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In Search of an Inclusive Participatory Research Methodology: The Appeal of Interactive Qualitative Analysis to Novice Qualitative Researchers[1]

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Abstract

National policy goals have made doctoral research a priority for academics in South African higher education. For many, the study of their own educational practice has strong appeal, and has led them to "cross over" and become novice educational researchers at doctoral level, pursuing qualitative research that could present ontological and epistemological challenges for those whose home disciplines (and training) are steeped in positivist quantitative methodologies. Concurrently, the need to be responsive to broader national imperatives for the decolonising of universities has underlined the importance of seeking inclusive participatory research methodologies that have potential to elevate participant voice. Interactive qualitative analysis (IQA) is a variant of participatory research that, we argue, offers advantages in view of these transformative shifts in South African higher education. IQA may appeal to cross-over researchers because it provides a structured and rigorous path through qualitative research. Moreover, IQA disrupts power relations that cast the researcher as "expert"; it grants participants control over data generation and preliminary analysis, and foregrounds their voices. We introduce IQA, and outline its key steps and protocols. Drawing on our application of IQA in a study at a South African university, we reflect critically on its affordances, limitations, and possible modifications.

Keywords: qualitative research, participatory methodology, student voice, interactive qualitative analysis, novice qualitative researcher

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Introduction

While the precise genesis of qualitative research is difficult to pinpoint with any degree of certainty, there is general consensus that thinkers like Wilhelm Dilthey, Max Weber, and George Herbert Mead (and including phenomenologists Martin Heidegger and Edmund Husserl) in the mid to late 1800s and early 1900s provided the seminal theoretical inspiration that spawned the field of qualitative research. It is beyond the scope of this article to document in any comprehensive fashion, the development and expansion of qualitative research across the continents. Of significance though, is Thomas Kuhn's notion of paradigm shift (see Orman, 2016) in the early 1960s—a distinct recognition of the emergence of a qualitative research field—one that contested the dominant positivist approach to the social sciences. This qualitative research field rejected Comte's assertion that social science research should mirror that of the natural sciences (see Silverman, 2020), that universal laws/principles, objectivity, and researcher neutrality could be applied to the study of human behaviour. The field of qualitative research has grown exponentially since then, sprouting many variants with unique and novel methods for generating qualitative data. Although purist quantitative and purist qualitative researchers continue to ferociously guard their fundamental principles from "contamination," over the last three decades, an emerging field that appears to harness the best of both methodological research worlds has begun to gain traction, namely, that of mixed methods research (see Creswell & Creswell, 2005). This rapidly growing approach to research has also been subject to various permutations related to the extent to which researchers appropriate from both the "homes," namely, the qualitative and quantitative fields. Although interactive qualitative analysis (IQA), the focus of this article, might not be strictly classified as a mixed methods approach, it does rely on nonstatistical quantitative routines/protocols, while still essentially maintaining its strong qualitative character. A distinct strength of IQA, we argue, is that it makes participant engagement (particularly in the data generation and analysis stages of the research process) mandatory.

There is little contention that scholarship on participatory research is well-documented and that this methodology has a long and established tradition (see, for example, Cornwall & Jewkes, 1995; Finn, 1994; Pain & Francis, 2003) and has flourished as a methodological approach in South Africa (see van der Riet, 2008; Wood, 2019; Wood & Zuber-Skerrit, 2013; Zuber-Skerrit & Wood, 2019). In this paper, we present an account of IQA, a unique variant of participatory research—one that harnesses both quantitative and qualitative rigour through its protocols while foregrounding the voice of research participants.

We argue that IQA has appeal for novice, cross-over researchers (Maistry, 2015)—academic researchers at doctoral level, schooled in traditional disciplines dominated by positivist research, who venture into qualitative educational research. IQA provides a clear, structured, and rigorous path to conducting qualitative research. It positions participants as invested stakeholders in the research process, and affords flexibility to integrate other qualitative techniques for data generation. We recognise that participation may not be to the extent evident in purist participatory approaches such as action research. We do, however, contend that although participants may not be involved in the conceptualisation of the study, IQA's prescription of active, systematic, engagement by the research participants in two crucial stages of the research process (participant data production/collection and participant data analysis) offers otherwise disconnected research participants integral involvement in the research study.

Importantly, IQA has potential to resonate with academic researchers keen to advance a social change agenda because it disrupts conventional power relations that cast the researcher as "expert" and, instead, affirms the power of participants over the research phenomenon, granting them control over essential aspects of data generation and analysis. We aver that according such respect and responsibility for the production of new knowledge is a key hallmark of an emancipatory research methodology. We contend that this qualitative approach may have particular appeal given the wider national policy imperatives that have begun to shape the higher education research landscape in South Africa.

