Combining different worlds: interdisciplinarity in action research.

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Abstract

The *Foodways and Futures*[1] (2013-2016) project is of interdisciplinary nature, shaped by the fields of education, public health, sociology and nutrition. *Foodways and Futures* is a qualitative action research project based in the North East of Scotland. The project is to explore the socioeconomic environment surrounding food choices of so called 'vulnerable' young people, aged 16 to 25. During the course of the research project, it became apparent that interdisciplinarity brings many strengths to the project work but also bears some difficulties. Investigating the discussions surrounding interdisciplinary work is important because it helps to better understand the processes of knowledge production, and to develop the practices of research funders and policy-makers. Unfolding interdisciplinarity as a buzzword in academia based on the researcher's experience is also part of the action researcher's self-reflective practice, contributing to the project's quality. This article is to make clear that it makes sense to tackle the obstacles of interdisciplinarity to ultimately develop better interdisciplinarity.

Keywords: Interdisciplinarity, nutrition, sociology, public health, young people

[1] For project background see Gombert, K. (2014). 'Young People, homelessness, UK welfare reform and food poverty in Scotland'. *Youth Voice Journal.* volume 4. http://youthvoicejournal.com/2014/09/10/karolina-gombert-2014-young-people-homelessness-uk-welfare-reform-and-food-poverty-in-scotland/

Introduction

Interdisciplinarity is an essential term in current academic parlance (Aboelela, 2007; Barry and Born, 2013, Holbrook, 2011), sometimes becoming 'normative' (Patell, 2009). In the broadest sense, interdisciplinarity is understood as 'collaboration among researchers in different disciplines' (Abromo, D'Angelo & Di Costa, 2012). The often used definition by the Organisation for Economic Co-operation and Development (OECD) (1998) names interdisciplinarity as the 'integration of different disciplines working on a common subject'; this article takes over this definition as a starting point for our further considerations. In the field of health sciences, considering health only through the medical lens would be fallible. Health is a combination of social, environmental and economic influences on a person's physical as well as mental state (Barton & Grant, 2006; Aboelela, 2007). Such is recognised by the World Health Organisation (WHO) (1946) in their definition of health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'[2]. For example, smoking cessation is not only incentivised by associating tobacco use with high rates of lung disease, but additional research on motivations and reasoned actions contributed to the successful execution of smoking cessation programs (Abolela, 2007).

Not only in health research, we consider and integrate learnings from other disciplines into the work in order to improve the intended goals and outcomes; even more prominently, 'neuroscience', 'cybernetics', and 'biochemistry' are well established. This emphasis on interdisciplinarity in research practice has also shifted how funding is being invested and created changes in academia, for example, joint appointments, as well as a rise in interdisciplinary programs and faculties (Nair et al., 2008). However, it seems that interdisciplinarity, despite its advantages such as increasing achievements between different disciplines, enhanced communication skills, and expanded scientific understanding (Casey, 2009), is sometimes used as a buzzword in academia. That means that it is employed as a novel approach which would be beneficial to many research projects (Lariviere & Gingras, 2010). There are

[2] Despite emphasising the influence of social, economic and environmental factors on health and hence making a case for our purposes, the WHO definition is being criticised. Huber et al. (2011) for example stress that health is also dependent on adaptation and self-management of social, physical, and emotional challenges.

also natural difficulties to engaging in interdisciplinarity, and little is known about how the researcher him or herself experiences working between disciplines in practice (Nair et al., 2008).

Some difficulties surrounding interdisciplinary research became apparent in the course of the fieldwork for *Foodways and Futures* (2013-2016), which led to exploring the discussions surrounding interdisciplinary work in this article further. *Foodways and Futures* is a qualitative action research project exploring the food choices of formerly homeless young people accommodated by a charitable youth organisation in the North East of Scotland. A project exploring food choices would by nature be interdisciplinary as it has long been recognised that our food choices are not only the result of health conscious decisions, but they are determined by complex interrelations between social, economic, environmental, and psychological factors (Bourdieu, 1984/1973). The project combines education, sociology, public health and nutrition. Conceptualised in line with the determinants of health and wellbeing framework by Barton and Grant (2006), the project takes the view that people's health is determined by a number of interrelated factors. While investigating how so called vulnerable young people (16-25) themselves experience their relation to food; we aim to improve young people's food choices through the possibility to actively engage in the project as a peer/core researcher. In public debate, 'the poor' may often not only be blamed as being responsible for unhealthy food intake too quickly (Limb, 2014; Lloyd et al, 2010), but especially for 'vulnerable' groups, the factors influencing food choices may be complex. This is because issues of finances to afford healthy foods, eating for fullness rather than nutritional value, reliance on day centres for food, irregular lifestyles, and lack of knowledge about healthy eating are likely to be more prevalent (Coufopoulus & Mooney, 2012; Davison et al., 2015). Via exploration through qualitative methods (observation, photo voice, focus groups and interviews) in line with interdisciplinary thinking, involving over 40 young people aged 16 to 25 as well as 30 members of staff, it becomes clear that the reality of young people's lives conflicts with public health messages. *Foodways and Futures* thus makes it clear that public health practitioners as well as researchers need to take into account the realities of the competing factors affecting young people's food choices.

