of Aveiro, Aveiro, Portugal); Simões, Ana Raquel (University of Aveiro, Campus Universitário de Santiago, Portugal)

August, 22, 17.00 - 18.45, U22

Mixed Methods (MM) are based on the premise that the combinate use of quantitative and qualitative approaches provides a better understanding of research issues than either approach alone (Creswell & Plano Clark, 2011). By focusing on collecting, analysing and mixing both quantitative and qualitative data in the same study, MM approach allows to underline their strength and mitigate their weakness according to the research needs, such as the possibility of results generalization and the use of a larger sample (quantitative approach) or the use of a smaller sample and have access to more detailed results (qualitative approach) (idem).

Some of the core characteristics of MM research are related to the emphasis puts on diversity at all level of the research phases and on continua rather than a set of dichotomies (Teddlie & Tashakkori, 2010). These diversity and continua could be found namely in the design options and sampling strategies (Teddlie & Yu, 2007; Nastasi, Hitchcock & Brown, 2010) by using procedures that implement qualitative and quantitative components either concurrently or sequentially, with the same sample or with different samples (Wisdom & Creswell, 2013).

Considering this epistemological framework, in this communication we intend to present how we use MM in an ongoing study and emphasise the important role that MM could have in language learning research. The study aims to understand how the plurilingual repertoires are constructed in a lifelong learning perspective, focusing in a Higher Education (HE) context. More specifically, the study pursues three research goals: i. characterise the mature students (MS) at University of Aveiro, ii. understand how the plurilingual repertoires are built through MS’ lives and iii. understand how the HE attendance contributes or could contribute to the development of MS plurilingual repertoires.

To achieve these goals, we used a MM approach in the design options and in the sampling strategy. More in detail, our data collection is organised in two phases, the first one based in quantitative data (online questionnaire with 195 MS) and the second phase related to qualitative data (biographical interviews with 12 MS).

A mix of quantitative and qualitative research approaches provides a more comprehensive understanding of the object of study. On the one hand, MM allow us the use of a larger sample and the possibility of some results generalization and, therefore, answer to our first research goal (i. characterise the MS at University of Aveiro). And on the other hand, MM approach provides us also a smaller sample and access to more detailed results and, consequently, answer to our second and third research goals regarding the plurilingual repertoires construction.

Thus, with this communication we aim to contribute to the discussion of the role of MM in language learning research and, consequently, achieve a deeper understanding of the construction of plurilingual repertoires.

**Think-Aloud Protocols and Stimulated Recall in Mixed Methods Research——Based on data from Language Learning**

Tingting, Liu, Tianjin University of Finance and Economics, Tianjin, China

August, 22, 17.00 - 18.45, U22

Verbal report (VR), often employed in introspection method, has been applied to ESL (English for second language) studies as an approach to collect research data. It has also been used in the recent years’ studies of SLA (second language acquisition) in China. Zhang pei (2013)’s research shows that there are 89 qualitative research papers published in five Chinese ESL journals between 2000 and 2010 in which 15 used introspection method. However, verbal reports have seldom been used to collect data for doing quantitative or mixed methods researches in the existing literature in China. Comparatively, in western academic literature, think-aloud protocols and stimulated recall, as a method of data collection and the object of data analysis, have been applied more extensively in applied linguistics. In this article, 10 academic papers, in which thinking aloud and stimulated recall are used in the process of data collection and analysis, are finally chosen from the 269 empirical research papers published in Language Learning between 2003 and 2014. The characteristics, designs and arrangements of thinking aloud and stimulated recall are discussed, which is supposed to provide references for the application of verbal reports in applied linguistics. The main conclusions include: (1) For those papers in which verbal reports are employed only for (but frequently not the single data for) quantitative analysis, verbal reports are the core quantitative data, while the qualitative analysis, if it’s a mixed methods research, often takes the explanatory or complementary role. For those papers in which verbal reports are employed only for qualitative analysis, verbal reports are designed to be the single or the core data for qualitative analysis, meanwhile with the feature of traditional introspection data. For those papers in which verbal reports are employed in mixed methods analysis, verbal reports play a vital role, designed to be the core or the single data for both quantitative and qualitative analyses; (2) In our data sample, 3 out of the 4 verbal reports designed for quantitative analysis are think-aloud protocols, while 4 out of the 5 verbal reports designed for qualitative analysis are stimulated recalls, which seems to present the rationality and preference of the two types of verbal reports for either quantitative or qualitative analysis. Besides, among the 6 sample papers conducting experiments, 4 verbal reports are used for qualitative analysis, 1 for quantitative and 1 for mixed methods analysis, which shows the position of verbal reports in experimental studies; (3) There are 2 out of the 10 papers in which verbal report is used only for quantitative analysis, while for the rest 8 papers, verbal report data is either used for qualitative analysis or mixed methods analysis. This shows the weight of verbal report in the research design as the type of data chosen for qualitative analysis; (4) The quantification of verbal reports is often based on their stronger structural characteristics, with which the traditional or modified strategies or classifications can be coded before the researchers’ making further design-based analyses.

**Different Data Sources - Different Conclusions? A Study on Implicit Prejudices**

Neda Forghani-Arani, Department for Teacher Education, Wien, Austria

Geppert, Corinna (University of Nottingham, Nottingham, U.K.); Katschnig, Tamara (University of Vienna, Vienna, Austria)

August, 22, 17.00 - 18.45, SE33

The paper reports results of a study in the framework of the government funded research project NOESIS to evaluate the Austrian school reform, the “New Middle School” (NMS). The overall goal of the reform is to limit marginalizing processes and to improve transitions and trajectories within an inclusive school setting. In this context, the authors focus on processes involving ethnic minority students known to be at risk of marginalization (OECD 2017). The study replicates and expands a study on teachers’ implicit prejudiced attitudes, teacher expectations and the ethnic achievement gap, which revealed that higher teacher bias was correlated with a wider ethnic achievement gap (van den Bergh et al., 2010).

The paper asks how non-immigrant teachers implicitly think about their immigrant students, how these attitudes are reflected in explicit teacher expectancies, and how are expectancies related to immigrant students’ achievements.

60 teachers and 626 students at 11 NMS school sites in Lower Austria participated in the study. The quantitative component of the study is designed as a statistical multilevel analysis of teacher and student data, based on data collected by the Implicit Association Test (IAT) response latency (Greenwald et al., 1998) to measure implicit attitudes, which are less susceptible to self-representation and social desirability factors, a teacher evaluations scale to measure teacher expectations regarding individual students, as well as students’ scores in three main subjects (German, English, and Mathematics), and data from the large scale student survey covering all NMS school sites in Lower Austria. The qualitative component draws on data collected in 7 case studies in selected NMS school sites characterized by ethnically heterogeneous student populations. The case studies take a life-world phenomenological approach (van Manen, 1990). Narrative data is composed of lived experience descriptions collected in 24 conversational interviews with students and teachers.

The results show that the majority of teachers have implicit negative attitudes towards ethnic minority students. Implicit teachers ethnic bias clearly correlates with educational aspiration of ethnic students. As such the findings are consistent with the expected Pygmalion effect; teacher ethnic bias and lower expectations correlate with lower student achievements. Data analysis also points to a dissonance; ethnic students of strongly biased teachers partly achieved better grades than their ethnic peers who had unbiased or moderately biased teachers. In order to make sense of this incongruence in the quantitative data the researchers had to revisit the qualitative data and expand the theoretical framework. From our narrative data we knew of cases of a pronounced sense of “us and them” between ethnic students and their teachers, and of acts of resistance on the student side (Forghani-Arani, Geppert & Katschnig, 2015). This led us to literature on resistance theories and critical race theory. With a dialectical pluralistic position (Creamer, 2018) the mixed methods design was instrumental in placing diversity of experiences at the center of the inquiry, and in pointing to a spectrum of dynamics and interactions instead of singular causal explanations, when it comes to the influence of teacher ethnic bias on student aspirations and achievements.

**Exploring Science Teachers' Classroom Practices: A case of Teaching Biological Inheritance**

Thomas Sedumedi, Tshwane University of Technology, Pretoria, South Africa

August, 22, 17.00 - 18.45, SE33

Teachers occupy an important part in the provision of education. Their centrality and success in this role depend on their ability to enhance learning among their students. Thus, the knowledge and skills teachers possess are pivotal factors in their ability to enhance learning among their students. This paper explores science teachers’ classroom practices as they teach biological inheritance and related concepts. The paper’s focus is on assessing the quality of selected aspects of teaching knowledge and related skills of their classroom practices. In our multi-method approach, we designed a rubric from relevant aspects of instructional design theories. Through this rubric, we established the different types of knowledge and related skills teachers possessed and used in their teaching of biological inheritance. Our findings point to the diversity of knowledge and skills (in terms of quality and types) teachers engage in and with, when teaching biological inheritance and/or related concepts. These findings reflect diverse teaching practices teachers bring and/or draw from in different contexts in which they teach.

**A technology based solution for the teaching of basic accounting principles**

Husain Coovadia, University of Johannesburg, Johannesburg, South Africa

Ackermann, Dr Christo (University of South Africa)

August, 22, 17.00 - 18.45, SE33

The use of technology outside of education has emerged as an essential feature of modern life, with its influence shaping individuals, businesses and industries alike. Since the inception of the so-called ‘internet age’, the use of technology has been explored as a platform for knowledge transfer. In the context of formal education, this phenomenon has challenged higher education institutions to enhance their teaching and learning practices by integrating technology into their course offerings. Accounting education, however, has been criticised for lagging behind mainstream educational developments in this area. The aim of this paper is to develop and test a solution for integrating technology into education processes for the teaching of basic accounting principles (the Conceptual Framework, International Accounting Standard (IAS1) Preparation and Presentation of Financial Statements, IAS2 Inventories and IAS32 Financial Instruments) (hereafter basic accounting principles). The study employed a sequential exploratory mixed methods design. During phase one of the design, we embedded a design-based approach, with multiple methods, in order to develop a solution for the teaching of basic accounting principles. The solution proposes using technology throughout the entire learning cycle of a student, from learning material, primary engagement (in the classroom), secondary engagement (outside the classroom) and assessment. Through an iterative process conducted in conjunction with students, the solution was refined with regards to each of the elements noted in the learning cycle. This process ultimately led to a final version of the proposed technology-based solution for the teaching of basic accounting principles. Subsequent to the development of the technology-based solution, it was implemented in a Financial Accounting one course for a period of six months. This implementation of the solution had led to the second phase of the design. In the second phase, to test the effectiveness of the solution, students’ test scores who used the solution were compared to those who did not use the solution (experimental design), through the calculation of pooled t-tests. Results were significant at the p<0.05 level for each of the basic accounting principles except for IAS32. Overall, students who used the solution performed better than student’s who did not use the solution.

Accelerations in technology have destabilised accounting education models. Traditional approaches continue to dominate the content and delivery of accounting principles, with limited enhancements in teaching through innovation. Accounting education has therefore stagnated in relation to developments in literature which highlight the value of integrating technology into educational processes. This paper responded to this call by employing mixed methods, to first develop a proposed solution for the integration of technology in accounting education processes after which it was tested for effectiveness.

**Beginning Teachers Lived Experiences of Teaching in High-Need Schools**

Sheila Vaidya, Drexel University, Philadelphia, PS, USA

August, 22, 17.00 - 18.45, SE33

The purpose of this research was to gain a deep understanding of how beginning STEM teachers experience teaching in high need schools. Two cohorts of teachers were surveyed and interviewed about their teaching and school experiences. A convergent design was used to obtain quantitative and qualitative data. Phase one consisted of obtaining survey data and phase two interview data. Despite the multi-dimensionality of qualitative data and the uni-dimensionality of quantitative data, the two forms of data provided corroboration and elaboration of the survey data. Teachers elaborated on their experiences during the interviews. This helped make sense of the survey data as it also helped achieve a deeper understanding of the survey responses. Qualitative data enriched our understanding of beginning teachers’ experiences in high need schools.

**Mixed Methodological Designs in Sports Medicine Research: A Review**

Melissa Kay, University of North Carolina - Chapel Hill, Chapel Hill, USA

Register-Mihalik, Johna (University of North Carolina at Chapel Hill, Chapel Hill, USA)

August, 22, 17.00 - 18.45, SE34

Sports medicine research frequently involves the discovery and implementation of evidence-based solutions. Concussion research is a key example as much of this work includes exploration of the patient perspective, legal considerations, and overall athlete health. As such, it is important that sports medicine researchers adopt a holistic approach. Although mixed methods research is a common method set in other fields, it is a relatively new approach to sports medicine research, where the benefits of qualitative and quantitative research are combined while offsetting the other’s flaws. The few current uses in sports medicine include studies of the clinician perspective, concussion, and patient-reported outcomes. Therefore, there is a need for this approach to be applied in other topic areas related to concussion that are not easily addressed by one type of research approach in isolation such as the retirement from sport, effects of and return from concussive injury, and research on catastrophic outcomes. The purpose of this presentation was to review the use and application of mixed methodological designs in sports medicine research. Upon conducting a literature search, sports medicine research could benefit from the use of different design types and reasoning of mixed methods research. The search resulted in a total of 8 articles easily found involving mixed methodologies (5 concurrent, 1 embedded, 2 explanatory sequential). Of those found, there is no, or very limited use, of the exploratory sequential and embedded designs in the study of concussion. The exploratory sequential design holds particular value within sports medicine research, as it is a tool that can be used with novel, or lesser known problems that are common in sports medicine such as long-term effects of head impact exposure and concussions. This type of problem combines patient experience, fear, risk factors, and other outcome variables that require novel conclusions connecting the clinician/patient perspective with that of the researchers’. Mixed methods research has primarily been adopted in sports medicine for reasons of triangulation (n=4), complementarity (n=3), and expansion (n=1) leaving initiation and development as potentially novel techniques. Initiation and development can be used to establish new links between phenomena and develop appropriate interventions to address a particular issue, such as concussion disclosure, education, and the clinician making an efficient and effective decision. In concussion, until research understands and links the effect on an athletes’ daily life, social support, and other factors, appropriate and effective preemptive intervention to prevent these issues cannot be designed. Sports medicine research has primarily been driven by quantitative methodologies, which may cause hesitation by some for using MMR; however, the recent emphasis in sports medicine on interdisciplinary research and collaboration may improve knowledge surrounding both qualitative and mixed methodologies. The field of sports medicine, and concussions in particular, can greatly benefit from researchers using mixed methods research to explore and explain sport injury and recovery as it is a field based in interdisciplinary and multi-perspective care.

**Volunteer Work in German Sports Clubs - A Qualitative Dominated Crossover-Analysis**

Stefan König, University of Education, Weingarten, Weingarten, Germany

August, 22, 17.00 - 18.45, SE34

Sports clubs have developed into a widespread and sophisticated social system offering movement and sport facilities as well as other leisure activities for nearly all subgroups of society. Although having a long tradition, as their development started in the beginning of the 19th century, they maintain some characteristic features until the present. The most important of these are membership, voluntariness, and social commitment. Despite the fact that professionalism has found its way into the clubs, volunteer work in many different forms (e. g. coaching, exercise instruction, administration) is still the backbone of these organizations. However, one problem has become extremely serious: it is the tendency that more and more people are moving towards avoiding social engagement and withdraw from the traditional tasks in the clubs. In particular, this trend can be realized for adolescents and young adults. Hence, it is of great relevance for sport associations and clubs to learn more about their members’ changing motives and attitudes towards social commitment.

In view of these issues this lecture will present a study which analysed the motives of active volunteers of all ages and different sports to find out more details about the phenomenon of executing honorary offices. Hence, it first approaches the issue from a theoretical point-of-view by analysing some current reporting in newspapers, journals, and annual reports of sport associations. Second, a qualitative-dominated crossover-study (Onwuegbuzie & Hitchcock, 2015) is presented which was conducted with a mixed methods and mono-strand design (Teddlie & Tashakkori, 2009, p. 145). In this study data was collected and analysed using guided interviews and an inductive qualitative analysis (Kuckartz, 2014) in a first strand; then it shows how qualitative data is converted into quantitative variables to estimate differences and correlations between various subgroups statistically (Sandelowski, Voils, & Knafl, 2009; Johnson & König, 2016). This was done to enhance the results of the qualitative strand and get a more precise idea of the issue at focus by finding common features, additional ideas, and even contradictions among various subgroups. Finally, some recommendations for both the sport system and for Mixed Methods Research Methodology will round the presentation off.

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**Value creation and co-opetition in a complex adaptive system. An integrated mixed methods case study of New Zealand sport**

Annette Sharp, Auckland University of Technology, Auckland, New Zealand

August, 22, 17.00 - 18.45, SE34

The purpose of this empirical, integrated mixed methods case study is to identify and explain the characteristics of value creation and co-opetition in New Zealand sport. The conceptual framework and research design for the study are informed by systems thinking, complexity economics, case theory and the analytic and generative modelling tools of computational social science.

New Zealand’s multi-layered national sports organisations (NSOs) are conceptualised as the meso-level actors in a complex adaptive system (CAS). The core purpose of each NSO is management of co-opetition in a sport to co-create ‘commons’ and individual value from their sport experiences. As a CAS, the New Zealand sport system is modelled as a network of heterogeneous, autonomous, inter-connected, virtual ‘agents’ which contribute to and respond to system change and may interact with entities in the ‘external’ environment across a fuzzy, permeable system boundary. The connectivity and diversity of structures, relationships, purpose and resourcing of the NSOs provides insight into system functionality, resilience, vulnerability and the potential impact of new actors in the system or external environment.

Secondary data are accessed to build an integrated quantitative – qualitative data set for this ‘virtual world’ of self-identified meso-level NSO organisations. The data set is derived from the ‘data lake’ of publicly available information prepared by NSOs in their regular management and accountability functions, independent of researcher influence. Publications include organization constitutions, statements of purpose, strategy and structure, supplementary information from organization websites, and annual reports on financial, service and sport performance (2014 to 2016). Text and visual image analysis involves coding to themes on intent and performance. Numerical data is extracted from annual reports and websites. The use of secondary data for modelling and simulation enables phased, iterative data collection and analysis, progressive building of the data set and on-going access to the data lake and data set to review inferences, convergence and divergence in the data or system states generated by the models.

A four phase iterative, integrated mixed data approach maintains the analytic focus on value creation and co-opetition, starting with a model of system topology, structure and relationships, to generate network metrics. Process and function data is then used to develop a system dynamics model and group agents for a hybrid agent-system model and dynamic network structure. The final phase of the research has a futures focus, using “if . . . then” agent –system scenario modelling to experiment with potential strategies and system evolution.

Significant features affecting value creation and co-opetition of the system include the role of external agents in inter-connectivity, skewed system distributions for financial and sport value, participation metrics and elite athlete supply chains.

For sport management researchers, practitioners and policy makers, the integrated mixed method approach, system mapping, modelling and simulation provides an alternative to ceteris paribus strategy development and planning for organisations which wish to ‘shape rather than take’ emergence in a complex system.

**Integrating the qualitative and the quantitative through mixed methods in sport research**

Gudberg K. Jonsson, Human Behavior Laboratory, University of Iceland, Reykjavik, Iceland

Camerino, Castañer, Anguera, & Sánchez-Algarra

August, 22, 17.00 - 18.45, SE34

During the last two decades, research in the field of physical activity and sport science has traditionally been based on quantitative procedures that have been developed in other areas of knowledge, such as the biomedical sciences, psychology and more recently, sociology. However, this tendency in favor of the quantitative approach in the study of physical activity has gradually given way to a more balanced view, in which neither quantitative nor qualitative methods are regarded as inherently better. Rather, each of these methodological perspectives is considered to offer a different way of understanding and approaching the study of physical activity and sport.

Both approaches differ, but they have some common features:

They guide the study objectives;

In both perspectives there are several techniques for gathering data: for example, observation (recording a soccer match), a field log (notes on a basketball training session), an in-depth interview (how an athlete felt after losing), a structured questionnaire (about the quality of municipal sports services), and, in some cases, a standardized test (of anthropometry or biomechanics), temporal measures (duration of maximum effort during a 400 m run), or psycho-physiological assessment (battery of fitness tests);

They select the participants/sample through specific techniques;

They use a variety of data analysis techniques to have some results

To integrate the qualitative and quantitative in sport research, we consider that quantitizing is the best option, a methodological action that implies a development of ‘connect’. Quantitizing, from our perspective, means taking into account the order of recorded events, later enabling the use of powerful quantitative data analysis on qualitative data. The detection of T-Patterns enables this quantitative data analysis, and numerous sport research have demonstrated that it is not only useful but also a powerful approach to use the T-Patterns detection to analyze mixed data. This approach enables the researcher to start with a transcription of a game / session / sport episode, and obtain as results the values of quantitative results from a robust mathematical procedure and a graphic representation (T-Pattern) that demonstrates the internal and interactive structure concerning these initial qualitative data.

Demonstrating this approach we will examine results from three research projects. The first is on temporal pattern analysis in attacking rugby sessions; analyzing play events, location and heart rate of players. The second is on how the use of space influences the dynamics of play in basketball; analyzing play events and location of players. And the third is based on conventional versus varied motor-cognitive skills workout for physical activity programs for adult women; analyzing how cardiac responses are optimized intra and inter-individually.

**MMIRA Initiatives Panel**

Elizabeth G. Creamer, Virginia Polytechnic Institute and State University, Blacksburg, USA

Cheryl Poth, Tony Onwuegbuzie, Mandy Archibald, Kathy Collins, Adekunle Oke

August, 23, 09.00 - 10.30, U10

This panel is intended to reach out to those attending the conference to provide information about MMIRA as an organization, to share information about on-going initiatives, to invite participation in the organization, and to generate dialogue about future initiatives.

Topics Covered/Presenters

Organizer: Dr. Elizabeth G. Creamer, Virginia Polytechnic Institute and State University

1. Mission of MMIRA and Governance Structure - Dr. Cheryl Poth, University of Alberta

2. Professional Development Opportunities: MOOC - Dr. Tony Onwuegbuzie, Sam Houston State University

3. Professional Development Opportunities: WEBINARS, Dr. Mandy Archibald, University of Adelaide

4. Future Conferences, Dr. Kathy Collins, University of Arkansas at Fayetteville

5. Student MMIRA Chapter, Adekunle Oke, Robert Gordon University

**Philosophical Foundations of Multiple and Mixed Methods Research: Comparing and "Stretching" Different Positions**

Norma Romm, University of South Africa, Pretoria, South Africa, South Africa

August, 23, 09.00 - 10.30, U11

In this paper I forward some suggestions for expanding some of the discourses in the multiple and mixed methods research (MMMR) literature. I begin by exploring how what are called postpositivist, constructivist, transformative, pragmatic, and Indigenous perspectives on research practice can be regarded as offering differing understandings of the practice of MMMR. I compare some of these understandings with reference to selected authors in the literature. I make the point, though, that paradigmatic positions are neither univocal nor static (as they can evolve as people review them in interaction with others). This means that they can become “stretched”. I point to ways of expanding the discourses on MMMR also to take into account ideas in the wider research community on foregrounding possibilities for practicing (any) research with a view to considering the potential social outcomes ensuing from the deployment of various methods. I argue that it is not necessary to define MMMR with reference to research undertaken in a defined (bounded) research project, as research projects can leave openings for other researchers to continue the research agenda, perhaps using different methods of observation, analysis, and interpretation. More important is that research efforts are undertaken with an intention to make a positive difference to the unfolding of social and ecological life, and that a collaborative research process involving key participants and stakeholders is set up towards this end. This means that co-responsibility then can become taken for the potential impact of research in the social and ecological worlds of which it is a part. I offer examples to illustrate this point.

**A Causal Conundrum within a Mixed methods Research Study**

Beverly FitzPatrick, Memorial University, St. John's, Canada

Schulz, Henry (Memorial University, st. John's, Canada); Lee, Tiffany; Peddle, Justin; Genge, Terri; Pevida, Ary; Arnold, Karina; Dillon, Carla; Clarke, Amy (Memorial University, St. John's, Canada)

August, 23, 09.00 - 10.30, U11

Causality is integral to human understanding and actions. Experiments, in our case a quasi-experiment, can provide causal descriptions. On their own, however, experiments lack in providing causal explanations. We conducted a two year mixed methods research study with two cohorts of pharmacy students. We were seeking causal inferences about the effects of formative feedback on students’ critical self-reflective skills. We intended the quantitative portion to result in causal description and the qualitative component to provide causal explanations. There were surprises with the qualitative results.

Cohort 1 started as first year students and Cohort 2 as third year; 77 in total. In the intervention students wrote eight prompted self-reflections, received individual written feedback, and whole class formative feedback through explicit instruction. To strengthen causal inferences, there was no feedback between the first two self-reflections.

After two years, self-reflections were scored on three aspects: knowledge, self-assessment, and critical writing. Analysis included the two Cohorts and Gender as factors, and the eight Reflection times as repeated measures (scores for all 77 students for all eight Reflections). The results for knowledge follow (detailed analyses in paper). The Reflection factor (TimeFAs) was highly significant for Knowledge, but no significant interactions of Reflection, Cohort, and Gender. There was no significant difference in means between the first Reflection and second, p = .787, but there was between the first and third and first and fourth, p = .009 and .000, respectively. There was also a significant difference between the second Reflection and the third and second and fourth, p = .027 and .000, respectively. This indicates a change in Knowledge from the first two to the latter ones, which came after formative feedback. Similar results were found for self-assessment and writing. This gives evidence of causal description.

For the qualitative portion, students wrote about their experiences twice during the study and once at the end. First cycle structural coding established categories, followed by second cycle pattern coding to develop themes. We divulge one main causal explanation only (details in paper). Students had mixed reviews about formative feedback. Approximately half the students thought the classes were beneficial, but more Cohort 1 than Cohort 2 students, 24/37 vs 16/40, χ2 = 4.761, p = .029. Others thought they were unnecessary. Student A expressed, “I felt my time was wasted… should have been doing more beneficial things such as studying for midterms”.

There was clear evidence of improvement in self-reflections. We explicitly discussed improvement and the role of formative feedback with students, but almost half were adamant they had not benefitted from feedback. Without qualitative data we would not have been aware of this and could have made a causal claim about formative feedback with little doubt on our part. The causal conundrum we are left with is, can we make a causal claim when many participants do not believe there is a causal link? Does using mixed methods research leave us with questions that add to the complexity of causal inferences? This complexity is addressed in full paper.

**Yin and Yang: An Eastern Philosophy for Mixed Methods Made in Heaven**

Michael Fetters, Department of Family Medicine, University of Michigan, Ann Arbor, USA

Wang, Robin (Department of Philosophy Loyola Marymount University, Los Angeles, Los Angeles, USA); Johnson, Burke (Department of Counseling and Instructional Sciences University of South Alabama, Mobile, USA)

August, 23, 09.00 - 10.30, U11

""Two opposing yet mutually dependent forces"

Here, we argue for yinyang as a philosophical grounding for mixed methods research. The origins of yinyang date to the third century B.C.E. Yinyang is not a substance, thing, or fixed essence, but rather a way of unfolding and coordinating multidimensional relationships that are complex and changing. With origins in nature, yin associations include the moon, female, moist, subjective, soft, sensitive, and passive. Yang associations include the sun, male, dry, objective, hard, harsh and active. Accordingly, the features of qualitative research as being subjective, soft, sensitive correspond with yin while features such objective, hard, and harsh correspond quantitative research with yang.

The dynamic interconnectedness of yinyang is expressed conceptually through the yinyang imagery. First, with an appearance of two intertwined fish chasing each other, the yinyang symbol resembles the logarithmic spiral as found in sunflowers, seashells, whirlpools, hurricanes, and giant galaxies--reminders that nature supplies the yinyang pattern. The dark yin teardrop, and the light yang teardrop, portray a dynamism that is separate yet interconnected. The yinyang forces are not dualistic, but interdependent, reciprocal, and intertwined. Within the strongest moment of yang, one finds a small circle of yin, and within the strongest moment of yin, one finds a small circle of yang. This illustrates how there is always yin within yang, and yang within yin. Second, yinyang symbolism illustrates change. Everything participates in a universal ebb and flow. Third, when the two teardrop-shaped parts of yinyang are brought together, they form a circle with new emergent properties. The whole could rotate or roll, a capability not in the individual parts.

Yinyang philosophy can be considered through five dimensions. In the ontological dimension, there is an interrelated reality between yin and yang, the qualitative and the quantitative, that is interconnected, indivisible and complementary. In the epistemological dimension, both forms of knowledge are necessary for understanding the whole, or the oneness of a phenomenon that produces integrated knowledge. In the axiological dimension, yinyang philosophy impresses upon researchers to value equally both the qualitative yin and the quantitative yang to understand and produce mutually interconnected wholes. In the methodological dimension, one form may be more dominant depending on the application, but both forms, qualitative procedures as yin, and quantitative procedures as yang, are needed. The two can transform into each other. In the rhetorical dimension, balanced argumentation includes both the qualitative yin and the quantitative yang as equal, yet flexible when one form takes a stronger role.

The fit of mixed methods with yinyang philosophy should resonate with world citizens who embrace Eastern thinking. Yinyang philosophy speaks to qualitative and quantitative research as different yet equal in stature, embedded within the other, and strongest when combined together. Yinyang features an inherent holism that recognizes qualitative and quantitative as distinct, yet interconnected such that the sum is greater than the individual parts. This illustration serves as a clarion call to move beyond just Anglo-European philosophies and to produce new and sometimes better instantiations of mixed methods research.

**ATLAS.TI 8 for mixed methods literature reviews**

Brigitte Smit, University of South Africa, Pretoria, South Africa

August, 23, 09.00 - 10.30, U12

Demonstration session

This presentation attends to using ATLAS.ti 8 for mixed methods research and literature reviews. Qualitative, quantitative, and mixed methods researchers write literature reviews, using deductive and inductive reasoning when interpreting empirical data. To write up a sound literature review chapter, many sources must be searched, accessed, and read. To this end, ATLAS.ti 8 can be of help considering the import function using EndNote, or Mendeley, or Zotero, favourite reference managers. ATLAS.ti 8 assists with the management of references, the capturing of central ideas, and the labelling of these ideas and the writing up of the review in a coherent manner. Regarding quantitative data, ATLAS.ti 8 offers an export function to allow additional processing of the syntax file by SPSS, the Statistical Package for the Social Sciences. To this end, codes are treated as variables and data segments (quotations) as cases. Furthermore, ATLAS.ti 8 can handle survey data, particularly online data that are available in digital format. In addition, Twitter data imports are automatically coded and can add conceptual value to current educational, political, and cultural matters. Various outputs can be created including frequency tables, word counts, and network views. This presentation is a practical demonstration of the software.

**Using Qualitative Comparative Analysis (QCA) in Mixed Methods Research**

Leila Kahwati, RTI International, Durham, USA

Kane, Heather (RTI International, USA)

August, 23, 09.00 - 10.30, U12

Demonstration session

This session will introduce participants to using Qualitative Comparative Analysis (QCA) in mixed methods research. QCA is a case-oriented method used to identify combinations of factors that are found among cases that share a similar outcome. Often described as a “middle ground” between traditional qualitative and quantitative methods, QCA uses elements of mathematical set theory and formal logic to identify patterns in data that represent relationships of necessity or sufficiency. It is particularly well-suited for understanding complex phenomena. At the completion of the demonstration, attendees will be able to 1) Describe the role of QCA within mixed methods research, 2) Define key concepts underlying QCA and the major steps in an analysis, and 3) Explain how QCA was used in several mixed methods studies from the published literature.

The session will alternate didactic presentation with hands-on practice exercises for each of the three learning objectives. First, we will introduce participants to the role of QCA within mixed methods research by comparing QCA with traditional qualitative and quantitative methods, by describing and formulating configural research questions, and by demonstrating how QCA can be sequenced into mixed methods research designs. In particular, we will show how QCA fits into extant research conceptual models as described by Curry and Nunez-Smith, can become a point of mixed methods integration, and can serve as distinct analytic step. Second, we will introduce the analytic process by explaining fundamental concepts related to set theory. Using a simple hypothetical example, we will walk through the key steps of an analysis. The example will show how qualitative and quantitative methods can be used in the analysis. Lastly, we will use examples from the literature to compare and contrast different applications of QCA across various social science disciplines.

**Mixing and analyzing Physiologic and Video Data: Challenges & Solutions**

Elizabeth Larson, University of Wisconsin Madison, Madison, USA

August, 23, 09.00 - 10.30, U13

This presentation describes the development and piloting of a mixed-method protocol utilizing a wearable technology paired with video to examine children with high functioning autism’s physiologic and behavioral responses to sensory stimuli present during a self-care task (toothbrushing) in the child’s home. This wearable technology allows us to collect electrodermal responses with a wireless dry electrode sensors embedded in a wristband. Children with autism struggle daily to manage sensory features of their environments. In a study of 210 children, 48-63% of parents of children with ASD reported their child had sensory sensitivities interfering with dental care, for 42-48% daily oral care was also problematic (Stein et al, 2011). Intolerance of touch stimuli may be leading to aversive reactions that interfere with children with autism’s ability to engage in toothbrushing, to increased anxiety and at the extremes to a “fight or flight” response. Wearable technologies may offer insight into the children with ASD’s experience of sensory sensitivities and stress during everyday life activities that have not been captured before. This study was designed to avoid altering the child’s performance and physiological reactivity by having the family rather than strangers gather data. Collecting data in family homes presents a number of challenges. Having parents conduct procedures in-home will decrease stimulus and task novelty that may be present in lab settings, and add ecological validity. We will describe how we addressed these and other challenges including: managing family’s privacy, installing equipment securely without damage to the home, orienting cameras to sufficiently capture facial and contextual cues, synchronizing the wearable sensor and camera clocks (to examine the timing of observations and physiological responses), training parents to competence in equipment operation; and identifying software and procedures for an integrative analysis of the synchronously collected time-locked physiologic and video data.

Given the brief interval before an electrodermal reaction is detected (~1/10th of a second). It is essential that the sensor and video data be tightly synchronized so that we may impute an association between the behavioral ratings and physiologic measures. The complexity of this project required a collaborative interdisciplinary team with expertise in occupational therapy and engineering. The engineers provided expertise on the operation and use of technology and occupational therapists focused on designing installation of cameras, family-friendly procedures and training, and expertise on autism and child development. We will introduce the NOLDUS software, which allows synchronous and parallel qualitative coding and quantitative analysis of multiple streams of data. With this protocol and software tool we will be able to interpret subtle and difficult to detect child, activity, and environmental features as they relate to physiological responses during toothbrushing allowing us insight into sensory sensitivity’s impact on daily function.

Stein, L. et al., (2011). Oral care and sensory sensitivities in children with autism disorders. Special Care Dentistry, 31, 102-110.

**Analyzing Misogyny in Tamil Movies using Quantitative and Qualitative Content Analyses**

Premalatha Karupiah, Malaysia

August, 23, 09.00 - 10.30, U13

Misogyny refers to a strong prejudice against women. It also refers to a general hostility, mistrust, and devaluing of women. Misogyny is an ideology that reduces women to objects. Misogynistic behavior can range from overt to subtle act through which masculine identities are shaped. While some studies have been conducted on how women are portrayed in Tamil movies none actually specifically analyzed misogyny in Tamil movies. A sample of twenty movies produced after the year 2000 was used in this study. Quantitative content analysis was used to identify the type of misogynistic behavior shown in Tamil movies and the person responsible for displaying such behaviors. Qualitative content analysis was used to explore the meaning of these portrayals. Misogynistic behaviors are displayed through mistrust of women, violence against women, and sexual objectification. In these movies, misogynistic behavior can be displayed by all characters such as the hero, villains, comedians and supporting actors. Therefore, it can be seen in the main plot of the movie, comedy scenes and also in song sequences. The prejudice and stereotypes highlighted in these movies are presented as the ‘natural’ order of events. Such portrayals also send out a message to the viewers that women should be treated negatively. This supports the normalization of misogyny in everyday life because of the central role Tamil movies play in the politics and culture in Tamil society in Tamil Nadu.

**Software-based Analysis - Using Transana for analyzing Video Data in Mixed Methods Research**

Matthias Huber, Institut für Bildungswissenschaft, Wien, Austria

August, 23, 09.00 - 10.30, U13

Transana is a software for the scientific transcription, analysis and evaluation of qualitative data. Currently, Transana is ranked among one of the best and most differentiated analyzing tools and allows for simultaneous editing of text, images, audio and video files. Thereby almost any file type can be imported and processed. For example, it is possible to synchronize and coordinate coding systems and categorizations in different file formats.

Aside from several automatic frequency and occurrence analyses, the software allows the automatic coding of sub questions, additional categories and comparative values. Within the program, it is also possible to create a separate document for every participant, every research question, every code etc. putting all the relevant information in a result-oriented order. This not only facilitates the comparability and the typing of the empirical data, but it also increases the quality of the research, because the algorithms are programmed to systematically arrange the codes along the selected questions or research interests. Images can be shaped randomly by size and form, they can be coded as a whole or categorized in parts (by code shaping), and they can be easily incorporated and customized in transcripts or documents. Aside from the excellent transcription support of all media formats, Transana is exceptionally well suited for working with video data:

Within the video analysis, the software allows the synchronization (including tagging), the overlapping and the sequential mapping of the transcript, the audio track and the video track. This goes hand in hand with the opportunity of a multi-level analysis of video data. Additionally, Transana commands a large amount of supportive analyzing tools like various memo functions, hyperlink assistance, multi-dimensional analyzing functions (including segmentation, sequentialization, categorization, coding, typing etc.), extended search functions, text based and graphic based reporting features and automatic criteria assessment tools.

The research tool demonstration of Transana will illustrate (1) all elementary steps from the transcription to the final result explication. Furthermore, (2) the central analyzing tools of Transana with a special focus on coding functions will be presented. Afterwards it will be shown (3) why the software is especially suited for research with video data and how the central advantages of the program should be used in the analysis of videos. By introducing a specific multi-methodological, video based research project, the presentation also illustrates (4) that Transana is a good option for mixed methods research designs with a focus on video analysis and (5) that the software enables the synchronized work in large research groups as a necessary precondition for complex video based research.