The National Development Plan (NDP), tabled by the South African Government in 2011 (National Planning Commission, 2011), identified several policy goals directed at social transformation targets envisaged for achievement by the year 2030. Higher education was identified as key focus of the NDP. An increase in the production of successful doctoral candidates was viewed as paramount in expanding the pool of highly competent, innovative citizens who would fuel economic and social transformation of the nation. A telling predicament though, was the uneven quality of doctoral graduates across institutions in South Africa, a lamentation articulated by the Academy of Science of South Africa report (2010), with critics warning of the "epistemological threat" (Waghid, 2015) that might present with the quantity/quality tension. Arguably the most compelling challenge at the time was the relatively low proportion of higher education academic personnel (34%) who held doctoral qualifications, a statistic that higher education managers were determined to improve. The intent was clear: university academic personnel had to take on a researcher identity and a doctoral degree was to be the mandatory minimum qualification. It is beyond the scope of this paper to examine the multiple implications of this strategic move except to say that for academics in professional disciplines like accounting, taxation, law, and even medicine, who may not have held doctoral degrees, this became a priority. For such academics, especially those who had a stronger teacher identity as compared to a disciplinary research expert identity, the study of their own educational practice had strong appeal—many "crossed over" to education and became novice educational researchers at doctoral level (Maistry, 2015).

A distinct ontological and epistemological challenge presented for many who elected to pursue rich, qualitative educational research studies, especially for those whose home disciplines (and training) were steeped in positivist quantitative research methodologies. A compounding factor was the need to be responsive to broader national imperatives driven by the #RhodesMustFall movement for the decolonising of universities in South Africa—epistemological and methodological contestation that has gained unprecedented impetus, resulting in the institutionalisation of this agenda by universities across the country. The need to seek out research methodologies that were inclusive (and participatory) and that had potential to elevate participant voice was compelling.

In the sections that follow, we introduce IQA, and then explain the key steps and protocols the method entails. We draw on our application of IQA in a study undertaken at a South African university. Based on this experience, we offer some critical reflections and discussion around IQA's affordances, limitations, and possible modifications.

IQA: An Overview

IQA is a qualitative research method founded in systems theory, and developed by Northcutt and McCoy (2004). IQA uses a systematic, protocol-driven research procedure to combine the quantitative rigour of algorithmic data analysis with the qualitative richness of interviews. The approach is distinct from many traditional forms of qualitative enquiry in that it refutes the idea of the researcher as the expert who must interpret data and, instead, entrusts participants with the analysis and interpretation of the data they generate (Tabane, 2010). The findings derive strongly and directly from the

participants, who are implicitly recognised as co-owners of the research process; they are afforded power, control, and authorship over the outcomes, and their voices are elevated in representing the findings.

The fundamental assumptions of IQA are that knowledge and power are largely dependent, and that the observer and the observed are dependent (or interdependent). The object of research in IQA is "reality in consciousness" given that reality is seen as multiple and subjective (Northcutt and McCoy, 2004, pp. 16–17). IQA requires both deduction and induction for the investigation of meaning. In reporting findings, IQA admits decontextualised descriptions provided the researcher describes a larger context within which the reader can understand the representations of participants' meanings.

In seeking to understand a phenomenon as a system, the generic research questions posed in IQA are:

- What are the elements or components of meaning of the system?
- How do these relate to each other in a perceptual system of cause and effect? (Northcutt & McCoy, 2004).

Finding answers to these questions involves using focus groups to generate "affinities" (themes), which are in turn used to construct a unified, descriptive system diagram to illustrate the phenomenon as understood by the participants as a group. Individual understandings of the system and its elements are then elaborated in in-depth interviews. The array of meanings from the participants provides a nuanced and complex view of the phenomenon, which is presented first and foremost in their own words.

IQA is a relatively novel method. In South Africa, IQA methodology has been applied primarily in the field of educational psychology (Human-Vogel, 2006; Tabane, 2010) and, increasingly, in higher education research in enquiry into students' experiences of learning (Bargate, 2012; Davis, 2018).

The philosophical underpinnings of IQA are congruent with the ideals of participation, inclusion, and co-ownership. Because IQA presumes that knowledge and power are dependent, research participants (or "constituents," the term used by Northcutt and McCoy, 2004) are selected according to the degree of power they have over the phenomenon to be investigated. In many of the education studies undertaken by cross-over academics, the power over the phenomenon—their own experiences of learning—rests with the student participants. A second criterion for selection is proximity to the phenomenon; again, students are closest and therefore best placed to construct and represent their experiences of learning.

The rigour inherent in IQA is propounded as one of its strengths. IQA fares well with regard to "trustworthiness" criteria (Denzin & Lincoln, 2011; Guba, 1981); because IQA leaves a transparent audit trail of steps followed according to rigorous, replicable rules, it minimises common qualitative research issues around researcher bias, reflexivity, or trustworthiness. In short, the rules steering the researcher through each phase are intended to bring the findings as close as possible to the participants' truth.

Case Study: Students' Learning in an Economics Tutorial Programme

In exploring what IQA can offer as an inclusive participatory methodology, we refer to and reflect on our use of IQA in a study of students' learning in undergraduate economics as detailed in the doctoral thesis from which this paper derives (Goebel, 2017).

Many students find university-level economics difficult. International literature records high failure and dropout rates, and raises questions around the often superficial nature of learning in undergraduate economics (Colander & McGoldrick, 2009; Dubas & Toledo, 2016). Research in South Africa reflects similar concerns around poor academic performance in undergraduate economics courses across universities (Bokana & Tewari, 2014). However, extant work in this context is dominated by quantitative investigations with a focus on the determinants of students' performance. Little qualitative or conceptual enquiry has been undertaken, and student voices are notably unrepresented in this area of research.