This article gives insight into the positive and negative aspects surrounding interdisciplinarity based on the researcher's experiences during action research. Investigating such aspects is important for a number of reasons: it will increase our

understanding of how knowledge is being produced, help in developing the practices of research funders and policy-makers (Huutoniemi et al., 2010), and is also part of the action researcher's self-reflective practice, contributing to the project's quality (McNiff, 2002). This context specific investigation of interdisciplinarity as presented here is to exemplify how interdisciplinarity may potentially be detrimental if not used considerately. The researcher's experiences working in interdisciplinarity are to inform other interdisciplinary action research projects. The article argues for the opportunities interdisciplinarity brings and hence aims to contribute to making use of interdisciplinary approaches in the best possible manner.

Understanding Interdisciplinarity

In 1917 already, the Scottish sociologist Geddes critiqued 'specialisation' because "each of the various specialists remains too closely concentrated upon his single specialism, too little awake to those of the others" (1947). According to Gibbon et al. (1994), whose 1994 publication is noted as 'seminal' by Lariviere and Gingras, 'the way in which knowledge is being produced is beginning to change'. But how exactly it is changing and how exactly to define interdisciplinarity is still difficult to disentangle; neither, are the historical origins of interdisciplinarity agreed upon (Holbrook, 2011). Klein (1990) sees the emergence of the terms rooted in a conference by the Organization for Economic Cooperation and Development (OECD) (cited in Holbrook, 2011), while for others, interdisciplinary thinking goes back to Aristotle and Plato (Klein, 1990).

In order to get closer to a definition of interdisciplinarity, Aram (2004) for example, interviewed twelve US faculty directors on their ideas of interdisciplinarity. Despite not being a representative sample, their differing answers show that there is no single one working definition of interdisciplinarity prevalent; and Aram instead identified four different types of interdisciplinarity scholars, which yet remain to be verified (Aram, 2004). Also Abolela et al. (2007), in search for a definition of interdisciplinarity, interviewed 14 researchers affiliated with the Centre for Interdisciplinary Research. While the interviews gave insight into what researchers thought about interdisciplinary research, they could not establish definitional specifics from the interviews. Fiore (2008) refers to Brozek's and Keys' (1946) thoughts on interdisciplinarity published in *Science*. According to them,

> "The interdisciplinary approach is becoming one of the prominent characteristics of [science] and represents a synthesizing trend which focuses the specialized research techniques on problems common to a number of separate disciplines. Such cooperative research has to overcome serious obstacles when operating within the existing departmentalized framework of the universities. It appears that real progress in this direction will be made in institutions which are organized on a permanent and frankly cooperative basis. Psychologically, interdisciplinary research requires not only abstract, theoretical intelligence (and, frequently, manipulative skill) but also 'social intelligence.' Cooperative work is a social art and has to be practiced with patience."

Since this publication in 1946, today still, we would recognise interrelated 'theoretical, psychological, social' 'obstacles' with regards to interdisciplinarity (Fiore, 2008). Agreements on interdisciplinarity do not seem to have gotten much further (ibid.). The literature on interdisciplinarity remains young, there is no agreed upon definition of the term, and no comprehensive guidance of how to employ interdisciplinarity existent (Fiore, 2008; Bammer, 2013; Aram, 2004; Huutoniemi et al., 2010). This led Huutoniemi et al. (2010) for example, to a more holistic typology of interdisciplinarity itself through three dimensions. This typology includes, firstly, what they call 'the scope of interdisciplinarity, i.e. *what* is integrated; secondly, 'the type of interdisciplinary interaction', i.e. *how* it is done; and thirdly, 'the type of goals', i.e. *why* interdisciplinarity takes place. Through this typology, Huutoniemi et al. (2010) aim to accommodate multiple dimensions necessary for describing interdisciplinary projects, whilst also noticing that such dimensions are separate and open for empirical considerations.