**Video-based Analysis of Emotion in Education - An Innovative Mixed Methods Approach**

Matthias Huber, Institut für Bildungswissenschaft, Wien, Austria

August, 23, 09.00 - 10.30, U13

Emotions have been neglected in education for a long time, mainly because emotions have been perceived of as the opposite of reason or rational thinking. In recent decades, emotions have become more and more an integral part of a holistic conception of humanity resulting in the so-called “emotional turn” at the beginning of the 21st century in the social sciences, arts and humanities. Emotions are, therefore, not only linked to reason and rational thinking; they are defined as a necessary precondition of “high level cognitive skills” (meta-competences).

That leads to the methodological question of how emotions can be investigated empirically in an adequate way, especially in the context of education and schooling, taking into consideration both the complexity of pedagogical interactions as well as the complexity of human emotionality. In this regard, current methodological observations (e.g. Barrett 2017, Gläser-Zikuda et al. 2018) strongly recommend a multi-methodological approach, characterized as the combination of different qualitative and quantitative methods with different sources of data and with a special focus on verbal self-reports in combination with different observation tools.

The presented study addresses precisely this issue: This multi-methodological and highly participatory research project aims to clarify what relevance emotions and emotional markers have in the learning and life history of students and how emotions can be investigated empirically considering the idea of a holistic conception of humanity. To fulfil this research interest, a complex mixed methods design (oriented towards the idea of a fully integrated MMD) was developed to permit a combination of all strands of research during the analysis as well as the dynamic and interactive integration of the methods (see Johnson & Christensen 2017). The data collection consists of five consecutive sensitization workshops with two groups of students which were videorecorded with a multi-perspective 4-channel-video-setup in a specifically equipped observation room. The students – as the experts of their emotionality – are also actively involved in the analysis process. The collected corpus of data, including the video recordings, the products from the workshop and the students’ research journals, were analyzed according to the following complementary methods: qualitative video analysis (“emotion based content analysis”), quantitative video analysis (“standardized software supported coding”) and, as an additional source, the qualitative interpretation (“content analysis”) of the students’ research journals as well as the results of the workshop sessions.

This presentation will illustrate (1) the complex research design in consideration of the research interests including the three central purposes of mixing, (2) the analysis methods and the evaluation procedure by specific examples of the qualitative and quantitative video analysis, (3) the central results of each data strand and (4) the first results of the central points of integration within the project. Consequently, the paper can be seen as an innovative approach to empirical educational research on emotion, based on the imperative of mixed methods research bearing in mind the relevance of observation as well as the significance of verbal self-reports.

**Integration of the Enhanced Curriculum on Tuberculosis Control for Philippine Medical Schools**

Melflor Atienza, University of the Philippines Manila, Manila, Philippines

Erlyn, Sana (University of the Philippines Manila, Manila, Philippines); Lalaine, Mortera (Philippine Tuberculosis Society, Inc., Quezon City, Philippines); Benedicto, Jubert; Roa, Camilo (University of the Philippines Manila, Manila, Philippines)

August, 23, 09.00 - 10.30, U14

Introduction: Tuberculosis (TB) remains a global epidemic. The pathogenesis, diagnosis, and management of TB are known yet it persists as a public health problem. TB and all its forms remain in the top 10 causes of morbidity and mortality in the Philippines over the last five decades. To bring this problem at the very core of physician education, the Philippine Tuberculosis Society, Inc. and the Innovations and Multi sectoral Partnerships to Achieve Control of Tuberculosis commissioned the development of the Enhanced TB Control Curriculum in 2011. All medical schools consequently committed to implement this competency-based, integrated, and learner-centered learning resource in TB control.

This study aimed to (1) describe how selected medical schools implemented the “Enhanced TB Control Curriculum for Philippine Medical Schools” and (2) analyze the levels of understanding and appreciation of TB control concepts of medical students, faculty members, and directly observed treatment short course therapy (DOTS) Center personnel.

Methodology: This was a convergent mixed methods research. Two medical schools each were randomly chosen from the Philippines’ four major geographic divisions. All students, faculty members, and DOTS center personnel of these schools served as purposive respondents. The quantitative design referred to the 29-point written test on basic concepts, diagnosis, diagnostic tests, and treatment of TB. The qualitative design referred to the combination of key informant interviews and content analysis of actual instructional resources used in teaching TB.

Results: The basic concepts of TB control such pathogenesis, diagnosis, and management, at the primary, secondary, and tertiary levels of care were taught in various courses and year levels of medical education. Two schools covered these in a subject- and teacher- centered format. The other six innovative schools covered TB control holistically as presented in the enhanced curriculum. Carefully organized instructional resources with relevant content, integrative teaching-learning resources and competency-based assessment were adopted in response to the global call for transformative learning in medical education. However, they still needed to be implemented in more strongly integrated way.

Faculty and DOTS Center personnel obtained more than 65 percent correct in the examination on the basic concepts, diagnosis, and treatment of TB but both groups obtained <65 percent in diagnostics part of the test. The students met the 50 percent passing in the basic concepts and obtained the lowest scores in the diagnostics like the faculty and DOTS personnel.

Conclusion: There had been considerable efforts in teaching TB DOTS in medical schools. However, the generally low level of understanding of students, faculty, and DOTS personnel indicated lack of internalization of the holistic concept of TB control. Rotation in DOTS centers and use of workplace-based teaching and assessment are recommended.

**Transformative Scale up of the Post-Haian School of Health Sciences, University of the Philippines Manila: A Mixed Method Study**

Erlyn Sana, National Teacher Training Center for the Health Professions, University of the Philippines Manila, Manila, Philippines

Atienza, Melflor (University of the Philippines Manila, Ermita, Manila, Philippines); Peralta, Arnold (University of the Philippines Manila, Manila, Philippines); Salvacion, Maria Lourdes Dorothy (University of the Philippines Manila, Ermita, Manila, Philippines); Dones, Luz Barbara; Paguio, Jenniffer (University of the Philippines Manila, Manila, Philippines); Pastor, Claire (University of the Philippines Manila, Ermita, Manila, Philippines); Padilla, Carmencita (University of the Philippines Manila, Manila, Philippines)

August, 23, 09.00 - 10.30, U14

Background: The School of Health Sciences (SHS), University of the Philippines (UP) Manila was founded in 1976 to provide an alternative community-based education in the health sciences. It antedated the World Health Assembly’s recommendation to embrace primary health care among its members in 1978. The SHS is also a founding member of the Training for Health Equity Network. It offers a community-based step-ladder curriculum for health professionals. In November 2013, Typhoon Haian completely destroyed the SHS. The devastation required huge rehabilitation works that also prompted its transformative scale up.

Objectives: This study described how the reforms and innovations of the UP Manila School of Health Sciences have contributed to transformative learning of students, graduates, faculty, and communities, especially after Typhoon Haian.

Methods: This study used the concurrent transformative mixed method research design. This design uses a theory or perspective that guides the interpretation of both quantitative and qualitative data in the study. SHS espouses community-based health sciences education and primary health care (PHC) and these frameworks were juxtaposed to guide the interpretation of results. Qualitative data were obtained from interviews of 245 university officials, faculty members, students, alumni, community residents, and school partners. Review classes and office activities were observed. Quantitative data included school records and performance ratings of students. Datasets were analyzed using the Statistical Package for the Social Sciences and NVIVO using nodes from the basic principles of primary health care juxtaposed with community-based education.

Results: SHS succeeded in producing a wide range of health professionals who serve the poor and underserved communities. As of April 2016, SHS has admitted a total of 3,481 students; more than 68 percent of whom were recruited primarily from geographically isolated and depressed areas. Average performance ratings in the professional licensure examinations in midwifery, nursing, and medicine ranged from 56 to 100 percent every year, surpassing the national performance rating. The ladder-type curriculum admitting high school graduates to midwifery program, nursing, and medicine remain the only one of its kind in the world. Its admission, retention, promotion, and graduation requirements were consistent with the principles of community-based education and insightfully reflect the PHC principle of providing access coverage to students who are academically and economically disadvantaged. The content, strategies, and assessment of student achievement in the curriculum mirrors the evolving health conditions of the communities and how the various players like students, faculty, administrative staff, communities, and partners arrive at an educational program addressing not just health but also social justice. SHS worked with communities, local, national, and international agencies, proving that inter-sectoral and multidisciplinary health systems approach to health and development can be achieved. However, despite this partnership, the school admitted that it has not yet institutionalized primary health care (PHC) in the region. The study identified organizational, political, and cultural factors that can effectively institutionalize PHC in the region.

Conclusion: The SHS transformed the education of health professionals. SHS continues to evolve to institutionalize PHC and community-based education.

**E-mentoring as a socialization strategy for new graduate nurse role transition and workplace adjustment**

Ruth Robbio, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Canada

Doran, Diane; Howell, Doris (Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Canada); Dubrowski, Adam (Divisions of Emergency Medicine, Pediatrics, and the Marine Institute Memorial University, St. John's, Canada)

August, 23, 09.00 - 10.30, U14

Background: Nursing turnover is a critical issue in Canadian hospitals and the transition period from student to Registered Nurse has been identified as extremely stressful. Mentorship has the potential to address transitional issues and could impact retention in the first year of employment. In the era of Internet facilitated collaborations e-mentoring may address socialization limitations noted in existing mentoring programs, however the optimum design for an e-mentoring intervention is unknown.

Study Objectives: The objectives of this study were first, to identify the socialization needs, barriers and facilitators for effective role transition and workplace adjustment of new graduate nurses. Second, to understand the state of science on mentorship to develop evidenced-based recommendations for the components and design features of an e-mentoring intervention for new graduate nurses.

Methods: This study used a complementarity mixed method design (Greene, Caracelli, & Graham, 1989) and was guided by Van Maanen and Schein’s Socialization Theory and Kalbfleish’s Mentoring Enactment Theory. In Phase 1 a scoping literature review was completed. Phase 2 involved in-depth interviews with key informants on role transition and workplace adjustment using content analysis and an exploration of e-mentoring as a possible socialization tactic. In Phase 3 Study data were triangulated in the interpretive stage of Phase 3 to formulate an intervention acceptability assessment survey that was reviewed by a stakeholder panel comprised of new graduate and experienced nurses. The results ensued evidence-based recommendations for the components and design features of an e-mentoring program for new graduate nurses.

Results: The researchers found that mentoring has been lost in preceptoring translation. As a result, new graduate nurses are exposed to social shock experiences; entrenched in unwelcoming and hierarchical work cultures with cliques and bullying. A relatable mentor, however, may support new nursing graduates with role transition and foster workplace adjustment to professional practice. Further, e- mentoring may be a viable platform to provide support to assist with social shock, conflict resolution and stress, while addressing the limitations of traditional face-to-face mentoring such as a lack of time to meet with the mentee, mentor burnout, lack of commitment on the part of the mentor, and scheduling constraints. The researchers provided evidence-based recommendations for components and design features of an e-mentoring intervention to facilitate the transition and workplace adjustment of new nursing graduates.

Discussion/Conclusion: This study provided evidence that preceptor programs for new nursing graduates are not providing adequate social supports to assist with role transition and workplace adjustment within the first year of employment. The research findings have advanced Van Maanen and Schein’s Socialization Theory and Kalbfleish’s Mentoring Enactment Theory by uncovering the phenomenon of new graduate nurse social shock and how a relatable mentor may promote socialization by mitigating conflict resolution, stress and promote a successful workplace adjustment. In addition, this study has contributed to the design of an evidence-based and relevant e-mentoring intervention for new nursing graduates.

Greene, J., Caracelli, V., & Graham, W. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. Educational Evaluation and Policy Analysis, 11(3), 255-274.

**Effect on Narrative Change and Improvement of Depression through Life Reviews in Older Adults with Dementia: A Mixed Methods Study**

Yuko Yamamoto, Tokyo Healthcare University, Japan

August, 23, 09.00 - 10.30, U15

Background

The prevalence of dementia increases with advancing age. The main symptoms are the difficulty of approximate memory, which interferes with daily life, resulting in depressed mood. The problems that older adults with dementia have in verbalizing their thoughts and feelings make it difficult to provide them with appropriate care. Conversely, long-term memory that is maintained in older adults is known to be a robust phenomenon. Life review sessions encourage dementia participants to reflect on the past. Life reviews recollect the past and encourage narration, the effects of which are examined by quantitative and qualitative data.

Purpose

The purpose of this study is to investigate the effect of life reviews on narrative change and improvement of depression among the older adults with dementia using a mixed methods study.

Methods

We conducted a mixed methods study with convergence design. The participants were elderly residents (aged ≥64 years) of nursing homes in Japan with the ability to engage in verbal communication and with a Clinical Dementia Rating (CDR) of mild to moderate. The researcher conducted four separate sessions to discuss each participant’s childhood, adolescence, adulthood, and later life in accordance with the Life Review and Experience Form (Haight, 1988). During these sessions, research collaborators observed the context of each dialogue according to the five items of the Vitality Index (VI) (0, 1, and 2; total of 0–10 points). The researcher conducted a survey using the Geriatric Depression Scale15 (GDS - 15) before and after the intervention and the recorded the narrative data of the interview contents. Analysis of quantitative data was performed using one-way repeated analysis of variance. For qualitative data, the appearance ratio of words was obtained by morphological analysis of participants’ remarks, and the meaning contents were arranged. Finally, the quantitative and qualitative results were integrated.

Findings

Among the 30 participants, the mean age was 86.6 (SD 7.1) years and 22 of them were women (73.3%). The mean number of words used per participant increased in each session: from 1,045.9 (session 1; SD 493.4) to 1,318.7 (session 4; SD 562.2). The GDS15 scores were significantly improved among the older adults with dementia with the tendency for depression F (1,112) =25.87, p<.001. Their communication regarding the subscales of the VI scores were F (1, 116) 5.51, p = 0.026, and the mean number of words was F (3.78) 39.09, p < 0.01, indicating significant changes across the four sessions. Regarding the text analysis, the contents that helped participants look back on [hometown], [school days], and [self] affirmatively were seen in the positive GDS change group. Looking back on one’s relationships with another person by long-term memory stimulation of life review was shown to cause improvements among the depression group.

Discussion

Guided life reviews facilitate older adults with dementia to recall their past, relive the feelings and events that they have experienced, and help them express themselves in the present. In addition to increasing word use, these life reviews also improved participants’ verbal expressions and demonstrated positive changes in their feelings.

**Vulnerability in Life with Rheumatoid Arthritis (VELRA)**

Laila Bay, Odense University Hospital, Odense, Denmark

Ellingsen, Torkell; Graugaard, Christian; Giraldi, Annamaria; Nielsen, Dorthe (Denmark)

August, 23, 09.00 - 10.30, U15

Introduction: Rheumatoid arthritis (RA) is an autoimmune disease known to cause health-related, socioeconomic and psychological impairments for many patients. From the patient´s perspective, the illness can be associated with lower quality of life due to changes in physical, social and psychological appearance.

Vulnerability can be present in relation to social life and loneliness since living with RA can cause changes in social relations, family structures and in intimate relations. Self-perceived loneliness and everyday life with RA have been addressed in very few studies; likewise how male patients´ sexual function and sexual life can be challenged and affected by a life with RA.

Purpose: The purpose of this study is to gain more knowledge of how RA with lifelong medication impacts everyday life and how the illness influences social and family life, including sexual function and satisfaction.

Method: The study is designed as a multi methods study with participants (age 18-64) diagnosed with RA in a Danish Rheumatology Outpatient Department. All participants will answer six questionnaires concerning background data, fatigue, everyday life activities, depression, loneliness, sexuality and changes in sexual function. Results from all the questionnaires will be used as PROMs and to characterize the cohort. Results from selected questionnaires will be applied in three sub-studies. All three studies are designed as sequential explanatory mixed methods studies:

Background data and retrospective evaluation of medical records with focus on documented guideline adherence will be combined with individual semi-structured interviews. The latter to obtain the patient´s perspective on lifelong medication and treatment

Results from the UCLA (loneliness) questionnaire will be combined with individual semi-structured interviews on loneliness and social life in life with RA

Results from CSFQ (sexual changes) and sexual life questionnaires will be used in combination with focus group interviews with men focusing on intimacy and sexuality

Results: The study will provide knowledge and insight into patient’ perspectives on life with rheumatoid arthritis. We expect the results to give voice to a patient group often overheard, and to provide a basis for future training and education of healthcare professionals on tabooed subjects such as loneliness and sexuality.

Using a mixed methods design is expected to give a broader and more in-depth knowledge about patients’ everyday life with RA, including knowledge on topics often overlooked in life with RA.

**Experiences, perceptions and beliefs of older employees regarding chronic musculoskeletal conditions and their ability to manage them at the workplace**

Glykeria Skamagki, Coventry University, Coventry, UK

King, Dr. Andrew (Coventry University, U.K.); Carpenter, Dr. Christine (Canada)

August, 23, 09.00 - 10.30, U15

Background: A healthy work environment encourages and influences the physical, mental and socioeconomic behaviours of its employees and supports the choices and the well-being of their families and communities. It can also increase productivity and reduce absenteeism or presenteeism (the practice of coming to work with an injury or medical condition) at the workplace. Musculoskeletal disorders (MSDs) contribute largely to these phenomena as each year, millions of European workers are affected by MSDs at the workplace. Research priorities in Europe are facing challenges due to the health issues of the older workforce.

Objectives: To explore employees ‘experiences of chronic MSDs in relation to their employment, their perspectives on managing these conditions at the workplace, and the strategies used to facilitate and maintain their roles and responsibilities.

Design: A sequential exploratory mixed methods design was adopted for this study to explore the complex social issue of “MSDs and the ageing workforce” and address the gap in current knowledge. The first phase of the study will involve the collection and analysis of qualitative data derived from in-depth interviews and the second phase will include quantitative data derived from a survey in a form of structured interviews. Then the two methods will be mixed before the final interpretation.

Setting: The research is conducted in Coventry, United Kingdom

Participants: The participants are employees between the age of 55-68 working in big companies in Coventry, reflecting both the private and the public sector.

Methods: In this qualitative phase, the study will follow a geographical convenience sampling to recruit participants for the semi-structured interviews. It is very important to identify participants who will best provide an answer to the research question as their responses would influence the findings of the study. Interviews will be recorded, transcribed verbatim, and analysed using thematic analysis to generate themes. The second objective will be achieved by undertaking a population-based survey in Coventry. The questionnaire will be developed based on the findings from the qualitative interviews and pilot tested for face and content validity. Employees will be provided multiple options to complete the questionnaire including mail, fax, and online methods. Descriptive statistics and associations between demographic factors and barriers and facilitators to care will be analysed using regression models.

Limitations: A potential limitation of this study is that the researcher is novice in conducting Mixed Methods Research

Conclusions: This work will identify the work policies, characteristics and environment of the different companies, the characteristics of the workforce population and the workplace management strategies of employees with MSD’s and the correlation between them. It will also highlight the most effective management strategies and inform the employers and the providers whether investing at workplace interventions for the health and wellbeing of the employees will benefit both parties.

**MM Strategies for Strengthening Internal and External Validity: Combining QCA with QEM to evaluate reductions in household vulnerability in Uganda**

Carroll Patterson, SoCha, Grand Baie, Mauritius

August, 23, 09.00 - 10.30, U16

It is no secret that the use of experimental designs, such as Quasi-Experiment Methods (QEM), has risen to predominance in the field of evaluating international development assistance projects. Yet mixed-methodologists have increasingly critiqued these approaches for their lack of explanatory power and substantive insight into how a project may have produced a positive impact. We bring this debate to a recent evaluation of donor efforts to reduce household vulnerability in Uganda. The evaluation design combines a difference-in-difference design to measure the project’s impact with a Qualitative Comparative Analysis (QCA) approach to identify the many different ways the project may achieve success.

The combination of this approach yields a design strategy oftentimes referred to as “lumping and splitting”. For the sake of policy decision-making, it is oftentimes necessary to “lump” a wide array of outcomes and pathways into two groups (control and treatment) represented with summary statistics based upon measures of central tendency (e.g. the mean, the regression line, etc.). This allows us to make clear, testable statements around program attribution and causal inference (aka internal validity). While useful, lumping seldom includes information on how the multitude of household pathways converged on these results across contexts, and so we are left with little information on how to reproduce the same results elsewhere. It is therefore necessary to “split” the control and treatment groups up into more refined subgroups to identify how local context matters and how various aspects of a program combine and interact in different ways. This then allows us to better understand how various pathways to the outcome occurred and can occur elsewhere (i.e. external validity). While also useful, splitting does run the risk of identifying pathways that may have been the result of random chance, and therefore our ability to attribute the outcome to these explanations is reduced. As such, combining the strengths of both approaches compensates for their respective weaknesses.

During the presentation, we will briefly present the logic of the QEM, spend more time presenting the logic of QCA, and discuss the benefits of combining both. While the final results of the evaluation will not be completed until 2019, we seek feedback from conference participants on the overall strengths and weaknesses of this combined QCA/QEM approach and ways to improve the design, as well as answer questions on how this approach can be applied elsewhere.

**Mixing-methods impact evaluations as a tool for transformative change? Learning and reflecting on integrating mixed methods in evaluation at Oxfam**

Miranda Morgan, Oxfam, Oxford, UK

August, 23, 09.00 - 10.30, U16

There is increasing recognition within the international development sector that there is rarely one evaluation methodology that can fully capture the complexity of many development programmes, and that evidence of causal inference can be found through many methods and designs (Bamberger 2010, Stern et al. 2012). As a group of feminist evaluation practitioners at Oxfam GB, we have been working to integrate mixed methods into several impact evaluations, valuing the more accurate and insightful understandings it provides and in the hope that this ‘richer picture’ will lead to more useful evaluations. But if our long-term goal is to contribute to transformative change then are mixed methods enough?

We seek to add to the growing body of literature documenting and exploring how mixed methods can support feminist practitioners to address complex research questions (Biber and Griffin, 2015) and how a feminist lens can shift conventional evaluation frameworks (Raimondo and Bamberger, 2016). Mertens (2003) has highlighted a clear connection between the transformative paradigm and mixed methods, and Sweetman et al (2010) argue that “values are part of all research and that the goals of enquiry should be directed towards social justice” (441). Following Raimondo and Bamberger (2016), we as feminist evaluations are not content with merely assessing the state of gender equality, but in tackling the necessary deep changes and structural factors required to enhance gender equality (281). Given this focus, we must question if and how this mixed methods approach has helped us to further this goal and what still needs to be done.

In this paper presentation, a group of Monitoring, Evaluation and Learning specialists will share their reflections on the challenges and opportunities of integrating mixed methods into traditional impact evaluations at Oxfam GB. Looking across experiences from Bangladesh, Lebanon, Tajikistan and Zambia, we reflect on the changes in organizational culture, skills and behaviour required to do mixed-method evaluation and share our lessons from ‘mixing it up’ from design through to data collection, analysis and sharing of findings. We will share what we have learnt about evaluation use and reflect on the ways in which mixed methods may or may not be helping us to utilise evaluation for greater gender equality. Building on Oxfam’s new feminist MEL principles, we identify strategies that may help us as an organization to employ a feminist lens to our impact evaluations and in so doing enhance the potential of evaluation to contribute to transformative change. Finally, together with the audience, we want to explore how the impact evaluation and feminist communities may better work together to deliver evaluations that contribute to social and gender justice.

**Environmental concern in precarious living circumstances - a mixed methods study**

Miriam Schad, Technical University Dortmund, Dortmund, Germany

August, 23, 09.00 - 10.30, U18

I present the results of a study on individual environmental awareness and behavior ‒ especially in precarious living situations. The thesis combines the latest findings from research on inequality with environmental sociology and looks at how decline in social and economic status and threats to daily existence affect individuals' environmental awareness. My research based on an explanatory sequential mixed methods design and is divided into a quantitative and a qualitative part.

In the empirical analysis I distinguish between an objectively perceived precarious living situation, such as precarious employment (temporary contracts or employment), and subjectively perceived precariousness, for example, the fear of unemployment. The study is specifically concerned with the effect of this dimensions on environmental concern and behavior in daily life. The first empirical part of the thesis presents a quantitative evaluation of data taken from surveys representing a cross-section of the German population, which compare the environmental awareness and self-reported environmental behavior of those in normal employment, atypical employment and without employment (secondary analysis of the ALLBUS/ISSP 2010). In addition, subjective dimensions such as dissatisfaction with the current living situation are integrated into the analysis. The analysis of the data provides that social positioning (e.g. atypical employment) has less of an influence on expressed environmental affinity or willingness to sacrifice than the perceived threat to a decline in social and economic status and perception of injustice. However, the actual behavior described is less affected.

The results of the quantitative analysis show that there are three relevant dimensions, which are to consider in the sampling strategy (selective sampling in combination with a theoretical sampling) for the qualitative part: experiments with unemployment, breadwinner model and variety of subjective precariousness. The second qualitative part of the study uses 18 interviews on the topics of mobility, nutrition, housing and holidays to look more closely at these initial observations and asks to what extent an uncertain living situation affects environmentally relevant daily actions and opinions. In this part I differentiate between five types of processing and their environmental implications (for example ‚offensive modesty‘ or ‚enforced abstinence‘). The qualitative analysis indicates a heterogeneity of interpretive patterns and confirm the special influence of the perception of injustice. In general, I could describe three kinds of results of my mixed methods approach: convergent, divergent, and complementary results. In conclusion, the main findings show that different types of precariousness (differing in duration and interpretation) effects environmental affinity and environmental behavior.

I present the results of my PhD thesis: Schad, Miriam (2017): Über Luxus und Verzicht. Umweltaffinität und umweltrelevante Alltagspraxis in prekären Lebenslagen. München: oekom Verlag.

**Characterizing Environmental Health Risks in Kanembwe, Rwanda**

Mason, Rostollan, University of Central Arkansas, Conway, Arkansas, USA

Horton, Leah (University of Central Arkansas, USA)

August, 23, 09.00 - 10.30, U18

The Capabilities Approach focuses on answering the question “what are people able to do and be?”. Martha Nussbaum identified ten Central Capabilities which must be realized to lead a meaningful life. In a previous study, the residents of Kanembwe, Rwanda have reported through semi-structured surveys and interviews that they are experiencing capability failures regarding their bodily health and control over their environment. In this study, we plan to address some of the key sources of injustice with regards to environmental health.

The first area of interest is the increased rate of respiratory illness caused by smoke inhalation from traditional cooking fires. The burning of biomass produces large amounts of smoke that are inhaled primarily by females and young children, who are responsible for most of the cooking. A potential partial solution to this problem is the implementation of rocket stoves. In 2015, ten families were introduced to rocket stoves. In May 2017, respiratory measurements were taken on the original ten families, an additional ten families who will receive a stove in Fall 2017, and a third group of families who will serve as a control. Measurements were taken using a peak flow meter and a spirometer. In May 2018 data will be taken on each of the three groups to evaluate effectiveness of the stoves regarding lung function. I will also perform surveys and interviews to gauge public opinion of the stoves and qualitative descriptions of changes in health while using the stoves. Preliminary data showed no effect of rocket stove on lung function, however, residents reported a decrease in eye and nasal irritation while using the stoves. The preliminary data also showed a lower peak expiratory flow rate (PEFR) value for women than men, supporting the hypothesis that women are more directly affected by the smoke.

The second area of interest is the source of drinking water. Not much is known, however, about the source or effectiveness of the drinking water. Our goal is to analyze water samples to identify pathogenic microbes and toxic chemicals in the water. To help us frame our findings, we will be using surveys to identify behavioral sources of contamination (i.e., fecal contamination, storage regimens, etc.). By conducting surveys and interviews to determine sources of environmental health concern, we can then work with the residents of Kanembwe to address the issues and work together to improve their capabilities.

The purpose of this study is to characterize some of the previously identified environmental health risks by applying a mixed methods approach to a natural science. While the quantitative data allows us to compare results of the chemical, microbial, and respiratory impacts, the qualitative portion of the study allows us to gather thick, rich data regarding the lived experiences of the study participants. The mixed methods approach to these questions facilitates combining natural science and social science disciplines in order to more deeply understand the complex intersections of real-world problems.

**Understanding the spillover effects of recycling behaviour using a mixed methods approach**

Adekunle Oke, Robert Gordon University, Aberdeen, UK

August, 23, 09.00 - 10.30, U18

Despite the increasing attention being paid to waste recycling, there is a dearth of both empirical evidence on recycling at work and examination of any spillover effects of recycling behaviour from home to work. As a consequence, this research seeks to understand recycling at work including the extent to which recycling behaviour is consistent from home to work for the same individual using a sequential mixed methods approach.

Due to the complexity of human behaviours including the heterogeneity of the factors underpinning recycling, the findings of semi-structured interviews involving 15 participants from different organisations in the UK were used along with the evidence from the literature to develop the conceptual model and the research hypotheses. By collecting quantitative data using a web-based questionnaire survey, from 367 respondents representing 43 different organisations across the UK, IBM SPSS for windows and AMOS for path and causal analyses were adopted for data analysis.

Rather than personality and/or psychological traits that have dominated pro-environmental studies for decades, this research demonstrates the importance of contextual factors such as organisational support, in explaining patterns and consistency of recycling across two behavioural contexts. Also, the findings of this research suggest that the concept of spillover, particularly from home to work, is complex and inconsistent than earlier reported in empirical studies. Whilst there is tendency for spillover of recycling behaviour, there is a significant difference between recycling at home and at work with regards to the volume of materials, the range of materials, and frequency of recycling. Nonetheless, the PROCESS macro allows the identification of various conditions that can facilitate spillover of recycling from home to work.

The findings of this research contribute significantly to the existing body of knowledge on recycling behaviour, spillover effects, and organisational citizenship behaviour for the environment. Also, the findings could assist businesses in finding proactive measures to increase recycling within their organisations.

**A Mixed Methods Sequential Design for Integration of Environmental Justice Observations into Community Based Health Risk Factors from Industrial Emissions**

Remi Myers, University of Alabama, Birmingham, Birmingham, USA

Ivankova, Nataliya; Fanucchi, Michelle (University of Alabama, Birmingham, Birmingham, USA)

August, 23, 09.00 - 10.30, U18

A geospatial mixed methods sequential design is tested against traditional quantitative Geographic Information System (GIS) risk models. The authors will discuss the benefit of transforming social observations into thematic data to inform and enrich industrial locations that have the potential to create health burdens on disadvantaged communities. Advantages in convergence techniques will be demonstrated to promote and advance the use of GIS solutions in public health, environmental justice, and mixed method research. To address the priority that exists in public health research retrospectively generated themes from published environmental justice empirical sources are used to inform the selection of appropriate quantitative demographic and industrial data to create weighted risk factors and project them using Geographic Information Systems (GIS). The Mixed Methods Geospatial Risk Model (MMGRM) was intended to test the strengths of mixed method design against a traditional quantitative risk model utilized by the Environmental Protection Agency in 147 neighborhoods in seven states in the United States. Using mixed methods sequential design models with the geospatial capability of GIS platforms we were able to demonstrate the ability to locate high-risk industrial facilities in low income, densely populated minority communities.

**Using mixed method in exploring English teachers' cognition for new policy implementation**

Azyan Shafee, Liverpool John Moores University, UK

August, 23, 09.00 - 10.30, U22

Malaysia has enthusiastically implemented phonics approach as a new method in teaching primary school English reading as opposed to whole-language approach through its latest ‘Education Blueprint 2013-2025’. This presentation examines a research process to investigate the implementation of this new policy from the perspectives of different stakeholders involved: the English language teachers and literacy coaches. It will also examine how Ministry of Education has prepared teachers to adapt this new policy and how it impacts on pupils’ progress. A mixed method approach of sequential explanatory design is used. A survey was distributed to the teachers in getting their view of their belief, knowledge and practices of the new and current approach. It was then analysed and the result derived from this phase is used to provide a general picture of the situation especially on the perception of using different approaches to the teaching of English reading.

With the result, the second phase embarked through ethnography research by following the targeted teachers for a month in schools in order to further explain the phenomena. The data collected from this stage came from teachers’ interviews, classroom observations, lesson planning and researcher’s field notes in order to explore teachers experiences in using the phonics approach through their classroom instructions. Additionally, interviews with district literacy coaches were conducted in getting the third-person insight on current issues and how the teachers react to the professional development courses available as provided by the district education offices. Since the data analysis are still on-going, there is no definite result can be offered yet, but the methods used in the study do offer significant findings in complementing different phases of the research.

**Development of Paired Oral Assessment in Classroom for Japanese Learners of English as Instructor-Advisor Collaboration: A Mixed Methods Study**

Kana Matsumura, Graduate School of Education, Waseda University, Tokyo, Japan

Moriya, Ryo (Graduate School of Education, Waseda University, Tokyo, Japan)

August, 23, 09.00 - 10.30, U22

It has been increasingly important for second language (L2) learners to be able to communicate orally in English and the interactive skill is “one of the determiners of success in today’s globalized world” (Koizumi, In’nami, & Fukazawa, 2015). This automatically increases the significance of instructing and assessing their L2 oral performance in the educational world.

The current study developed paired oral assessment in the university classroom context with the purpose of providing students with more opportunities of student-student interactions in English, analytic feedback and advising on interactive speaking skills by employing a mixed-methods approach. A paired oral test (hereafter, paired oral) is one type of L2 speaking assessment, in which test takers make pairs and talk with each other rather than with an interviewer. As the participants in the current study often have pair work as their classroom activities, to use assessment tasks that are similar to classroom activities is considered to make it easier for both teachers and students to relate the assessment results to learning (e.g., Negishi 2015).

The classes concerned are elementary courses of English for academic purposes (EAP) with an instructor (i.e. the first author) and an advisor (i.e. the second author) who tentatively attended the classes to observe the students and the class activities as well. Collaboration of the instructor, whose major is quantitative research and the advisor with qualitative major will make it possible to synthesize the results of test scores, questionnaires, paired interview sessions and classroom observation. This integrated approach helped the instructor and the advisor provide the students with formative feedback and Advising in Language Learning (ALL), which is the process of helping them to become autonomous and reflective through dialogue (e.g., Kato & Mynard, 2015). It also provided the instructor with more detailed students’ individual and group profiles about English learning to give better instructions in the class.

The study employed the multistage evaluation design. The 84 students in three EAP courses were asked to answer pre-questionnaires on experiences, attitudes or ideas about English learning and post-questionnaires and memo about impressions about the test.　While the individual paired oral test scores were examined for giving formative feedback to the students, the quantitative results were also analyzed by employing cluster analysis to categorize the population to explore where the score differences result from for profiling the students. Mini-mock TOEIC test was conducted to observe their basic English ability for comparison. After the oral test, the same pairs took a pair interview session conducted by the advisor. The interviews followed a semi-structured format in which the advisor serves as a facilitator to have the interviewees talk freely on the topics prepared.

In this session, the presenters will discuss key results of the quantitative analyses on the paired oral test which are rated analytically on the modified EBB (Empirically derived, Binary-choice, Boundary-definition) scale (Turner & Upshur, 1996; 2002), and of the qualitative analyses on the students’ perceptions of the paired oral, the class activities, and English learning in EAP courses as well.

**A Sociocultural Examination of Formative Assessment in a Postsecondary ESL Setting: Lessons Learned from a Dissertation Study**

Divya VARIER, George Mason University, Fairfax, USA

August, 23, 09.00 - 10.30, U22

This paper will discuss the rationale, design, implementation, findings, and lessons learned from a mixed methods doctoral dissertation. Using an embedded mixed methods case study design (Creswell & Plano Clark, 2011; Yin, 2011), the study examined the formative assessment practices of three postsecondary English as Second Language (ESL) teachers and their students (n = 51) and explored the potential of student metacognitive judgments of learning to inform the formative assessment process. Formative assessment refers to the process of using assessments during the teaching and learning process to facilitate successful learning. Although touted as an effective way to improve student learning, recent criticism of formative assessment studies has pointed to a lack of clarity in their conceptualization and methodological flaws (Kingston & Nash, 2011; McMillan, Venable, & Varier, 2013). Recent research has highlighted the promise of using a sociocultural theoretical perspective to overcome these criticisms (Pryor & Crossouard, 2008; Willis, 2011). Using a sociocultural theoretical framework entails an examination of the learning context, its participants, and the interactions among them through in-depth case studies that use multiple data sources and methods. This formed the main rationale for the study design. The study sought to explore whether students’ judgments of learning (preparation, knowledge of material, difficulty of the test, and confidence about their performance) during unit tests could provide useful, formative information for teachers while gaining an in depth understanding of the teachers’ assessment practices. The study was conducted in a university in mid-Atlantic United States for the duration of one academic semester. Qualitative data were collected through teacher interviews (beginning and end of semester) and classroom observations (two observations per classroom/ teacher). Quantitative data included information from student pre and post surveys on their metacognitive beliefs about English writing, periodic metacognitive judgments of learning questionnaires, and student grades.

The paper will discuss the strengths and challenges associated with designing a mixed methods dissertation that would adequately address the research questions while remaining feasible for a doctoral student with limited time and resources to implement. For example, one challenge was determining a sample size that would provide thick descriptions of the context and interactions between participants as well as a sufficient ‘N’ to conduct statistical analyses to address quantitative research questions given the small class sizes of about 12 students per class. The quantitative data obtained were limited on account of low student participation rates and implementation issues; this led to an inability to address the mixed methods research questions that relied on integrating the qualitative and quantitative data; still, the rich data gathered from interviews and observations bolstered the lacklustre quantitative findings and provided an unexpected merging point for the qualitative and quantitative data in the discussion of findings; additionally, themes related to low student participation in the classroom provided insight into possible causes for low participation in the study. Finally, the paper will discuss lessons learned and suggestions such as documentation of mixed methods researchers’ experiences as a resource for novice researchers considering mixed methods research.

**Longitudinal Mixed Methods Designs in Applied Linguistics**

Pei Zhang, Tianjin University of Finance & Economics, Tianjin, China

August, 23, 09.00 - 10.30, U22

Abstract: Design studies have been one of the most heavily researched areas in mixed methods. However, existing research has been focusing on mixed methods designs for cross-sectional studies. Research on longitudinal mixed methods designs has been rather limited, and that for applied linguistics has been non-existent. This study attempts to investigate longitudinal mixed methods designs in language teaching research, using as data relevant empirical studies published in Applied Linguistics, TESOL Quarterly, The Modern Language Journal and Language Teaching Research. It's found that the design dimensions in longitudinal studies vary from those in cross-sectional studies, and that the correspondence of the qualitative and quantitative time points is the primary dimension in the design of longitudinal mixed methods. Because of the variations in such correspondence, the usual mixed methods timing options (i.e. as seen in cross-sectional mixed methods research) are further complicated. Based on case analyses, this study captures these variations and presents design typologies including retrospective longitudinal mixed methods design, fully longitudinal mixed methods design, multilevel longitudinal mixed methods design, quasi-retrospective longitudinal mixed methods design, and ethnographic longitudinal mixed methods design.