We set out to deepen understanding of students' learning (and to explore potential ways in which it might be more effectively supported and facilitated) in a case study in undergraduate economics at a South African university. The work was undertaken towards a supervised doctorate in higher education; the primary researcher and doctoral candidate was an experienced academic in the economics discipline and a novice to education research and qualitative methods.

A tutorial programme was developed that complemented a standard second-year microeconomics module, in which 20 volunteers from the mainstream class participated in weekly 90-minute sessions over a semester. In these sessions, the participants deepened their understanding of economics through peer group discussion structured around tasks embedding disciplinary threshold concepts in relatable real-world examples (Davies & Mangan, 2006; Meyer & Land, 2003). Throughout the programme, the tutor-researcher deliberately remained in the background, playing only a facilitative role as participants constructed their learning through processes of articulation and discussion with peers. This format went some way towards dismantling the power relations inherent in lectured delivery that is still typical of undergraduate economics pedagogy.

As part of the programme, we asked the students to write weekly reflections about their learning in economics—an activity we expected would enhance their self-understanding and sense of control over the learning process (Bargate, 2012; Moon, 1999) while also providing an additional source of data (Creswell, 2013). Each week, the tutor-researcher suggested questions or prompts (Moon, 1999) that encompassed both tutorial- and content-specific responses as well as more general insights. The tutor-researcher read and wrote individual responses to each submission every week. The rate of submissions varied per week; the students submitted on average between five and six of the nine entries. Some were cursory, limited to a few lines, and others sent detailed responses of several paragraphs. From the inception of the research, the tutor-researcher also kept a journal documenting her own reflections, interpretations, and concerns (Baxter & Jack, 2008). Although not a formal data source, this was intended to enhance researcher reflexivity (Guba, 1981) and provide a further record of the course of the study.

At semester end, on completion of the programme, we used IQA to generate and analyse data from participant focus groups and interviews. The written reflections, although not standard elements of IQA, could also be analysed using IQA protocols. The choice of IQA offered the tutor-researcher, as a qualitative research novice, a structured and transparent path to trustworthy findings (Denzin & Lincoln, 2011; Guba, 1981). The IQA approach also resonated with the tutor-researcher's personal teaching ideology and with the dismantled power relations characteristic of the tutorials. The section that follows offers an exposition of IQA at a broad level, referring to our study to illustrate its application.

Applying IQA in a Study of Students' Learning

The first phase of IQA is initiated in a focus group where participants generate responses relating to the research phenomenon. In our study, the focus group sessions were intended to capture a common perspective and shed light on the participants' learning in the tutorial programme. The students who had participated in the programme over the semester clearly met the focus group selection criteria of power over and proximity to the "phenomenon"—their learning of economics—and the group of 20 was within the range (12–20 members) recommended for IQA. The role of the researcher during the focus group sessions is to facilitate the process by guiding the group through the procedures, being careful to set aside their own possible preconceptions and avoid imposing interpretations of the emergent data.

The tutor-researcher facilitated two IQA focus group sessions at semester end, on completion of the tutorial programme. The focus group sessions and subsequent processes followed the prescribed steps of IQA, as explained in the paragraphs that follow.

Generating and Clarifying Responses

In the first session, the tutor-researcher prompted the participants to reflect on their learning, and respond to the request: "Tell me about your experience with learning in economics this semester." Participants were assured that there were no right or wrong answers, and that they were the experts on their own learning. The participants then engaged in about 15 minutes of silent brainstorming, during which they recorded all their individual, spontaneous responses on index cards—one thought or experience per card, using words, phrases, sentences, or pictures. Once most participants had exhausted their ideas and captured all their responses on index cards, these were collected and randomly affixed to the wall by volunteers from the group. In all, 262 responses were generated.

The next step in the IQA process is clarification of the meaning of the responses to reduce any vagueness or ambiguity and reach a "socially constructed, shared meaning" of each response within the group (Northcutt & McCoy, 2004, p. 94). Although the cards are individually written, the responses remain anonymous and are "owned" by the group so that any participant can offer an interpretation of the meaning of a given card. By the end of this process, the participants agreed that they had reached a common understanding of the meaning of each response.

Inductive and Axial Coding: Clustering, Naming, and Refining Affinities

The first step in analysing the data they have generated requires the participants collectively to organise the cards into groups of meaning, or themes, which will be known as "affinities"; Northcutt and McCoy (2004) referred to this clustering as inductive coding. The participants perform this task in silence, arranging the cards on the wall in thematic clusters. Any participant who disagrees with the placing of a response card may move it to a different cluster, and the process continues until consensus is reached. After about 30 minutes, our focus group participants had agreed on the assignment of all of the responses.

The next stage is axial coding, a deductive process in which participants "name, reorganise, clarify and refine" the emergent affinities and any component sub-affinities identified within each cluster (Northcutt & McCoy, 2004, p. 98). The tutor-researcher facilitated this process and, once the group had reached consensus on a name for each affinity, the names were affixed above each cluster. A few miscategorised cards were reassigned as the group reviewed the response clusters while referring to the newly assigned labels.

Affinity Write-Up

The responses comprising each affinity are written up into a consolidated description articulating the meaning of that affinity for the group, grounded in specific responses or examples. This step could be completed by the researcher or volunteers from the group—the key consideration is that the participants as a group review, revise, and confirm the affinity write-ups.