Aldrich (2014) and Aram (2004) point out that in order to understand interdisciplinarity, it is important to understand disciplines first. The term discipline is being used since the early Middle Ages and stands for the ordering of knowledge for both teaching and learning (Aram, 2004). Even though disciplines represent the University structures today and appear as solid and rigorous categorisations (ibid.), their boundaries are ambiguous (ibid.). Disciplines are not stable, because they are

open to new forms of framing problems, theorising and investigating (ibid.). Disciplines also do not only consist of one core element, but they are composed of a number of subthemes, which might be highly specialised. Such ambiguities in a discipline rather seem to reinforce the ambiguities in interdisciplinarity, instead of solving them.

Whilst interdisciplinarity sometimes seems to get blurred and lumped together with multi- and transdisciplinarity, we distinguish between the terms. Even though similar to interdisciplinarity, definitions of multi- and transdisciplinarity are difficult to pin down, Abromo, D'Angelo and Di Costa (2012) refer to Stokols et al. (2003) who provide a brief conceptual guideline. Multidisciplinarity, they say, is a process whereby researchers work independently and sequentially in different disciplines, from their discipline specific perspectives, but all on a common problem. In interdisciplinarity, working on a common problem, still from discipline specific perspectives, becomes jointly. And transdisciplinarity goes further in developing a shared conceptual framework between disciplines (ibid.). Even though such attempt of explaining the terms is not a set in stone definition, they help to make us understand the discussions surrounding interdisciplinarity better.

There are also different discussions about the nature of interdisciplinarity regarding motivations behind interdisciplinary research, the degree of cross-country or cross-organisational research, the relation between research collaboration and research performance, and the interdisciplinary character of collaborations (Abromo, D'Angelo & Di Costa, 2012). In taxonomic terms, Klein (2008) for example proposes a coherent reference framework, structured according to seven generic principles which are to classify and evaluate multidisciplinary, interdisciplinary, and transdisciplinary research. Interdisciplinarity as a methodological approach is employed through field research based on surveys as well as quantitative bibliometric approaches and social network analysis (ibid.).

Despite such vagueness and disagreements surrounding interdisciplinarity, interdisciplinary approaches to research are increasingly highlighted as necessary for resolving complex problems and having a greater impact factor than disciplinary research (Aboelela, 2007; Abromo, D'Angelo & Di Costa, 2012; Committee on Facilitating Interdisciplinary Research et al., 2004; Huutoniemi et al., 2010; Klein, 2008; Jacob, 2015). To put a face, i.e. a figure, to this increased demand and interest in interdisciplinarity and interdisciplinary teaching, according the National Center of

Educational Statistics (NCES) (2015), in the US, in the field named as 'multi/interdisciplinary studies' the number of Bachelor degrees conferred increased by 42 percent between 2006–07 and 2011–12. The disagreements and vagueness surrounding interdisciplinarity shall not allow us to quickly accept the topic as incomprehensible (Holbrook, 2011), but instead trigger our efforts to understand it better.

Interdisciplinarity and Action Research

Action research, grounded within the qualitative research paradigm, is a reflective process aimed at solving a problem (McNiff, 2011). This process involves the identification of a problematic issue, imagining possible solutions, trying these out, see whether they are feasible, and initiating change in light of their feasibility (ibid.). Thus, action research and interdisciplinary research come together under the intention of resolving a problem in the most sensible way. In one way or the other, it appears that every action research project involves a combination of different disciplines because education[3] through, on or about a subject is crucial to action research; and hence education always one of the involved disciplines.

Fitting for projects such as *Foodways and Futures*, Shaishta (2014) names interdisciplinarity 'a form of action'. This is because interdisciplinarity describes a state of mind of working between different disciplines to make sense of a specific problem through the knowledge available drawing from different thinking paradigms and fields of knowledge (ibid.). Interdisciplinary research would thus 'act' between disciplines, instead of resting within disciplinary realms. Connecting this idea of active information between disciplines again to action research, crucially, the invaluable knowledge and support from the research participants informs and influences the problem solving process; and enforces further cycles of knowledge production. In this sense, interdisciplinarity and action research are mutually beneficial.

Interdisciplinarity therefore also comprises elements of motivation, communication and group behaviour and includes personal interactions, exchanges and conversations (Shaishta, 2014; Holbrook, 2011); which Fiore (2008) refers to as 'team science'. It becomes apparent that interdisciplinarity is not a static descriptive

[3] Education not in the 'traditional' sense, but as 'originality of mind' (McNiff & Whitehead, 2010).

realm for us to make sense of our working environments, but instead, an invaluable approach to solution focused knowledge production.