This research is funded by the National Social Science Fund of China

**The application of mixed methods research in interdisciplinary higher education studies**

Antigoni Papadimitriou, Johns Hopkins University, Baltimore, USA

Bryant, Camille (JHU, Baltimore, USA)

August, 23, 09.00 - 10.30, SE33

Interdisciplinary practices in higher education (HE) is the integration of two or more disciplines or fields of study in relation to research; instruction; and program, certification and/or degree offerings” (Jacob, 2015: 2). The term interdisciplinary is often used synonymously with multi-, intra-, cross-, and trans-disciplinary practices; however, these terms also have distinct meanings within some studies (Rylance, 2015). Interdisciplinary research (IR) often leads to “new, unexpected, and possibly trail-blazing results” (Slavicek, 2012:107). IR is also regarded as an approach to identify, understand, and apply solutions to complex problems (Sefton & Games, 2017).

Tashakkori and Teddlie (2003) suggested that multiple data sources and analyses are needed to thoroughly understand complex social phenomena, problems or realities. However, the application of methodological approaches and research paradigms for complex inquiry purposes is not well understood in the HE field of IR. Therefore, the aim of this study is to specifically explore how mixed methods research (MMR) is used within IR in HE.

This study is a systematic literature review of recently published IR in HE that use MMR. We will rely on the work of Stentz, Clark, and Matkin (2012) who explored the application of MMR to leadership research. We apply their work to IR in HE to answer three research questions:

What subject areas within IR in HE are explored using MMR?

How is MMR used in IR in HE to satisfy the research purpose and address research questions?

What are the strengths and weaknesses of the use of MMR in IR in HE?

To answer these research questions, the review will be conducted using tier 1 HE journals (i.e. Journal of HE, Review of HE, Research in HE, Journal of College Student Development, HE: Handbook of Theory and Practice, and HE) (for status of HE journals pls see Bray & Major, 2011) and MMR journals (i.e. the Journal of MMR and the International Journal of Multiple Research Approaches), using search criteria including multidisciplinary, interdisciplinary, transdisciplinary HE and MM, mixed model, multi-method and similar terms, that were published between 2012-2017.

We will use thematic analysis (Boyatzis, 1998) and to examine each article and determine authors’ geographic locations, institutions and disciplines; themes related to HE issues explored within studies; and the use of MMR. For the latter, we will ask questions such as: Why was MMR used? What data collection and analysis methods were used?

A coding sheet will ensure consistency and that relevant data was collected for the analysis (Palvia et al., 2003). We will use descriptive statistics and quantitize the qualitative themes (Papadimitriou, 2015; 2017). For the quantitative data, we will use descriptive statistics supplemented with graphical and tabulated abstracts.

This study will allow us to examine possible patterns emerging over the past five years in the area of IR in HE using MMR. Further, it will help to understand the diversity of MMR (design, analysis, etc.) employed by author/s and their respective research area and will provide avenues for future research and the inclusion of those methodological approaches.

**Academic Experiences Using Occupational Adaptation Model: A Framework for a Convergent Mixed Method Study**

Maria Concepcion Cabatan, University of the Philippines Manila- National Teacher Training Center for the Health Professions, Manila, Philippines

August, 23, 09.00 - 10.30, SE33

Introduction

The occupational professional role of academic educator among occupational therapists, particularly from the Philippines has been challenging for many years. Very few Filipino occupational therapy (OT) graduates pursue an academic career path. Because of this, even as the qualifications authority sets basically the same requirements for OT faculty as with other countries, many schools recruit those with just the undergraduate degree, with or without clinical experience, and with very limited experience in scholarly work. To date, no systematic study has been done on Filipino OT educators. Majority of the published articles on academic experiences used qualitative methods with very small samples that limit generalizability.

This paper will develop a convergent mixed method on the OT faculty career. It will add further evidence by collection and analysis of quantitative and qualitative data. The purpose of this paper is to identify, summarize, and describe published literature on the academic practices and experiences of OT educators, determine a gap in literature, and draw a preliminary literature-based model using occupational adaptation as a theoretical lens. This paper presents the initial phase of a convergent mixed method study.

Method

A scoping review was conducted. The search from PubMed, SCOPUS, EBSCO, and ProQuest yielded a total of 3, 961 articles, from 2005 – 2017. Thirty-two articles were deemed relevant and used for the literature-based model. Of the 32 articles, 6 were obtained from occupational therapy literature, nine from nursing, psychology, and medical literature, and 17 from higher education. The settings of studies were in Australia, New Zealand, South Africa, the United Kingdom, and United States. Eighteen studies were qualitative in nature, five quantitative, three utilized both quantitative and qualitative methods but not indicated as mixed method, two used mixed methods, and four were review articles.

Results

The literature describes educators’ experiences as a function of culture defined by the institution, department, and discipline. Central to educators’ experiences is the triad of roles that determine expectations and demands from the academic environment. Experiences highlight the occupational adaptation that evolves when the academic transacts with the academic environment. A disconnect between the self and the work environment enables a process of adaptation. Occupational adaptation begins with critical reflection followed by an array of responses. Adaptive responses lead to positive outcomes such as productivity, identity reconstruction, and assimilation of academic culture. This literature-based model of adaptation in the academic environment appears to depict balance of doing, being, and becoming consistent with occupational therapy philosophy.

Conclusions

This scoping review reveals that the course of faculty careers reflects varied experiences evolving from adapting to meet the requirements of the academic environment to completely mastering it. Adaptation of academics to their occupational role and environment has mostly been explored qualitatively and this is one gap that will be addressed using a convergent mixed method design. A convergent mixed method study appears to match the basic requirements of occupational adaptation model. The literature-based model will be used to guide selection and adaptation of a questionnaire and drafting of questions for semi-structured interviews.

**The Role of Recognition of Prior Learning in the Higher Education Institutions in Indonesia**

Helmy Syakh Alam, Vienna University, Vienna, Austria

August, 23, 09.00 - 10.30, SE33

Recognition of Prior Learning (RPL) is the process of promoting participation in and outcomes of formal and non-formal learning, to raise awareness of its intrinsic worth and to reward learning (Cedefop, 2008). RPL was introduced as a policy and a practice to accelerate the solution of injustices in education, training and employment opportunities (Wong, 2014). RPL can be functioned as a means of mediating and navigating between different sites of practices, such as the workplace and the academy (Harris et. al, 2014). Through RPL, adult learners will be given the opportunity to achieve equity through recognition of non-formal and informal learning.

The basis for assessing knowledge and skills of an individual is national qualification frameworks (Van Kleef, 2008). It is more than 100 countries which are developing or implementing national qualification frameworks (Allais, 2010), one of those countries is Indonesia.

The purpose of RPL in Indonesia is to give more opportunity for the society to be included in the higher education institutions or they can be equally recognized based on the qualification levels. There are two types of RPL: RPL type A will be used for continuing education in formal education and RPL type B will be used to equally recognize competences to a certain qualification. Lecturers can use both type: type A can be used in their teaching activities (for their students) and type B can be used to gain a certain qualification (for themselves). Thus, lecturers have a very significant role of RPL in Indonesia HEIs.

The focus of the study is going to answer one main question: how does RPL play its roles in Indonesia HEIs in the perspective of lecturers. It also consists of three sub-questions: (1) how do lecturers view RPL; (2) how does RPL impact to the lecturers? and; (3) how do lecturers implement RPL in their teaching activities.

In this study, a concurrent mixed method design is used in the first phase, then will be followed by a qualitative (semi-structured interview) on the second phase to collect more in-depth data, analyse and draw conclusion.

For the first phase of the study (quantitative: closed questionnaires and qualitative: open questionnaires), 50 lectures are agreed be the respondents. The respondents were given the closed and open questionnaires simultaneously. The open questionnaires mostly consist of the explanation of questions in the closed questionnaires. Based on the answered questionnaires, the questions list for semi-structured interview has been made for the second phase.

Due to the limitation of the resources and to make the study more focus, for the second phase, the interview will be held in Denpasar, Bali. In Denpasar, there are 15 lecturers who are willing to be interviewed. From those 15 lecturers, I choose eight of them with these consideration: two lecturers from “old” Public HEI, two lecturers from “young” Public HEI, two lecturers from “old” Private HEI, and two lecturers from “young” Private HEI.

Data analysis is still in the process and hopefully will be finished on May 2018.

**A Mixed Methods Study on Readiness of Higher Education Institutions to the K-12 Implementation in the Philippine Education System**

Imee Acosta, Virginia Commonwealth University in Qatar, Doha, Qatar

August, 23, 09.00 - 10.30, SE33

The Philippine Educational System is undergoing a major overhaul through the adoption of a 12-year program of formal basic education by adding two more years to the existing 10-year basic education schooling. The purpose of this mixed methods sequential explanatory study was to identify the factors that determine readiness of selected higher education institutions to the full implementation of the enhanced basic education curriculum or the K-12 program. Results were obtained through a survey questionnaire in the quantitative phase, and then following up with semi-structured interviews in the qualitative phase from purposely selected participants to explore the results in more detail. In the first quantitative phase, five factors were found to be determinants of readiness, they are: eligibility, staffing guidelines, course streamlining, workforce surplus management, and alternative programs. In the qualitative follow-up, the phenomenological inquiry yielded five essential themes related to readiness, namely: realign the curriculum, requalify the teachers, retool the teachers, re-assign the teachers, and redevelopment activities. Both, the quantitative and qualitative findings from the two phases of this study proved that the higher education institutions' preparation for readiness demonstrate active involvement to ensure a smooth transmission and successful implementation of the country's biggest education reform agenda. Implications and recommendations for policy makers, concerned government institutions, and higher education institutions are provided.

**Evaluating and enriching a literacy intervention in rural India**

Ben Alcott, University of Cambridge, UK

August, 23, 09.00 - 10.30, SE34

Our research team is using a mixed-methods research design to evaluate and enrich a community-level literacy intervention in rural India. In this proposal we aim to share experiences during the early stages of this three-year study, encourage feedback on how to refine our research design, and inform others undertaking research in similar contexts.

Rural India continues to face disappointing literacy rates: just 43% of children in third grade (age nine) are able to read sentences (ASER India 2016). Much of the ensuing policy and research debates have attributed the problem to a curriculum that accelerates to higher-order skills far too rapidly (e.g., Pritchett and Beatty 2015) and teacher motivation and inflexibility with teaching methods (e.g., Muralidharan & Sundararaman 2011).

To date, interventions to improve literacy have tended to focus either on influencing practices in the classroom or working with children independently of the school system, but rarely the two in conjunction. This is where the intervention that we are studying may be of interest to education policy: the hope is that by running reading interventions that bring together volunteers, parents, and teachers, there will be a tangible impact not only on participating children’s literacy, but also on the attitudes and practices of teachers so that they are more supportive of subsequent cohorts of children in the classroom.

Our research questions are as follows:

1. Does the intervention improve child literacy rates, especially among the most marginalized (girls and those from poorer households)?

2. For teachers participating in the intervention, does this change:

a. Their attitudes towards children who have not yet learned basic literacy skills?

b. Their teaching practices towards children who have not yet learned basic literacy skills?

3. How might a future community-based learning intervention be improved with regards to improving:

a. Child literacy rates?

b. Teachers’ attitudes and teaching practices?

For the sample, across two Indian states we will randomly allocate 450 villages between 2 forms of intervention and 1 control setting (i.e. 150 villages each). Our planned methods include a randomized controlled trial with learning assessments, attitude surveys, observations of the interventions, classroom observations, interviews, and case studies.

We see mixed methods as essential to understanding not only any causal impact of the interventions, but also the processes by which impact is enabled or inhibited. Coming primarily from an econometrics, programme-evaluation background, we look forward to sharing with and learning from MMIRA colleagues on how to integrate paradigms and methods so as to understand and improve policy. We hope this presentation will contribute to further policy interventions, especially those conducted in developing contexts.

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**A Mixed-methods Investigation of Financial Literacy Education with Hong Kong Junior Secondary Ethnic Minority Students**

Hua Loon Ling, The University of Hong Kong, Hong Kong

August, 23, 09.00 - 10.30, SE34

This study aimed to understand the financial literacy of Hong Kong ethnic minority junior secondary school students. Improving the financial literacy of students has been recognised as an important endeavour worldwide. But beyond teaching knowledge and skills, financial education should be focused on improving attitudes and values to have greater impact on behaviours. Financial education should also aim to promote social justice and economic sustainability by teaching consideration of consequences at the broader contexts, not only for personal well-being but also for the social good.

In this study, 99 Secondary 1 students (24 intervention group; 75 control group) from one secondary school in Hong Kong took part in a one-year mixed-methods design study with three phases: baseline, intervention, and follow-up. At the baseline, all students completed a questionnaire with quantitative and qualitative components. The intervention group students were also individually interviewed. Thematic analysis was carried out on the qualitative data and findings informed design of a set of 12 financial education lessons. This was taught to the intervention group twice weekly over six weeks. The control group received no intervention. During this intervention phase, data was collected through student work, audio-recordings of class discussions, questionnaires, and focus group interviews. At the follow-up phase, all students answered another survey. The quantitative questions of this follow-up survey were identical with the first baseline questionnaire, while there were only slight modifications to the qualitative questions. Findings were compared and contrasted between intervention and control groups through quantitative statistical analysis of the students’ responses to evaluate effectiveness of the financial education lessons. This quantitative data included Likert scale responses for financial attitudes and self-reported financial behaviours, as well as quantification of the qualitative thematic coding of the students’ strategies for financial decision-making.

Results of the pre-post analysis showed statistically significant improvement in the intervention group students’ financial literacy in terms of their strategies for financial decision-making, which was not observed in the control group. Meanwhile, there was a decrease in the control group students’ social conscientiousness in using money in that they showed decreased attitudes of care when using their families’ money. The intervention group students did not exhibit this worsening of attitudes which suggested a positive preventive effect of the financial education programme. However, there was no change in the students’ savings behaviours from both intervention and control groups. Also, the intervention group students had a statistically significant shift in their spending behaviours towards increased spending and borrowing behaviours.

The mixed-methods design of this study helped to offset weaknesses in the study, namely the small sample size of the intervention group which made statistical claims of significance and generalisation cautious. The qualitative data findings provided additional evidence to support the quantitative results, and also helped to explain the findings of the lack of improvement in savings behaviours and increased spending and borrowing of money despite the intervention group students’ improved strategies for financial planning. Together, the mixing of methods helped to suggest areas of impact and improvement of the financial education programme.

**Design and implementation of a mixed methods study: Evaluation of a comprehensive sexuality education program in Mexico City**

Shelly Makleff, London School of Hygiene and Tropical Medicine, UK

Garduno, Jovita; Zavala, Icela; Rivera, Pablo (Mexico); Valades, Jimena; Barindelli, Florencia (USA); Marston, Cicely (U.K.)

August, 23, 09.00 - 10.30, SE34

Evidence about effective intimate partner violence (IPV) prevention strategies is limited, particularly in low- and middle-income countries (LMICs). Some studies suggest that a ‘gender-transformative’ approach is key to successful IPV prevention programs, and it is plausible that gender-transformative comprehensive sexuality education (CSE) can prevent IPV. However, few CSE evaluations have measured IPV-related outcomes.

The International Planned Parenthood Federation/Western Hemisphere Region (IPPF/WHR), Fundación Mexicana para la Planeación Familiar (Mexfam), and the London School of Hygiene and Tropical Medicine (LSHTM) collaborated on a study evaluating the school-based comprehensive sexuality education intervention developed by Mexfam and implemented by the organization’s “Gente Joven” (‘Young People’) program in Mexico City. The study examines whether and how CSE contributes to the prevention of dating violence and to more equitable relationships among 14- to 17-year-old public school students. The CSE intervention, piloted and evaluated in 2017, comprises approximately 20 total hours of curriculum delivered weekly over a semester by trained health educators.

The mixed methods process evaluation was collaboratively designed and implemented by project partners in 2016 and 2017. Between January and June 2018, the research team will be analyzing data and writing evaluation reports for internal dissemination. In this presentation, I will describe the collaborative study design process, explain why we chose a mixed methods approach, and share the implementation experience and challenges of using a wide range of data collection methods.

We began the study design process by developing a theory of change to articulate the hypothesized pathways through which CSE might lead to more equitable and less violent relationships. We then designed a mixed methods process evaluation to examine the diverse pathways articulated in the theory of change. The evaluation uses a longitudinal quasi-experimental design in one intervention and one control group. Data collection methods include a pre-post survey in the intervention and control groups; longitudinal qualitative interviews with a subset of intervention participants; endline focus groups in both intervention and control groups; endline in-depth interviews with a subset of intervention participants; and endline focus groups with the teachers in the school and the “Gente Joven” health educators.

In our experience, the collaborative approach to study design, in a team comprising academics, programmatic staff and youth health educators, ensured that local expertise influenced the development of research questions that are locally meaningful, a feasible study design, and would produce utilizable findings. A mixed method design was a key strategy we identified to achieve these aims. The presentation will include a discussion of the benefits and challenges of this approach, describing the mixed methods analysis process, sharing key findings, and reflecting on the reception of the mixed methods results by the project partners.

**Mixing Methods in New Acadia: Using Mixed Methods Approaches to Explore the Role of Culture in South Louisiana Education**

Jenna LaChenaye, University of Alabama at Birmingham, Birmingham, USA

August, 23, 09.00 - 10.30, SE34

Education initiatives and evaluations are bound by the complex and intangible contexts of their organizational, cultural, and political environment. Traditional forms of research and evaluation in education, specifically the quantitative-heavy assessments mandated for federal and state reporting, attempt to capture this complexity for the purposes of mass nation-wide reporting and accountability but often fail to do justice to the cultural and political contexts within which the school and program are situated. The purpose of this paper is to explore the ways in which the use of a mixed methods design in the evaluation of an environmental education program provided researchers the opportunity to explore the political facets of the program and uncover the varied and immense cultural dimensions driving its evolving manifestations in local school systems.

The proposed paper summarizes the methodological insights gained from a variety of education programs in South Louisiana, from language immersion to coastal erosion and wetland loss environmental education programming in south Louisiana schools. Due to the complicated nature of the relationship between program theory and active programs in diverse contexts, exploratory mixed methods approaches were utilized to capture the broad picture of the programs in action and the various goals and motivations of participants in order to better understand the program experiences and stakeholder values. The use of mixed methods approaches offered opportunities for the continuously evolving arena of cultural responsiveness through the exploration of unknown cultural mechanisms and value systems operating within this educational program and contexts of interest. Capturing the complex web of motives, contexts, and communities within which the programs are situated – specifically, rural Southern poverty, Louisiana ethnic minorities, agrarian community histories, and the politics of environment and climate change – emerged as a necessary and vital element of defining the worth of initiatives beyond the curricular measures employed in traditional evaluation design. The resulting mixed methods designs allowed researchers to adopt an exploratory lens and collaborative values while meeting the quantitative needs of education in the age of big data. The shift resulted in the identification of cultural epistemologies of place at the heart of the program’s rural expressions and the internalization of the program by rural and ethnic populations who viewed environmental sustainability as cultural sustainability. For these communities, language loss, coastal preservation, and climate change were not a Louisiana issue but a personal one.

In this case, the use of mixed methods uncovered and integrated the often-missed socio-cultural values and historical contexts of educational programming, highlighting the missed opportunities of strictly quantitative designs in the interdisciplinary and multifarious world of educational research and the need for greater attention to culturally relevant methods in evaluating these initiatives.

**Is that all there is? The place of research design in Mixed Methods Research**

David Morgan, Portland State University, USA

August, 23, 10.45 - 12.15, U11

Recently several leading scholars in MMR (e.g., Flick, 2017; Hesse-Biber, 2015; Sandelowski, 2016) have warned that our field is in danger heading in the wrong direction if we continue to concentrate too heavily on technical issues of research design. Several of these critics have also argued that this problem is in large part due to paying too little attention to underlying theoretical issues, which is encouraged by relying too heavily on crude versions of pragmatism (“what works” or mere “practicality”). In response, I present the case that research design should indeed play a central, organizing role in MMR, and link this claim to an emphasis on the value of pragmatism as a paradigm for MMR.

With regard to the over-emphasis on technical issues at the expense of theoretical concerns, one of the primary claims is that too little has been done to define when and why to use MMR, especially as an alternative to mono-method approaches. The most basic response to this issue focuses on the match between research questions and research methods, so that MMR is preferable when it can answer a research question more effectively than a mono-method approach can. But note that this “value added” approach requires an emphasis on research design, since it implies a comparison between the “best” way to answer the question through either a MMR design or a mono-method design. Getting down to the level of what specific designs can deliver is essential for making such a comparison. Thus, in order to determine whether mixed methods is preferable, we need to determine the benefits that an additional method could provide, and to do this we need to consider the designs that might provide those benefits.

With regard to pragmatism as a justification for emphasizing research design in MMR, even a more philosophically sophisticated version of pragmatism would never deny the value of “practicality” or “what works.” Certainly, no individual can ignore questions about actions and their consequences, and the difference that it makes to act one way rather another, and if such issue are central to daily life, the same should be true for MMR as a community. Hence, I believe that rather than being a dismissive insult, “what works” gets us to the heart of the human experience of pragmatism.

Overall, I argue that there is nothing special about MMR with regard to the importance of matching research designs to research purposes. Instead, this pragmatic process should be the core of qualitative, quantitative, and mixed methods.

**The Mixed Methods Appraisal Tool (MMAT): a critical appraisal tool for assessing the quality of qualitative, quantitative, and mixed methods studies**

Quan Nha Hong, McGill University, Montreal, Canada

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August, 23, 10.45 - 12.15, U11

Introduction: More and more researchers are interested in conducting systematic mixed studies reviews. Systematic mixed studies review follows the principles of mixed methods research. It is a systematic literature review that includes qualitative, quantitative and/or mixed methods studies; and it uses qualitative, quantitative and/or mixed synthesis methods. As in mixed methods research, the combination of qualitative and quantitative evidence in a review can provide in-depth answers to complex clinical problems and practical concerns. Despite its advantages, several challenges are usually encountered in systematic mixed studies reviews because of the heterogeneity of included study designs. One of these challenges is related to the quality appraisal of included studies. To address this challenge, a critical appraisal tool for assessing the quality of quantitative, qualitative and mixed methods studies was developed in 2006: the Mixed Methods Appraisal Tool (MMAT). The aim of this project was to strengthen the content validity of the MMAT.

Methods: A revised version of the MMAT was developed using the results from a literature review on critical appraisal tools and a modified e-Delphi study with methodological experts in qualitative, survey and mixed methods research to identify the core relevant criteria to include in the MMAT. The Delphi study consisted in two rounds of questionnaires. In Round-one, the experts were asked to rate on a 5-point scale the relevance of and commented on a list of criteria extracted from existing tools. In Round-two, results were sent to the same experts who re-rated the relevance of criteria. Consensus was reached when at least 80% of experts judged an item ‘very’ or ‘extremely’ relevant.

Results: A total of 18 appraisal tools and one recent literature review on the quality of mixed methods research were retained. 383 criteria were extracted of which 84% were removed (duplicates, generic, or unclear); of those, 60 criteria were retained and submitted to experts. A total of 73 experts participated in Round-one and 56 in Round-two. Consensus was reached for six qualitative criteria, eight descriptive criteria, and seven mixed methods criteria. Based on these results, the MMAT criteria were revised.

The results of this project and the revised version of the MMAT will be presented. The MMAT has three main characteristics. First, it can be used for different studies designs since it includes criteria for qualitative, quantitative and mixed methods studies. Second, the MMAT focuses on the core relevant methodological criteria. Third, it includes specific criteria for assessing mixed methods studies.

Discussion and conclusions: Currently, there exist over 500 critical appraisal tools, making the task of selecting the proper tools for use in systematic mixed studies reviews daunting. The MMAT offers an alternative solution by proposing a unique tool that can appraise the quality of different study designs. Also, the MMAT includes criteria on the integration of the qualitative and quantitative components, a core characteristic of mixed methods studies. In this project, we revised the MMAT grounded on experts’ opinion to improve its content validity.

**Developing and Validating Competencies for Conducting Mixed Methods Research**

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Ross, Shelley (University of Alberta, Canada)

August, 23, 10.45 - 12.15, U12

Purpose

This paper advances 27 competencies for Conducting Mixed Methods Research and describes the procedures involved in developing and validating the competency framework. This work is of great importance to begin to address the gaps and inconsistencies in current teaching and learning about mixed methods research. Specifically, these competencies will contribute to developing knowledge and skills beyond those that are technical-focused with the aim of supporting development of competence across five practice domains: practitioner, architect, engineer, collaborator, and manager.

Theoretical Framework

Competencies are defined as specific, demonstrable skills or knowledge necessary for the practice of a profession and their identification provides the necessary foundation for competency-based approaches (Albanese et al, 2008; Carracio et al, 2002; Spady, 1977). Competency-based education is a model that approaches training and assessment from an outcomes-focused perspective that is learner-centred and emphasizes progression towards competence through assessment for and of learning (see Frank et al., 2010a, for a systematic review). This work is timely because of the ever-increasing use of mixed methods research and the continued shortage of learning opportunities. For those learning opportunities that do exist, few examples assess their impact on student learning and experiences (e.g., Poth, 2014). While methodological literacy is crucial to develop, it is especially important in mixed methods research because it requires developing specific expertise as well as expertise in both qualitative and quantitative research.

Methods and Data Sources

A sequential exploratory mixed methods design was used to develop and then examine the veracity of essential competencies from the perspectives of mixed methods research community members from around the world. Draft competencies drawing on a literature review were refined based on consultations with mixed methods research experts (n=6). Then an online survey examined the relevance of essential competencies from the perspectives of mixed methods researchers from around the world (n=200).

Results, Conclusions and/or Interpretations

The iterative process and draft competencies for five practice domains will be described related to the mixed insights generated; for example, Practitioner involves 3 competencies focused on the distinguishing aspects of a mixed methods research practitioner such as development of expertise, demonstration of integrity, and engagement of professional networks. The presentation will allocate time for providing an interactive experience for educational researchers to engage as a mixed methods research community to consider the possibilities of competency-based approaches and determine the relevance of draft mixed methods competencies

Importance of the Study

This work has both theoretical and practical implications for guiding the development of competent mixed methods researchers. As such this research has the potential to inform professional practices and training approaches.

**Mixed Methods Research" Basic Designs and Methods: a Visualization for Teaching Purposes**

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August, 23, 10.45 - 12.15, U12

Classifying mixed methods (MM) research designs is notoriously difficult and a simple visualization of MM designs for teaching purposes is lacking. To fill this gap, in this paper I introduce a visualization of basic MM research designs and methods for teaching and didactic purposes. I provide examples of how MM studies from the field of management can easily be mapped on this visualization. The visualization (Figure 1) represents three basic MM designs – exploratory sequential, explanatory sequential, and convergent, and three basic MM methods – building, connecting, and merging. The visualization utilizes a structure of a matrix, with the research steps being represented with numbers, in a process-like sequence. The numbers denote the sequence of research steps. The thickness of the arrows may be varied to denote the relative size of the qualitative or quantitative sample in a study. Figure 2 provides an example of how a MM study (Raffaelli & Glynn 2014) is mapped on my framework – the arrow in the quantitative part of the visualization is thicker, which denotes that the relative size of the quantitative sample in this study is bigger (compared to the qualitative sample). The matrix structure of the proposed visualization enables easy switching through the quadrants, without the need to draw duplicates of boxes or circles. This decreases the cognitive load necessary for comprehension, as my pilot test with PhD students has shown. Existing visualizations of MM designs and methods, like Onwuegbuzie, Slate, Leech, and Collins’s (2007) or Leech and Onwuegbuzie’s (2009), contain a multitude of boxes or circles and provide a level of detail, which may be relatively hard to comprehend by MM novices. While I fully recognize the merit and value of these visualizations for advanced MM purposes, and while I partially derive the contents of my visualization based on them (and also based on Fetters, Curry, and Creswell’s 2013 framework), I believe that they are not optimal for teaching MM to beginners. The simplified visualization, which I propose for teaching purposes, offers a clear matrix structure. Through this structure, the main steps of the MM designs are easy to follow and comprehend. I employ the power of the visual language to foster clarity. My visualization also provides an easy way to map any mixed methods study, as I show with my example MM studies. The proposed visualization is not without limitations, the biggest of which being the danger of reification because of its simplicity. While this is a valid limitation to be considered, it is moderated by the fact that this visualization is meant to be used for teaching, where simplicity is crucial. The visualization can be used by scholars for didactic purposes. It can also serve as a heuristic device to define and explicate the type of MM design utilized by various studies. Such a heuristic device is necessary for researchers seeking orientation in the MM field or seeking assistance in deciding which MM design to apply in their work. References

**Embedding the Research Skills Development framework into a postgraduate mixed methods research subject in business**

Roslyn Cameron, Australian Institute of Business, Adelaide, Australia

August, 23, 10.45 - 12.15, U12

The teaching of MM research is a key topic identified by the MMIRA taskforce in relation to the future of MM (Mertens et al, 2016). This paper describes the embedding of the Research Skills Development (RSD) framework into a newly designed postgraduate subject in a Master in Management-Research and Doctorate of Business Administration programme. The subject is currently being developed for full online delivery along with 3 other research coursework subjects in these programs. The decision to embed the RSD framework into the MM subject and other research subjects came about through a synthesis of conclusions reached in other research that has examined the use of MM research in applied doctoral level business research (Cameron, 2009) and through a benchmarking exercise in relation to the postgraduate research training in the management discipline offered by the Group of Eight (Go8) top research universities in Australia (Cameron, 2018, forthcoming).The Research Skill Development (RSD) framework was initially developed by Willison and O’Regan (2007) for undergraduate research education. Subsequently, a team of researchers were granted an Australian Learning and Teaching Council grant to further develop the RSD. Research team members were based at six Australian universities, 3 of which are members of the Go8. The RSD is a conceptual framework for the explicit, coherent, incremental and cyclic development of the skills associated with researching, problem solving and critical thinking (Willison & O’Regan, 2007). Since then several universities have embedded the RSD into postgraduate research programmes (Abdurrahman, Willison & Sabir, 2015; Venning & Buisman-Pijlman, 2011, 2012; Willison, 2012; Willison, Schapper & Teo, 2009).The RSD framework can be utilised to chart and monitor research skills development and identifies six facets of research at five different levels (refer to Table 1).We see one practical application as being both to chart and to anticipate students’ development as researchers. It can, therefore, be used to inform course design, to frame assessment and learning tasks and to identify students’ development at any time as well as their progression over time (Willison & O’Reagan 2007, p. 404)

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**A Symposium for Innovative Applications of Joint Displays in Mixed Methods**

Vicki Plano Clark, University of Cincinnati, USA

Engelman, Jonathan (Kettering College, USA); Bustamante, Carolina (State University of New York at Old Westbury, USA); Headley, Marcia Gail (University of Delaware, USA); Shannon-Baker, Peggy (Georgia Southern University, USA)

August, 23, 10.45 - 12.15, U13

Symposium

Joint displays are matrices and figures in mixed methods studies that visually display quantitative and qualitative information in relation to each other (Creswell & Plano Clark, 2011). They have received increased attention and application in the mixed methods literature because of their potential for enhancing the development and communication of integrated results and conclusions within research studies. Several works have described the range of joint displays found within published studies and identified how different types of joint displays align with various mixed methods rationales and designs (e.g., Guetterman, Fetters, & Creswell, 2015; Plano Clark & Sanders, 2015). The goal for this symposium is to present innovative applications of joint displays that go beyond those described within existing typologies of joint displays and that demonstrate creative uses of joint displays for logistical, theoretical, philosophical, and pedagogical reasons. Symposium organizer, Vicki Plano Clark, will introduce the session with a brief overview of the current state of knowledge about joint displays and then the symposium will feature the following four presentations.

Developing Joint Display Data Collection and Analysis Tools by Jonathan Engelman. This presentation describes the creation and use of a joint display that facilitated collection of data concerning conceptual change in physics education (Engelman, 2016). The joint display organized each participant’s data in such a way that the quantitative data informed the qualitative data collection for that participant. This tool allowed for efficient mixing of the data and yielded rich interpretations of participants’ conceptual change.

TPACK and Teachers of Spanish: Development of a Theory-Based Joint Display in a Mixed Methods Case Study by Carolina Bustamante. This presentation describes the development of a joint display in a mixed methods case study on professional development on Web 2.0 technologies for teachers of Spanish (Bustamante, 2017). Using the TPACK model as a theoretical framework, this joint display illustrates how the qualitative results from interviews, observations, and documents and the quantitative survey results were integrated.

Spectrum Analysis: An Actionable Approach to Integrating Measures of Central Tendency and Evidence of Opposite Extremes by Marcia Gail Headley. Spectrum analysis entails the use of joint displays to mix quantitative and qualitative data and inferences for the purpose of integrating measures of central tendency and evidence of opposite extremes. This presentation describes how spectrum analysis was applied from a dialectical stance to understand variations in specialized literacy skills among students (Headley, 2016) and discusses the conditions under which spectrum analysis is defensible and actionable.

Teaching Mixed Methods with Joint Displays by Peggy Shannon-Baker. This presentation discusses the benefits of joint displays for teaching mixed methods research. Based on Plano Clark and Sanders’ (2015) typology for joint displays and the author’s experience teaching masters- and doctoral-level research courses, the author details how she employed joint displays in lectures, class activities, and course assessments to communicate the importance of integration to novice researchers.

**A multistage evaluation of the implementation and impact of Acute Medicine reform in Ireland**

Eimir Hurley, Trinity College Dublin, Ireland

McHugh, Sheena; Browne, John (University College Cork, Ireland); Normand, Charles (Trinity College Dublin, Ireland)

August, 23, 10.45 - 12.15, U14

Background

To address growing deficits in the delivery of acute services in Ireland, NAMP was established in 2010 to optimize the management of acutely ill medical patients in the hospital setting. Central to the reconfiguration was the establishment of Acute Medical Assessment Units (AMAUs) to rapidly access and manage medical patients and safely avoid inappropriate hospital admissions. NAMP aims to reduce inappropriate hospital admissions, reduce length of hospital stay and ensure patients receive timely treatment in the most appropriate setting This study will examine the impact of this programme on patient care and identify the factors influencing its implementation and operation.

Methods

A multistage evaluation study with an embedded explanatory sequential design will be conducted; quantitative data will be analyzed first, and qualitative research conducted to explain the results. The study integrates three components: 1) an examination of variation across hospitals in programme performance and outcomes using routine administrative datasets (2) an assessment of implementation (based on structured interviews with the Acute Medicine lead at each hospital (n=30)), and measurement of how this correlates with outcomes, and (3) an examination of the factors which have influenced both implementation and outcomes using purposively sampled sites for case study research.

Discussion

This robust evaluation will enable us to examine whether this ambitious programme is improving patient care and draw conclusions on how it is doing so. It will also shine a light on the myriad of factors that conspire to determine how well it has been implemented in the real-world setting

**Factors influencing Health Care Service Delivery in Malawi: Mixed Methods Analysis Divide**

Kennedy Machira, Luanar, Lilongwe, Malawi

Obisie-Nmehielle, Nkechi (North West University-Mafikeng, Mmabatho, South Africa)

August, 23, 10.45 - 12.15, U14

Background: Health care services have been experiencing a lot of challenges which result in providing unsatisfactory services thus causing the country failure to deliver expected care. This phenomenon attributes to slow progress in the fight of public health problems such as emergent maternal health care services in order to meet the needs of the women during the cause of giving birth to life.

Objectives: It is because of this background that the study explored the factors influencing the health care services using the mixed methods approach.

Methodology: The study used data from the 2010 Malawi Demographic and Health Survey and data that were collected from across the selected health facilities spatially distributed country-wide. Using these two data sources a quanti-quali mixed method approach was adopted to analyse data in order to achieve the study objective.

Results: The study found a divide solutions on the two approaches used to answer the research question. For instance, much as the quantitative approach in which the decomposition approach noted that community factors remain the significant factors affecting health care service delivery in the country. On the same note, the qualitative approach results stressed that community factors such as distance to access the health care facility is not an issue, but demeaned quality first care, attitude associated with the services delivery and in adequate resources across the facilities remained the major factors affecting quality of delivered care.

Conclusion: Therefore, based on the study, it was noted that different approaches adopted in the analysis were varying. This implies based on the two approaches there was a divide in the methodological approaches used in determining factors affecting health care service delivery from both quantitative and qualitative analytical approaches.

Recommendation: In order to minimise the mixed methods divide in estimating important health care indicators to countries such as Malawi that continues to experience public health challenges as a result of maternal health care, there is need to synchronise the data scope and collection timing if the mixed methods approaches are to triangulate each other. There is need therefore to consider a robust research design and pretesting if the mixed method is synchronised properly if and only if the approach is to provide a balanced scientific quantitative and qualitative health care estimation rigour.