Over the following days, the tutor-researcher wrote up the affinities following IQA guidelines, drawing on the response cards and the discussions around naming to compile a paragraph for each affinity, describing it "clearly and directly, remaining faithful to the language used by focus group members and following the sense of what participants were saying" (Northcutt & McCoy, 2004, p. 100). These portrayals are fairly brief because the IQA focus group protocol is not designed to evoke thick description—the latter is yielded by the individual interviews, the protocols for which are in turn informed by these write-ups (Northcutt & McCoy, 2004). The draft affinity write-ups were emailed to all of the participants to be reviewed in advance and then revised and confirmed in our second focus group session a week later.

In the second focus group session, the group confirmed their common understanding of six affinities in alphabetical order:

- Economic thinking
- Feelings
- Goals
- Group dynamics
- Learning journey (comprising two sub-affinities)
    - Stumbling blocks and successes
    - Learning about learning
- Personal outcomes

For illustrative purposes, we share one example of a write-up—that of the Personal Outcomes affinity (equivalent write-ups were drafted, revised, and confirmed for all six affinities):

> *Personal outcomes: This affinity refers to the benefits students derived from participating in the weekly tut group sessions. As one participant summed it up in economic terms, "MB ≥ MC[2] in this tut."*
>
> *Responses reflected personal growth or development: "I learned a lot both academically & as a person" "Got to grow as a person" "Self-discovery."*

[2] The phrase "MB ≥ MC" is common economic shorthand indicating that marginal benefit is greater than or equal to marginal cost. This is a standard and fundamental decision-making rule, confirming that a project brings a net gain and is worth undertaking.

> *Many referred to an increase in their confidence, both academically and more generally: "Confidence" "Self confidence" "Gained more confidence" "I can talk about economics on any other courses with confidence" "Learned to be comfortable around my peers."*
>
> *Participating in the tut group also gave students new perspectives: "Opened up my general knowledge" "Eye opener" "Open minded" "Mind opener" "Enlightening" "Exploration."*

The affinities generated in the phase just described begin to address the first of two questions posed in IQA enquiry: "What are the elements of the system?" (Northcutt & McCoy, 2004, p. 103). The six affinities identified by our focus group represent the components of reality of the group with respect to the phenomenon under study—their learning in the tutorial programme.

The second question asks, "How do these elements relate to each other?" (Northcutt & McCoy, 2004, p. 103). Participants are led to address this question through a deductive process, specifying how they see the relationships of influence among the affinities, again following clear IQA protocol.

Deductive Theorising: Affinity Relationships

IQA uses affinity relationship tables (ARTs) to facilitate theoretical coding as participants identify relationships of cause and effect between pairs of affinities. Once the affinity write-ups for our focus group had been confirmed, the group members worked individually on completing their ARTs. The tutor-researcher had preprinted blank forms on which they filled in the affinities 1–6, and then for each pair relationship between affinities, decided on the direction of influence (if any) and provided a short justification (an example or "if . . . then" statement) of their indicated relationship. With six affinities, 30 affinity pair relationships arise for consideration.

ARTs may be analysed at a group or individual level to create an interrelationship diagram (IRD)—a matrix showing all the perceived relationships in the system (Northcutt & McCoy, 2004). We worked at the group level to create a composite IRD, aggregating the responses for each relationship pair in the completed ARTs from all the participants.

Deciding which affinity pair relationships (of 30, in our study) ought to be included in the representation of the system necessitates a trade-off: the optimal number of relationships to include in a model is "the fewest number of relationships (for parsimony's sake) that represents the greatest amount of variation (for the sake of comprehensiveness and richness)" (Northcutt & McCoy, 2004, p. 157). IQA draws on the Pareto principle (or 80/20 rule) to enable the researcher to identify which relationships to include. This is a fairly simple and standard process, not requiring statistical expertise, following prescribed steps based on tallying participants' responses per relationship pair. These steps also allow the designation of affinities as (primary or secondary) drivers or outcomes within the system, and guide their placing on the systems diagram (Northcutt & McCoy, 2004).

Following the standard steps, the affinities identified by our focus group participants were designated as shown in Table 1.

Table 1

Affinity Designations

Affinity	Assignment
Group dynamics	Primary driver
Economic thinking	Secondary driver
Learning journey	Secondary driver
Goals	Secondary outcome
Feelings	Secondary outcome
Personal outcomes	Secondary outcome