**Applying a Mixed Methods Action Research Framework to Design a Study to Evaluate Community-Based Care Coordination Services**

Sophia L. Johnson, University of Maryland, Baltimore, Baltimore, USA

Ivankova, Nataliya V. (University of Alabama at Birmingham, Birmingham, USA); Carter, Ernest L. (Prince George's County Health Department, Largo, USA)

August, 23, 10.45 - 12.15, U14

Multiple medical and social concerns like inadequate transportation, poor housing options, multiple health conditions and complicated treatment regimens, are common barriers to achieving and maintaining good health. Individuals experiencing such health barriers frequently use the emergency department and hospital admissions to temporarily address issues and restore their health. In the US, people with multiple chronic conditions, minorities, urban and rural dwellers, older individuals and those with few economic resources are disproportionately harmed by these barriers. Consequently they have greater use of expensive, often delayed and inefficient hospital services. One mechanism to reduce barriers and improve health is to empower people from the community to connect their neighbors to medical and social services, an intervention known as comprehensive community-based care coordination. Prince George’s County (PG County), Maryland recently implemented a care coordination program. Although care coordination has reduced unnecessary hospital care in PG County, we hypothesize, based on other interventions, that tailoring the program to patients and stakeholders (e.g. care coordinators and providers); and expanding it to a larger pool of similarly affected residents will: (i) Better serve the community, (ii) Make the program sustainable and (iii) Positively influence future statewide resource allocation and insurance coverage decisions. Community-based programs that are socio-culturally competent, and continually tailored to populations based on patient and care coordinator feedback, demonstrate improved health outcomes. Therefore, we applied a mixed methods action research (MMAR) framework to design a study that will evaluate the PG County care coordination service. The MMAR framework integrates mixed methods (MM) and action research (AR) within the 6-phase cycle -- Diagnosing-Reconnaissance-Planning-Acting-Evaluation-Monitoring. Using a MMAR framework is pivotal to studying the care coordination program for many reasons. MMAR framing helped locate the community’s practical problem(s), translate the problem(s) into research questions, identify the phase within the AR cycle and a mixed methods design to address these questions, and inform the needed action. In this case, the community partners implemented an intervention and they were interested in understanding who differently responded to the program and the mechanisms that underpinned the responses. The integrated results will inform the design of context specific, data-driven approaches to program tailoring that will have a greater likelihood of community uptake and improving health outcomes. To support community goals, the research project needs to identify which patients had significantly positive and negative responses to care coordination (confirmatory questions). Once patients in these response categories are identified, an exploration of the reasons for the provided responses needs to be pursued (exploratory questions), and action needs to be planned. A multiphase mixed methods design supports this confirmatory-exploratory-action pattern of inquiry. Further, this study falls into the evaluation phase of the MMAR cycle. In this presentation, we will describe the MMAR framework and how it informed conceptualizing the study design, stakeholder involvement, sampling approach, data collection/analysis, study deliverables, and next steps.

**Using mixed methods research designs to examine complex health care issues to promote wellbeing**

Antigoni, Papadimitriou, Johns Hopkins University, Baltimore, USA

Hesse-Biber, Sharlene (Boston College, USA); Ivankova, Natalyia (University of Alabama at Birmingham, USA); Yi, Shiya (Boston College, USA); Stewart, Rosalyn; Frangakis, Constanitne; Abel, Yolanda (JHU, USA); Roussel, Linda; Herbey, Ivan (University of Alabama at Birmingham, USA)

August, 23, 10.45 - 12.15, U15

Panel

The aim of this panel with 3 papers (see below) is to add value to our understanding of complex health care issues that lies at the interface of medical decision-making and patient-centered care that also extends to the wider community-context including those communities-based-participatory researchers who seek to transform the well-being of their communities as a whole. Thus far there are few studies that seek to get at the lived experiences of individuals within a complex health care environment, whose experiences are subjugated by the health care industry, very few research deal with methodological components for multi- disciplinary research with social and health sciences. The session will conclude with Q&A and with sharing of the attendees’ experiences with organizational-support-systems for teaching&learning MM research.

1. There exists a lack of understanding that men can get hereditary breast-cancer as it is thought to be such a rarity. We conducted an explanatory sequential MM study that starts with an online survey of 457 BRCA+ females followed by 57 in-depth qualitative interviews. We explore the role family inheritance plays in cancer risk management. Those daughters who inherit the genetic mutation from their father are blindsided because their risk is hidden and therefore first get cancer and then get tested. Moreover, daughters who inherit the genetic mutation from fathers have a significantly higher rate of cancer than those who inherit this genetic from mothers and score significantly lower distress related to BRCA testing.

2. Community-based participatory research (CBPR) with the aim to provide the community with information necessary to enact changes in relation to quality of life (health, resilience and well-being/safety) are needed. Our project employed a cross-disciplinary mixed method study of CBPR. We combined the extended community-contact and depth of qualitative research with the breadth of quantitative work. In order to capture specific quality, safety, resiliency, and health items in the community we used a concept mapping approach. In this session we will explore the methodological concepts and challenges working in a collaborative study and will propose good practices to improve collaboration within scholars in different academic departments.

3. Slow adoption rates and delays in translating evidence-based generated results in practice call for better ways to bridge this gap. There is an urgent need for effective methods to facilitate adoption, dissemination, and implementation of research findings to benefit the population’s health and well-being. MM research is able to intersect with other methodological approaches such as community-based research making it advantageous to study both the course and outcomes of health issues. Combining MM with cyclical-action-oriented and community-based methods can facilitate the process of translating research finding into practice. A methodological advantage is that this intersection creates a well-integrated approach for addressing quality improvement initiatives grounded in evidence-based practices by exploring an issue at different levels and providing contextual understandings shaped by real-life experiences and cultural-influences. This presentation will discuss several approaches for using MM with community-based action research to facilitate the process of moving evidence-based generated knowledge to its application in clinical and community settings.

**Cross-Cultural Survey Evaluation: Differential Item Functioning and Cognitive Interviewing Analysis in Japanese and English Versions of a Social Anxiety Questionnaire**

Momoka Sunohara, Concordia University, Montréal, Canada

Sasaki, Jun (Osaka University, Japan); Hebert, Elizabeth (Concordia University, Canada); Sasaki, Keitaro (Osaka University, Japan); Zhou, Biru; Kirmayer, Laurence J. (McGill University, Canada); Ryder, Andrew G. (Concordia University, Canada)

August, 23, 10.45 - 12.15, U16

Background: Taijin Kyofu Sho (TKS) is characterized by the fear of offending others in social interactions, a culturally unique social anxiety construct originated in Japan. TKS is distinguished from the ""Western"" form of social anxiety disorder (SAD), which is defined by the fear of embarrassing the self. However, research has shown that TKS is not as culturally distinctive as previously thought. The status of TKS as a Japanese-specific culture-bound syndrome has been reconsidered. Thus, establishing a reliable and valid cross-cultural measurement of its symptoms is crucial. The Taijin Kyofu Sho Questionnaire (TKSQ; Choy et al., 2008) was developed to assess symptoms of TKS in patients with SAD in the US and Korea. The scale, however, has not been validated in Japan nor in other Western cultural groups. Cognitive processes and cultural factors shaping the experience of completing the TSKQ as well as the item functioning of the scale need to be examined in a comprehensive research design.

Purpose: This study examined a cross-cultural equivalence and validity of the Japanese and English versions of the TKSQ, a thirty-item questionnaire commonly used to measure TKS utilizing a mixed method in Japan and Canada.

Methods: We conducted a series of differential item functioning analysis (DIF) to statistically evaluate items with bias in a larger sample of Japanese (n=190) and Euro-Canadian (n=119) university students. Cognitive interviewing (CI), specifically the verbal probing method was used to qualitatively assess the causes of DIF and cultural differences in understanding of the social anxiety construct with a smaller set of Japanese (n=12) and Euro-Canadian (n=9) participants.

Results: Following the ordinal logistic regression method (Zumbo, 1998), DIF analysis revealed three items demonstrating problematic uniform DIF. The analysis of CI data aided interpretation of DIF findings such as translation errors, clarity issues, and cultural variations in interpretation patterns.

Conclusion: Integration of DIF and CI data together provided important information on comprehension and equivalence of the questionnaire in cross-cultural and linguistic groups. The novel research design used in this study strengthened cross-cultural survey evaluation, providing a more comprehensive and integrated view of a mental disorder across cultural contexts. Benefits of the use of mixed methods design to assess surveys in cross-cultural studies in the light of cultural-clinical psychology are discussed.

**Applying Mixed Methods Community-Based Participatory Research to Global Service-Learning**

Leah Horton, University of Central Arkansas, Conway, USA

Millsap Stone, Jayme (University of Central Arkansas, Conway, USA)

August, 23, 10.45 - 12.15, U16

Since 2012, the University of Central Arkansas has had a service-learning study abroad program in Rwanda. From the inception of the program, we have mentored more than 50 students in partnering with Kanembwe village on various research and service projects. This presentation demonstrates the value of a mixed methods community-based participatory research (CBPR) approach to assessing and improving quality of life in Kanembwe, Rwanda – a village built by the Rwandan government in 2009 to relocate people from deforested areas such as the Gishwati Forest. The people of Kanembwe are among the least advantaged and deal with chronic problems including food insecurity, unemployment, illiteracy, poverty, unfertile land, and limited access to healthcare.

Despite language barriers, cultural differences, and high rates of illiteracy, our students have participated in administering semi-structured surveys, collecting oral histories, and collaborating with village teams to design, build, and use rocket stoves. Our presentation will highlight resident voices telling their stories, ongoing challenges, and achievements over the course of the last six years.

This session will provide information on the Capabilities Approach philosophy, as well as strategies for implementation and assessment. Focusing on the questions, “What is each individual able to do and to be?” the Capabilities Approach concentrates on the freedoms and opportunities individuals require to live a life worthy of their human dignity. Implementation of the Capabilities Approach ideals through service-learning with our partners in Kanembwe Village, Rwanda, will be examined and data from various research activities will be presented. Participants will gain insight and strategies into designing and implementing service-learning projects based on the Capabilities Approach and utilizing mixed methods CBPR.

The lessons learned from this study can be applied to diverse communities. Regardless of the particular location or context, marginalized and impoverished communities must be included as active participants in taking steps to improve their wellbeing.

**The value of mixed and multiple methods for building Southern theory**

Jerome De Lisle, The University of the West Indies, St. Augustine, Trinidad and Tobago

August, 23, 10.45 - 12.15, U18

Southern theory is about social and educational thought of societies in the global South. It reflects ideas on local and global issues from intellectuals in these colonial and postcolonial societies (Connell, 2007; 2014). Despite the dominance of Northern theory, local knowledge of contexts in the periphery exists and can add value to policy development (De Lisle, 2017). Southern theory is especially important for education policymakers in developing countries because it represents a different but connected way of seeing the world. Such local knowledge (contextualized theory) could be the key to better implementation within these contexts (Louisy, 2004).

How is such theory to be generated? In the context of small states, Crossley (2008) explicitly called for bridging of positivistic evidence-based models with interpretive approaches that give voice to local views. Therefore, for countries of the global South, mixed and multiple methods research (MMMR[1]) offer a unique opportunity for generating credible local theory and knowledge. The value of MMMR is derived from the judicious use of integrated evidence that are appropriate for contexts with (1) empirical data, (2) unique participant values, experiences, and perspectives exist; and (3) undiscovered aspects of the context ered (Crossley, 2010). In such contexts, mono-method approaches are limited by lack of prior empirical data, decontextualization of issues (as in survey research), or lack of statistical generalization (as in small-scale qualitative).

Single or multiple paradigmatic frameworks and multiple ways of organizing the timing, weighting, and integrating of components offer unique and efficient opportunities for mixing (Christ, 2013; Onwuegbuzie, Johnson, & Turner, 2007). Indeed, MMMR can even facilitate integration of indigenous approaches to research (Chilisa, 2011). We illustrate these ideas by exploring the use of MMMR for education policy research in the small island states of the English-speaking Caribbean, especially Trinidad and Tobago. These islands are postcolonial sites with unique institutional and social characteristics. Bacchus (2008) and Baldacchino (2001) pointed particularly to (1) economic and environmental vulnerability; (2) low levels of institutional development; (3) heterogeneity of space; and (4) unique human resource patterns and constraints. Some issues in education appear to be unique (Crossley, Bray, & Packer, 2011).

In this paper, I explore several MMMR education policy studies but focus attention upon a 2015 Government commissioned evaluation of the enactment of a new curriculum for the primary schools in Trinidad and Tobago. In this evaluation, a qualitatively-driven design was employed even though large-scale empirical data was first gathered from a representative sample of 58 primary schools. The focus on the qualitative component was consistent with the responsive evaluation model and the need for analytic generalization to explore this heterogenous setting. I interrogate the role of the MMMR design in uncovering the unique variation resulting in differential responses to curriculum implementation. I discuss features used to increase analytic generalization in the qualitative component and show how the integrated theory adds value and direction to Northern theory.

[1] Hesse-Biber, Rodriquez and Frost (2015) refer to this grouping as multimethod and mixed methods research (MMMR).

**Power, Equality and cultural sensitivity - Transformative mixed methods research and its role in social change**

Ilana Paul Binyamin, Beit Berl College, Israel

Alpert, Bracha (Beit Berl College, Israel)

August, 23, 10.45 - 12.15, U18

Two prominent approaches characterize the concept and development of mixed methods research. One is anchored in a pragmatic worldview, and focuses on the best ways to study and understand social phenomena. The second – the transformative approach – supports an active role of the researcher to generate social change and to provide solutions for problems of injustice, discrimination and oppression, which many populations throughout the world suffer from.

The transformative approach – the focus of our paper – includes a wide variety of theoretical viewpoints and attitudes that deal with weakened and excluded social groups and is influenced by post-modernism and post-structuralism (Denzin & Lincoln, 2011). Mixed methods based on the transformative approach may well represent the complexity of social problems and contribute to life changing solutions (Creswell, 2014; Mertens, 2010).

Our paper emphasizes the affinity between a transformative social-educational project and a transformative research design by presenting and discussing three cases of mixed methods studies that were carried out in Israel:

- A collaborative exploratory sequential study of values-related educational change in religious high-schools in the center and periphery of Israel. The goal of this project was to reinforce values education and to move away from the neo-liberal approach that focuses on measurable achievements and uniform standards. The research design was developed in a dialogue between the project pedagogical leaders and the researchers.

- A study of a program to train at-risk youth for the 21st century work world, by providing them with skills and tools for future planning, and thus increasing in them a sense of occupational self-efficacy and capability. The study was dominantly qualitative - including observations, interviews and focus groups- with quantitative tools – questionnaires - embedded in it.

- A bilingual Jewish-Arab school that promotes education for Shared society and equal citizenship in a religiously and nationally-divided society was the focus of the third study. This convergent parallel type study employed both qualitative and quantitative methods to explore the school holistically.

Based on the cases of mixed methods studies we argue that a transformational social-educational process requires a transformative research approach that combines methodologies – like a mirror image between the social change and the research that examines it. Mixed methods research provides the change leaders with power, because it moves between the collective and the individual voices, between the sample that represents the social phenomenon and the personal-authentic voice that directly connects the stakeholders to the human experience, and between the object and the subject, which allows a holistic view of the phenomenon.

Based on the studies we will also claim that mixed methods that include a variety of research tools provide also cultural sensitivity and attention to equal power relationships between researchers and the research participants, thus making the research a meaningful and influential part of social change processes.

**Using Mixed Methods to Develop Participatory Practice-to-Research Study Frameworks: A Case Study from Children's Social Services in the United States**

Jeff Anderson, Indiana University, Bloomington, USA

Hitchcock, John (Indiana University, Bloomington, USA)

August, 23, 10.45 - 12.15, U18

Using a cutting edge research-practice partnership between university-based researchers and community-based practitioners, this presentation describes a project seeking to better understand the role of a recently created intervention called Educational Liaison (EL). Developed by a regional CASA (Court Appointed Special Advocates) organization in the Midwestern region of the United States (U.S.), the EL intervention was designed to assist youth in foster care, along with their court-appointed caregivers, to successfully complete secondary education. Briefly, in the U.S., when young people are at risk for removal from their current living environment due to concerns about abuse or neglect, a magistrate appoints a CASA whose primary role is to advocate for the best interests of adjudicated children. A CASA will work with a young person until a permanent home is found and for many children, the CASA offers the only constant adult in their life. CASAs include more than 76,000 volunteers in the U.S. working across a network of almost 1000 CASA programs. However, even with CASA supports, many outcomes for this population of children and youth remain poor. Researchers have reported, for example, that although children with CASA volunteers appear to achieve better outcomes, significant educational challenges remain, including high school mobility, poor attendance, low graduation rates, and reduced opportunities for healthy social engagement. Not surprisingly, this connection between the need for foster care and poor school functioning is further exacerbated by systemic barriers that often exist in schools, such as when educators lack knowledge about the academic history and social-emotional wellbeing of children in foster care. As such, the role of the Educational Liaison (ELs) was designed to assist CASAs by specifically ensuring that high-quality educational and social-emotional supports are provided for young people in foster care. ELs are trained to focus on improving attendance and school engagement, by ensuring that there is collaboration among CASAs, schools, community agencies, the Court system, and caregivers. This presentation will describe a methodological approach the authors have developed with the local CASA program for applying a mixed methods research (MMR) framework for improving implementation of the EL intervention. The project started with the research team working closely with practitioners from CASA to more fully articulate how the actual practice of the EL intervention functions. A thick description of the EL intervention was developed through a participatory framework entailing iterative contextual analyses vis-à-vis collaborations between researchers and practitioners. A corresponding goal has been the development of a focused program of research, specifically intended to further develop and refine the EL practice. After illustrating an agreed upon logic model and specifying a theory of change, future steps of the project include advancing the theory of change via examinations of how the current intervention has and has not worked well using a multiple case study design with posthoc maximum variation sampling, advancing practice ideas using a Delphi study, testing implementation of intervention updates using mixed methods pilot work and finally, testing an updated intervention variant with randomized controlled trials designs (efficacy and effectiveness).

**Addressing health inequities through virtual social networks: A proposed transformative mixed method research (MMR) study**

Marcy Antonio, University of Victoria, Victoria, Canada

August, 23, 10.45 - 12.15, U18

Research Aim:

To address the inequities experienced by people living with chronic obstructive pulmonary disease (COPD), by examining the functions of social networks offered through digital technologies (DT) (e.g. social media and SkypeTM).

Background:

COPD is a fatal chronic illness characterized by acute breathing events and progressive shortness of breath. Perceptions towards the illness have introduced health and social inequities for the COPD population. Smoking is commonly cited as the greatest 'risk factor' for COPD, however, this perspective may emphasize individual responsibility, while failing to acknowledge the socio-political structures that influence behaviours. The resulting stigmatization towards COPD individuals for having 'caused their illness' can discourage healthcare utilization. Further, compared to other chronic illnesses COPD is the 'poor cousin', with fewer dedicated healthcare and research resources. Without sufficient supports to manage and treat their illness, people living with COPD can experience more frequent and severe acute breathing events, contributing to a diminished quality of life. Stigmatization may also discourage community development, limiting advocacy that can change illness perceptions and inequitable outcomes.

Individuals living with COPD are further impacted by the compounding social isolation experienced with increased fatigue, frailty and influenza severity. Social isolation has been linked to higher mortality rates and reduced overall quality of life. DTs are providing new opportunities to improve the outcomes and experiences of COPD individuals by offering a virtual place for social networks: DTs' functions may include community-building, narration of experience, education, communication, engagement, peer-support, identity and policy influence.

Methodology:

Grounded in a critical public health approach (Greenhalgh, 2009), this transformative MMR study prioritizes health equity in challenging the societal barriers that are impacting the outcomes and experiences for COPD population. Mertens (2012) acknowledges the complexity in addressing health and social inequities, and recommends MMR in examining the multiple layers that underlie these injustices. The sequential MMR study (Qual-Quant-Qual) will explore how people living with COPD are using DTs to support their social networks.

Methods: Stage1 will consist of semi-structured interviews guided by participatory social mapping. Thematic analysis of data will inform the design of a DT survey for stage2.

Stage2 will encompass a questionnaire that combines the DT survey with a patient reported experience measure (PREM) and a patient reported outcome measure (PROM). The primary aim in stage2 will be to identify 'community members' who utilize DTs to support their illness experience and improve outcomes.

Stage3 will involve semi-structured interviews with community members who can provide further contextual data on their utilization of DTs.

Framework Development: Combined thematic analysis from Stage1 and Stage3 will result in a framework that examines the relationship between 1) the function of DTs; 2) the characteristics of social networks and; 3) illness outcomes and experiences.

Research design forum questions will focus on how to:

1) Analyze and integrate data across the three stages.

2) Represent the knowledge provided from community members, while addressing the requirements of the academy.

3) Involve 'community members' when the inequity that is being addressed is the lack of a community.

**Grounded text mining approach (GTxA ): An integration of grounded theory and crossover mixed analyses**

Mitsuyuki Inaba, Ritsumeikan University, Kyoto, Japan

Kakai, Hisako (Aoyama Gakuin University, Japan)

August, 23, 10.45 - 12.15, U22

Recently, a variety of approaches to mixed methods research has emerged. One such example is the use of crossover analysis on a single type of data. In this presentation, we introduce an innovative approach to mixed methods analysis called the grounded text mining approach (or GTxA for short), which takes advantage of rapidly evolving computer technology of data mining. GTxA is a type of a qualitatively driven mixed methods (Hesse-Biber, 2010) that integrates both grounded theory analysis (Charmaz, 2014) and crossover mixed analysis ""wherein one or more analysis types associated with one tradition (e.g., qualitative analysis) are used to analyze data associated with a different tradition (e.g., quantitative data)” (Onwuegbuzie and Combs 2010, pp. 422).

First, we will provide an overview of GTxA as an approach to mixed methods analysis. Second, we will outline an example of the GTxA analytical process using interview data obtained from cancer patients/survivors who participated in an integrative medicine practice at a cancer clinic in the United States (Kakai, 2013). At the end of this presentation, we will discuss GTxA in relation to a recently emerged notion of KDD (Knowledge Discovery and Data Mining), which encourages the use of multiple types of approaches for extracting useful knowledge from data with the latest computer technologies.

In the first stage of the GTxA practice, the researcher analyzes qualitative data and performs coding/categorizing using the grounded theory analysis. In the second stage, the researcher quantifies the same text data using text mining techniques to graphically visualize them based on the frequency of words, phrases, and codes. In the third stage, any gap in results obtained from the two analyses is verified. In the iterative and reflexive process in analyzing qualitative data, the researcher uses both an interpretive approach and text mining techniques. As a result, qualitative categories the researcher develops are refined by quantitative results with visualization of textual data.

In our model GTxA study, first we performed analysis on interview data obtained from the cancer patients/survivors using the grounded theory analysis. Various categories were generated that depicted the study participants’ transformation in their attitudes towards life after cancer experience. In the second stage, with the same text data, we visualized the frequency of words/phrases in a graph format using text mining functions of NVivo 11 Plus. In the third stage, we compared codes and categories generated through the grounded theory analysis with words and phrases obtained from text mining analysis of the same interview data. With a help of text mining techniques, we refined the results of the initial grounded theory analysis.

As illustrated above, GTxA allows the researcher to take advantage of advanced computer technologies in analyzing text data both subjectively and objectively. In other words, the integration of insightful, creative ideas of the researcher and logical, objective language processing by computer technologies will yield synergistic knowledge.

**Integrating Natural Language Processing with Qualitative Text Analysis in Mixed Methods Studies with a Large Qualitative Strand**

Timothy Guetterman, University of Michigan, USA

DeJonckheere, Melissa; Chang, Tammy; Basu, Tanmay; Scruggs, Elizabeth; Vydiswaran, VG Vinod (University of Michigan, USA)

August, 23, 10.45 - 12.15, U22

Introduction:

Qualitative text datasets tend to be limited to small sample sizes in order to achieve depth and detail, particularly when data saturation is assessed. However, text databases, such as those generated through social media and text messages can be quite large with thousands of participants. Though saturation could be reached with a smaller subsample, it would not take advantage of the complete dataset—not all participant voices would be used nor heard.

In this methodological paper, we propose that traditional qualitative text analysis can be integrated with natural language processing (NLP) to analyze large text databases. Qualitative text analysis involves reading data, assigning code labels, and iteratively developing findings. NLP is an area of research and application that explores how computers can be used to understand natural language text or speech to accomplish useful tasks, such as the coding of text data in this study, by sorting words and phrases into relative frequencies based on a quantitative similarity scores. We argue that integrating qualitative and NLP methods is inherently a form of mixed methods analysis.

Because little methodological research has been done to establish the feasibility or quality of NLP relative to qualitative text analysis, we conducted an experiment to compare 1) NLP only to an augmented NLP/qualitative analysis and 2) qualitative only analysis to an augmented qualitative/NLP analysis.

Method:

Our analysis is based on data gathered through MyVoice, a U.S. national research project that collects survey data through text messages. MyVoice engages youth in health policy discussions in order to hear their voices and arm stakeholders with information. We randomly assigned a different question to two experienced teams for qualitative coding and analysis before receiving NLP results. A third team separately conducted NLP analysis of the same two questions. Then, the two qualitative teams received the NLP data first from the other dataset they had no prior exposure to and conducted the augmented NLP/qualitative analysis second. We then compared 1) similarity and differences of findings derived, 2) quality of inferences generated, and 3) time spent in analysis.

Results:

In brief, NLP provides both a foundation to conduct text analysis more quickly and a method of validation of qualitative findings. NLP methods were able to identify major themes found with traditional qualitative analysis but the approach was not as useful at identifying nuances. Traditional qualitative text analysis added important details and context. As expected, NLP took less time than a qualitative only approach.

Methodological Implications:

Conducting an NLP and Qualitative Augmented analysis of text data has several advantages: 1) utilizing the entire dataset, 2) validating one form of analysis with the other, and 3) yielding context and quotes along with quantitative frequencies. Our goal is not to critique the use of either approach alone, but to highlight the strengths of each in an integrated analysis to address research questions. Our results support an augmented qualitative and NLP analysis of text data as a viable, high quality and value-added mixed methods procedure available to investigators.

**Use of Text Messaging Surveys to Elicit Youth Voice about Health Benefits: Findings from the MyVoice Longitudinal Mixed Methods Study**

Melissa DeJonckheere, University of Michigan, Ann Arbor, Michigan, USA

Guetterman, Timothy; Heisel, Erica; Moniz, Michelle; Chang, Tammy (University of Michigan, USA)

August, 23, 10.45 - 12.15, U22

Introduction:

MyVoice is a longitudinal mixed methods study of a national sample of youth in the United States (U.S.). MyVoice uses text message surveys to elicit youth’s perspective on health topics to inform the design of health policy and improve youth health.

The Affordable Care Act (ACA) was passed in 2010 to improve health insurance access, benefit design, and protections for U.S. consumers. It mandates health insurance plan coverage of particular categories of services, or “essential health benefits” (EHB), many of which influence youth. Little is known about youth attitudes toward mandated coverage of EHB.

Objective:

To describe youth attitudes towards health insurance coverage.

Method:

We collected weekly surveys from youth, ages 14-24 years, including quantitative (demographics, Likert-type scale) and qualitative (open-ended probes) data. Over 4 weeks, we asked a series of items assessing attitudes towards mandated coverage of four EHBs: (1) contraceptives, (2) sexually transmitted infection (STI) screening and treatment (3) mental health treatment, and (4) substance use disorder treatment.

We analyzed quantitative data using descriptive statistics and qualitative data using natural language processing (NLP) and thematic analysis. Integration occurred during the analysis through: 1) merging the quantitative results with the qualitative findings and 2) validating qualitative findings with NLP.

Results:

Most youth respondents (N=1057) reported support for free, mandated coverage for EHB: contraception, 88%; substance use treatment, 88%; STI screening and treatment, 91%; mental health treatment, 92%. Across EHB, commonly cited reasons for supporting coverage included: believing all health care should be free (e.g., “Access to quality health care is an important basic human right”), supporting low-income people (e.g., “Many who do not have the money to pay are never treated”), and providing a service that would benefit society (e.g., “This is definitely something that would benefit society as a whole more than it would cost”).

Among youth who did not support current free, mandated coverage for EHB, many wanted expanded coverage that was free for all residents, regardless of insurance status. For example, of the 12% of participants who did not support current EHB legislation for contraceptives, 5% wanted free, mandated coverage for everyone in the U.S.

Participants also ranked EHB as an important issue in their lives: contraception, 4.17; STI screening and treatment, 4.13; substance use treatment, 3.75; mental health treatment, 4.45 (5-point Likert-type scale with 5 being “extremely important”). Youth cited personal and familial experiences that influenced their perspective.

Discussion:

In this mixed methods text messaging survey of a national sample of U.S. youth, most supported mandated insurance coverage for contraceptives, STI screening and treatment, substance use treatment, and mental health treatment. Integrating qualitative and quantitative text messaging survey data allowed for an in-depth understanding of both the nuanced and generalizable perspectives of youth related to EHB.

Findings from this study align with national and international guidelines, including the World Health Organization, which supports universal health coverage to help individuals receive necessary services without financial hardship. Youth-centered health policy should continue to provide or expand coverage for essential services for this population.

**A Natural Language Processing based approach to Mixed Methods**

Sreyoshi Bhaduri, Virginia Tech, Blacksburg, Virginia, USA

August, 23, 10.45 - 12.15, U22

Text-based data (such as publications, student assignments, and interview transcripts) form an important means of dialogue between the various stakeholders of the engineering community. The amount of text-based data generated in engineering education is increasing at a rapid pace. As a result, researchers end up spending a lot of time in analyzing such text repositories. While there is a lot to be gained through in-depth analysis of text data, some practitioners or administrators could also benefit from an automated system which could reveal trends and presents broader overviews for given datasets in a more time and resource efficient way. The purpose of this round table discussion is to present examples of research augmented by implementation of such automated systems. Specifically, this study will use Natural Language Processing and machine learning based algorithms to analyze textual data in engineering education specifically, and broader education contexts. Thus, this study will introduce three sections with the following broad purposes: (1) systematic review of existing publications on the use of machine learning and natural language processing in education research, (2) exploratory analysis of engineering student interviews to generate metacognitive indicators, and (3) analysis of interviews to understand differences in degrees of career preparedness among engineering students. A common theme across the three tasks was to explore the use of machine learning strategies to enable the computer to extract meaningful information from textual data in educational contexts.

**A systematic Review of Mixed Method Studies in Educational Technology**

Yesim Capa Aydin, Middle East Technical University, Ankara, Turkey

Yüksel Arslan, Pelin (University of Vienna, Austria); Keser Aschenberger, Filiz (Institut für Bildungswissenschaft, Austria)

August, 23, 10.45 - 12.15, SE33

With the seminal book of Creswell (2003) on research design and Tashakkori and Teddlie’s (2003) handbook, mixed methods (MM) research has become a popular design in social sciences. Despite its popularity, evaluation or critical appraisal of the MM studies has not well-founded (Leech, Dellinger, Brannagan, & Tanaka, 2010), especially in education (Heyvaert, Hannes, Maes, & Onghena, 2013). Within educational sciences, MM research also gained popularity in educational technology during the last decades. There are several review studies in the field of educational technology especially in methodological aspects (see Randolph, 2008). However, our search has not yielded any study that systematically examines the quality of mixed method research in educational technology. Thus, a systematic review can be crucial in critical appraisal of the MM studies in the educational settings (Harden, 2010). Different guidelines have been proposed for conducting systematic review, such as mixed research synthesis (Sandelowski, Voils, & Barroso, 2006), and critical appraisal of mixed methods studies (CAF; Heyvaert, Hannes, Maes, & Onghena, 2013). Mixed Method Appraisal Tool (MMAT; Pluye et al., 2011) is one of the well-grounded tools to assess the methodological quality of studies with various designs including qualitative, quantitative and mixed method studies. The following designs are identified as common MM types of designs including sequential explanatory, sequential exploratory, triangulation, and embedded. Systematic reviews criteria include addressing the quality of research question, sample representativeness, measurement appropriateness, and acceptable response rate.

The goal of this paper is to present a critical appraisal of the MM studies in educational technology using MMAT and it applies a systematic review methodology. Three independent researchers are involved in the review. Following steps of systematic mixed studies reviews from Pluye and Hong QN (2014) will be conducted with some alterations: (a) writing a review question (or QUAL and QUAN questions); (b) defining eligibility criteria; (c) applying an extensive search strategy in multiple information sources; (d) identifying potentially relevant studies (two researchers independently screening titles and abstracts); (e) selecting relevant studies (based on full text); (f) appraising the quality of included studies (using tools such as the MMAT); and (g) synthesizing included studies. Inclusion criteria for the journals was determined according the impact factors of the journals. Top five journals in the educational technology area were selected from the list of Scimago (2017): Internet and Higher Education (impact factor: 2.82); Computer and Education (impact factor: 2.61); Journal of Computer Assisted Learning (impact factor: 1.65); British Journal of Educational Technology (impact factor: 1.33); Educational Technology Research and Development (impact factor: 1.31). These journals were scanned with the key word “mixed method”. Search was limited with the years 2007-2017. Preliminary search yielded approximately 253 articles in five journals for the last 10 years. During the abstract screening, abstracts will be randomly assigned to reviewers. Selected abstracts will be taken into full text review and will be systematically reviewed with the Mixed Method Appraisal Tool (MMAT). We aim to provide some evidence to be used in the research practice in the field of educational technology.

**Examining how beliefs shape action in Jamaican teachers' use of Information and Communication Technology (ICT): A mixed methods study**

Tashane Haynes-Brown, The University of the West Indies, Kingston 7, Jamaica

August, 23, 10.45 - 12.15, SE33

This study used an explanatory sequential mixed method design in examining how teacher beliefs shape their decisions and actions in using Information and Communication Technology (ICT) in secondary schools in Jamaica. In the first phase a questionnaire was used to collect data from 255 teachers to examine whether and to what degree there were differences in the alignment among teachers’ pedagogic beliefs, ICT beliefs, and ICT use orientations. The quantitative phase further investigated the extent to which the pedagogic and ICT beliefs accounted for variability in the use of ICT. In the second phase a sub sample of 8 teachers participated in a case study which aimed to understand how and why the ICT pedagogic belief orientations identified quantitatively shaped teachers’ decisions and use of ICT within and across three distinct ICT school environments. Data for the case study were collected from multiple sources: the teachers were interviewed, then observed and video recorded, field notes were taken, and a quantitative checklist was applied to the observations and then a final video-elicitation interview was conducted to gain a comprehensive understanding of the issue. The quantitative results revealed a 57% alignment between teachers’ ICT pedagogic belief orientations and orientations in using ICT and that the path model predicting how teachers’ pedagogic beliefs and ICT beliefs relate to use of ICT explain 50% of the variance in their use of ICT. The qualitative findings revealed that in some cases teachers’ ICT pedagogic beliefs were easily identifiable and relatable to their classroom practice as their beliefs and actions reflected certain similarities. The findings suggested that differences in the teacher learning in ICT experiences explained how and why teachers conceptualized and perceived their beliefs and actions in the ways that they did. However, for some teachers the findings revealed a dichotomous relationship between their ICT pedagogic belief orientations and classroom practice that some of these teachers were not aware of until they watched the videos of themselves. In explaining this dichotomy, the findings revealed that teachers’ perceptions of their teaching, their self-image, and the external barriers within their contexts helped to explain the inconsistencies between their beliefs and actions. The findings are of significance to the design of teacher professional development and suggest that teachers need to be given more opportunities to reflect on and espouse their pedagogic beliefs, and be provided with adequate opportunities to examine their own teaching to understand how, if at all, the beliefs espoused guide their practice. The findings from this mixed methods study also highlight the importance of combining quantitative and qualitative data from multiple sources as it allowed for a more comprehensive understanding of how teacher beliefs shape actions. Further, the dichotomy between what teachers' beliefs and actions, and how they perceived their actions would not have been revealed without combination of multiple quantitative and qualitative data sources. These implications are important to the design advanced mixed methods research and to the development of novel teacher professional development programmes in the ICT era.

**Secondary students' attitudes towards science based technology - A multilevel mixed design**

Robbert, Smit, University of Teacher Education St.Gallen, St.Gallen, Switzerland

Robin, Nicolas; De Toffol, Christina (University of Teacher Education St.Gallen, Switzerland)

August, 23, 10.45 - 12.15, SE33

1. Introduction

There have been many calls internationally for more young people studying Science, Technology, Engineering, and Mathematics (STEM) related subjects (Kudenko & Gras-Velázquez, 2016). Multiple research studies register a growing decline of pupil’s interest in STEM subjects (Rohaan, Taconis, & Jochems, 2008). This is problematic since in many European countries the shortage of engineers is growing as many active engineers will retire within the coming years. Therefore, it is important to raise the interest of students for STEM professions. Our research is embedded within a Swiss-Austrian project that aims at developing positive students’ attitudes towards science based technology by visiting STEM related industries. In a first step, we are interested in the students’ attitudes towards STEM in general. Student attitudes toward science are part of the PISA 2006 definition of scientific literacy (Bybee, McCrae, & Laurie, 2009). They underlie an individual’s interest in, attention to, and response to science and technology. Career intentions for STEM correlate with general interest in STEM subjects (Kudenko & Gras-Velázquez, 2016). Utility value interventions, such as identifying personal utility value connections between students’ lives and what they are learning in class, have been found to be effective to trigger students’ interest and promote academic performance in STEM topics (Hulleman & Harackiewicz, 2009).

The main research question for this report is: What is the state of the secondary school students’ attitudes related to science based technology?

2. Method

We use a fully mixed concurrent equal status design (QUAN + QUAL) that combines student and teacher data on school and project level. This multilevel mixed design (Sammons, 2010) is embedded within a STEM implementation project. As part of the project, students visit a local STEM-related company and work on STEM-tasks related to the company’s products. We conducted teacher interviews pre- and post of the implementation phase. The present sample of the ongoing project consists of N = 116 students from four secondary school classes of two schools in the Eastern part of Switzerland.

The student questionnaire includes items on students’ attitudes towards science based technology. The items relate to the expectancy-value model of achievement by Eccles and Wigfield (2002). Teachers were interviewed with a structured guideline. The coding process followed the structure of the guideline.

3. Results and Discussion

We expected and obtained low attitudes towards science based technology with a gender effect (Kudenko & Gras-Velázquez, 2016). As in other studies girls tend to have less favourable attitudes than boys towards STEM subjects and they show lower job aspirations in the STEM field (Wang & Degol, 2013). We also detected that science based technology is not yet a prominent topic in science lessons at secondary school in Switzerland. Although the teachers in one school showed more favourable attitudes towards science based technology we could not find differences between the students in each school. The second wave of our measurements will show whether students have positively changed their attitudes. This might depend on the individual project each local school-industry cooperation has designed.

**Comparative Study of Behaviouristic and Constructivistic Approaches to Techno-andragogy with special reference to Teacher Education**

Madhavi Dharankar, SNDT Women's University, Mumbai, MS, India

August, 23, 10.45 - 12.15, SE33

Information communication technology has facilitated the amalgamation of many technologies. Use of social media in education certainly has come a long way in increasing access. There is wedlock between teacher education and ICT. It is happy, but certainly not free from issues. These issues are related to (i) techno-andragogy as applied to teacher education, (ii) constructivism as applied to teacher education and (iii) learning. Beyond this there are issues like digital divides. These issues raise questions that need to be addressed through a research dealing with both how and how much of the scenario. Hence a comparative study was undertaken with the title - A Comparative Study of Behaviouristic and Constructivistic Approaches to Techno-andragogy with special reference to Teacher Education.

The study was aimed at the following objectives:

1. To compare effectiveness of behaviouristic and constructivistic techno- andragogical approaches to teacher training in the context of levels of learning style.

2. To study the retention of effectiveness of prolonged behaviouristic techno- andragogical approach.

3. To study the retention of effectiveness of prolonged constructivistic techno- andragogical approach.

4. To compare the retention of effectiveness after prolonged behaviouristic and constructivistic techno- andragogical treatments to teacher training in the context of levels of learning style.

5. To compare the desired and nurturant effects of behaviouristic and constructivistic techno- andragogical approaches to teacher training

6. To compare reactions to behaviouristic and constructivistic techno- andragogical approaches to teacher training in the context of levels of learning style.

The study aspired to get the answers to the following research questions.

o How do the experiences of exposure to behaviouristic and constructivistic techno-andragogical approaches differ in terms of content and modality?

o How are the desired and nurturant effects surfaced through behaviouristic and constructivistic techno-andragogical deliberations?

Since the study addressed the ‘how much’ as well as ‘how’ aspects of the comparisons of the two approaches, embedded experimental model of mixed method design was chosen for the study. It provided a holistic understanding of the problem. Measures were taken in order to control threats to internal and external validity. Certain threats were controlled due to the ‘two-group-ness’ and ‘use of pre- and post- tests’. An attempt to study this area was made through a mixed method design. The study could reach little closer to the comparison through this study. The present study tried to probe into the areas of comparative study of approaches in teacher education, integration of technology and andragogy, integration of techno-andragogy in context of learning style. The striking findings emerged from these efforts are:

Type of brain plays an important role in teacher education

BTA and CTA both are effective in achieving the outcomes related to their respective components of teaching performance and cognition.

Meta-cognition processes happen irrespective of the approach used.

CTA generates favourable reactions to techno-andragogical discussions.

If creative use of ICT is planned, the basic ICT literacy does happen in the process.

**Expanding the Limitations of Single-Case Observations: Observational Accounts, Video Recordings and Interviews in Psychoanalytically-Oriented Mixed-Method Designs.**

Wilfried Datler, Universität Wien, Institut für Bildungswissenschaft, Wien, Austria

Trunkenpolz, Kathrin (Universität Wien, Institut für Bildungswissenschaft, Wien, Austria); Hover-Reisner, Nina (FH Campus Wien, Department Soziales, Wien, Austria); Wininger, Michael; Wininger, Antonia (Universität Wien, Institut für Bildungswissenschaft, Wien, Austria); Fürstaller, Maria (FH Campus Wien, Department Soziales, Wien, Austria); Datler, Margit (KPH Wien, Wien, Austria); Haberl, Regina (Universität Wien, Institut für Bildungswissenschaft, Wien, Austria); Lehner, Barbara (FH Campus Wien, Department Soziales, Wien, Austria)

August, 23, 10.45 - 12.15, SE34

Symposium Organisers: Wilfried Datler & Kathrin Trunkenpolz

Presentation 1: Nina Hover-Reisner, Antonia Wininger, Michael Wininger: Observation according to the Tavistock Model, employed as a Research Tool: Options and Limitations in Psychoanalytically-Oriented Research Projects.

"Observations according to the Tavistock concept"" are characterised by the observation of a person, the writing of observational accounts and their analysis, with a view to exploring connections between emotions and behaviour, and also between experienced interactions and the development of psychic structures.

For about three decades, such ""observations"" have also been used in research projects. This raises a number of questions, such as: How reliable are observation accounts? How is it possible to draw conclusions from behavioural manifestations towards unconscious processes? How can the analysis be extended to all persons interacting with the child? In order to answer such questions, mixed-method designs were used in several research projects. The following presentations report on projects in the overlapping areas of psychoanalysis, education and transition research.

Presentation 2: Maria Fürstaller: Links between the Analysis of Video Recordings and Observational Accounts. Outcomes of an Early Childhood Research Project.

In one project, observations and video recordings were employed to explore the ways in which young children experience the transition from home-care to out-of-home daycare. The presentation will show how (1) the video recordings served to validate the observations; and (2) how attempts to link the analysis of the video recordings with the results of the analysis of the observational accounts led to the development of another method of video analysis, whose results helped to better understand the behaviour of children who show silent signs of sorrow and pain. The implications for early childhood education are outlined.

Presentation 3: Wilfried Datler, Margit Datler, Regina Haberl, Barbara Lehner, Kathrin Trunkenpolz: Unconscious Dynamics between Children, Parents and Teachers.

One project looked into the ways in which children's entry into the nursery school was experienced by all concerned parties, i.e., children, parents and teachers. For this purpose, observations were carried out in families and kindergartens, and also interviews were conducted with parents and teachers. The psychoanalytically-oriented analysis of the interviews provided a deeper understanding of the unconscious dynamics of the relationship between the family and the nursery school, and its impact on the children. The presentation is concentrated on particular references to a single case study.

Presentation 4: Kathrin Trunkenpolz: Organisational Defenses in Nursing Homes: Searching for ""Practice-causing Factors” by the use of Interviews and Observations.

People who work in nursing homes are confronted with stressful emotions to an over-abundant degree. In order to derive statements about the conscious and unconscious manner in which the desire for the control of such feelings influences the everyday practice of nurses, one research project concentrated on observing nurses at their work and subsequently interviewing them. The comparative analysis of the observations and interviews enabled the creation of statements that were highly compatible with the assumption of the existence of organisational defenses. Implications for the education and training of people who work in nursing homes are presented.

**MMIRA Annual General Business Meeting**

Cheryl Poth, University of Alberta, Edmonton, Canada

Creamer, Elizabeth; Anderson, Jeff

August, 23, 12.15 - 13.15, U10

This plenary session is welcome to everyone! Offers a great opportunity to come to our business meeting and welcome our new 2018-20 MMIRA Executive Board and to learn about opportunities to get involved in the association.

The 90 minute session will be organized in the following way:

a) Introduce current MMIRA board members (2016-2018) and do reports and business for:

President, Executive Director, Secretary

Committee Chairs: Conference, Membership, Governance, Communications and Marketing

b) Introduce incoming MMIRA board members (2018-2020) and do formal changeover

In-coming President talk

c) Time for Affiliates and Chapter updates

d) Discussion

**Expanding the Field of Mixed Methods Through the Books in the Mixed Methods Research Series**

Vicki Plano Clark, University of Cincinnati, USA

Ivankova, Nataliya (The University of Alabama at Birmingham, USA); Fetters, Michael (University of Michigan, USA); Nastasi, Bonnie (Tulane University, USA); Hitchcock, John (Indiana University, USA); Kahwati, Leila; Kane, Heather (Research Triangle Institute, USA)

August, 23, 13.15 - 14.45, U10

Panel

This panel session is inspired by the MMIRA conference theme, “Gaining New Ground: Deepening and Expanding the Field of Mixed Methods.” The field of mixed methods encompasses our collective understanding of the process; methodological considerations; and personal, interpersonal, and social contexts involved in the application of mixed methods research (Plano Clark & Ivankova, 2016). There are many ways that the field of mixed methods is currently gaining new ground, such as training new scholars, publishing sophisticated applications of mixed methods, developing more practical procedures, and intersecting mixed methods applications with other frameworks and approaches. One relatively new venue that aims to support this growth and expansion is the Mixed Methods Research Series (Sage Publishing, Los Angeles, USA, sagepub.com/mmrs), which published its first book in 2014 and currently has five books in print (with several additional volumes under contract). The Series provides an outlet for scholars across disciplines to publish practically focused books on mixed methods topics of interest to the field. The editors (V. L. Plano Clark and N. V. Ivankova) initiated the Series to provide consumers of mixed methods research with shorter books that address practical issues and current debates of interest to the field of mixed methods in an applied and accessible way. The purpose of the Series is also to engage new voices in the discourse about mixed methods research and provide a new publication venue in the field that accompanies journal articles, major textbooks, and handbooks.

This panel session will explore in depth how the books in the Series contribute to the growth of the field of mixed methods research through presentations by and audience discussion with the Series’ editors and several current Series authors. Specifically, the panel will introduce the Series and facilitate conversations about how the books help to expand the field by covering new ground, reaching out to new audiences, and introducing new perspectives for understanding and applying mixed methods research. The session will begin with the editors describing the goals and parameters for the Series and its role in the growing field of mixed methods research. Several authors of books in the Series (published or under contract), including Michael Fetters, Bonnie Nastasi, John Hitchcock, Leila Kahwati, and Heather Kane, will introduce their book topics, describe their approach for addressing the topic, and highlight how they envision their topic and approach expanding the field. The panel will conclude with a discussion with the audience about the contribution of the Series to the expansion of the field of mixed methods research and ideas for future books that will advance new ground for the field. The panel will also address general questions about what it is like to develop a book for the Series.

Reference

Plano Clark, V. L., & Ivankova, N. V. (2016). Mixed methods research: A guide to the field. Thousand Oaks, CA: Sage.

**Advancing Theory Development with Mixed Methods Approaches**

Elizabeth G. Creamer, Virginia Polytechnic Institute and State University, Blacksburg, USA

Timothy Guetterman, University of Michigan; Wayne Babchuk, University of Nebraska-Lincoln; Michelle Howell Smith, University of Nebraska-Lincoln, Jared Stevens, University of Nebraska-Lincoln, Burke Johnson, University of Alabama, Gregory Hadley, Niigata University, Japan

August, 23, 13.15 - 14.45, U11

Symposium

Recent advances in thinking about the partnering of mixed methods with traditions, such as grounded theory and case study, that have historically been conceived as being inherently qualitative, suggest that at times this type of inter-method mixing can evolve to produce a distinctive, but coherent, logic of inquiry or methodology (Creamer & Schoonenboom, in press). The type of emergent methodology can be grounded in the methodological assumption that powerful benefits to theoretical and explanatory insight accrues through a fully integrated approach to mixed methods research (FIMMR) (Creamer, 2017). The topic of the potential contribution of mixed methods to grounded theory development was first introduced by Johnson, McGowan, and Turner (2010) but has yet to be fully actualized (Creamer, in press). This is probably related to the fact that only a small percentage of publications that claim to have used mixed methods and grounded theory actually ever set out to produce any type of theoretical framework (Guetterman, Babchuk, Howell Smith, & Stevens, 2017).

Purpose and Objectives for the Symposium

The purpose of this symposium is to create a platform for dialogue between the audience and presenters who recently have completed research about different aspects of the topic of mixed method approaches to grounded theory. The first set presenters, Dr. Timothy Guetterman, Michelle Howell Smith, Wayne Babchuk, and Jared Stevens, recently published a piece that provided the first systematic overview of publications claiming to use grounded theory methods with mixed methods (2017). Evaluating the publications for six core characteristics of grounded theory methods, Guetterman and his colleagues concluded that “further work is needed to extend this conversation and address the potentially difficult nuances of combining or integrating different mixed methods designs with specific approaches falling within grounded theory’s family of methods” (p. 15). Using a definition of that frames grounded theory as a methodology whose purpose is to the University of Michigan summarizes a recent analysis of several empirical research publications that used mixed methods to produce formal grounded theory to explain how and under what conditions health intervention proved effective. Creamer highlights that the integration of qualitative and quantitative data can contribute to theory development in ways that extend beyond an exploratory-confirmatory partnership. Dr. R. Burke Johnson of the University of Alabama will contribute information about mixed method grounded theory designs. Dr. Gregory Hadley of Nigata University will share a paper on perspectives of members of the grounded theory community regarding the synergies between grounded theory and mixed methods. He will highlight points of intersection and divergence in their viewpoints.

**Explanatory sequential research designs on autopilot: Using RMarkdown to increase research efficiency**

Dominik Froehlich, Department of Education, Vienna, Austria

August, 23, 13.15 - 14.45, U12

Demonstration session

Explanatory sequential research designs on autopilot: Using RMarkdown to increase research efficiency

Explanatory sequential designs, where a quantitative strand of research is followed by a qualitative strand of research (Creswell, 2009), are research designs commonly found in multiple and mixed methods research. In this demonstration, we report on how RMarkdown, a tool for report automation based on R (R Core Team, 2014), may be used to increase research efficiency when applying such designs. We strongly believe that the quantitative strands of explanatory sequential designs lend themselves to such automation in order to free up resources for the (often labor intensive) qualitative strand.

We use one current applied research project as a case study, in which we have automated most of the quantitative strand. In short, the quantitative research strand was used to create visualizations about the innovation processes within small and medium sized enterprises. These visualizations were then used by change agents to have a more qualitative discussion with the leaders of the respective organization. This procedure was applied in many organizations simultaneously (currently more than twenty, but the project is still running), which would have made manual analysis and reporting infeasible. Instead, we have automated everything (except for defining and validating the questionnaire and the analysis and visualization routines).

Once the data has been collected via an online survey, it now takes less than five minutes to generate hundreds of pages containing visualizations, guidelines for interpretations, etc. that are tailor-made for each participating organization. In the further process, the change agents selects a couple of visualizations and take them to a workshop or interview (where the qualitative strand of research is then carried out). What is also important to note is that the change agent does not require any specialized knowledge about the methods to generate the automated report (which makes this an interesting approach also for evaluation procedures in “low-cost” settings such as not-for-profit organizations or education).

It is our hope that after attending this demonstration, researchers are more aware of the capabilities of automation also in the context of multiple and mixed methods research. Next to providing brief information about the project to be used as a case study, we will spend the majority of the time leading the audience through the thinking process behind it (What features can actually be automated? What kind of research questions or contexts lend themselves to automation?) and the implementation of the automation routine (What software to use? How difficult is the implementation?). All solutions presented require no specific programming knowledge (except for that needed to run the quantitative analyses in R), which makes the demonstration applicable to many scholars.

References

Creswell, J. W. (2009). Research Design: qualitative, quantitative, and mixed methods approaches (3rd ed.). Thousand Oaks, CA: Sage Publications. https://doi.org/10.4135/9781849208956

R Core Team. (2014). R: A Language and Environment for Statistical Computing. Vienna: R Foundation for Statistical Computing. Retrieved from http://www.r-project.org

**Go big or go home: Mixed methods tools for tackling big data**

Normand Péladeau, Provalis Research, Montreal, Canada

August, 23, 13.15 - 14.45, U12

Demonstration session

**Arts and Mixed Methods Research: An Innovative Methodological Merger**

Mandy Archibald, University of Adelaide, Adelaide, Australia

Gerber, Nancy (Drexel University, USA)

August, 23, 13.15 - 14.45, U13

Arts-MMR is defined as “research that combines arts research methodology with methods positioned in an alternative paradigm within a single study or program of study” (Archibald, in press, p. X). A central objective of art and MMR respectively is to explore and understand the complex social world, and the arts and MMR reflect numerous philosophical and methodological congruencies. Integrating the arts and MMR has potential to generate innovative methodological mergers and new understandings about complex phenomenon. We highlight foundations for an arts-MMR partnership and build on the current state of the science on arts-MMR (Archibald, in press to present an arts-MMR integration continuum (Archibald in press; Archibald & Gerber, in press) and implications for future research and impact.

Arts and MMR integration exists on a continuum, ranging from low-level (e.g., communicating about MMR using art) to high-level integration (e.g., interweaving arts-based and MMR approaches). Using case examples, we demonstrate the following non-exclusive domains of arts-MMR integration: communicative integration (i.e., Bringing together MMR and the arts to represent and communicate MMR findings), data source integration (i.e., Incorporating the arts as a data collection strategy in a MMR study), analytic integration (i.e., Using the arts as an analytic or complementary reflexivity strategy), and conceptual integration (i.e., Interweaving of arts-based and MMR approaches, informing design, or illuminating methodological underpinnings or constructs, for example).

Arts-MMR integration represents a new conceptual and methodological merger and as such, scant guidance exists to guide interested practitioners. A considerable amount of expertise and lateral, flexible thinking is required to move between the diverse ways of knowing possible through bringing together narrative, statistical, arts-informed, and arts-based approaches. Arts in MMR may be useful catalyst in reflexivity, may provide alternative perspectives through different ways of knowing, and offer unique opportunities for social change by using socially and culturally relevant research and dissemination methods. Along these lines, two alternative justifications for MMR that incorporate the arts include transformative (i.e., disrupts assumptions and entrenched perspectives often perpetuated by research practices) and constructivist decoding, which “seeks to decipher which messages are impacted by dominant influences and which are absent throughout integration” (Archibald 2017, p. X). In this presentation we aim to initiate the conversation about these innovative Arts-MMR research strategies, and encourage others interested to pick up this dialogue aimed at actively engaging with different ways of seeing, knowing, and being for social benefit.

References

Archibald, M. (in press). Integrating the Arts and Mixed Methods Research: A Review and a WayForward. International Journal of Multiple Research Approaches. Inaugural Special Issue: Mixed Methods Manifesto

Archibald, MM., Gerber, N. (in press). Arts and Mixed Methods Research: An Innovative Methodological Merger. American Journal of Behavioural Scientist. Special Issue: Methodological Innovations in Mixed Methods Research

**Using visual anthropology as point of departure**

Andreas Johansson, Lund University, Lund, Sweden

August, 23, 13.15 - 14.45, U13

Using visual anthropology, I was able to gain entry into an otherwise highly secretive organization: the Japanese mafia. By using the camera I was able to take on a function in this organization which granted me more and more access to it, and by the end I was allowed to interview its members.

The tattoo motifs among members of the yakuza reveal a world of personal experiences, desires and superstitions. Apart from providing access to the world of the yakuza, another advantage of using the camera for scholarly purposes is presenting empirical data in image format. The accessibility of images and the impact of photography in social media render images an excellent medium to reach out with research results to new audiences. Perhaps, then, visual anthropology can enrich us both methodologically as well as provide a means to disseminate our research to a broader audience.

**An Exploration of Immigrant and Refugee Youth Acculturation: A Mixed Methods Approach to Arts-Informed Research**

Cherie Edwards, Virginia Tech, Blacksburg, Virginia, USA

August, 23, 13.15 - 14.45, U13

Need/Contribution

The cultural, emotional, and mental plight of immigration can have a long-term impact on immigrants and refugees of all ages. Nonetheless, immigrant youth are commonly overlooked in acculturation studies. Leveraging participant drawings integrated with the qualitative think-aloud technique, and the Acculturation, Habits, and Interest Multicultural Scale for Adolescents (AHIMSA) (Unger et al., 2002) instrument, this mixed methods approach to arts-informed research examined the acculturation strategies of 15 elementary school aged Hispanic and Nepali immigrant and refugee children. By integrating arts-informed data with qualitative and quantitative strands, this study contributes to the growing trend of research and literature on innovative mixed methods research designs. Additionally, this study illuminates the potential for arts-informed data to inform the expansion and development of theory.​

Purpose

This mixed methods approach to arts-informed research was purposed with examining the acculturations strategies of immigrant and refugee youth attending community-based after school programs. ​

This research was guided by the following questions:​

In what ways do immigrant youth depict themselves in drawings?

Are there differences in the ways immigrant youth depict themselves between acculturation levels?

Does the arts-informed approach produce information about immigrant and refugee youths’ acculturation that is not produced through the AHIMSA scale?

Methods

In this study, participant developed arts-informed data, qualitative think-aloud response, and the quantitative AHIMSA scale were integrated to explore various aspects of immigrant and refugee youths’ acculturation strategies. In the analysis of the qualitative and arts-informed data, an open coding approach was employed to identify emergent themes within the data. Theoretical coding was then applied as the open coding approach did not fully illuminate the acculturation experiences communicated by the participants. The theoretical codes were developed using constructs from acculturation theory (Berry,1997). This was the same framework used to construct the AHIMSA scale. The AHIMSA scale responses were counted and frequency analysis were run on each item in the scale. ​

Results

The findings of this study suggest that participants prioritized expressions of individuality over overt displays of one cultural paradigm. This finding suggests that immigrant and refugee youths’ strategies of acculturation may include the balance of cultural paradigms along with the integration of self-expression.​

Conclusions/Implications of Findings

This study contributes to the empirical studies utilizing mixed methods approaches to arts-informed research. Additionally, this study highlights the potential of arts-informed methods to extend conceptualizations of acculturation in youth communities. Lastly, the finding of this study suggests that behavioral practices along with individual values and interest may all be vital components in the acculturation of immigrant youth, therefore, studies designed to examine youth acculturation may require multiple modes of inquiry to comprehensively investigate the aforementioned components of the phenomenon.

References

Berry, J. W. (1997). Immigration, acculturation, and adaptation. Applied psychology, 46(1), 5-34.

Unger, J. B., Gallaher, P., Shakib, S., Ritt-Olson, A., Palmer, P. H., & Johnson, C. A. (2002). The AHIMSA acculturation scale: A new measure of acculturation for adolescents in a multicultural society. The Journal of Early Adolescence, 22(3), 225-251.

**Examining Prevalent Issues of Social Justice Through Lyrical Analysis**

Sreyoshi Bhaduri, Virginia Tech, Blacksburg, Virginia, USA

Edwards, Cherie; Ozkan, Desen

August, 23, 13.15 - 14.45, U13

Need/Contribution

As Siegmeister (1938) stated, as consumers of music we make attempts to understand the history and value of music without fully examining what it can tell us about our own histories and social values. Decades later we continue to be challenged with making this connection. While the intrinsic value of music is well documented, the role of music in conveying social values across time periods is an understudied phenomenon. The ability for music to convey collective identities (Bennett, 2001) and be an element in the constructive social movements (Pierobon, 2011) suggests that there is great potential for music to effectively reflect our histories and our social values. Nonetheless, researchers have yet to fully utilize the potential of music. This study aims to counter this trend by examining dominant social values conveyed in the lyrics of 200 songs collected from crowdsourcing through social-media.

Purpose

The purpose of this study was to identify how social issues are conveyed in popular songs over different periods of time. The study is guided by the following research questions:

What social themes are conveyed in the lyrics of popular music?

What are common themes emerging in each genre and time period?

How do common themes in music genres change over time periods?

Methods

In this mixed methods study, 200 song lyrics collected from crowdsourced songs were analyzed using an exploratory textual data analytical method based on Natural Language Processing (Bird et al., 2009). Utilizing a tf-idf approach, the frequency counts for commonly occurring words were normalized across the entire sample of songs. Controlling for conjunctions and determiners, high occurring terms and phrases were identified. The verses from which these high occurring terms were found were then qualitatively analyzed to identify emergent themes. Each of the words and phrases identified through the machine based analysis were further quantitatively analyzed using a k-means clustering algorithm to understand the thematic trends both across musical genres as well as year of release.

Conclusions/Implications of Findings

Through the use of Natural Language Processing tools, large amounts of musical data can be analyzed to examine socially and historically significant messages. This type of analysis may better enable us to document and identify social issues through music in addition to other artifacts. Additionally, the use of Natural Language Processing techniques allows us to explore novel ways to analyze large amounts of qualitative data through mixed methods lenses.

**Using mixed methods to investigate the relationship between nursing leadership and quality care in a hospital setting in Brazil**

José Luís Santos, Federal University of Santa Catarina, Florianopolis, Brazil

De Pin, Shara Bianca; Guanilo, Maria Elena (Federal University of Santa Catarina, Brazil); Balsanelli, Alexandre (Federal University of São Paulo); Erdmann, Alacoque (Federal University of Santa Catarina, Brasil); Ross, Ratchneewan (University of North Carolina at Greensboro, USA)

August, 23, 13.15 - 14.45, U14

Nursing leadership, when characterized by creativity, innovation, and vision, can result in optimal patient health outcomes. As leaders working for improved care in the hospital setting, nurses are viewed by their team members and patients as key professionals to improved quality care. Even though it is a fast-growing country in the areas of industry and health care, nursing in Brazil does not have extensive research regarding the association between nursing leadership and quality care. This study aimed to examine and describe the relationship between nursing leadership and the quality of care in the hospital environment. It was a concurrent convergent mixed methods study incorporated cross-sectional correlational design and Grounded Theory. The study was carried out at a hospital in the south of Brazil. A convenience sampling of 105 nurses was used to recruit participants for the quantitative arm. Quantitative data were collected using the Brazilian Nursing Work Index-Revised/Leadership subscale and analyzed by descriptive and inferential statistics. A theoretical sampling of 63 participants was used in the qualitative arm, including staff nurses nurse managers and other health care professionals. Qualitative data were collected through intensive interviews and analyzed by Charmaz’s coding method. Quantitative and Qualitative data were analyzed separately and integrated to generate mixed methods findings at the level of interpretation and reporting to identify convergences, differences, or combinations. The relationship between nursing leadership and the quality of care was statistically negatively significant (r = -.25 p-value =.001), indicating the better the nursing leadership, the better the quality of care. Through the category "Exercising leadership in nursing with a focus on quality of care", qualitative results supported qualitative results and showed that effective nursing leadership yielded quality of care through different processes: collaborating with nursing staff, encouraging patient advocacy, and enhancing care through research. This mixed methods study showed that positive nursing leadership contributed to good quality of care in the hospital setting. Through mixed methods, the findings can be generalized with a deeper understanding about the phenomenon.

**Dementia Friendly Hospital. Improvements in treatment, care and approach to patients - a mixed methods study**

Annemarie Toubøl, University College Lillebælt, Vejle, Denmark

Thomsen, Katja; Jakobsen, Søren; Foldager, Mette; Nielsen, Dorthe

August, 23, 13.15 - 14.45, U14

Background: The number of people with dementia is increasing with an estimated number of people with dementia in 2015 to be 46.8 million and in 2050 predicted to reach 131.5 million people Worldwide. In Denmark the number of older people with a dementia diagnosis is estimated to 87.000 in 2017 with an estimated growth to 150.000 in 2040. As a consequence of the increasing numbers of people with dementia the admission to hospital will increase as well, due to the variety of co- morbid conditions.

In Denmark the national strategy plan describes a variety of objectives and improvement initiatives to better the conditions for people with a dementia diagnosis. With this political requirement the Dementia Friendly Hospital stands as one of the important initiatives to be focused on, with the aim of dealing with the diverse challenges that appear, when a person with dementia is hospitalized.

Aim: The aim of this study is to examine the outcome of a dementia friendly hospital education intervention. Furthermore the aim is to gain insight of the staffs’ experiences of the education interventions´ and the impact on their approach to patients with dementia.

Method: The study will be conducted using a mixed sequential exploratory design, with a combination of quantitative and qualitative methods. The methods will be complementary and have equal priorities, the quantitative part is expected to give answers to the outcome of the education intervention, and the qualitative interviews will provide the results with a deeper understanding of participants’ experiences from the education intervention.

A longitudinal cross sectional survey will be conducted. The questionnaire will be developed from existing literature and validated questionnaires concerning knowledge, attitudes and competence. Questionnaires will be distributed electronically via a link send by email to all participants; at baseline, and after 3 months and 1 year after the intervention in order to identify an improvement in staff’s knowledge, attitude and competencies.

The entire workforce in the hospital will be included, which gives approximately 1600 respondents.

The survey will be supplemented with individual semi-structured interviews with approximately 15 hospital staff from different departments and with different profession. The qualitative interviews will be structured using a thematically interview guide, conducted by the results of the literature search and the results of the questionnaires.

Purposeful sampling will be used to recruit the participants from different departments,

The data will be analysed sequentially in order to let the results from the questionnaires inform the research questions in the qualitative interviews. The data from the questionnaires will be analysed with descriptive statistics. The data from the qualitative interviews will be transcribed verbatim and analysed using Kvale and Brinkmanns model of interpretation of meaning.

Perspectives: The results of this study serves as an examination of the outcomes of the initiated education programme of the overall hospital staff and will be used in the continued progress and dissemination of the education both locally and nationally to improve the dementia treatment, care and approach.

**Attitudes towards diagnosis and disclosure of dementia among primary care physicians in Japan**

Michiko Abe, Department of Family and Community Medicine, Hamamatsu University School of Medicine, Hamamatsu, Japan

Tsunawaki, Shinji (Shizuoka Family Medicine Program, Kikukawa, Japan); Fetters, Michael D. (Department of Family Medicine, University of Michigan, Michigan, USA); Inoue, Machiko (Department of Family and Community Medicine, Hamamatsu University School of Medicine, Hamamatsu, Japan)

August, 23, 13.15 - 14.45, U14

Poster Presentation

Background: Studies suggest that early diagnosis of dementia could be effective for better outcome of the patients and for lessening the burden of caregivers by early intervention and proper management of the symptoms. Some technical guidance for primary care physicians about making diagnosis of dementia are well known, however, there are few studies to understand how primary care physicians in Japan are practicing diagnosis and disclosure of dementia to the patient and family.

Aim: This study aims to provide the deeper understanding of Japanese primary care physicians’ attitudes towards making diagnosis of dementia and disclosing it to the patient and family, which could be useful for the discussion on what approach could be taken to improve the quality of dementia care in primary care settings in Japan.

Methods: Mixed Methods Research, Exploratory Sequential Design. First, we conducted semi-structured interviews to a total of 24 primary care physicians (12 each from urban and rural area, between 6 to 38 years of working experience as physician) who were recruited by snow bowl sampling. Interviews took place from

August to October in 2017 by a contract researcher visiting the physicians’ office or connecting with Skype. The length of the interview was between 60 to 150 minutes and the contents includes; their most important/less important goals in managing dementia patient; the regular procedure of diagnosing, disclosing, managing dementia and the comfortable level on each task; how they manage multiple chronic medical conditions of demented patient; what kind of resources are available to help their practice of dementia care in their working environment. Although a wide range of dementia care process was discussed in the interview, this research will mainly focus on their practice of diagnosis and disclosure. The data were transcribed verbatim and analyzed thematically by using MAXQDA Analytics Pro 12. The acquired concept was discussed by the research team and agreed on hypothesis that a substantial number of primary care physicians take a cautious approach towards early diagnosis of dementia, and disclosure to the patient. To examine this hypothesis as a next step, we are going to distribute a survey of certified primary care physicians who are members of the Japan Primary Care Association. The details of the survey are under development and planning for distribution are ongoing. After the quantitative phase of the study, we will integrate the results of qualitative and quantitative strands to develop a robust understanding of the current practice of dementia in Japanese primary care.

Result: The hypotheses we have generated by thematic analysis of the interview data are: (1) Japanese primary care physicians in general take a cautious approach to diagnosing dementia; (2) Physicians who practice in rural area have less prospects for referring patients to specialists; (3) Physicians with more years in practice are more reluctant to disclose a dementia diagnosis to patients. Future quantitative research will examine if certain key background factors, e.g., practice environment, years of experience, are associated with such attitudes.

**Moving beyond qualitative and quantitative data: a study of attitudes towards genetic screening in the UK**

Rachel Hale, University of Warwick, UK

Boardman, Felicity (University of Warwick, U.K.)

August, 23, 13.15 - 14.45, U15

This presentation reports on a mixed methods research programme that aims to understand the social and ethical implications of pre-conception genetic screening by focusing on the roles of medical and experiential knowledge in underpinning attitudes towards, and uses of, genetic screening.

This work in progress explores the views and perspectives of two key stakeholder groups: individuals and families living with genetic diseases that could be screened for in the general population (Cystic Fibrosis (CF), thalassemia, haemophilia, Fragile X Syndrome (FXS) and Spinal Muscular Atrophy(SMA)), and people who do not have these conditions in their families, but were given the option to discover their carrier status for them through voluntary whole genome sequencing (100,000 Genomes Project).

An exploratory sequential mixed methods research design was adopted to address this complex and multi-faceted question of the acceptability of genetic screening. In-depth qualitative interviews were conducted initially with affected families and individuals, before moving onto interviews with patients undergoing genome sequencing. Differences and similarities in their perceptions of the conditions were explored. Finally, quantitative surveys were developed directly from the qualitative data to measure the dispersion of the identified themes within the broader population of families living with genetic disease.

An integrative mixed methods analysis (using MaxQDA and SPSS software) will form the final part of the study. Using the qualitative and quantitative data, all participants will be categorised based on their level and type of prior experiential/medical knowledge of the conditions so that any potential association between this and their reported reproductive attitude/decision could be identified. A meta-theme framework will be used, developed out of the thematic coding to facilitate a comparison of similar themes across all participant groups. Meta-themes are likely to include: perceptions of quality of life, reproductive responsibility and informed decision-making. Data from each theme within each participant group will then be summarised to detect variation in the data; for example, the variation in the theme ‘perceptions of quality of life’ with CF as expressed by CF families Vs sequencing volunteers. Through this comparative analysis, we will produce a visual display of the areas of contrast and similarity between and within different groups.

This presentation sets out the techniques of mixed methods analysis used within this research programme, highlighting some of the key challenges and opportunities it presented us with. These included (but were not limited to) the use of data variation analysis of qualitative data, the processes of data transformation through categorisation and the translation of rich qualitative themes into reductive, but measurable, quantitative surveys. Using our meta-theme framework, we consider whether the terms ‘qualitative’ and ‘quantitative’ data accurately describe the data that ultimately emerges from this type of data transformation. The concept of ‘mixed data’ is suggested as a way to account for this type of data, which may lack some of the signature features typically associated with qualitative and quantitative data, but which nevertheless permits the pursuit of lines of enquiry and analysis that would have not been possible using a mono-method approach alone.

**Experiences and outcome of caseload midwifery - a mixed methods study**

Ingrid Jepsen, University College North Denmark, Nørresundby, Denmark

August, 23, 13.15 - 14.45, U15

Background: Caseload midwifery is a model of care focusing on continuity, ensuring that childbearing women receive their antenatal, intrapartum and postnatal care from one, or only a few, known caseloading midwives with whom they can develop a relationship.

In Denmark, caseload midwifery is expanding, but no Danish studies have addressed the outcomes of labour or the experiences of women and their partners. International research has demonstrated that caseload midwifery is rewarding for pregnant women and midwives, and improves labour outcomes, but there are also contradictory statements about midwives’ experiences.

Aim: The overall aim of this mixed methods study was to expand the understanding of the complexity of caseload midwifery by integrating findings from both qualitative and quantitative studies. The mixed methods research question was:

Research question: What are the experiences and outcomes of caseload midwifery in the Danish context?

Methodology and methods: This investigation used a multistage mixed methods design. The overall convergent phase included parallel questions and independent analyses of qualitative and quantitative data, followed by an integration of findings at the level of interpretation. The exploratory sequential phase supplemented the convergent design as findings in study 1 informed the approach in the subsequent collection of quantitative data in study 2.

Initially, the researcher explored midwives’ experiences through participant observations in antenatal clinics, followed by interviews with caseload midwives (Study 1). This study inspired a survey on burnout that used a validated questionnaire (Study 2). Thereafter, the researcher conducted participant observations during labour to explore couples’ experiences, followed by interviews (Study 3). Concurrently, Study 4, a register-based cohort study, involved the collection of three years of data from the obstetric database (Study 4).

Results: The findings from the four studies were integrated during interpretation, and two major themes emerged: “A positive cycle in caseload midwifery,” and “A negative cycle in caseload midwifery.” The integration of findings from the four studies was a result of narrative weaving and illustrated in joint displays.

Conclusion: Both midwives and couples experienced significant well-being. The midwives experienced high job satisfaction and low levels of burnout compared to standard care. The women appreciated caseload midwifery and their partners also benefitted from it, as they all felt that the midwives acknowledged and treated them as individuals. This good relationship led to a positive cycle in which mutual recognition and consideration supported the sense of coherence.

However, the experience of working in caseload midwifery seemed to depend on the midwives’ ability to handle the strong obligation always to perform well. Moreover, the balance between the couples’ wishes and the midwives’ professional knowledge might be difficult to maintain if the relationship is too close. Together with the midwives’ perceived obligation to be there for all of their women this could lead to a negative cycle with the result of a more active approach to labour followed by impaired neonatal outcome.

**Support Group for Perinatal Latinas: A Mixed-Methods Evaluation**

Anne Farina, Saint Louis University, Saint Louis, USA

August, 23, 13.15 - 14.45, U15

Background: The aim of this mixed methods study was to examine the effectiveness of a support group designed to decrease postpartum depression among Latinas.

Method: A total of 32 perinatal Latinas attended support group sessions at a community-based social service agency in a Midwest metropolitan city. Participants completed a baseline standardized measure for depression (Edinburgh Postnatal Depression Scale, Spanish version (EPDS; Cox, Holden, Y Sagovsky, 1987)), the same measure throughout their participation, and again at the conclusion of their participation. Paired t-tests were used to compare the pre-, during-intervention, and post-intervention data. Participants were asked to complete an informal, semi-structured, open-ended interview about their participation in the support group. Responses were recorded, transcribed, coded, and analyzed using a cross comparative approach (Miles & Huberman, 1994). Codes were compared within and across participants and developed into categories and themes. An explanatory sequential design was utilized to merge the data in a joint display model using EPDS scores and themes that emerged from the interviews. Participant EPDS scores were combined with interview responses related to opinions about other factors potentially impacting depressive symptoms.

Results: The average length of time women attended the support group was 18 weeks. The participants reported significant decreases in depressive symptoms. Emerging themes from participant interviews related to the support group included support from other participants and staff, knowledge obtained from the support groups related to parenting, and coping skills. Themes from the interviews also emerged related to other factors that impacted depressive scores such as environmental stressors, feelings of isolation, and lack of support systems.

Discussion: This support group intervention shows potential in decreasing depressive symptoms among perinatal Latinas. Randomized, controlled trials are suggested to further test the efficacy of this intervention. Further research and practice implications are discussed.