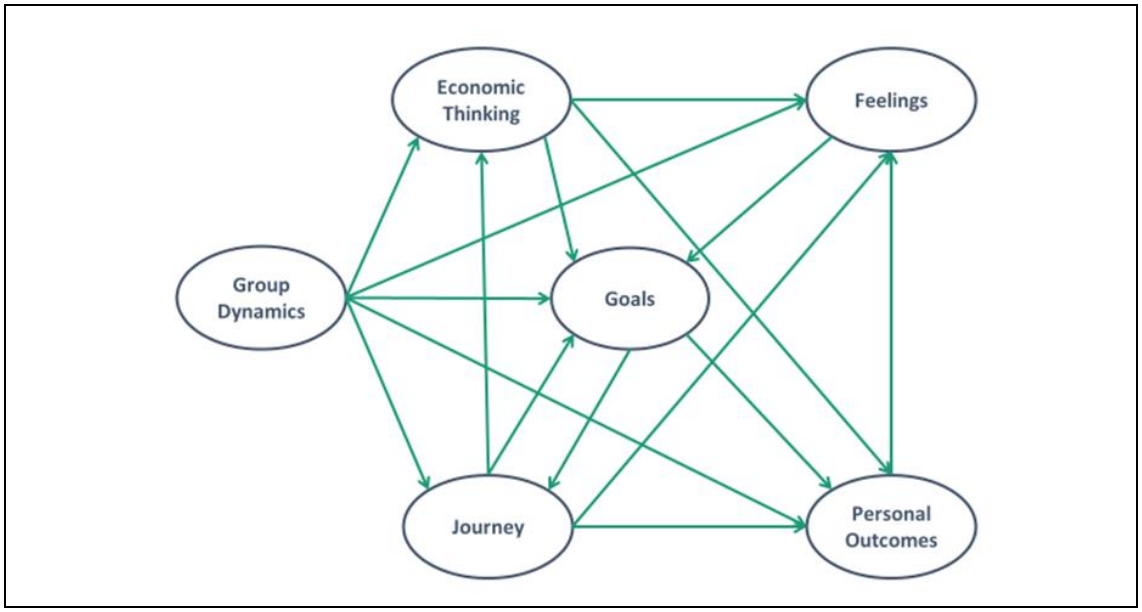
Systems Influence Diagrams

The systems influence diagram (SID) is the culmination of the IQA phases described here; it is a visual representation of the information in the IRD, summing up the system of affinities and their interrelationships, "prepared according to rigorous and replicable rules for the purpose of achieving complexity, simplicity, comprehensiveness, and interpretability" (Northcutt & McCoy, 2004, p. 41).

The IRD and affinity assignments are used to construct the SID. Affinities are arranged from left to right, with drivers on the left and outcomes ranged on the right-hand side. The first version of the SID shows every link from the IRD: an arrow is drawn for each relationship so that the diagram is "saturated" with all possible links from the IRD (Northcutt & McCoy, 2004, p. 176). Figure 1 shows the cluttered SID representing the findings from the focus group sessions for this study, showing the six affinities participants identified and how each influences, or is influenced by, the others.

Figure 1

Cluttered Systems Influence Diagram



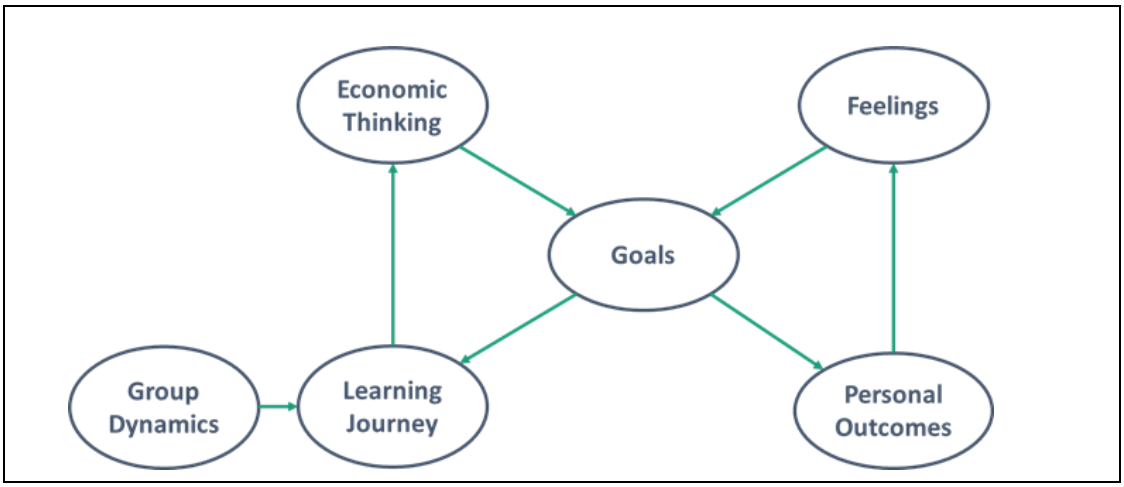
While the cluttered SID makes for a comprehensive and rich presentation, it can be difficult to interpret as "the explanatory power of the system becomes bogged down in the details of the relationships"

(Northcutt & McCoy, 2004, p. 176). IQA thus proposes mechanisms for further refining the SID by removing all redundant links—any direct links that bypass mediating affinities.

Following this process yielded the uncluttered SID representing the participants' learning in the tutorial programme—a graphic representation of participants' understanding of their experiences (see Figure 2).

Figure 2

Uncluttered Systems Influence Diagram



The steps taken to reach this point are standard, algorithmic, transparent, and replicable—IQA advocates point out that any researcher following the protocols and facing the same focus group data would arrive at the same representation of the system that the affinities comprise, according to the participants.