**Use of an exploratory sequential mixed methods design to understand women's perspectives and predictors of needs relative to preconception care in anticipation of implementing an intervention to improve preconception care delivery in Japan**

Yasumi Shibata, Morimachi Family Medicine Clinic, Japan

Fetters, Michael (Department of Family Medicine, University of Michigan, USA); Inoue, Machiko (Department of Family and Community Medicine, Hamamatsu University School of Medicine)

August, 23, 13.15 - 14.45, U15

Poster presentation

Purpose of the research and research questions

According to the WHO, preconception care involves the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs to reduce the factors which contribute to poor maternal and child health outcomes. However little is known about preconception care in Japan and few institutions provide such care. Usually women visit a gynecologist after suspecting pregnancy at 6-10 weeks gestational age. However because organogenesis in embryo occurs from 3-8 weeks, delayed presentation misses a critical window for interventions to promote optimal pregnancy care. Consequently, it is important to counsel women considering pregnancy on how to prepare for pregnancy. This study aims to assess women’s perspectives and attitudes about preconception care to inform an educational intervention about preconception care for women of childbearing age.

Conceptual/theoretical framework

We propose a mixed-methods study based on social cognitive theory using an exploratory sequential design consisting of semistructured interviews with women immediately just- married (within 1 yr), followed by a survey of recently married women 1-5 years.

Summary of methodological and /or theoretical argument

Qualitative data will be collected and iteratively analysed until saturation is reached using thematic analysis to identify attitudes toward preconception care, subjective norms, and perceived barriers. Based on the qualitative findings, we will examine the prevalence predictors of the identified patterns. We hypothesize that there will differences in knowledge and behaviors relative to preconception care between women who are contemplating pregnancy, have chronic diseases, have experienced childbirth, have own general practitioner, and usually have a medical checkup. Based on these findings, we will develop effective interventions to improve knowledge and behaviors related to planning and conception.

Significance and implications

We anticipate these rigorous mixed methods procedures will be highly beneficial for identifying women's perspectives on their preconception needs, predictors of information needs based on different women's personal characteristics and preferences, and for designing an interventional program of preconception care in Mori-machi, Shizuoka. Moreover, the proposal can serve as a model for advocacy and giving voice to women.

**Syrian Refugee Students' Integration into Turkish Education System: Barriers, School Policies and Support Strategies**

Sakir Cinkir, Ankara University, Ankara, Turkey

Erdemli, Özge; Kurum, Gül; Güner Demir, Tugba (Ankara University, Turkey)

August, 23, 13.15 - 14.45, U16

Education is a key to integrating refugees. The Syrian refugee crisis is unlikely to be a one-off of the biggest phenomenon. More than half of the population has been displaced to the neighbouring countries due to the Syrian Civil War. Syrians refugees have faced various problems including language, employment, education, health and security in the countries where they immigrated to. As Taylor and Sidhu (2011) and Cinkir (2015) have stated that educational institutions have an important role in facilitating integration into new country for refugees. In the process of accessing educational services, Syrian students have encountered such problems as language barriers, lack of information on enrollment procedures and accreditation, lack of motivation, lack of school counselling services. However, a sustainable policies for solving these problems have not been developed yet. Turkish government has taken significant steps and offered all the Syrian children at the age of compulsory education with an opportunity to receive free education at public schools. In the literature there are studies focusing on the education problems of the refugee students. However, there is no study, which is conducted to develop policies and strategies for overcoming these barriers and supporting their integration in Turkey.

This study aims to identify the barriers for Syrian students’ integration into Turkish education system and suggest possible strategies and policies. The following questions will be answered:

Quantitative:

1. What are the barriers for Syrian students’ integration into Turkish education system with respect to language, curriculum, teacher, accreditation and certification?

2. What, if any policies and strategies developed by school management for Syrian students’ integration into Turkish education system?

Qualitative:

3. What is the nature of the barriers that Syrian students experience as a part of integration into Turkish education system?

4. What policies and strategies do school managers and Syrian Refugee students perceive as contributing to their integration into Turkish education system?

Mixed method:

5. In what ways, do survey and interview data align with one another?

Method

Research Design: This study is in a sequential explanatory mixed method design.

Study Group: Participants will be selected by purposive sampling method among the Syrian students and school managers in Ankara. The study sample will be composed of 150 refugee students, and 50 school principals. In addition focused group discussion session will be held with 10 school principals and 30 refugee students.

Research Instruments and Procedure: The quantitative data will be collected by using “Barriers for Refugee Students’ Integration into Turkish Education System Questionnaire”. The qualitative data will be collected by using Focused Group Discussion.

Data Analysis: Quantitative data will be analyzed with SPSS (descriptive statistics, variance analysis etc.). Qualitative data will be analyzed and interpreted via the Nvivo 11 Program by using the content analysis technique.

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**Overseas remittances, hometown investment and financial inclusion: a remittance investment climate (ReIC) study in a rural hometown**

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August, 23, 13.15 - 14.45, U16

Overseas remittances are a development resource for countries where overseas migrants come from —but so are the rural communities where they were born. Is the rural community’s socio-economic and investment conditions conducive for overseas townmates and their households to invest in? However, do these rural folk, with or without overseas remittances, have financial aptitude levels that can empower them to save and invest their surplus earnings in the place that they are familiar with? Are banks, cooperatives and microfinance institutions capturing this rural hometown’s migrant market?

The above questions were answered by a mixed methods action research from the Philippines that sought to determine if financial inclusion is a factor for remitters’ and remittance recipients’ investing in the rural hometown. Authors here researchers utilized a research tool tested previously, called the Remittance Investment Climate Analysis in Rural Hometowns or RICART.

This research was done in the rural municipality of Guiguinto in Bulacan province (some 40 kms. north of Manila). A market survey of overseas migrants (N= 36), migrant households (120) and non-migrant households (73) was done. Meanwhile, secondary data collection and key informant interviews were done --with local officials, migrant households and civil society groups-- to help determine the local economic competitiveness of a municipality using a Philippine framework on local economic competitiveness as lens.

Guiguinto is an investor-attracting rapid growth area that benefited from its proximity to Manila's economic opportunities, largely due to the continued growth of industrial firms. The resources accumulated in Guiguinto through local taxes can easily make Guiguinto the envy of other Philippine municipalities. The relative ease of doing business in Guiguinto has also reaped its rewards. Though, residents have concerns revealing the bane of visible economic growth such as peace and order or the presence of financial scammers.

However, even if Guiguinto it may have the financial institutions and the programs for enterprise development and investment, respondents’ levels of financial aptitude are hindering them from making hometown investment and entrepreneurship decisions. A logit regression result for migrant household respondents even showed that those who do not keep records, and those who get their ideas about finance from their own experiences, would not be likely to go into business in the locality.

A phenomenographic analysis of migrant households’ answers also helped identify some of the reasons for their careful, conservative approaches to saving, investing and doing business in Guiguinto. They assess their situation vis-à-vis the family, as well as the conditions in the immediate municipality and local financial institutions in operation there.

Overseas remittances are therefore not an automatic push for rural financial inclusion and rural hometown investing. Nevertheless, findings from Guiguinto provide the lesson that financial inclusion in migrants’ origin communities is a tool for the productive use of remittances —leading to positive economic outcomes that include even non-migrant residents. If financial inclusion is advanced through laws, programs and incentives, entrepreneurship and investment among residents, the benefits of overseas remittances will spill over locally, facilitating financial inclusion for migrants and their families.

**Mixed Methods Data to Create University Change Related to Diversity, Equity, and Inclusion**

Gene Gloeckner, Colorado State University, Fort Collins, USA

Aribeque-Engle, Shannon (Colorado State University, Fort Collins, USA); Jennings, Louise (Colorado State University); Ontiveros, Mary; Schneider, Jennifer; Vigil, Ria (Colorado State University, USA)

August, 23, 13.15 - 14.45, U18

Symposium

Presenters from Colorado State University:

* Mary Ontiveros, Vice President for Diversity
* Shannon Archibeque- Engle, Director of Assessment and Strategic Initiatives, Office of the Vice President for Diversity
* Louise Jennings, Professor and Co-Director School of Education
* Jennifer Schneider, Associate Director of Institutional Research
* Ria Vigil, Director of Diversity Education and Training, Office of the Vice President for Diversity

Discussant: Gene Gloeckner, Professor and Co-Director School of Education, IRB Chair

Colorado State University has used mixed methods in deliberate ways to create and sustain meaningful change regarding diversity, equity, and inclusion. Over a six year period, mixed methods have been utilized to inform slow but steady improvement toward university diversity goals. This symposium will demonstrate how data were collected from quantitative and qualitative sources and results presented to faculty, staff, and administration to create cultural shifts and broad university commitment to diversity, equity, and inclusion. This unique session focuses on a large, publicly funded, major research institution and will provide pragmatic approaches that are duplicable in other institutions of higher education and non-education settings. Distinct presentations centered on research from four areas will be shared. These studies include findings from the Campus Climate Committee, the Standing Committee on the Status of Women Faculty, utilizing the Multicultural Organization Model within a resistant academic unit, and the implementation of mixed methods evidence based initiatives and programs.

Presentation Descriptions

Campus Climate Survey and Focus Groups:

Presenters: Mary Ontiveros and Jennifer Schneider

Data and processes used will be shared from three biennial mixed methods studies. Presenters will share the lessons learned from performing the qualitative interviews to revising, collecting, and presenting quantitative survey results (https://diversity.colostate.edu/2016\_campus-climate-survey/).

The Standing Committee on the Status of Women Faculty:

Presenters: Louise Jennings and Shannon Archibeque-Engle

An intensive study on the Status of Women Faculty by first surveying and then performing qualitative studies conducted by an external qualitative expert. This session will review the findings of the committee including recommendations for the future (Jennings, et al., 2016).

Mixed Methods and the Multicultural Organization Model within a Resistant Academic Unit:

Presenter: Shannon Archibeque-Engle

Over a four year period, the Director of Diversity and Retention in the College of Agricultural Sciences utilized quantitative and qualitative data to establish a baseline within the Multicultural Organization Development Model (MCOD) and then used these data to create and sustain meaningful change (Archibeque-Engle, 2015).

Impact of the Mixed Methods Results on Campus

Presenters: Ria Vigil, Jennifer Schneider, Louise Jennings, Gene Gloeckner, Shannon Archibeque-Engle, Mary Ontiveros

This presentation demonstrates how Mixed Methods is working effectively to establish the need for and create change in higher education. Change however does not usually come without profound resistance. Pragmatically, through the consistent and intentional application of mixed methods evidence we have been able to institutionalize cluster hires, mandatory supervisor training, and diversity, equity, and inclusion workshops for administrators, faculty, and staff (Archibeque-Engle, et al., 2017; Jackson, 2006)

**Mixed methodological discourse analysis**

Zsuzsanna Géring, Budapest Business School, Budapest, Hungary

August, 23, 13.15 - 14.45, U22

Reading contemporary social science, ’discourse’ pops up everywhere with different meaning from distinction between talk and text to complex system of texts, events and social relations. Not only its meaning and definition is numerous, but its analysis, that is, the discourse analysis (DA), too covers a broad range of methodological procedures. This means that discourse analysis is not a singular methodological process with highly elaborated technical details but rather a collection of approaches and methodological tools with shared theoretical background.

Nonetheless, in the literature, discourse analysis mainly is treated as an inherently qualitative method. This methodological paper tries to take an additional step and apply the pragmatic approach of mixed methodology on the field of DA. It emphasizes that we should shift from the methodological standpoint that places DA solely in the frame of the qualitative paradigm and might incorporate considerations from the quantitative realm.

The paper aims to demonstrate how the mixed methodological approach could enrich the field of DA, offset its weaknesses and strengthen its applicability in order to reach better understanding of our world. In order to do so, it starts with a very short summary of the theoretical and methodological field of DA. This is followed by the introduction of a definition of mixed methodological discourse analysis (MMDA). Based on these theoretical and methodological considerations, the paper illustrates some possible mixing points and procedures in mixed methodological discourse analysis. Through some interesting examples it shows the application of MMDA in problems like big sample versus DA, connecting textual and contextual data, generalising or just the opposite, focusing the research scope, or the always present question of validity.

**Investigating the xenophobic discourse in Polish Internet - a mixed method approach**

Jaroslaw Jura, Lazarski University, Warsaw, Poland

August, 23, 13.15 - 14.45, U22

The paper goal is to show the application of the mixed method to analysis of xenophobic discourse in Polish media. Particularly we are interested the relation between the appearance of the discourse (and its characteristic) which can be classified as being xenophobic and other factors identified in analysed textual dataset. For example we are investigating how different topic of articles and comments threads may induce the emergence of xenophobic and racial discourse, etc.

This paper is also a pilot study aimed at creating the methodology to be applied in the further studies related with above mentioned problematic. In this particular piece the database containing all the articles and comments where any of particular keyword (out of set of keywords having relation to any offensive, racial references or related with such issues as immigration, refugees, etc.) appeared in 2017 in one of the most popular Polish Internet News portals (www.interia.pl) have been downloaded.

Furthermore different mixed method techniques and approaches have been applied – including the data triangulation, cross over mixed method approach, etc. Such methodological approach was strictly related with general pragmatic research approach and with the type of the data. Focusing on the purely quantitative content analysis (both deductive and inductive) would not be possible due to the highly contextual character of the database (especially comments). On the other hand the purely qualitative approach would be either very limited (low number of analysed cases) or not doable (database size and time constrains). Therefore the mixed method approach was considered as the most appropriate.

**Mixed-method analysis of mind map data in an education research context**

Péter Miskolczi, Budapest Business School, Budapest, Hungary

Rakovics, Márton (Eötvös Loránd Science University, Budapest, Hungary); Király, Gábor (Budapest Business School Future of Higher Education Centre, Budapest, Hungary)

August, 23, 13.15 - 14.45, U22

The presentation discusses an education research project and shows three distinct ways of analysing data gathered via a mix of traditional survey and a mind-map-drawing exercise. In an introductory sociology course, 402 students were asked to provide socio-demographic data, and to draw a mind map around the central concept of ‘Sociology’. Mind maps were drawn both at the beginning and end of the semester, making a comparison possible.

The first way to analyse the mixed data was the classification of students to ‘deep’ and ‘surface’ learning outcomes. This classification was determined individually for each student by the qualitative comparison of the beginning- and the end-of-semester mind maps. Afterwards, a logistic regression was carried out, answering the question of which socio-demographic variables are related strongest to the ‘deep learning’ outcome. Results indicate, among others, that parental education – which is generally a predictor of success in education – did not have as great an effect on deep learning as did the major area of study (e.g. students of Sociology did much better than those of Political Science), and that extra-curricular tasks had little to no effect.

The second way of analysis was one of content, aiming to identify the themes that students mentioned most often in mind maps. Results indicate that most students were thinking of sociology as a science that studies humans. Religion, economy, family and politics were topics most often connected to it initially; two others, namely gender and deviance, were not quite ‘anticipated’ at the beginning of the semester but appeared in a large number of cases at the end. Moreover, several mind maps contained ideas about the social role of sociology (mostly in the first wave, in some capacity of ‘social help’) and its evaluation (mostly, about its relatively low prestige among other sciences).

The third way of analysing the data, which is still underway, is to focus on particular topics of interest: namely gender and migration, and the ways they appear in the mind maps. This approach allows the researcher to uncover what kinds of connections respondents made to and from the topics of interest, and also what words and terms they used. The comparison of “pre-“ and “post-test” mind maps opens up the possibility of evaluating some ‘effect’ the introductory course might have had on students; and also to raise the question of the influence of mass media (as both aforementioned topics were receiving some attention during the time of data gathering).

While this particular research was situated in the context of education, already the three ways of analysis described above show that it was not solely about effectiveness of teaching. What is more, the three ways – one largely quantitative, linking ‘traditional’ socio-demographic data to a qualitative change in mind maps; the second a ‘holistic’ content analysis, also open to connections to background variables; the third a detail-oriented qualitative analysis – should easily be applicable to several other contexts, and this particular research can be used as a ‘template’ in other areas as well.

**How mixed method design influence's the role of Spatial-Visualization in problem solving in vector calculus**

Anass Bayaga, University of Zululand, KwaDlangewza, South Africa

Godfred, Amevor (University of Zululand, South Africa)

August, 23, 13.15 - 14.45, SE33

The current research uses the theoretical framework of Visual-Analyser (VA) proposed by Zazkis et al., to examine students’ Spatial-Visualization in Problem Solving in Vector Calculus. The examination is guided by mixed method design. Various studies have noted positive correlation between Spatial-Visualization and mathematical problem solving. This has led to the introduction of several graphical tools such as Matlab, GeoGebra, and its computer environments in mathematics education. These graphical tools are employed in enhancing students’ procedural and conceptual knowledge in problem solving in mathematics areas such as; Euclidean geometry, multivariate calculus and trigonometry which require more spatial skills in their problem solution. However, little has been done on vector calculus. Students find it easy to evaluate a given vector integral using analytical techniques for integrations, but struggle to visualize and transform it from one coordinate system to another system such in transferring a double integral from to . A sample size of about 64 coupled with mixed method will be used in this study to examine Spatial-Visualization in Problem Solving in Vector Calculus. Questionnaires and interviews will be used to collect data based on students’ views on the use of visual tools in vector calculus lessons. In addition, the visual tool viz Matlab will be used to investigate the role of students’ visualization in problem solving in vector calculus. At present the researchers wish to present how mixed method design via Matlab effects will impact on Spatial-Visualization in Problem Solving in vector calculus.

**Evaluation of Inspire Maths: An Illustration of a Mixed Methods RCT in Education Research**

Ariel Lindorff, University of Oxford, Oxford, UK

Hall, James (University of Southampton, U.K.); Sammons, Pam (University of Oxford, Oxford, U.K.)

August, 23, 13.15 - 14.45, SE33

Singapore has gained particular attention for high performance in maths on international assessments, and has thus become a model for educational policy initiatives in the UK and US. Few studies, however, have offered empirical evidence on the effects of using Singapore-based materials and approaches in US and UK schools. Those that do exist have found modest to no effects on pupil achievement (Jaciw et. al, 2012; Jerrim & Vignoles, 2016).

The aim of the study (on which this paper focuses) was to evaluate the use of Inspire Maths (Kheong et al., 2015), a mastery-oriented textbook series and pedagogical approach adapted from the Singapore primary school curriculum, in Year 1 (age 5-6) classrooms in England.

The concurrent embedded mixed methods design (Creswell & Plano Clark, 2011) for the present study incorporates teacher effectiveness and school improvement theory to account for multiple perspectives, processes and outcomes. Qualitative and quantitative strands served to answer different research questions, but qualitative findings also elaborated upon, and helped to explain, quantitative findings (Tashakkori & Teddlie, 2003).

This study followed a mixed methods Randomised Controlled Trial (mmRCT) design. 12 participating schools were randomly allocated to experimental or delayed treatment groups. The sample included 20 classes and 577 pupils in total. The experimental group began using Inspire Maths at the beginning of the 2015-16 academic year, while the delayed treatment group proceeded with ‘business as usual’ before beginning to use Inspire Maths from mid-year.

Data were collected at the beginning, middle and end of the school year. Pupil math attainment and attitudes were assessed at each of these time points. Classroom observations and teacher interviews were conducted at each time point, providing evidence on both business as usual and Inspire Maths-specific practice, and teacher professional development sessions given by the publisher (Oxford University Press) were observed over the course of the year. Data sources included:

Assessments of pupil maths knowledge and reasoning skills (quantitative)

Pupil attitude questionnaires (quantitative)

Structured observation ratings using 3 pre-existing instruments (quantitative)

Detailed observation field notes from lessons and professional development sessions (qualitative)

Semi-structured teacher interviews (qualitative)

Qualitative and quantitative data were first analysed separately by different members of the research team. Integration involved analyzing linked data (Bazeley, 2018) with teachers as cases and experimental/delayed treatment groups as cases. This allowed for comparisons across treatment groups and teachers.

Pupils in the experimental group made significantly greater maths progress during the second term. Ratings of teaching practice were higher for the treatment group in the first term, but this difference diminished by the end of the second term. Themes from qualitative interview and observation findings provided possible explanations for these results. Initial differences in classroom practice and pedagogical perspectives between groups that later converged, and most teachers expressed that the use of Inspire Maths and their participation in professional development programmes led them to develop and hone their maths pedagogy.

Overall, this study illustrates the potential of mixed method designs in evaluations to tell stories that connect processes to outcomes.

**Students' engagement in learning mathematics: a mixed method study of secondary level students**

Durga Prasad Dhakal, Kathmandu University School of Education, Lalitpur, Nepal

August, 23, 13.15 - 14.45, SE33

The study of students’ engagement in mathematics learning is very important for better learning achievement. This study aims to understand the level of students’ engagement (Cognitive, Affective, & Behavioural) and then explore how they are engaging in learning. Therefore, a sequential explanatory mixed methods study was carried out to explore: (a) to what extent students are engaging in mathematics learning, (b) how and why students are engaging in mathematics learning.

This study featured a paradigmatic mixing of post-positivism and constructivism with two equally prioritized sequential phases of data collection and analysis. Quantitative data was collected from the survey of a representative sample of 303 secondary level students. The qualitative data was collected from 5 secondary level students of community schools from Lalitpur sub-metropolitan city of Nepal. Five themes were generated from the transcribed textual description, which follows up the outcomes of the quantitative data analysis. Additionally, the coefficient of variation, mean, standard deviation, graph, bar chart, t-test , and factor analysis were used to analyze the quantitative data. The findings from data analysis of this study is supported by the literature, theories and personal reflection.

Firstly, in cognitive engagement, the contradiction finding in the first phase was conversed after the analysis of mixed data. It is found that students are more involved in surficial then deep engagement through memorized learning approach. Additionally, it is also found that the current level of cognitive engagement in respondents is not adequately favourable for their better achievement because they quickly forget the memorized formulae and the process. Secondly, in Affective engagement, quantitatively it is found that the involvement of respondents towards achievement orientation and interest in learning mathematics is higher as in to pass the exam. Finally, in behavioural engagement, it is found that respondents investing more hours to learn the process of solution and they also hesitate to ask for re-explanation with the class teacher.

This study has two main implications. First, educational stakeholders need to understand the illusion of engagement for making better policies to empower students’ learning. Second, when there are interesting quantitative outcomes the sequential explanatory mixed methods researchers need to prioritize and qualitatively explain how and why the quantitative outcomes have been conceptualized.

**Using mixed methods research to inform professional learning initiatives**

Peter Rawlins, Massey University, Palmerston North, New Zealand

August, 23, 13.15 - 14.45, SE34

This paper reports on a parallel convergent mixed methods study undertaken to evaluative a professional learning initiative undertaken by 6 primary schools. In 2015, the New Zealand Government introduced a controversial policy designed to raise student achievement by improving teacher practice. Central to this policy was the creation of a specific type of Community of Learning (COL). Critics, however, felt that there were too many restrictions around the formation and focus of these COLs. To receive Government funding, COLs needed to be formed along student educational pathways by including early childhood centres, primary and secondary schools. Additionally, the professional learning undertaken needed to focus on predetermined Government priorities. Research has shown, however, that COLs formed along such artificial hierarchical lines, where a group is brought together and then tasked with finding something to work on, are seldom effective or sustainable. Rather COLS should be formed along democratic lines centred on commonly identified needs and flexible membership. In 2017, 6 primary schools decided to create an alternate model of COL; the Kotahitanga Collaborative cluster. Rather than including early childhood and secondary schools, four urban and two rural primary schools committed to work together on a range of educational needs through collaboration and sharing of professional practice. Knowing that such a model would not be eligible for Government funding, the schools needed to justify the financial investment of this self-funded initiative to their individual Boards of Trustees. Additionally, the Principals knew that if the Kotahitanga Collaborative cluster was to be effective and sustainable it would need to be responsive to the needs of the teachers within the schools, and develop over time. Accordingly, the Principals approached Massey University to undertake an evaluation of this professional learning initiative on their behalf. The Principals involved were genuinely interested to see how successful the initiative had been and what might be done differently. They felt that using an independent evaluator was the best way to capture the honest views of their teachers. As such, the schools involved had very personal reasons for participating in the research. A two-phase parallel convergent mixed method design was utilised focusing on changes in teachers’ self-efficacy and the Principals’ and teachers’ perceptions of the effectiveness of the initiative. Phase one, conducted at the start of the trial period, involved teachers responding to a survey consisting of the Tschannen-Moran and Woolfolk-Hoy self-efficacy scale, and a number of open-ended questions. Phase two, conducted towards the end of the first year of the initiative, asked teachers to complete an adapted version of the phase one survey, with the self-efficacy scale and a different set of open ended questions. Interviews with the Principals and teachers from the schools involved were also conducted in phase two. Findings indicate that the teachers appreciated the opportunity to work collaboratively with teachers from other schools and to visit their schools, something that had not happened prior to the initiative. Teachers also made some useful suggestions for the ongoing development and focus of the cluster group.

**Using a concurrent mixed-methods design to enhance Kirkpatrick training evaluation model: a case study from petroleum industry**

Saeid Safaei Movahhed, University of Tehran, Iran

August, 23, 13.15 - 14.45, SE34

In the last five decades, Kirkpatrick evaluation model has turned into the invincible dominant trend in training profession due to its simplicity and intelligibility. Drawing on this four level model, you can measure and report quantitatively how satisfied learners are with a training program (reaction); how much their knowledge, attitude, and skills have changed (learning); how much of their learning have transferred into performance (behavior); and how much the company has benefited from the training in monetary values (results). Although Kirkpatrick model has been proved practically to be a suitable means to report on training effectiveness quantitatively in terms of reaction, learning, behavior, and results; but it fails to explain quantitatively why a program does not meet effectiveness criteria. Hence, we decided to adopt a concurrent mixed-methods design to measure the HOWs and explore the WHYs of an Oil mini-MBA program effectiveness. To gather quantitative data, we used an attitude scale for level one (reaction), an achievement test for level two (learning), and a performance checklist for level three (behavior). Additionally, in-depth interviews and non-participant observations were conducted continuously to gather qualitative data. A nested strategy was also used for sampling purpose, so 40 participants were selected randomly for the quantitative part and 17 participants purposively for the qualitative part. Finally, the quantitative data were analyzed by descriptive statistic measures (namely mean, standard deviation, and correlation coefficient) to report the percentage of effectiveness at 3 levels, while qualitative data were analyzed thematically to report WHYs of effectiveness and ineffectiveness at the levels. Based on the results, the program was effective at Reaction Level by 93% (WHY: because participants felt the company had selected them by competency measures and not by implicit nepotistic justifications as usual), at learning level by 86% (WHY: because those who failed had to face salary cut), and at behavior level by 23% (WHY: because after return to work, colleagues teased mercilessly those who tried to transfer their new learning into performance). Additionally, the qualitative data denote that no training program works in practice while the cultural climate of the company perceives it as an unfair learning opportunity. All in all, the study suggests that when Kirkpatrick model is used with a rigorous mixed-methods design, evaluators are enabled to explore the typical quantitative data more deeply and provide decision-makers with more informed judgments.

**Student support at a distance: Life after post school education and training (PSET)**

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Oke, Adekunle (Robert Gordon University, U.K.)

August, 23, 13.15 - 14.45, SE34

It is now imperative for post school education and training institutions to seek strong partnership with employers to promote the expansion of workplace training experiences and opportunities. This is often the case especially where practical workplace experience is considered as a necessity in enhancing qualifications or professional registration. An outcry from corporate and industry to PSET institution, requesting for better equipped, prepared and employable graduates which supports our stance with relation to the South African context. However, the present knowledge about the effectiveness of student-placement support after PSET in the context of Work Integrated Learning remains elusive.

As a result, this study is designed to explore, confirm, and explain the extent to which Work Integrated Learning (WIL) is contributing to students’ learning experience as well as their professional competencies through support after the student’s placement programs. The intention is to assist stakeholders in managing the implementation and continuation of student-placement support after processes and procedures in the workplace.

The research paradigm approach will be Pragmatic, which is understood to be reality is constantly renegotiated, debated, interpreted, and hence best method to use is the one that solves the problem. This study will be using a sequential mixed methods, the process of student-placement support in the workplace will be explored and confirmed, given the inherent challenges of student-support process coupled with the dearth of empirical studies on the process of student-placement support in the workplace. To achieve the goals of this study, in-depth semi-structured interviews will be used to explore the perceptions and experience of participants. Therefore, participants of the qualitative phase will be purposively drawn from all the stakeholders (students, academic/non-academic staff, employers, and government officials) of PSET and WIL. The findings of the qualitative interviews will inform the design of the quantitative phase of this study with the design of theoretical framework and a web-based (or online) questionnaire instrument that will be administered to randomly selected respondents in South Africa. The findings of both phases will later be triangulated to provide a holistic narrative of the extent to which student-placement support is contributing to practical knowledge and overall student learning experience.

It is expected that this research will assist other researchers to take stock of the current views pertaining to student-placement support and help to generate new and innovative ideas. This study will also inform institutions of higher learning therefore contribute towards literature on student-placement support in South Africa. Consequently, it implore the disjuncture between theories and implantation of it in practices. This could address the gap between theoretical knowledge gained in academia with real-world workplace practical experiences.

**Exploring Mixed Method Approaches to Studying Complex, Social Phenomena: A Study of Organisational Capacity Building in the Danish Educational System**

Nanna Limskov Stærk Christiansen, Department of Learning and Philosophy, Aalborg University, Aalborg Oe, Denmark

August, 23, 13.15 - 14.45, SE34

In organisations employees’ and management’s ability to perform new tasks is one of the core elements in sustaining the desire for development and strategic renewal (Brix, 2017). Unfolding such ability is often referred to as organisational capacity building (hereafter OCB) (Farazmand 2004; Krogstrup, 2016). However, little is known about how OCB initiatives can be evaluated appropriately and consequently there empirical research assessing and evaluating the effects of such initiatives remains scarce (Sobeck & Agius, 2007). Relying on theory-based evaluation (Chen, 1990) as the framing condition of my dissertation, I am to create mixed method approaches to study both processes and effects of OCB. Mixing quantitative and qualitative methods is argued to be appropriate, since OCB is a complex social phenomenon, which cannot be treated as a technical problem linking cause and effect (Krogstrup, 2016). Hence, relying solely on either quantitative or qualitative data will not lead to the nuanced perspective sought for (Mertens, 2017).

I have access to longitudinal survey data with more than 70.000 respondents within the Danish educational system, collected as pre- and post-measures between 2015 and 2017. The ambition is to utilize these data in tandem with qualitative data to build a design for data collection, preparation and analysis that is robust yet flexible enough to create actionable information about the processes and effects of OCB. To identify the evaluation criteria for OCB the study starts by defining OCB, followed by a systematic review of exciting studies evaluating OCB to identify the methodological state-of-the-art. Having identified the methodologies and types of data in these studies, I am able to use this knowledge as a source of inspiration for my sampling plan, further data collection and analysis. In the discussion, I will argue for advantages and disadvantages of mixing the sampled survey data with various methodological approaches in a theory-based evaluation of processes and effects of OCB.

The aim is to examine how different mixes of quantitative and qualitative methods can provide new insight concerning the generative mechanisms that lead to OCB in the studied contexts. Knowledge about these generative mechanisms is imperative, since they are transferable to other contexts, despite the concrete, local OCB-activities being context dependent. Hence, the ultimate aim of this study is to understand how mixed method approaches to evaluation can facilitate organisational development and capacity building.

Brix, J. (2017): Exploring knowledge creation processes as a source of organizational learning: A longitudinal case study of a public innovation project. Scandinavian Journal of Management, vol. 33, pp. 113-127.

Chen, H. (1990) Theory-Driven Evaluation. Sage Publications

Farazmand, A. (2004) Innovation in Strategic Human Resource Management: Building Capacity in the Age of Globalization. Public Organization Review: A Global Journal, vol. 4, pp. 3-24.

Krogstrup, H. K. (2016) Samskabelse og Capacity Building i den offentlige sektor. Hans Reitzels Forlag

Mertens, D.M. (2017): Mixed Methods Design in Evaluation. Sage Publications

Sobeck, J. & Agius, K. (2007) Organizational capacity building: Addressing a research and practice gap. Evaluation and Program Planning, vol. 30, pp. 237-246

**Moving forward with Mixed Methods Research**

R. Burke Johnson, University of South Alabama, Mobile, USA

August, 23, 15.00 - 16.00, U10

Keynote speech

**Investigating the dialogical relationship between language use and language attitudes under a mixed-methods logic**

Barbara Soukup, University of Vienna, Vienna, Austria

August, 24, 09.00 - 10.00, U10

Keynote speech

**MMIRA Membership Survey Panel: Reflecting on our past, celebrating our present, and planning for the future of our association**

Cheryl Poth, University of Alberta, Edmonton, Canada

Creamer, Elizabeth; Scherman, Vanessa; Papadimitriou, Antigoni; Onwuegbuzie, Tony; Munce, Sarah (Canada)

August, 24, 10.00 - 11.30, U10

Panel

The overall purpose of this panel is to provide an interactive experience for the audience to engage with panel members to consider the results of the inaugural MMIRA membership and MMR community survey. The survey was developed and administered to both celebrate the five-year milestone since the inception of MMIRA as well as to shape its future. In 2017, MMIRA executive board developed a strategic plan to ensure the sustainability and growth of the MMIRA as an influential leader in the global MMR community, with an engaged and diverse membership, and offering high quality mixed methods research training. The panel is hosted by the MMIRA survey subcommittee members in an effort to engage the audience in interpreting the survey results to compare and contrast two distinct survey populations – those that are MMIRA current members and those that are not yet MMIRA members.

The 90 minute session will be organized in the following way:

a) Introduce panel with an emphasis on purpose, presenters and their roles, and outline the session structure with emphasis on the audience interactions (5 min)

b) Situate the survey procedures by describing the purpose, development, administration, and analysis (10 min)

c) Results, dialogue, and interpretations for each of the 5 sections of the survey: (60 min)

1) Involvement and Awareness of the Mixed Methods Research Community

2) Engagement with and Membership Benefits of Mixed Methods International Research Association

3) Demographic information about survey respondents

4) Mentorship and Conferences

5) Future of the Mixed Methods International Research Association

d) Closing remarks and ways forward (15 minutes) Creamer provides her perspective as President-elect of the future, facilitates panel members to offer their final thoughts, and invites audience participation.

**Reflecting on the "mix" in Mixed Methods Social Inquiry**

Jori Hall, University of Georgia, Athens, USA

Greene, Jennifer (University of Illinois at Urbana Champaign)

August, 24, 10.00 - 11.30, U11

Within the world of social science methodology, mixed methods has been an exciting newcomer for the past few decades.[1] Yet, the bloom is now off the rose, and it is time for mixed methodologists to engage the thorny, contentious, and/or under-developed aspects of our theory and practice. Heading this list is the mixing part of a mixed methods methodology. Just what it means to mix and just how we may engage in defensible mixing strategies are topics that remain under-theorized in our conceptual conversations and incompletely justified in our empirical work.

Fortunately, for years, thoughtful mixed methods practitioners have provided numerous creative examples of meaningful mixing. Also fortunately, multiple mixed inquirers have generated a storehouse of nascent concepts related to the meanings and enactments of mixing. Notably, Patricia Bazeley’s recent publication, Integrating analyses in mixed methods research (2018, Sage), has brought some order, principles, and expanded horizons to the mixed methods challenge of mixing. In light of the recent conversations on and empirical examples of mixing, the purpose of this paper is to describe and critically reflect on the current “state of the art” of the mixing process of mixed methods inquiry.

This paper will first offer an integrated description of the mixing process in mixed methods social inquiry, focusing on mixing during the data analysis and the inference-generation stages of mixed methods work. This description will likely be multifaceted and feature substantial variations on what it means to mix. It will rely on selected mixed methods literature, including empirical examples, and focus on three key questions: (1) What is actually mixed during the mixing process of mixed methods inquiry (data, analytic results, inferences, hunches)? (2) What does the mixing process accomplish (results with more breadth and depth, results with stronger confirmation, novel insights, contradictions)? (3) What does the mixing process possibly overlook?

We will then offer our critical reflections on the current state of the art of mixing in mixed methods social inquiry, and possible future directions.

Mixed methods social inquiry remains popular and attractive to many social science inquirers, in part because it offers the possibility of discovery, of new understanding, of novel insight. Thus, this critical reflection is viewed important to insure that our inquiry procedures – including our mixed approaches to data analysis – are generative, conceptually sound, and justifiable.

[1] Historians of method do point to the existence of thoughtful mixed methods social inquiry in the 1900s. Theories and frameworks for mixing methods, however, did not emerge until the latter third of this same century.

**Breaking worldview stereotypes: Combinations of worldviews used in health and social mixed methods research**

Pierre Pluye, McGill University, Montreal, Canada

El Sherif, Reem; Hong, Quan Nha; Vedel, Isabelle (McGill University, Canada)

August, 24, 10.00 - 11.30, U11

INTRODUCTION

Mixed Methods (MM) researchers integrate qualitative (QUAL) and quantitative (QUAN) methods at different levels: worldview, question, review, design, data collection-analysis, results, and discussion. There are recommendations for all these levels, but a comprehensive typology of MM combinations of worldviews remains to be discovered. This knowledge gap contributes to worldview stereotypes, tensions in MM research teams, and in graduate students’ MM thesis committees and examinations.

BACKGROUND

Worldview is defined as a Weberian ideal-type (epistemological, ontological, methodological, and teleological) interpretation of sciences. The five common worldviews in MM are pragmatism (P), social constructivism (CS), post-positivism (PP), critical realism (RC), and critical theories (TC). MM literature is often prescriptive in this area; e.g., reference books present specific worldviews (mono-type) where students and researchers can recognize the ‘best-fit’ for their work; some papers promote P as the most appropriate for MM; others promote an alternative 'MM Paradigm’ (MMP). Some articles propose strategies to manage tensions between researchers in MM teams, e.g., dialogical approaches, but rare studies examine combinations and reconciliations of several worldviews within a MM research team. Thus, our goal is to identify combinations of worldview-ideal-types used in health and social MM research.

METHODOLOGY AND METHODS

We reviewed the literature with an innovative collaborative monitoring system of MM trends (eSRAP-MM) and had three eligibility criteria: articles indexed in Scopus in 2015, reporting an empirical MM, and written in English or French. Documents were selected by at least two MM researchers with a validated coding manual. For each included article, authors performed a descriptive qualitative content analysis, and specifically analyzed the MM articles that mentioned at least a worldview-ideal-type, or “paradigm\*”, or “epistemolog\*” or ""worldview\*"".

RESULTS

The 346 included articles (4092 pages) were published in 22 journals by first authors from 10 countries. Of those, 22 (6.4%) showed five 'mono-type' combinations (4 P, 2 CS, 1 PP, 1 RC, 1 TC), three 'bi-type' (6 CS-PP, 2 PP-CS, 1 P-CS) and three 'tri-type' (2 P-CS-PP, 1 CT-CS-PP, 1 MMP-CS-PP). The influence of worldviews was explained in 14 articles (4.0%), and simply mentioned with a methodological reference in eight articles (2.4%).

DISCUSSION

These results suggest a typology of combinations of worldviews used in health and social MM research. Inspired by Luhmann, the proposed typology can contribute to the development of MM as a social system (autopoietic and self-referential) that defines its possibilities and limits with the integration (interpenetration or reciprocal contribution) of QUAL and QUAN methods at all levels. Finally, reflections of two cohorts of doctoral students enrolled in a flipped class 1-credit ‘Advanced Mixed Methods’ course will illustrate our results, and provide insights on how to break worldview stereotypes, and reduce tensions at the worldview level in MM research teams, and graduate students’ MM thesis committees and examinations.

CONCLUSION

This work confirms the worldview pluralism of MM, and illustrates the contribution of MM for integrating worldviews in health and social sciences. The proposed typology of mono-, bi-, and tri-type combinations can help researchers and graduate students plan, conduct and critically appraise MM.

**Mixed methods research in the Learning Sciences: Mere co-existence or sophisticated synthesis?**

Filitsa Dingyloudi, University of Groningen, The Netherlands

Strijbos, Jan-Willem (The Netherlands)

August, 24, 10.00 - 11.30, U11

The role and contribution of Mixed Methods Research (MMR) has been widely examined in social sciences, as well as in mainstream educational research (e.g., Creswell et al., 2003; Johnson & Onwuegbuzie, 2004). Yet, to date the role and contribution of MMR to the field of the Learning Sciences has not been explicitly articulated. This paper serves as a springboard for discussion on MMR applications in the Learning Sciences and underscores the challenge that learning scientists face with applying MMR at an epistemological level, or in other words with treating MMR as a synthesis of epistemologies (Jeong et al., 2014).

Learning Sciences (LS) is an interdisciplinary field that studies learning phenomena (e.g., learning conditions, development, cognition) through various theoretical and research lenses by promoting, sustaining and understanding innovations in real-life educational contexts (Lagemann, 2002; Sandoval & Bell, 2004). Early LS researchers reflected on limitations of the existing “perspectives, paradigms, and methods (…) to provide adequate explanations” of the learning phenomena of interest and expressed their frustration with the inadequacies of laboratory experimental research methods (Schoenfeld, 1992a, p. 137). Leading researchers such as Brown (1992) and Schoenfeld (1992a, 1992b) became interested in “real-world” learning phenomena along with their inherent complexity and messiness. To overcome the limitations of existing research perspectives, early LS researchers stressed the need to build evidence-based claims that result from both laboratory and naturalistic settings, thus calling for methodological expansion, pluralism and inclusion (Barab & Squire, 2004). More recently, the need to study learning in authentic settings led to the establishment of Design-based Research (DBR) (Barab, 2014; Barab & Squire, 2004; DBRC, 2003; Sandoval, 2004). Over the past decade, DBR evolved into one of the main methodological paradigms within LS and is often referred to as a “signature approach within the learning sciences” (Penuel, Cole, & O’Neill, 2016, p. 487). DBR is an interventionist paradigm that aims to refine educational designs through theoretically driven interventions in real-life teaching and learning settings (Barab & Squire, 2004; Collins et al., 2004; DBRC, 2003). Despite the claimed pluralistic methodological profile of DBR, the way in which it actually relates to MMR remains unclear.

LS and MMR seem to have some common foundations, that is, they both bring disciplines, paradigms and methods together within a pragmatic and practice-oriented framework. However, LS researchers do so on a community level (i.e., co-existence) or on a single-study level (i.e., synthesis), whereas MMR researchers do so (thus far) exclusively on a single-study level (i.e., synthesis). Common methodological practices in the Learning Sciences rarely include MMR approaches on the research design level and rarely articulate any epistemological associations to MMR, distantiating the associated MMR practices from any a sophisticated methodological synthesis (Jeong et al., 2014). In line with the call by Jeong et al. (2004, p. 328) for “a more sophisticated way to combine different research traditions”, this paper will discuss how such a move from a co-existence level to a synthesis level could be accomplished through methodological integration on the epistemological and research design level.

**Reflexivity in Mixed Methods Research: Understanding the Term and its Application**

Mandy Archibald, University of Adelaide, Adelaide, Australia

Shannon-Baker, Peggy (Georgia Southern University, USA)

August, 24, 10.00 - 11.30, U11

Background: Reflexivity in research is generally understood as a practice of critical reflection on the researcher’s role and positionality during the inquiry process, the process of knowledge production, and the ethical issues faced in designing and conducting research (1). Although well established in qualitative research traditions, how reflexivity is enacted during mixed methods research (MMR) is less established. Recently, authors have argued for a deeper, more systematic, and more explicit approach to reflexivity in methodologically pluralistic research (2,3) to leverage the inductive and flexible ways of thinking made possible through reflexive approaches. The purpose of the present study is to generate a framework of reflexivity in MMR, including how it has historically been represented in MMR publications as well as areas for further development.

Conceptual Frameworks: We frame our understanding of reflexivity on Schön’s (1987) distinction between reflection-in-action (i.e., reflections occurring during research) and reflection-on-action (i.e., retrospective reflections) (4). Both types of reflection are important for reflexivity to represent a “kind of dialectic between experience and awareness” (5, p. 533) but may also serve different purposes. We define MMR as research integrating multiple approaches (e.g. qualitative, quantitative, arts-based) to aid understanding.

Methods and Findings: Two authors hand-searched the Journal of Mixed Methods Research (JMMR; 2007-October 2017) for evidence of reflexivity, using keywords and a two-phase approach. In phase one, we searched articles for keywords related to reflexivity (e.g., reflex\*, reflect\*); extracted data pertaining to reflexivity definitions, discussions and approaches (specific to qualitative, quantitative, and mixed methods traditions); and tabulated, categorized, and thematically analyzed data. Analysis is currently underway; data will be used to frame phase two of the study. In phase two, we will conduct an in-depth analysis of empirical articles published in JMMR (2007-October 2017) to mine where author(s) implicitly discuss and/or use reflexive approaches.

Implications: MMR is often characterized by its complexity. Attending to complexity requires flexibility and lateral thinking, attributes that can be supported through purposeful use of reflexivity during the inquiry process. A thorough understanding of how reflexivity does, can, and should influence MMR approaches is useful to those seeking dynamic and creative solutions to persistent social problems while demystifying the research process for readers of mixed methods empirical work. Additionally, a more focused and intentional use of reflexivity in MMR stands to contribute to a study’s overall legitimation.

References

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2. Hesse-Biber, S., & Johnson, R. B. (2013). Coming at things differently future directions of possible engagement with mixed methods research. Journal of Mixed Methods Research, 7(2), 103-109.

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4. Schön, D. A. (1987). Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. San Francisco, CA: Jossey Bass.

5. Finlay, L. (2002). “Outing” the researcher: The provenance, process, and practice of reflexivity. Qualitative Health Research, 12(4), 531-545.

**Systematic observation as a mixed method itself: Integration of qualitative and quantitative elements through connection/transformation throughout the scientific process**

M. Teresa Anguera, University of Barcelona / CIF ES Q0818001J, Barcelona, Spain

Camerino, Oleguer; Castañer, Marta (INEFC, Lleida, Spain); Sánchez-Algarra, Pedro (University of Barcelona, Barcelona, Spain); Onwuegbuzie, Anthony J. (Sam Houston State University, Huntsville, TX, USA)

August, 24, 10.00 - 11.30, U12

There is broad consensus in the mixed methods research field on the value of using merging, connecting, and embedding strategies to integrate qualitative and quantitative data. In this presentation, we describe an approach for connecting these two perspectives throughout the systematic observation process and show that it is perfectly possible to transform qualitative datasets that contain behaviors whose order of occurrence has been recorded in matrices of code that can subsequently be analyzed using powerful and complex quantitative techniques.

Systematic observation has commendable strengths, although it also requires a certain intensity in terms of time, labor, and pursuit of scientific rigor. The strength of systematic observation is that it provides a flexible yet rigorous framework for the objective analysis of behaviors in a natural setting and context; this is the only way to study spontaneous behaviors in a natural environment.

During the methodological process involved in an observational study—whether direct or indirect—the dataset is dematerialized through the progressive systematization of the descriptive data (some authors also include narrative data). This involves the progressive transformation of paragraphs into sentences, sentences into terms, and terms into codes. Through this systematization, the external control over the study is increased. The final product is a matrix of codes (either complete or incomplete) in which the columns are the dimensions/subdimensions of the observational design and the rows are the successive units into which the dataset has been segmented (non-occurrence of behavior is represented by an empty cell in the corresponding dimension and unit). This process is validated through decoding, which is based on lists of codes from a coding manual. This validation process determines whether any errors have been introduced through addition, loss, or distortion of information.

Many studies have been carried out using this procedure. The final matrix of codes can undergo a robust quantitative analysis that reveals the underlying structure of relationships among the various codes—a structure not apparent to the naked eye.

Systematic observation in its current form permits the seamless integration of qualitative and quantitative data, as well as the seamless integration of qualitative and quantitative data analysis. This approach harnesses the potential offered by the quantitization of qualitative data using non-standard statistical techniques and the subsequent interpretive qualitization of the quantitative results (which are largely structural), primarily through the techniques of T-pattern detection and polar coordinate analysis. Moreover, this form of analysis involves the full integration of qualitative and quantitative elements at the data collection, data analysis, and data interpretation phases, which yields the following formula recently advocated by Onwuegbuzie (2017): 1 + 1 = 1. This 1 + 1 = 1 formula, compared to the 1 + 1 = 3 formula advocated in a Journal of Mixed Methods Research editorial by Fetters and Freshwater (2015), represents a more seamless kind of integration across quantitative and qualitative thinking that facilitates mixed methods researchers in addressing increasingly complex research questions.

**Data Coding and verification in Mixed and Multi Method Research Studies**

Sigitas Vaitkevicius, Kaunas University of Technology, Kaunas, Lithuania

August, 24, 10.00 - 11.30, U12

The data coding is one of the most important questions that has to be answered preparing the Mixed and Multi method research designs. Correctly selected data coding will allow to compare the data, which are taken from the different data sources, or are collected using different research methods. Especially, when these methods come from the different research paradigms like the qualitative and quantitative research is. The growing interest in the data coding is seen across the scientists since the discovery of the Mixed Method Research. The difference is only that in the beginning of the Mixed Method Research it was the question how to code the data on the qualitative level, while now the conversion of the text to the numbers become important too.

Today, the constantly growing amount of the research data, forces the researcher to use the computers and special software for data analysis. But even the use of the special software not grant that the researcher will extract everything from the collected data, especially, when the data are collected from the Multi or Mixed Method Research. Today only the qualitative analysis of the qualitative and the quantitative data is not enough. The quantitative analysis of the qualitative data also is needed. It makes possible to work with larger amounts of data.

Growing interest in the use of the computers in the data processing forced the rise of the several important questions: can the qualitative data be coded assigning the numbers instead of the categories, and how it should be done to ensure the validity, utility, reliability or the goodness of fit? The main focus of this session is to answer to these and other important questions related to the data coding.

To this session are invited all the researchers whose can share with the others their empirically based experience of the use of the qualitative or the quantitative type of the coding. This session is open for the researchers from the all disciplines including but not limited to: education, sociology, psychology, medicine, economics, management, mathematics, computer sciences etc.

**Data consolidation**

Susanne Vogl, Institut für Soziologie, Wien, Austria

August, 24, 10.00 - 11.30, U12

The challenge in data analysis often lies in taking account of the multi-dimensionality and complexity of the data and at the same time discovering patterns, which requires reduction and simplification. Consolidating different types of data during analysis can serve to broaden the perspective and collect complementary views. Examples from methodological research illustrate how one data collection can generate different types of data which are consolidated to reach a better understanding of the topic. Procedures and practicalities are illustrated to offer good-practice examples for data consolidation in mixed analysis. With the methodological reflection of research practice, I evaluate consequences for the field of mixed methods research, in which practicalities of an integrated mixed analysis are still to be elaborated.

**Direct and indirect observation of teacher-student interaction in a university lecture class: A mixed method study**

M. Teresa Anguera, University of Barcelona / CIF ES Q0818001J, Barcelona, Spain

Tronchoni, Héctor (Universidad Popular Autónoma del Estado de Puebla, Puebla, Mexico); Izquierdo, Conrad (Univ Autonoma Barcelona, Bellaterra (Barcelona), Spain)

August, 24, 10.00 - 11.30, U12

Dialogue-based episodes during university lectures are highly complex interactive situations. Through the systematization and analysis of such situations, we are able to discover and unpack the richness of the flow of communication between teacher and students.

The mixed methods approach involves a combination of qualitative and quantitative elements, although the data and designs that structure the process—as well as the procedures for managing and analyzing the data—can take a wide range of forms.

The innovative element featured in this presentation is the interplay between direct and indirect observation. We begin by presenting the concept and profile of these two forms of observation. Direct observation allows us to chronicle reality in situ as it occurs, possibly through video recording. Indirect observation, meanwhile, has various starting points; in the case described herein, it takes the form of a narrative provided by the teacher.

Direct and indirect observation constitute two manifestations of reality chronicled using different media, and their management requires arduous conceptual and methodological work.

Conceptually, in a situation involving the observation of teaching-learning activity with a lecture-based format, the teacher’s aim—in his capacity as an expert—of transmitting complex and organized information to the students implies the sustained recognition of the other as a valid and active interlocutor in the communicative process. This premise, which cuts across all types of interpersonal encounters, illustrates the joint responsibility undertaken by the actors—teacher and students—to construct meanings and coordinate the students’ progress towards expert knowledge over the course of the observed interaction. Thus, we aim to answer two questions: How does the organizational context of the interlocution emerge from the exchanges? What contributions regulating participation in the knowledge-building process are initiated by each party to the interaction?

On a methodological level, in order to answer these questions we must construct an ad hoc instrument that takes into account two complementary aspects. First, the observational instrument must allow us to analyze the content of the segmented narrative text, which is based on the teacher’s experience. And second, it must allow us to create a systematized dataset containing a transcription of the utterances of the teacher and the students, plus additional non-verbal information (direction of gaze, pause, smile, etc.).

The objective of this presentation is to illuminate the way forward and contribute to the advance of knowledge in this sub-field. To this end, we present the analysis of a single session with the aim of proposing and developing a pathway for the qualitative-quantitative integration that is essential in mixed methods.

The information obtained through both direct and indirect observation generates categorical data; our proposal hinges on the procedural integration and analytical strengthening of these two approaches.

**Using Mixed Methods to Address the Tension Between the Evidence-Based Intervention Movement and Need for Contextually Relevant Programming**

John Hitchcock, Indiana University, Bloomington, USA

Nastasi, Bonnie (Tulane University); Anderson, Jeffrey (Indiana University); Varjas, Kristen (Georgia State University); Bekka, Arlinda (University of Prishtina); Cornell, Laura (Tulane University)

August, 24, 10.00 - 11.30, U13

Symposium

The proposed symposium will coordinate six papers that describe the use of a consulting and intervention development model combined with large, extant datasets to simultaneously advance our capacity to develop contextually-relevant interventions in education while accounting for the need to generalize and/or transfer findings to new settings. This approach is predicated on mixed methods thinking, which is needed because there is an inherent tension between efforts to promote reasonably uniform intervention efforts (i.e., standardization) and the need to make adaptions to account for local contexts and cultures. This raises complexities around the generation of intervention evidence and its interpretation. Consider, for example, guidance from endeavors such as the What Works Clearinghouse (WWC) in the United States, which focuses on the documentation of evidence-based interventions in education. Despite considerable efforts to develop standards for making independent and replicable judgements of the validity of causal evidence, WWC guidance for judging the extent of such evidence is relegated to a series of simple rules; reflection about how to think through evidence generalization, translation, and transfer is absent or quite limited. This is problematic because one should not simply select some intervention for adoption without thinking through the relevancy of causal evidence for a particular setting. More broadly, most studies designed to establish a causal argument in education are similarly limited when it comes to matters of describing what aspects of an intervention might reasonably be adapted to better fit a given context. Therefore, this symposium will outline a mixed methods approach to intervention development and evaluation to help address these concerns. The approaches to be described in the presentation have been published across a longstanding program of research focusing on the Participatory Culture-Specific Intervention Model (PCSIM).

An introductory paper will describe the PCSIM as a model for integration of mixed methods for program development and evaluation at the local level. The second paper will review how to use large data platforms and data visualizations to partially address the tension between the need to account for context while addressing generalization in its various forms, as well as the related notion of evidence-transfer. The next three papers will describe applications of the PCSIM in local communities in USA and Kosovo. One paper will describe application of mixed methods in local schools of New Orleans to develop and evaluation school-based mental health programs; the second paper will describe application of the model in Atlanta to address bullying in schools; a third paper will describe how PCISM and use of large data platforms can be used to establish a pre-school curriculum (age 5-6) for the nation of Kosovo, wherein localized inquiry will serve as a springboard for later adoption across the nation. The last paper will critique the application of PCISM in different international settings to develop curricula and school-based intervention settings. Audience members will be exposed to advanced mixed methods application that can help social scientists address matters of context when developing and studying interventions, and issues of generalization and transfer when thinking about evidence-based interventions.

**Development of Mix Methods Study Support Tool for Academic Research (m-STAR-21) in Nursing**

Tomoko Kamei, St. Luke's International University, Tokyo, Japan

Yamamoto, Yuko (Musashino University, Tokyo, Japan); Kawakami, Chiharu; Kanamori, Takuya; Meguro, Satomi (St. Luke's International University, Tokyo, Japan); Itoi, Waka (Teikyo University of Science, Tokyo, Japan)

August, 24, 10.00 - 11.30, U14

Background and Purpose

Most courses in the Graduate School of Nursing in Japan include nursing research as a subject, and students learn qualitative and quantitative study designs, but very few hours are spent on learning mixed methods. The integration of both qualitative and quantitative data is beneficial in the context of nursing for deepening the understanding of nursing and/or vulnerable people’s conditions and complex health and welfare situations. It is, therefore, imperative for nursing courses to expand the study of mixed methods rather than of single research methodologies. We have developed a support tool that can facilitate mixed methods study for graduate-level nursing students.

Methods

We employed three steps for developing mixed methods study support tool. The first step was literature-based analysis for clarifying how to integrate both qualitative and quantitative data in a single study. We reviewed volume 1, 2007 to volume 10, 2016 of the Journal of Mixed Methods Research (JMMR) and screened articles that used mixed methods and integrated qualitative and quantitative data with joint displays. We then hand-searched and added a few other literatures. The joint display was classified according to the report by Creswell (2015). The second step was the constriction of the support tool in accordance with nursing research steps, and the inductive formation of the tool. In the third step, we tested the tool among graduate nursing students for assessing its user-friendliness.

Results

We reviewed 257 articles obtained from JMMR and identified 12 articles that used integrated methods with joint displays. Four other articles were identified by hand-searching, providing a total of 16 integrations for the analysis and classification. Of these, six articles used side-by-side type joint display, four used theme-by-statistics, and one used follow-up results joint display (Creswell, 2015). We identified one new joint display type named data conversion and four diagram types.

We formulated a 21-item Mix Methods Study Support Tool for Academic Research (m-STAR21), which contains the following: (i) essentials of the mixed methods study involving philosophical background (3 items); (ii) design of mixed methods study (3 items); (iii) collect and analyze the qualitative and quantitative data of mixed methods study (5 items); (iv) integration of qualitative and quantitative data (4 items); (v) research results presentation using joint display integration (3 items); and (vi) discussion of the study involving meta-inference and study limitations (3 items). Lastly, we displayed the results of self-evaluation in a hexagon in the m-STAR21 sheet.

One graduate student used the m-STAR21 in a study that explained quantitative data with qualitative data, and we found that all items could be filled in and that it was easy to use.

Discussions

We suggest the use of m-STAR21 because it is possibly a supportive tool for designing nursing research using mixed methods. Further study is required for testing its validity.

**A Mixed-Methods Study to Explore the Beliefs, Preparedness for, and Utilisation of Evidence-Based Practice (EBP) among Nurses and Midwives in the Republic of Ireland: A PhD work in progress**

Joanne Cleary-Holdforth, Dublin City University, Dublin, Ireland

August, 24, 10.00 - 11.30, U14

Evidence-based practice (EBP) is an approach to healthcare that combines the use of the best available evidence, the healthcare professional’s expertise, and patient preferences/values, when making healthcare decisions. Application of EBP in healthcare yields economical delivery of optimal patient outcomes, standardizes practice, enhances practitioner job satisfaction and empowerment and is therefore a particularly relevant concept in the current climate. Despite this, there is little evidence of EBP among healthcare professionals, including nurses. In the absence of EBP in healthcare, questions may arise in relation to the standard of care provided, the answers to which may not always be satisfactory or indeed defensible. It is therefore paramount that care afforded to patients is always based upon the best available evidence, in order to ensure optimal outcomes for all concerned. Integral to the success of any EBP initiative are the individual practitioners who deliver patient care and the organisations in which they work. Practitioners require relevant knowledge and skills to apply EBP to patient care delivery. This is particularly important for nurses and midwives, one of the largest groups of healthcare practitioners, and who are the key focus of this study. Furthermore, the organisational culture must be open and ready to embrace and support EBP. In order to make EBP a reality in nursing and midwifery practice, its implementation must be tackled at organisational and individual levels within both the clinical and educational settings responsible for nurse and midwifery education. The current EBP beliefs and utilisation levels among nurses and midwives along with the organizational culture and readiness within these settings must be established in order to determine the current situation and the best way forward in the Irish context. Furthermore, the factors that influence nurses’ and midwives’ utilisation of EBP need to be explored. In order to do this, a nationwide, sequential explanatory mixed methods study was designed and is currently underway in the Republic of Ireland. Quantitative data have been collected from under-graduate nursing and midwifery students and lecturers in nine Higher Education Institutes in Ireland, along with staff nurses and midwives and nurse and midwife managers in affiliated clinical services. Quantitative data analysis has to date yielded fascinating findings in relation to the beliefs and utilisation levels of EBP among nurses and midwives in both the educational and clinical settings. These quantitative findings will not only inform the sample selection and data collection for the qualitative phase of the study, be invaluable in the development of an implementation strategy targeted at individual and organisational levels to foster a culture of EBP use among nurses and midwives within the Irish healthcare system. This paper will present a detailed account of the quantitative findings, a discussion of how the quantitative and qualitative components are integrated, as well as an overview of the plans for the qualitative component of this sequential explanatory mixed methods study.

**Nurse researchers' views on the quality of mixed methods research: A qualitative study**

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Paré, Marie-Hélène (The Qualitative Analyst, Barcelona, Spain)

August, 24, 10.00 - 11.30, U14

In recent years, mixed methods research (MMR) has emerged as a unique research approach for understanding the complex nature of nursing science. Nursing phenomena are holistic in nature, and MMR designs can be particularly useful for addressing the multidimensional aspect of problems that nurses face in clinical practice. Furthermore, by broadening the evidence base for nursing, MMR offers an opportunity to generate nursing knowledge with greater relevance and more transferable to practice. In order to ensure that the potential of MMR for generating evidence-based nursing knowledge is achieved, MMR studies conducted in nursing must adhere to the quality principles specifically devised for MMR. The current state of the quality of MMR in nursing is, however, problematic. On the one hand, most of the published works on MMR quality are from the social and behavioural sciences and, on the other hand, the quality criteria suggested in the few works published to date by nurse authors are cross-disciplinary in nature. Not being nursing specific, these works provide little guidance to nurse researchers and practitioners conducting and/or appraising MMR studies. As argued by Thorne (2001) in relation to qualitative research, the lack of a discipline-specific approach to quality assessment in nursing research may be problematic given that what constitutes good research as well as relevant knowledge for scholars and practitioners is inherently shaped by the conventions and purposes dominant in each academic discipline. In the particular case of nursing, its applied nature demands a type of knowledge which is easily transferrable to practice and which aims at improving the quality of life of the patients. In this study, we aimed to advance the nursing-specific knowledge on MMR quality by describing how nurse researchers operationalize and conceptualize the quality of MMR. An international sample of 13 nurse researchers from six countries who had authored at least one methodological paper on MMR were interviewed by telephone and Skype. The study findings revealed (a) a contradiction between the claims that the criteria for assessing the quality in nursing science should be nurse-specific (Thorne, 2001) and the generic criteria mentioned by our participants to assess the quality of MMR in nursing studies; (b) an agreement about the need of reaching a consensus on a universal, cross-disciplinary, set of quality criteria for conducting and appraising MMR; (c) that quality criteria should be operationalized in the form of checklists given their accessibility to practitioners and novice nurse researchers; and (d) that nurse researchers face a number of obstacles -such as the contingencies of research practice or the lack of consensus in the MMR terminology- in the development of quality frameworks for MMR. The study findings contribute to the quality appraisal of MMR studies made by nurse researchers and practitioners, as well as future works on the topic of the quality of MMR within nursing science.

**Home Care Admission Information That Nurses Need and That Nurses Have: A Mixed Methods Study**

Paulina Sockolow, Drexel University, USA

Wojciechowicz, Christine (Drexel University, USA); Holmberg, Annika (University of Pennsylvania, USA); Bass, Ellen; Potashnik, Sheryl; Yang, Yushi (Drexel University, USA); Bowles, Kathryn (University of Pennsylvania, USA)

August, 24, 10.00 - 11.30, U15

For older people who transition from hospital to home in the United States, home care is an increasingly important and effective way of managing chronic illness with skilled nursing care in the home. Communication between clinicians across care settings is fundamental for continuity of care. Poor communication of patient information is acknowledged to be a root cause of sentinel events. However, the home care admission often starts without important information needed for formulation of the plan of care. During a study investigating nurse decision making during home care admission, the information deficit of transitions in care information to home care admission nurses became evident.

METHODS. The research team investigated home care admission information from two perspectives. We qualitatively analyzed information that nurses needed during a home care admission, as reported during a focus group. Also, we quantitatively analyzed information that nurses had access to during an admission. During observations of 12 admissions at a home care agency, the research team gathered copies and made photographs of the documents the admission nurse had access to when the nurse began the admission. The mixed methods research design was a convergent parallel design with the qualitative data as primary. We mixed data by connecting data: We mapped the qualitative and quantitative data sets to an international specification for transitions in care information, the Continuity of Care Document (CCD). At least one data element was selected from each of the 17 clinical information subsections to yield 22 data elements.

RESULTS. The information that homecare nurses said they needed during an admission mapped sufficiently (90%) to the CCD. Regarding the information that nurses had access to during an admission, no observation had all the CCD information present, as 14% of CCD information were missing on all documents across the observations. Specific CCD information was missing in varying amounts across the three types of documents: 23% of CCD information matched fields on the Intake form and tended to be present on all 3 documents; 18% occurred only in the Referral documents; and 45% occurred on the Referral and/or Discharge documents but not the Intake form. Some important information was universally available (i.e., Problems, Plan of Care) due to presence and completion on the Intake form. However, information related to Medication, Social History, Functional Status, and laboratory Results had varying degrees of missingness across the three types of documents.

DISCUSSION. Nurses looking through the admission documents would have been unable to find all the information they needed, as no admission had all the information nurses said they needed, nor all the CCD-related information in the admission documents. Important information (e.g., Medication) sporadically occurred in two types of documents which raises the question, among the documents the admitting nurse has access to, what is source of truth for the medication list? The issue of nurses searching among pages of documentation for information which may not be present introduces patient safety concerns of increased risk for errors.

**Is There A Dose Effect of An Early Palliative Care Intervention for Advanced Heart Failure Patients and Caregivers?**

Rachel Wells, University of Alabama at Birmingham, Hoover, USA

August, 24, 10.00 - 11.30, U15

Objectives: Examine the effect of intervention dose using a mixed methods design of an early palliative care intervention for advanced heart failure.

Original Research Background: Heart failure is a progressive condition with considerable symptom burden, reduced quality of life, and unpredictable disease trajectory affecting 6.5 million adults in the United States. Recent guidelines recommend the introduction of palliative care with heart failure care as patients often face significant symptoms, difficult health decisions, and substantial caregiver burden. Prior research supports integration of palliative care with traditional heart failure care, but there is limited evidence about whether the dose of the palliative care intervention influences patient and caregiver outcomes. Yet, dose has been identified as imperative for intervention success. Intervention dose is a key research priority especially when translating research findings into practice.

Description of Project: The proposed study will use an explanatory concurrent mixed method design to gain an in-depth understanding of the aspects and effects of palliative care intervention dose. The research aims of the proposed study are: qualitative strand- 1) What are study participants’ experiences with different components of a heart failure complex palliative care intervention?, 2) Which intervention components were most beneficial in achieving patient and caregiver outcomes?, and 3) Which intervention components were least helpful in achieving patient and caregiver outcomes?; quantitative strand- 1) Determine the relationship of intervention dose with advanced heart failure patient-reported quality of life and mood (depression/anxiety) and lower symptom burden and resource use at 8- and 16-weeks after baseline, 2) Determine the relationship of intervention dose with improved advanced heart failure caregiver-reported quality of life, self-reported health, and mood (depression/anxiety) and lower caregiver burden at 8- and 16-weeks after baseline, and 3) Explore mediators and moderators of intervention dose content and patient and caregiver outcomes

Methods: Consistent with explanatory mixed methods design, we will use constant comparative descriptive analysis to identify participant themes related to the intervention overall experience, facilitators and barriers of intervention completion, and most beneficial and least helpful components of the intervention. Quantitative analysis will examining dose effects using classification tree analysis and regression. Qualitative and quantitative outcomes will be integrated during analysis through the use of a matrix table in order to fully explain aspects of dose that inform patient and caregiver outcomes.

Conclusion: Understanding the role of palliative care intervention dose will help evaluate effects of current intention-to-treat palliative care studies and identify the essential quality and quantity of the intervention to target for future development.

**Home Care of Elderly Persons with Disabilities in Trinidad - Using a Convergent Mixed Methods Design to Understand Households' Views**

Bephyer Parey, The Sir Arthur Lewis Institute of Social and Economic Studies, St. Augustine, Trinidad and Tobago

August, 24, 10.00 - 11.30, U15

Home care is the pillar of care for the elderly in Trinidad. Policies which encourage home care should reflect the views of family members. Using a convergent mixed methods design, this paper aims to determine the views of 890 households in Trinidad regarding the care of elderly persons with disabilities and the reasons for these views. Merged findings indicate that households agree with the inclusion of elderly persons with disabilities within the home due to the perceived level of comfort and care there. The paper also aims to determine the factors which would support and hinder the care of elderly persons with disabilities by family members, and these results are discussed in terms of the required government provision to promote successful home care policy for elderly persons with disabilities in Trinidad.

**A concurrent mixed method study describing caregiver characteristics of stroke patients in Singapore.**

Shilpa Tyagi, Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore

Koh, Gerald Choon-Huat (Saw Swee Hock School of Public Health, NUS, Singapore, Singapore)

August, 24, 10.00 - 11.30, U15

AIM: To describe the sociodemographic and caregiving related characteristics of caregivers of stroke patients across different caregiver identities (spouse, sibling, adult-child and others).

BACKGROUND: Caregivers of stroke patients adopt multiple roles, including being navigators of healthcare system. Studying trends of healthcare utilization by patients post-stroke, we found caregiver identity to be associated with hospitalization and emergency service use, with spousal caregivers being associated with lowest hospitalization risk. Current analysis explored the differences across caregiver identities to understand the observed association.

RESEARCH DESIGN: A concurrent mixed methods design (N=272). Variables chosen for current analysis were extracted from a prospective cohort. Quantitative variables covering socio-demographic characteristics, perceived burden, coping strategies, were analysed using chi-square test and one-way ANOVA. Qualitative data covering caregiver reported positive caregiving effects was analysed using content analysis. Integration was achieved during analysis and reporting results.

RESULTS: Joint display was used to achieve integration in reporting results from both quantitative (proportions and mean scores) and qualitative (quotes) strands across different caregiver identities. While proportion of females was highest in sibling caregivers (90%), it was lowest in adult-child (63%) caregivers (p=0.010). Taking stroke patient’s disability level as a proxy of caregiving demands, such differences were highlighted by proportion of moderate to severely disabled care recipients, being 50%, 74%, 79% and 90% respectively for spousal, adult-child, others and sibling caregivers respectively (p<0.001). Spousal caregivers reported lowest caregiving burden, followed by others, adult-child and sibling caregivers (p=0.036). Under appraisal and coping, spousal caregivers had lowest positive care management strategies score followed by others, adult-child and sibling caregivers (p=0.041). Perceived social support score was lowest for sibling and spousal caregivers whereas structural support measured by presence of domestic help was highest for sibling and spousal caregivers. There were statistically significant differences across caregivers in expressed need for different resources with spousal caregivers least likely to ask for assistance or information. Main themes identified under positive effects of caregiving were enriched relationships, patient-centric and caregiver-centric. The sub-themes identified under enriched relationships were dyadic and familial, whereby former referred to improved relationship with the stroke patient and latter to improvement in family relations and strengthening of the family unit. The sub-themes identified under patient-centric theme were physical improvement and independence, those identified under caregiver-centric theme were self-growth, taking care of own health and caring for stroke patient. After qualitative data analysis, analytic integration was done by transforming this dataset into quantitative variables and exploring bivariate association with caregiver identity. About 50% of sibling, 35% of adult-child and 14% of spousal caregivers reported improved family relationships (P<0.001). Though the proportion of spousal caregivers reporting patient-centric positive caregiving effects along with taking care of own and patient’s health were highest (10%, 17% and 15% respectively), this was not statistically significant.

CONCLUSION: Our study reported differences in caregiver attributes across different caregiver identities which will guide future efforts to expand our research on caregiver determinants of stroke patient’s healthcare utilization and further explain our findings based on different caregiving experiences across stroke patients.

**Using an Embedded Mixed Methods Design with Q Methodology to Study Stakeholder Perceptions of Rural Entrepreneurship Ecosystems**

Jennifer Johnson Jorgensen, University of Nebraska-Lincoln, Lincoln, USA

Zimbroff, Andrew

August, 24, 10.00 - 11.30, U16

Entrepreneurship is essential to maintaining rural community vitality across the world. An investigation of individual rural ecosystems is essential, as entrepreneurs are largely influenced by local entities specific to one’s own ecosystem. By understanding the perceptions of stakeholders in an entrepreneurship ecosystem, a rural community can overcome the perceived barriers entrepreneurs face when starting a business. Investigating perceptions among small populations can be a challenge, however, if adhering to a single research approach. To date, the study of stakeholder perceptions in rural entrepreneurship ecosystems is virtually nonexistent, as many studies investigate urban areas or group many rural areas into one large ecosystem. Thus, the purpose of this study was to 1) explore and explain the perceptions that rural community stakeholders have regarding their local entrepreneurship ecosystem, and 2) develop a standardized approach for investigating perceptions toward entrepreneurship ecosystems across the world.

Past literature states that multiple factors contribute to a robust entrepreneurship ecosystem. By using an embedded mixed methods approach, a comprehensive view of the multiple factors required of each ecosystem was obtained. To begin, stakeholder participants completed a survey, which provided insight into their preconceived beliefs of global entrepreneurship. This data was used to supplement the current study’s findings and was compared to external global datasets. To rigorously and effectively measure subjective stakeholder perceptions, the research team used Q methodology which is considered a mixed method in itself (Newman & Ramlo, 2010). The Q methodology portion served the primary purpose of this study. After the survey was finished, participants were asked to rank each Q set statement within a Q sort, which is the measurement tool for perceptions. Once the Q sort was completed by stakeholders, the Q sort responses facilitated the interview questions. Themes that emerged from the interview data further explored the reactions of the Q sort selections. Once data collection was complete, data analysis ensued.

Data analysis for the survey used Excel software, while the Q sort used PQ Method software. PQ method software facilitates an exploratory factor analysis to identify subjectivities (van Exel & de Graaf, 2005). The factor analysis employed for a Q study correlates participants over the number of Q sorts, instead of a traditional R analysis which correlates statements over the participants (Duenckmann, 2010; Stephenson, 1953), resulting in participant patterns (Watts & Stenner, 2012). To analyze the qualitative thread, MaxQDA was used to organize and code transcribed interviews, and relevant themes emerged. Comparisons were made between the individual rural ecosystems investigated in this study. Findings will guide future actions taken by stakeholders, entrepreneurs, incubators, and governmental bodies.

**Measuring Entrepreneurial Orientation: A Mixed Method Approach of Developing Entrepreneurial Orientation Measurement Tool of Nepalese MBA student**

Prabin Raj Gautam, Kathmandu University School of Education, Lalitpur, Nepal

August, 24, 10.00 - 11.30, U16

Entrepreneurial Orientation (EO) is regarded as a core attitude of being an entrepreneur. EO is a latent contextual construct which cannot be measured directly. For measuring EO in Nepalese academic sector, this study provides the locally contextualized EO measuring tool by incorporating both qualitative and quantitative approaches. This study extends and adapts Adcock and Collier’s theory to produce quantitative tool and validate and revision it through integrated and cyclical process by employing a mixed methods approach. It provides a systematic process of how to develop a quantitative EO measurement tool in local context. The process, measurement levels and empirical tests have been demonstrated deeply. The grounded theorizing, case studies and Delphi technique are employed to carry out qualitative part and factor analysis is used to confirm the items of measuring EO constructs quantitatively. The validity and reliability also have been tested. Finally, it provides a quantitative tool of measuring EO of Nepalese MBA students. This article contributes to a mixed method research body of knowledge. The methods used in this study are also applicable to produce local measurement tools in another study area too. The mixed method of developing a quantitative measurement tool is briefly discussed.