Within the parameters set by the participants' understandings, the researcher can prepare a brief interpretation of the SID—a "tour of the system" that serves as a verbal summary of participants' views. The SID for our study can be explained as follows:

> *The group dynamics in the tutorial sessions drove participants' learning in economics by influencing the two elements making up their learning journey: dealing with (conceptual) stumbling blocks and achieving successes, and learning about their own learning processes. The learning journey brought about a shift to an economic way of thinking, which influenced participants' academic and career goals. Their goals in turn fed back to affect the course of the learning journey. Participants' goals also influenced the personal outcomes they experienced during their learning, which affected their feelings. Feelings in turn shaped their goals.*

Within the SID, it may be possible to identify feedback loops consisting of at least three affinities that influence each other directly or indirectly and that may be considered together as a dynamic sub-system. *Zooming* in IQA entails naming feedback loops to create a less detailed view of the system for interpretive purposes (Northcutt & McCoy, 2004, p. 335).

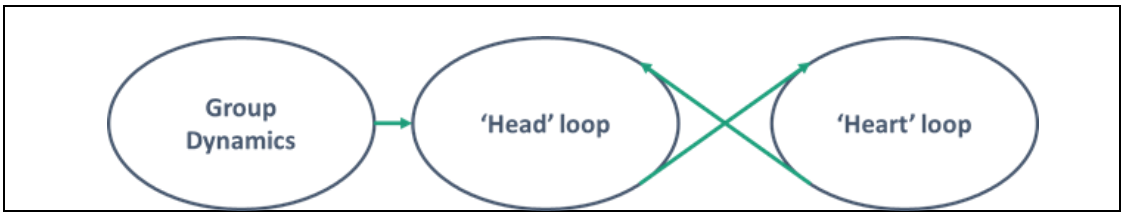
Within the SID for this study, two (connected) loops or sub-systems were identified:

- Learning journey, Economic thinking, Goals—the elements of the first sub-system suggest a cerebral, cognitive, conscious process that we named the "Head" loop.
- Goals, Personal outcomes, Feelings—this sub-system is affective, focused on emotions, personal growth, and motivation, and so we called this the "Heart" loop.

With Goals as the nexus, these loops of influence connect to form a figure of eight. The uncluttered SID can thus be zoomed out to the version depicted in Figure 3.

Figure 3

Zoomed out Systems Influence Diagram



No matter which level of detail is presented—the cluttered, uncluttered, or zoomed out SID—the representation arrived at through the focus group phase of IQA reflects the reality of the group based on consensus being reached through the group processes and protocols. It is worth repeating that any researcher applying IQA protocols to the same set of affinities and ARTs would derive the same graphic and conceptual model, explained in an equivalent way. IQA rules guide the researcher to present the participants' reality in a way that minimises the possibility of bias or the imposition of the researcher's personal interpretation.

Individual Interviews

The next phase of IQA consists of in-depth individual interviews structured around the affinities and influences. The interview phase is not an entirely new round of data collection, but "represents a deeper analysis, by the participants," of the findings of the focus group (Tabane, 2010, p. 84), that adds richness and depth to those findings (Northcutt & McCoy, 2004).

Through the interview phase in our study, we thus sought qualitative detail of the impacts of the tutorial programme—the changes it effected for and in the students—described in terms of the affinities. The tutor-researcher conducted interviews with 20 participants in which, following a loose structure that allowed for a natural flow of conversation, they elaborated on their experiences or perceptions of each affinity and the relations of influence among affinities. All the interviews were recorded and transcribed.

Coding and Describing Affinities and Influences

IQA includes protocols for coding the interview transcripts, based on the affinities. As noted above, we introduced the participants' written reflections as a further source of data in our study. Although not standard IQA components, these written responses could be coded in the same way as the interview transcripts (and ARTs), and we consider the treatment of these data sources together here.

The tutor-researcher combined axial data—"specific examples of discourse that illustrate or allude to an affinity" (Northcutt & McCoy, 2004, p. 315)—from all of the sources into a composite table per affinity. From the composite table, recurring themes were identified (Bargate, 2012), reflected in sub-groups of quotes within each affinity. Similarly, theoretical data—quotes regarding the directions of influence for the affinity relationships—were compiled from the written sources and from participants' comments on their ARTs. The composite quotes describing the sub-affinities making up each affinity, and the relationships of influence among affinities, form the source material for the rich descriptions typical of IQA representation.

Presenting the Findings

Together, the IQA processes just described enabled the construction of answers to the generic research questions: the affinities—the components of meaning of the phenomenon—and the ways in which they interact in a perceived system of cause and effect can be portrayed in rich, grounded descriptions, relying on participants' own words.

As with all the preceding steps, the presentation of IQA findings is delineated by specific protocols promoting rigour (Northcutt & McCoy, 2004). The descriptions draw extensively on the participants' own words and are intended to be "as free from researcher interpretation and opinion as possible," giving centre stage to the data and adding to the credibility of the findings (Northcutt & McCoy, 2004, p. 302).

Each affinity is presented as comprising several sub-affinities, which in turn, are each described by a composite quote woven together from multiple individual quotes. The relationships of influence among affinities are rendered in the same way. These rich and textured descriptions in the participants' words can be seen as a tapestry made up of individual realities, at times revealing shades of variation within participants' shared understanding of the phenomenon. Apart from brief explanatory sentences or summary paragraphs, the description of affinities includes minimal interpretive commentary or evaluation from the researcher: "Because the group is the best source of describing their experience, why not describe it purely in their own words?" (Northcutt & McCoy, 2004, p. 316). Presentation of the findings in the form of these composite quotes will form a substantial portion of any (unavoidably lengthy) reporting of the research.