**Microfinance and its role in alleviating poverty - Using mixed-methods to assess the socio-economic impact on borrowers’ livelihoods**

Asad Ghalib, Liverpool Hope University, Liverpool, UK

August, 24, 10.00 - 11.30, U16

This paper is based on an impact assessment study that sought answers to two questions: first, which categories of the poor are being served by microfinance institutions: are they the very poor, middle poor or less poor ones? Second, whether household access to microfinance reduces poverty, and if so, to what extent and across which dimensions of well-being. The study was based on direct observations and primary data gathered from semi-structured interviews of 1,132 households across 11 districts in the rural areas of the province of Punjab in Pakistan. Methodologically, the research employed a quasi-experimental research design which employed data collected by interviewing both borrower (treatment) and non-borrower (control) households. Sample selection biases were controlled by matching propensity scores.

This paper discusses the limitations of using either qualitative or quantitative data alone to interpret survey responses and observations from the field. It explains how and why the mixed-methods approach offers a solution to this predicament. The paper develops further to provide a detailed account of how the mixed-methods approach was used to collect, analyze, integrate and interpret both qualitative and quantitative data.

Semi-structured interviews were administered at the household level, along with focus group discussions and ethnographic observations to triangulate qualitative and quantitative data collected in the field. These different, but complementary research methods provided both the breadth and depth of understanding. The primary purpose of this design was to obtain “different but complementary” data on the same topic, which made the method useful to compare results or to validate, confirm, or corroborate quantitative results with qualitative findings. What respondents say during interviews can be substantiated by what data analyses show and what was actually observed in the field, and vice versa. The paper discuss in detail how various quantitative and qualitative research techniques were used during the course of this research and how triangulation was applied through the convergence parallel model. The paper concludes by highlighting how the mixed methods approach proved particularly instrumental in reaching a well-informed analysis and interpretation of the data collected.

**A complementary research design: Aims, benefits, and pitfalls.**

Andrea Hense, Sociological Research Institute Goettingen, Goettingen, Germany

Schork, Franziska (Institute for Employment Research); Gebel, Tobias

August, 24, 10.00 - 11.30, U16

Layoffs and subsequent reemployments by the same employer (“recalls”) are seen as a discontinuous employment relationship that has hardly been investigated. We implemented a sequential mixed methods design to examine the determinants and consequences of recalls. The design combined qualitative and quantitative approaches as well as secondary analyses and field research. Firstly, we analyzed survey data. Secondly, we conducted narrative interviews with recalled employees and semi-structured expert interviews with employers. Third, we implemented a quantitative survey among employees. On the one hand, the design can be described as a complementary design because quantitative and qualitative analyses dealt with the same phenomenon and research questions but used different methods to get different insights. On the other hand, it can be seen as a development design as results of our secondary analyses were used for the sampling of our qualitative interviews, and findings of these interviews were used for the construction of a quantitative questionnaire.

First, secondary analyses of the German Socio-Economic Panel Study (SOEP) and data from the German Institute for Employment Research (SIAB, LIAB) delivered results on individual and operational determinants of recalls and their consequences. We used these mass and panel data for causal explanation based on probabilistic inference and for information about the distribution of recalls in certain groups, industries, and regions. We identified causal links between variables using panel regression analyses, but were not able to examine the processes that explain why variables are linked together. Furthermore, quantitative research is restricted to the variables in the dataset and our knowledge/assumptions about important factors. Thus, we secondly conducted expert interviews within companies that make use of recalls and narrative interviews with recalled employees to gain further insights into their rationale, appraisals, and practices. The SOEP was used to obtain access to recalled employees within different contrast groups, and IAB’s datasets were used for the sampling of the expert interviews. Purposive sampling based on the results of the secondary analyses was combined with theoretical sampling based on the qualitative analyses. The qualitative findings were used to develop the questionnaire for our own quantitative survey. The third component of our research was a standardized telephone survey of employees. This was used to analyze the statistical effect of different determinants and outcomes of recalls which had been discovered during the qualitative research.

The results partly converge or complement one another. The presentation will discuss our aims conducting a complementary research design, its benefits and pitfalls. We will give examples how the joined analysis enhances the interpretation of recalls. Moreover, we will talk about some problems that we were facing while we conducted our research and did mixed method analysis.

**Social, Economic, and Environmental Justice: Mixed Methods Inquiry in Troubling Times**

Donna Mertens, Gallaudet University, Beltsville, USA

Sharlene Hesse-Biber, Jori Hall, Janet McIntyre-Mills

August, 24, 10.00 - 11.30, U18

Symposium

We show how mixed methods inquiry can provide an evidence-based inquiry inclusive of subjugated voices in a time of extreme political turmoil. We offer an innovative commentary on ways mixed methods researchers can raise issues for social justice that provides data that supports the need for policies that are supportive of all people, especially those who are marginalized. We have an interest in broadening our mixed methods social justice inquiry to environmental and economic justice as well.

Transformative Mixed Methods Policy Research in Times of Political Turmoil, Donna M Mertens

Researchers who focus on the development and evaluation of policy face many challenges, especially in a political climate that is not amenable to the use of data from systematic inquiry for decision making purposes. I propose the use of a transformative framework that prioritizes human rights and social, economic, and environmental justice as guiding principles for the design and conduct of policy research that take into account the cultural complexities that surround policy making and implementation.

The Social Justice Turn in Mixed Methods Inquiry: Theoretical perspectives that privilege a social justice agenda in turbulent Social Development Environments, Sharlene Hesse-Biber

The infusion of mixed methods inquiry will be explored with a social justice mission. Tenets of mixed methods praxis that comprises a vision of what social justice-driven mixed methods inquiry looks like in theory and practice will lead to exploring feminist principles of praxis as a way to unearth subjugated knowledge concerning the range of social justice issues imprecated with regard to women and other marginalized groups. Two case studies illustrate a social justice perspective onto mixed methods inquiry focused on environmental and social justice.

The Conscientious Researcher: How Pragmatism Enhances Social Justice Oriented Mixed Methods Inquiry in Times of Political Unrest, Jori Hall

How can mixed methods researchers respond to issues of social justice in the midst of political unrest and increased demands for evidenced-based research? To address this question, this paper offers pragmatism as a research paradigm. Specifically, the paper will discuss how the pragmatic notion of conscientiousness—continuously reflecting on inequities as well as the application and outcomes of mixed methods research—can enhance inquiry and be responsive to marginalized voices.

Social and Environmental Justice Mixed Methods Research in Australia and Indonesia, Janet McIntyre-Mills

A mixed methods symposium spanning Adelaide, South Australia and Bandung, West Java focused on social and environmental justice to address the challenges of re-generation and re-presentation of marginalized groups--in particular generations x and y. This presentation will explore mixed methods in relation to two themes that emerged: 'We are the land’ and ‘Getting lost in the city’

**Preserving the Epistemology of Mixed Methods Research in Grant Writing**

Nancy Gerber, Drexel University, Philadelphia, USA

Plano Clark, Vicki; Ivankova, Nataliya; Elizabeth Creamer; Cheryl Poth

August, 24, 10.00 - 11.30, U22

In academia conducting and disseminating peer reviewed impactful research is considered to be central to success and advancement. Within that context one of the most important monikers of academic advancement is an award of significant external research grants. Plano Clark (2010) states that “… funding mechanisms play an important role in research because they directly influence the questions that researchers study as well as the methods used” (p. 428). Traditionally, in western culture, fundable research favors large experimental or randomized control trials, which yield objective and generalized knowledge (Creswell & Plano Clark, 2011; Leavy, 2015). Recently, other methodologies such as qualitative and mixed methods research (MMR) have emerged and are competing with the dominant paradigms for major government funding. Coyle et al. (2016) noted a consistent increase in the number of funded MMR grants from N=226 in 1997-2008 to N=535 in 2009-2014. However, MMR projects continue to face challenges due to skepticism and bias by researchers, reviewers, agencies and socially contextualized priorities that influence the conceptualization, direction, and focus of MMR studies (Plano Clark & Ivankova, 2016).

Despite the increase in the number of funded MMR projects they still represent a small percentage of government-funded research in the USA. This is partially due to the noted challenges in writing a grant that inclusively and authentically represents the epistemological and methodological integrity of the MMR approach. According to the Best Practices for Mixed Methods Research in Health Sciences (Creswell, Klassen, Plano Clark, & Clegg-Smith, 2011), MMR “involves the intentional collection of both quantitative and qualitative data and the combination of the strengths of each to answer research questions” (p. 5) with the understanding that “integration of quantitative and qualitative data maximizes the strengths and minimizes the weaknesses of each type of data” (p. 5). Therefore, in writing grants that use the mixed methods approach, it is essential that researchers represent the strategies for their MMR research design not only as the collection and analysis of the quantitative and qualitative data strands, but also as an interdependent analysis of the data sets required to achieve the optimal mixed methods result. Plano Clark (2010) and Creswell et al. (2010) identify key language and concepts that succinctly describe the design, quantitative and qualitative methods, the timing and juxtaposition of the two data strands, prioritization, and strategies for integration.

With increasing recognition of the value of MMR to address the complexities of critical issues in the health and social sciences in concert with the identified challenges for obtaining the necessary funding, it is incumbent upon mixed methods researchers to examine current practices in representing MMR within the current funding climate (Creswell et al, 2010; Drabble, O’Cathain, Thomas, Rudolph, & Hewison, 2014; Plano Clark, 2010). In this panel we examine current funding trends, opportunities, and challenges of completing a successful MMR grant application with pragmatic solutions, recommendations, and case examples.

**Development of a realist evaluation model for mission-based school turnaround: A mixed methods approach**

Maribel Gaite, University of the Philippines, Quezon City, Philippines

August, 24, 10.00 - 11.30, SE33

The study focused on the development of a realist model for evaluating mission-based school turnaround using a concurrent mixed methods retroductive design. With the end view of exploring the methodological potential of critical realism for causal theory building and explanatory analysis, initial program theories were elicited from five cases of contrastive school turnaround leadership. Realist in-depth interviews of program implementers and other key stakeholders, along with other sources of evidence, provided illuminating within-case and cross-case comparisons for causal explanation in mission-based implementation settings. Context-Mechanism-Outcome Configurations (CMOCs) were conjectured to operationalize the generative mechanisms of school turnaround outcomes per case. Through retroductive analysis, shared elements in the CMOCs were iteratively refined into a realist evaluation model, specifying how turnaround was most likely to succeed: A mission-based school can attain turnaround (Distal Outcome) when a clear vision, mission and core values are continually embraced, communicated and pursued by competent and caring leadership (Mechanism-Resources), together with other empowered participants (Mechanism-Reasoning) participants in a sustainable learning and workplace environment (Contexts) which, builds trust, capacity and commitment (Mechanism-Responses), and results in improved faculty and student performance, enrolment, financial viability (Proximal Outcomes), and sustainability of mission (Distal Outcome). Construction of CMOCs was made more systematic by further deconstructing Context (C) into key stakeholders and structures; Mechanisms (M), into Resource-Reasoning-Response; and Outcomes (O), into leading and lagging indicators. This facilitated the integration of qualitative and quantitative analyses for a contextual understanding of turnaround mechanisms that can inform future mission-based program development, implementation and evaluation.

**Mixing data and concepts of antidiscrimination for research on the relevance of 'gender' in the recruitment process of school leaders in Germany**

Katja Kansteiner, University of Education, Weingarten, Germany

August, 24, 10.00 - 11.30, SE33

In educational research the proportion of men and women in school leadership has been well discussed German speaking countries as much as internationally (Kansteiner-Schänzlin, 2002; Rauch & Biot, 2003; Bobeth-Neumann, 2013; Msila, 2013; Zimmermann, Windlinger & Hostettler, 2014; Bruneforth et al, 2015). Additionally, the discourse has tried to sort out characteristics of female and male leadership (Reynolds, 2002; Bass, 2008; Krüger, 2008; Kansteiner-Schänzlin, 2010; Schratz et al, 2015), partly reinstalling gender stereotypes. Efforts on empowering women for leadership have been made (e.g. programs of the Ministries of Education in Germany, initiatives of the AASA, USA). Due to strategies of equalization the number of female school principals has risen. However, among applicants in Germany the rumor of discrimination of women in promotion sustains.

In an exploratory sequential QUAL → QUAN approach (Cresswell, 2015) the research project aspires to ascertain which categories of difference - gender and others like age, religion etc. - become relevant during the recruitment process of school leaders. Intending to assure a deconstructive mindset within the research the project conjuncts perspectives in the theoretical-conceptual basis as much as in the methodical approach: (1) A theory of gender that acknowledges diversity behind the category of gender follows the idea of the social construction of gender (Archer & Lloyd, 2002; Jäckle, 2009). (2) The linking of the concepts of Gender Mainstreaming and Diversity Management as different strategies for antidiscrimination (Krell, 2009) which in combination offer the distinction of difference and differentiation (in German also called ‘Dramatisierung’ and ‘Entdramatisierung’, e.g. Kansteiner, 2015) and thus assures that gender is not priorly stated as the relevant category. (3) Mixing research methods in a multistrand design (Teddlie & Tashakkori, 2009) with data collection by interviews with members of relevant groups in the recruitment process, developing hypothesis and verify them by data collected through online questionnaire afterwards. Additionally, a step of communicative validation has been included as the results of the QUAL strand were discussed at a conference on empowerment of women and the response of the participants who are mainly equal opportunity commissioners. Their complementary views have been taken in regard designing the questionnaire.

The presentation will first give an insight into the results of the QUAL strand according to the question of relevance of gender and put it in contrast to other unexpected findings. Thus it will show that the QUAL strand not only serves the profound development of the QUAN instrument (referring to Langfeldt & Goltz, 2017, qual → QUAN) but also provides a deeper understanding of the complexity of recruitment process and therefor deserves the classification as an equal-status mixed methods approach (Schoonenboom & Johnson, 2017) with equal weighting. Then the presentation will show how the communicative validation brought up further meaningful aspects which were integrated yieldingly in the quantitative data collection. Finally, the relevance of the category of gender will be interpreted taking the QUAN data into consideration.

**The challenge of diversity in educational management - research in Polish context**

Joanna Kotlarz, Uniwersytet Jagiellonski, Krakow, Poland

August, 24, 10.00 - 11.30, SE33

The school, like no other public institution, reflects the specific structures and processes that take place in the society. If we assume that diversity is a quality of modern society, it is also a quality of the school. The purpose of the study was to examine how does the school fulfill the task of preparing students to live in diverse society. The mix methods approach was used to explain what are the student’s attitudes towards diversity, how does the school management decisions embrace the value of diversity and define those areas which meet the criteria of diversity.

**Integrating qualitative and quantitative data to evaluate the multiple perceptions and experiences of actors in a school-reform process understanding**

Mariella Knapp, Institut für Bildungswissenschaft, Wien, Austria

Kilian, Michaela (Institut für Bildungswissenschaft, Vienna, Austria)

August, 24, 10.00 - 11.30, SE33

The aim of the study was to identify different understandings and meanings of a school-reform process and its perceived school-site specific effects in Austria. Concretely, the study addresses how different actors perceived and experienced a new school type, the New Middle School, which was implemented in 2008 and replaced the old Secondary I in Austria. School reform cannot be seen as a linear process, but as a complex setting. This is based on an understanding that schools implement guidelines differently, based on different local framework conditions and their interpretations of the school reform (Ball et al., 2012).

For this reason, it is important to focus on the different perceptions and experiences of the various participants affected by the school reform. There is no general view of the reality of school reform, but rather the specificity of each participant. Due to the meeting of the multiple realities of students, their parents, teachers and the school management, the location of the school becomes considerably important when the official guidelines of the school reform are translated into the expectations and goals of the specific school site. A mixed-methods approach, in the sense of an integration of qualitative and quantitative methods, can offer an opportunity to consider different facets and capture the various interpretations of the reform at the school level.

The study follows an explanatory sequential design, as the quantitative data was first collected to obtain an overview of students’ experiences in school and their perceptions of their school environment, followed by case studies to give a detailed illustration and clarification of how the different contexts of the schools determined their interpretation of the school reform. Our main assumption was that if the interpretations of the school reform proved to be similar from the different perspectives involved, this should also manifest itself in the development of the students and their perceptions.

At the analyzing stage two data sources - quantitative data from a questionnaire for students about their perceptions of learning at school and their social climate in the classroom at the 5th and 8th level (N = 821) and more detailed qualitative data from specific school sites (two case studies) - offering different types of perceptions were integrated and compared with each other. With the two qualitative case studies, teachers, teacher leaders, principals and parents were interviewed and once again the students’ perceptions of their school and learning experiences were recorded in a focus group (for each case study about 20 persons were interviewed). Teachers, teacher leaders and principals were asked about their experiences with the implementation process and, more specifically, with changes that occurred as a result of concrete reforms at the school site. The interview data was coded using topic analysis (Froschauer & Lueger, 2003) and reconstructive social research (Bohnsack, 2000).

By using a mixed-methods approach this study takes the context of the schools seriously (Thrupp & Lupton, 2006), and helps to understand the complexity of school-reform implementation that also supports modeling a context-specific school reform theory (Scheerens, 2016).

**Psychology of corrupt behavior in education system**

Ani Hovhannisyan, University of St.Gallen, St.Gallen, Switzerland

August, 24, 10.00 - 11.30, SE34

This paper discusses the problem of corruption in the Armenian higher education system from a psychological perspective. Corruption is a widespread practice in Armenia. It occurs at different levels of the higher education system, and as result affects the quality as well as the access and equity of education. Corruption has negative impacts not only on the system as a whole, but also affects individual values, attitudes and perceptions toward education, and life in general. Corrupt practices, namely bribery, nepotism and favoritism, and cheating and plagiarism performed by students are the focus of this investigation. All the above-mentioned forms of academic misconduct have been reported to be present and prevalent in Armenian higher education, but there is a lack of scientific research to investigate their characteristics and the factors that influence their occurrence. This paper aims to present the procedure and the results of research conducted within a framework of the Theory of Planned Behavior (TPB) (I.Ajzen,1991). The theory gives an opportunity to not only understand the psychology of academic misconduct, particularly the psychological factors that play a role and have a significant impact on both corrupt intentions and corrupt behavior, but also to be able to predict these kinds of behaviors. TPB provides a model which consists of five components; attitudes, subjective norms, perceived behavioral control, intentions, and behavior. It states that behavioral intentions (to perform or not to perform) are immediate antecedents of the action or the behavior in question. Except for unforeseen events, people are usually inclined to act according to their intentions. Even if the theory of planned behavior promises a deeper understanding of the psychology of corrupt behavior, the complex and sophisticated nature of educational corruption makes it difficult to use one single methodological approach to investigate it. Thus, a quantitatively driven mixed methods approach was employed, aiming to acquire a better and more comprehensive understanding of the underlying psychological factors of corrupt behavior. The quantitative and qualitative data was collected from 180 students who study in 4 Armenian public universities. Quantitative questionnaires have been formed based on the principles of TPB, while applying the six-component models of TPB adjusted by Stone et. al (2009). The sixth additional component justifications were added to the initial model with the purpose to enhance the explanatory value of the model. The qualitative questionnaires were formed based on open ended questions in order to get more detailed information concerning the problem in question. Both the quantitative and qualitative data was analyzed simultaneously. The quantitative data set was analyzed using linear regression analysis. The qualitative data was analyzed using qualitative content analysis. Quantitative findings shed a light to which extent students are inclined to perform corrupt behavior, as well as the main psychological factors that lead their behavior. Qualitative findings provide complementary data to the quantitative content by explaining and adding value to it. This paper also discusses the limitations of the research and the further possibilities of data integration.

**Student teachers cheating their way through training: A mixed methods study**

Eric ANANE, University of Cape Coast, Cape Coast, Ghana

August, 24, 10.00 - 11.30, SE34

This archival study examined the various forms of examination malpractices among student teachers in colleges of education in Ghana. Sequential iterative method is being employed. Thus, documentary analysis of 20 end-of semester examination results considered by the award committee of an awarding institution, involving three programmes: Diploma in Basic Education, Untrained Teachers Diploma in Basic Education and Sandwich Programmes were examined. Samples of 15 students involved in the study were drawn from the 50 colleges of education for a follow up episodic interviews to unravel the reasons behind students' actions. The most common exams malpractice was the use of foreign materials in the examination room. The study found that, pieces of papers with written notes related to the examination in question were the most prevalent form of foreign materials that were sent to the exam room to aid in the cheating. There were emerging ways of how students intended to cheat in examination rooms such as the use of android watches, writing notes on the skin, especially, inner thighs and the use of mobile phones which are connected to the internet. Some culprits also wrote ideas which related to the examinations they were writing on their hands. Some students were also found to have copious notes on their handkerchiefs and the tips of their clothing (i.e., shirts or dresses). A critical analysis of the archival information revealed that students sometimes paid about Ghs 1,000 (about $ 200) to invigilators and other racketeers to help them pass their papers. In terms of the courses students are likely to cheat, figures obtained from the 5-year documentary analysis show that students are likely to cheat in mathematics, science and English papers than other courses. This paper concludes on some suggestions to improve the systems of assessment in colleges of education to enhance the certificates and licenses issued to pre-service teachers in Ghana.

**Building Capacity to be Ethical: A Critical Enquiry Based in the South Australian Public Sector.**

Natalie Lewis, Ph.D. Candidate Flinders University, South Australia, Australia

August, 24, 10.00 - 11.30, SE34

Building the capacity for ethical praxis within the South Australian Public Service, is as vital to those who serve in the public interest as it is to the community. This research has identified a previously unknown conceptualisation about culture and ethos and their capacity to build upon one’s attitude towards ethics. The problem for ethics in the public sector is that there wasn’t much previous research. Firstly, I needed to identify the areas of concern to then be able to apply practical solutions to manage that. Ethics in the South Australian public sector had never before been researched in this way. A hypothetical oath has never before been researched in this context to find ways of improving ethics in the public sector. This article presents findings from a study comprising of established theories and research methods-mixed method research. This research seeks to expose the unknown culture and ethos and building capacity for ethical praxis in the South Australian public sector. This is important as the underlying sentiment and attitude of individuals, and the collective society must be acknowledged if we are going to achieve ethical praxis. Because of the number of negative stories that made print regarding the South Australian public sector it was important to research this area of concern. The results reflect upon the attitude of participants to learn new ways to push out existing boundaries of ethical praxis for the sake of the public interest.

**Ethical Leadership in Nepali Technical and Vocational Education and Training (TVET) Schools: A Convergent Mixed Methods Study**

Prakash C. Bhattarai, Kathmandu University School of Education, Lalitpur, Nepal

August, 24, 10.00 - 11.30, SE34

The study of ethical leadership is very important to cultivate professional practices and integrity in schools and their principals. This concern is particularly imperative to the principals of the Technical and Vocational Education and Training (TVET) sector in Nepal, where there is the need of immediate reform. Therefore, a convergent mixed method study was carried out to explore: (a) the perceptions of principals’ ethical leadership and its level, and (b) what contributed to the evolution of ethical leadership in principals.

This study featured a paradigmatic mixing of post-positivism and humanism with two equally prioritized parallel phases of data collection and analysis. Quantitative data were collected from the postal survey of a representative sample of 217 principals and 372 instructors. The qualitative data were collected from 9 TVET schools of 3 districts of Nepal by using case study protocol. “Textual description” and “word tables” were prepared for as the outcome of qualitative data analysis. Additionally, tables were developed as the outcome of quantitative data analysis by using mean and standard deviation. These analyses were followed by comparisons of quantitative and qualitative results by seeking dis/similarities within the findings. The findings were then interpreted with literature, theories and personal reflection.

The findings of this study support the literature’s assertion that care, justice and critique were the key dimensions in the perceptions of ethical leadership in TVET schools. In practice, however, principals did not demonstrate optimal care and justice to exercise their professional judgment fully. The ethics of critique was perceived to facilitate and legitimize ethics of care and justice, but its role was dominated by the culture of obedience and silence. The findings also revealed that ethical sensitivity was not consolidated in principals because it was the outcome of their exposure to social-cultural and educational settings and workplace but not of capacity building. Consequently, principals could not harness the benefits of a constructive critical role. In conclusion, each principal is unique in ethical decision making and thus she/he decides with his/her own micro model consideration of his/her own personal, interactional and organizational context.

The study has two main implications. First, policy makers need to abandon the current way of thinking to find the single and macro model of ethical decision making for every context, and they need to empower each principal to support his/her own unique micro model developed through consideration of personal, interactional and contextual elements. Second, convergent mixed methods researchers, who prioritize both methods equally, need to consider “methodology” as a “fifth decision” along with levels of interaction between the strands, their relative priority, timing, and the procedures for mixing.

**MMIRA Awards Ceremony and More**

Brigitte Smit, University of South Africa, South Africa

Creamer, Elizabeth

August, 24, 11.30 - 13.00, U10

Organizer of the Session: Dr. Elizabeth G. Creamer; Presenters Dr. Brigit Smit and Dr. E. G. Creamer

This 90-minute plenary session is designed to review the requirements and process for 2018 MMIRA Travel Awards and the 2018 MMIRA-MAXQDA Dissertation Awards, to recognize award recipients, and to allow them an opportunity to briefly share their research.

**Workshops**

Note: workshops require separate registration

**Applying Dialectical Pluralism in Mixed Methods Research**

Burke Johnson, Susan Tucker, Ed McLain, Ray Ivatt, Tony Onwuegbuzie

August, 24, 14.00 – 17.00, SE33

This workshop will engage participants with the dialectical pluralism approach to mixed methods research (Johnson, 2011, 2015, 2017). First, the workshop will explicate the theory of dialectical pluralism. Second, participants will use DP to interact with different ontologies, epistemologies, methodologies, methods, axiologies, while learning how to create new combinations on a project by project basis. Third, an implementation framework for applying DP will be presented which includes three phases: (1) *design phase*to identify and ensure the right people are involved; (2) *grow phase* to build the social infrastructure for successful DP; and (3) *perform phase* to maintain momentum and positive interaction. Participants have opportunities to build DP capacity at three levels: individual, group, and systemically. We will also illustrate collaborative logic modeling as one team-based strategy for dialoging with multiple perspectives and negotiating common visions. We emphasize how to meet multiple rigorous validity criteria while producing “win-win” solutions.

**Embedding Mixed Methods Research into Experiments**

John Creswell and Justine Wu

August, 24, 14.00 – 17.00, SE34

This workshop is for individuals who are conducting all forms of experimental research, whether in the health sciences or the social sciences.  It will focus on the multiple types of experiments and how mixed methods needs to be adjusted to fit the different models.  It will extend the current discussion about "mixed methods designs" and talk about one specific form of a complex design, the "Intervention Mixed Methods Design" (Creswell & Plano Clark, 2018).  It will begin by reviewing the evolution of research designs in mixed methods, assess some of the types of intervention or experimental designs (e.g., randomized controlled trial, the quasi-experimental design, the stepped wedge design, etc.), then discuss how to design an experiment or intervention with embedded mixed methods procedures.  Overall, the focus will be on the practice of developing mixed methods designs, and include diagramming the procedures, detailing how qualitative data flows into experiments, creating joint displays to report results, and using appropriate mixed methods language to describe the design. Participants are encouraged to bring their experimental projects to engage in hands-on activities during the workshop.

**Fully Integrated Mixed Method Research Approaches**

Elizabeth Creamer

August, 24, 14.00 – 17.00, SE41

This interactive workshop introduces fully integrated mixed method research (FIMM) as a methodology for integrating qualitative and quantitative approaches throughout the research process from its initial inception through its execution. Led by a faculty member with more than fifteen years of experience teaching mixed research courses, this workshop is targeted toward graduate students and early career researchers with little or no prior knowledge of mixed methods research practice. Learning goals for the course include to (a) review the distinctions between multi-method, mixed method, and fully integrated mixed method research; (b) distinguish major reasons for using a mixed method approach; (c) present dialectical pluralism as a paradigmatic grounding for mixed method research; and (d) describe strategies for mixing at all phases of the research process. Over the course of the workshop, participants will create a flow chart that identifies potential opportunities for integrating multiple sources of data in their own research projects. Participants who bring an idea about a mixed methods research project will find the workshop most useful.

**Integrating mixed methods analyses**

Pat Bazeley

August, 24, 14.00 – 17.00, SE42

The approach taken to integration of diverse data sources and analytical approaches in mixed methods studies is a crucial feature of those studies. Models of integration in analysis range from discussing separately generated results from different components or phases of a study together as part of the conclusion, through one method sequentially informing, expanding or confirming another, complementary combinations of data from different components and linking matched data sets to combination of data sources or conversion of data types to build a blended set of results. While different models of integration are appropriate for different research settings and purposes, an overcautious approach to integration can generate invalid or weakened conclusions through a failure to consider all available information together. Strategies for making the most of opportunities to integrate process and variable data in analysis, and to deal with dissonant or divergent results, in order to build strong and useful conclusions are explained and illustrated through reference to a variety of mixed methods studies from multiple disciplines.

**Meeting the challenges of ‘voice’ in writing up the results of mixed methods social inquiry**

Jennifer Greene

August, 24, 14.00 – 17.00, SE43

Different inquiry traditions have different rhetorical styles that guide our writing and reporting of results. Notably, postpositivist traditions privilege third-person accounts of what was learned, while constructivist traditions privilege the researcher’s authored narrative. When traditions are mixed, with what style should the results be written up and reported? This workshop will engage these challenges. The workshop leader will present selected ideas for writing up mixed methods results, to include arts-based approaches of narrative, poetry, and drama, as well as dialogic frameworks for conversations across different kinds of data and findings. Participants will contribute their own ideas to the writing-up challenges, using examples from their own research or the relevant literature. We will respectfully critique all of these ideas, toward a possible set of “writing it up” guidelines for the field. This workshop assumes an intermediate or expert level of expertise in mixing methods.

**Advanced Mixed Analyses**

Tony Onwuegbuzie and John Hitchcock

August, 25, 09.00 – 12.00, SE33

Several authors have written methodological works that provide an introductory- and/or intermediate-level guide to conducting mixed analyses.  Although all of these works have been useful for beginning and emerging mixed researchers, what is lacking are works that describe advanced-level mixed analysis approaches. Thus, in this workshop, we will provide a framework for conducting advanced-level mixed analysis approaches.  Further, we will expand on this framework, and then use it to introduce several new advanced-level mixed analysis approaches, comprising advanced quantitative-dominant crossover, qualitative-dominant, and equal-status crossover mixed analysis approaches. This session is applicable for doctoral students who are familiar with advanced-level statistical approaches and have experience conducting qualitative analyses. Also, this session is useful for (a) researchers, evaluators, and practitioners who conduct a variety of research studies and who are interested in using advanced-level mixed analyses that will allow them not only to extract more from the data that they have collected, but also to ask more complex research questions; and (b) faculty members and supervisors/advisors alike.

**Mixed Methods Data Analysis with MAXQDA (featuring Joint Displays)**

Udo Kuckartz

August, 25, 09.00 – 12.00, SE34

After a decade of developing mixed methods designs and design typologies, in recent time questions of data analysis are attracting more interest. This workshop will focus on the challenge of integration during the phase of analysis. Integration is the crucial point in mixed methods research; it can be realized in many different ways and joint displays play a major role for integration. The workshop is participatory-interactive and will focus on the different strategies of integration: Ten different strategies of bringing together qualitative and quantitative data will be discussed, e.g. side-by-side displays of results, qualitative exploration of extreme cases, quantitizing, qualitizing, thematic displays by quantitative groups, qualitative typology as grouping variable for quantitative data. It will be demonstrated how these strategies can be realized with the special mixed methods procedures of the software MAXQDA.

Participants are encouraged to bring a personal laptop. Workshop Participants will:

1. Understand the different ways integration can be achieved in the phase of analysis.  
2. Learn about joint displays as an important tool to achieve integration.  
3. Learn to plan and design mixed methods data analysis.

**Mixed Methods Design as a Tool to Enhance Social Justice**

Donna Mertens

August, 25, 09.00 – 12.00, SE41

This workshop is designed for researchers who want to learn how to use mixed methods to better address the needs of members of marginalized communities, such as women, people with disabilities, poor people, racial/ethnic minorities, and religions minorities. It will address strategies that mixed methods researchers can include in their designs that enhance their ability to contribute to addressing social inequities. Using a transformative lens, researchers will learn how to identify those aspects of culture and societal structures that support continued oppression and how to contribute in a positive way to social transformation. The focus will be on ethical issues that inform design, such as cultural respect and responsiveness, addressing power differentials, and inclusion of reciprocity as a strategy to build capacity in marginalized populations. Mixed methods strategies will be discussed that allow for suppressed voices to be included in the understanding of the problem to be addressed, as well as in the development and implementation of potential solutions. Examples will be drawn from domestic and international contexts that include topics such as prevention of violence, environmental justice, and improvement of health prevention services. Having experience in the field is useful, but even novice researchers can benefit from this workshop because participants will have the opportunity to develop a transformative mixed methods design for their own research area of interest.

**Navigating Mixed Methods Research: Connecting the Field of Mixed Methods to Your Research Practices**

Vicki Plano Clark and Peggy Shannon-Baker

August, 25, 09.00 – 12.00, SE42

Mixed methods research has grown into an exciting and dynamic field that encompasses an extensive literature with diverse perspectives and increasing sophistication. Individuals who are new to mixed methods need to learn from this literature, but often struggle with understanding the complexity of the field. This workshop will provide practical guidance in navigating the field of mixed methods so that novice researchers can effectively connect the mixed methods literature to their research practices. The workshop will introduce a conceptual framework that serves as a “map” of the field by describing mixed methods research in terms of the research process decisions, methodological content considerations, and larger contextual influences (Plano Clark & Ivankova, 2016). Workshop participants will apply the framework to: (1) organize key mixed methods literature, (2) describe their own perspectives about mixed methods research, and (3) inform the design and evaluation of mixed methods studies. Participants are encouraged to bring their different reasons for engaging with mixed methods to help shape their work during the application activities.

**Publishing your paper: Meet the Editor of the Journal of Mixed Methods Research**

Mike Fetters

August, 25, 09.00 – 12.00, SE43

The purpose of the Journal of Mixed Methods Research (JMMR)is to promote theoretical and methodological advances in the field of mixed methods research.The purpose of this session is to encourage understanding about procedures for successfully publishing in JMMR. A Co-Editor of the journal will review the article types accepted, critical elements to include in a methodological submission, common errors often seen in submissions that are to be avoided, the generally preferred structure of submissions, an overview of the peer-review process, and strategies for addressing the comments of reviewers. In the interactive-participatory component, participants will develop key elements of their own projects for a potential submission including writing a methodological title, a methodological aim, and an outline. At the completion of the workshop, participants will have a better understanding of the submission, review and acceptance process for manuscripts submitted to JMMR.

**An Integrated Approach to Designing a Mixed Methods Research Course: Applicable for Face-to-Face and Online Settings**

Kathy Collins and Cheryl Poth

August, 25, 13.00 – 16.00, SE33

The goal of this interactive workshop is to introduce to instructors an array of conceptual strategies and practical techniques to conceptualize, to plan, and to implement a high-quality mixed methods research (MMR) course, and to evaluate students’ levels of performance throughout the course. Embedded within the workshop will be practical techniques for adapting the course design to accommodate both face-to-face and online settings. The workshop’s content is applicable for teaching master’s and doctoral students. To facilitate participant engagement, interspersed throughout the workshop will be interactive small group activities. Prior experience teaching MMR is not a prerequisite. Extensive workshop materials will be provided. Although, a computer is not required, participants may find it useful for completing the small group activities. Workshop Level: All Levels of Teaching Experience and Mixed Methods Research Expertise.

**Conducting a mixed studies review**

Floryt van Wesel

August, 25, 13.00 – 16.00, SE34

Systematic reviews are used in a diverse range of scientific fields to synthesize the available ‘body of knowledge’ on a specific topic and consequently guide evidence-based policy and practice. In addition to aggregating quantitative research findings in a meta-analysis or qualitative research findings in a qualitative evidence synthesis, mixed studies reviews (MSR) are currently undertaken that combine both types of evidence. The knowledge that MSR provide is exhilarating as they can lead to a very diverse understanding of a topic. They are however methodologically challenging. In this workshop we will discuss several established MSR methodologies as well as a generic approach to conducting a MSR. Several exercises will be used to guide the audience through the steps of the review process, starting with formulating a review question and searching and including primary studies, followed by extracting data and data synthesis, and finally reporting on a MSR.

**Introduction to (Mixed Method) Social Network Analysis**

Dominik Froehlich and Jasperina Brouwer

August, 25, 13.00 – 16.00, SE41

In this workshop, we will cover the foundations of social network analysis. You will get an overview of the current qualitative and quantitative methods that are used in this field and what kind of questions you could explore. From there, we will discuss ways of integrating those different approaches to social network analysis. Also, the workshop shows you the necessary tools and ideas that allow you to conceptualize and execute a social network study on your own. Specifically, the workshop will help you in finding answers to the following questions: Why use social network analysis? What kind of research questions can be answered with this method? How to get social network data? What are the options for analyzing social network data?

**Qualitative Approaches to Mixed Methods Research Inquiry: Design & Analysis**

Sharlene Hesse-Biber

August, 25, 13.00 – 16.00, SE42

This workshop will be useful both to researchers new to using mixed methods and to those interested in extending their use of this approach.  The user-friendly workshop will show participants how to construct research questions that benefit from a qualitatively- driven mixed methods research design and provide opportunities for them to work with data generated with this approach. There will be ample opportunity for small group work, questions and answers, and dialogue throughout. We will provide all participants with handouts to take home with them that we hope will solidify and extend their workshop experience. Bring your research questions with you. Level: Beginner and Intermediate Level.

**Using Mixed Methods with Community-Based Participatory Action Research to Facilitate a Meaningful Change**

Nataliya Ivankova and Ivan Herbey

August, 25, 13.00 – 16.00, SE43

Mixed methods combined with community-based participatory action research (CBPAR) can provide a rigorous methodological framework for developing evidence-based, scientifically sound, and culturally tailored quality improvement initiatives to facilitate a meaningful change. When combined with mixed methods, CBPAR can assist stakeholders in developing better appreciation for a data-driven decision-making process by capitalizing on the advantages of integrating quantitative outcome-based oriented approaches with qualitative research engagement methods. The purpose of this interactive hands-on workshop is to introduce participants to the methodological premises and procedural steps of applying mixed methods in the CBPAR process and to guide participants in the application of these steps to their research situations including dissertation and funded research. Participants will have an opportunity to receive expert advice on designing and implementing a mixed methods CBPAR study within the context of their research problems and to engage in discussions about the advantages and challenges of applying mixed methods in CBPAR.