Returning to our study, recall that the focus group identified and named six affinities. Further analysis, following coding of the interview transcripts and written reflections, yielded between five and 10 component sub-affinities for each of the six affinities. By way of brief illustration, we consider the Personal Outcomes affinity (a brief description of which appears in the Affinity Write-Ups section above). Personal Outcomes was found to comprise five sub-affinities:

Elements of Personal Outcomes:

- Academic benefits, from immediate, course-related impacts to broader metacognitive outcomes;
- Developing interpersonal skills;
- Increased self-confidence around disciplinary knowledge and verbal expression;
- Growing social resources—the friendships and networks established in the group;

- A sense of personal transformation linked to emergent disciplinary mastery.

For brevity, we present only the first component sub-affinity (or element) of Personal Outcomes—the academic benefits participants described—here. Following IQA presentation rules, a brief summary prepared by the researcher is followed by a composite quote drawn from the interview transcripts and written reflections of multiple participants:

I Developed in My Academic World

Students recounted a range of academic benefits they considered personal outcomes of their learning, from immediate, course-related impacts to broader metalearning outcomes that they could transfer to other courses and contexts.

> *This is the first time that I've passed all three tests for economics. . . . It's confidence, and I think I'll be better prepared come the exam. I have grown studying. 'Cause I've learnt a lot—I've learnt things that I didn't know before, and I know what to do now next time, in terms of studying and the things that I've learnt. It helped me in that sense that I developed in my academic world. I think that my mind is more open, not just in class, and not just in the module that I'm studying, but in all the other modules. Because I've learnt that ok, I need to understand the concepts of things or the way things move, and not just be cramming and . . . putting things in my mind—but to really get an understanding. Because understanding the basics, I think when I [am] further on I'll be able to cope with more. Maybe you can't see it now, maybe I can't express it—but for me it's just a good thing, it's something that I can talk about, so now I know what to do. It helped me how to study, not only economics but other courses too.*

Beyond the Affinity Descriptions: Theorising the Findings

The next level of analysis proceeds from these thick and nuanced descriptions along the lines of many other qualitative approaches as the researcher returns to the literature, tests existing theory, or abstracts new insights. The SID offers a useful framework for this process; it offers an immediate visual summary of the whole phenomenon and its components, and contains possible departure points for elaboration and theorising. The researcher may thus read or infer relationships, interdependencies, self-perpetuating constructs, likely locations of failure, possibilities for redemption, and promising areas for intervention—all from a conceptual structure that is entirely grounded in the participants' perspectives.

Reflections and Discussion

Drawing on our experiences with its application, we offer some reflections on IQA as an inclusive participatory research approach. From the perspective of a cross-over researcher and qualitative novice, the rules of IQA and the clear steps it prescribes through data generation and analysis served to enhance the researcher's confidence in the process and the findings, and her freedom to abstract theoretical insights from the latter. Linked to this are the means by which IQA can be viewed as favourable to a social change agenda. This may be seen in a participant-inclusive epistemological move given that IQA elevates participant views and brings student voices to the fore, often in areas of research and new knowledge creation—such as economics education—where they have thus far not been heard or authentically represented. It is also evident at a more immediate level in the on-the-ground processes of the research method itself in focus groups and interviews that empower participants and promote inclusion and ownership.

In our experience, IQA mitigated some of the possible concerns around ownership, authority, representation, and positionality. The deep involvement of the participants in interpreting and analysing data, and the rendering of findings in their voices, contributed to credibility (Guba, 1981). These features of IQA further helped to reconcile some of the tensions inherent particularly in qualitative research in an education context: the inevitable power differentials between the tutor-researcher (who was also the module lecturer and eventual examiner) and the student-participants, and their respective roles as outsider/insiders in research (McNess et al., 2015). By casting the participants as the experts on their own learning, IQA remained consistent with the dismantled authority relationships that characterised the cooperative learning pedagogy of the tutorials, blurred the boundaries between insider and outsider, and alleviated discomfort around the tutor-researcher's multiple roles. While IQA does not eliminate these tensions, we submit that the approach is favourable to a practice of everyday ethics, and congruent with the principles of mutual respect and democratic participation that have been suggested as part of a guiding framework for participatory research (Banks & Brydon-Miller, 2018).

Our application of IQA also revealed some limitations and potential hazards inherent in the method. Some concerns centred on the pivotal nature of the focus group, on which the rest of the approach may be seen to depend. First, the communal nature of the focus group, and its emphasis on group reality, seem to reflect an assumption that there exists a single, albeit complex, group reality that can be satisfactorily captured in the SID. The IQA guidelines do not offer steps to follow if participants cannot reach complete agreement before time and energy run out. Although our focus group participants reached consensus relatively smoothly, a concern remains that in seeking consensus, the focus group processes might simply be masking conflict and attaining compromise—the appearance of agreement (Cohen et al., 2011). The silent nature of brainstorming and clustering in IQA, while offering advantages by limiting the influence of dominant personalities or of the researcher, may not reveal unresolved conflicts of meaning among participants. Because IQA captures only what is said or written, the apparent consensus reflected in the affinity write-ups may contain the silences of some participants, on some affinities at least. The interviews in which individual participants elaborate their understandings may address some of these concerns—but the interviews are themselves structured and bounded by the affinities.

Thus, while the grounded, participant-driven nature of the affinities (and their interrelationships as depicted in the SID) is one of IQA's key strengths, this may be a double-edged sword; once confirmed, the affinities are set, and the researcher and readers are called on to trust that they are a fair representation of the participants' reality. While the individual interviews can act as a check of the affinities and influences, IQA guidelines do not cover the possibility that the affinities and system produced by the focus group in the first place may be flawed. This underlines the critical importance of the execution and functioning of the focus group, because all of the phases that follow hang on the credibility of the affinities. There is a need for careful planning and management of focus group processes by the researcher.

Further possible tensions exist around IQA representation and interpretation. The composite quotes characteristic of IQA present a trade-off; while a holistic and nuanced picture is created for the group, individual voices are not reflected or tracked in these aggregated quotes. In deepening the analysis and presenting the data, the researcher needs to account for variation in the tone of individual experience of the affinities, and should be aware of the silences from individual participants on some issues. To this end, in our study, the tutor-researcher at times departed slightly from standard IQA presentation. In a few instances, this involved separating out distinct groups of voices within an affinity. In another modification to IQA protocol, on occasion, she augmented the IQA-standard interview data with the inclusion of extracts from her own reflective journal to reveal her perspective on the meanings offered by participants.

Although IQA emphasises privileging student voices and minimising researcher influence, it nonetheless requires significant researcher engagement in deeper analysis and representation. IQA stakes its claim to rigour partly on the premise that its procedures for data collection and analysis are public and non-idiosyncratic. Nonetheless, the abundance of qualitative descriptions that emerge from the interview transcripts and reflective writing requires the researcher to exercise considerable judgement, drawing on their own experience and understandings to select and compile composite quotes that capture the range of meanings participants ascribe to the affinities and their influences on each other. In this sense, the researcher's tracks are all over the data and it would be disingenuous to suggest that the process of representation and interpretation in IQA is neutral, objective, or unequivocal beyond the production of the SID.

Given this, we argue that the occasional departure from protocol does not detract from the advantages of IQA, but—if transparently and reflexively undertaken—can serve to offset some drawbacks or shed light on some blind spots.

A further accommodation we made to standard IQA components was the addition of participants' written reflections as a data source to be analysed in accordance with IQA protocol. Their reflective writing offered additional perspectives that allowed for fuller explanations of the nature and extent of the changes that the tutorial programme effected for the students, and also served as a source of data triangulation (Cohen et al., 2011; Guba, 1981). This proved to be an especially useful addition in light of the concerns around silence or conflict noted above; as a less focused and more private medium, reflective writing might be a channel for insights students would not mention in the focus groups or interviews. Our confidence in the affinities was increased on finding that the reflective writing could be accounted for within those categories of meaning. The regular written submissions—together with the individual replies from the tutor-researcher, which underscored the value attached to the reflections—may also have encouraged the participants to develop a habit of introspection on their learning, thereby enhancing the data they generated in the focus groups and interviews.

Commensurate with their role in the research process, the level of commitment of the participants was a key factor in obtaining the depth of data generated through the IQA phases in our study. We believe that the willingness of the participants to commit so much of their time to the focus group sessions, subsequent individual interviews, and reflective writing, was due to several factors. These include the relationship the tutor-researcher had established with the group over the semester, their relationships with each other, their understanding and support of the purpose of the research, and an appreciation of having their views heard.

These factors may account for the participants in our study wishing not to be anonymised. Although the nature of the composite quotes in IQA representation does not call for individual attributions, we anticipated instances where individual participants would be referred to. To protect privacy in line with the ethical approval obtained, we had intended to refer to participants using random letters. However, when the tutor-researcher reminded the participants of this after the focus group sessions, many expressed pride at having been part of the research and a desire to recognise themselves in any work that referred to them individually. Accordingly, the participants chose the individual pseudonyms that would be used to refer to them in subsequent work, an approach that served to retain confidentiality for those who wished it, while allowing for recognition. This might suggest that the participants felt a sense of ownership of the research.

Concluding Comments

In this paper, we reflected on the merits of the theoretically informed methodological approach—interactive qualitative analysis (IQA)—that was employed to study student learning through a pedagogical intervention in a higher education programme. We drew attention to the need for a shift from positivist education science research characterised by objective, distant investigators conducting research *on* student subjects (a dominant research culture evident in extant economics education literature), to researchers working *with* student participants in a reciprocally beneficial enterprise. Our account of IQA demonstrated how the power dynamic between researcher and participants can be minimised and how participant voice could be elevated through integral involvement in data generation and analysis and subsequent co-ownership of the research outcomes. We also considered the appeal that this methodology might have for cross-over researchers from historically quantitative disciplinary fields in higher education, especially as it relates to the structure and research rigour that the IQA approach affords. While we remain conservative about any claim to directly addressing new higher education decolonial imperatives, we do contend that IQA, and the adaptations that we attempted, is a step in the direction of substantive participant inclusion that is likely to have positive spill-over effects.

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