Exploring Interdisciplinarity with *Foodways and Futures*

The action research project *Foodways and Futures* is shaped by the fields of education, sociology, nutrition and public health and is hence classified as interdisciplinary. *Foodways and Futures* is one of the projects under the Pathways to a Healthy Life theme[4] at the University of Aberdeen which is "to facilitate and strengthen interdisciplinary collaborations that address the complex mechanisms by which individuals, lifestyle, the local community, socio-economic and environmental conditions affect healthy ageing". *Foodways and Futures* aims to explore the food choices of formerly homeless young people in the context of health inequalities[5] and food poverty[6] in Scotland. During fieldwork, along with ongoing ethical considerations, some issues specifically related to or triggered by practically working interdisciplinary became apparent. In order to structurally convey the issues surrounding the different experiences, they are grouped in and elaborated on under three subheadings: *Synthesis of Theory and Practice, Motivations,* and *Bureaucracies.*

Synthesis of Theory and Practice

Abolela (2007) and Bammer (2013) both underline that interdisciplinarity is about more than bringing together researchers from different disciplines. According to Bammer (2013), the development of what she calls 'integrative applied research' involves three domains: Firstly, pulling together what is known about the problem

[4] http://www.abdn.ac.uk/healthy-pathways/
[5] 'Health inequalities are strongly associated with socio-economic inequalities, and are increasing in Scotland. The causes of death increasingly responsible for mortality inequalities are suicide, alcohol and drug-related violence, all with clear social causes' (NHS, 2014).
[6] According to current figures, it is estimated that over 500,000 people rely on food aid in the UK (Cooper & Dumpleton, 2013). The Trussel Trust (2013), the largest food bank network in the UK, reported increase in food bank users of 170% from 2011/2012 to 2012/2013.

from both academic research and practical experience; secondly, appreciating that everything about a complex problem cannot be known and the remaining unknowns must be taken into account in decision making and action; and thirdly, providing integrated research support for policy and practice change that supports making decisions and taking action. In very short, interdisciplinarity shall not be taken as a given. *Foodways and Futures*, under the Pathways to a Healthy Life theme, was theoretically conceptualised as an interdisciplinary project before the project work began. If a project claims to be interdisciplinary, it is essential to reflect on what its interdisciplinary nature entails in practice, how interdisciplinarity advances the project, and how it has positive effects on the outcomes.

It is important to keep the project goals in mind. If the project was to 'only' measure the nutritional state of young people, to 'only' teach about healthy eating, or to 'only' observe eating behaviour, disciplinary approaches from nutrition, education and sociology might be better suited to meeting these goals. However, the pre-conceptualisation of such exemplified goals is a problematic and ethical issue in itself because the work would not remain open for adapting the project goals to the participants' needs. Interdisciplinary work, instead, is a process of sense making. This quality of flexibility for adapting the work between disciplines according to the needs, ideas and liking of the young people is a quality also the action research approach brings to the project. Again, interdisciplinarity in this sense, is employed as an ethically sound research approach.

At the same time, practical synthesis or integration of different fields of knowledge, as well as working practices, presupposes changes and crossovers in the researcher's politico-epistemic viewpoints (Hoolbrook, 2011); hence, the emergence of interdisciplinary thinking. Even though such interdisciplinary thinking is difficult to pin down, *Foodways and Futures* upholds that being able to understand the background to different viewpoints from different working fields – i.e. sociology, education and nutrition - is both possible and essential. Such 'interdisciplinary communication' is necessary in order to engage everyone involved, including the participants, in the informed processes of analysing and evaluating information from multiple sources in order to arrive at reasonable decisions. For example, *Foodways and Futures* found a clash between public health and nutritional advice messages and the realities of young people's lives. Even though healthy food intake is of utmost importance during adolescence (WHO, 2012), many young people are not influenced by health concerns when making their food choices (Story, Neumark-Sztainer &

French, 2001; Steveson et al. 2007). Especially when from socio-economically rather deprived backgrounds, young people may have erratic eating patterns including high intakes of fast foods, fat and sugar, as well as low intakes of fruits, vegetables, and calcium rich foods, or diet unhealthily (Story, Neumark-Sztainer & French, 2001; Jenkins & Horner, 2005; Davison et al., 2015).

Maibach and Parrott (1995) outline that human behaviour can only be translated into an effective health message when we know and understand the target population. Thus, the interdisciplinary approach to *Foodways and Futures* attempts to bridge the divide between public health expectations, policy discussions and academic discourse. Understanding the socio economic environment to people's food choices can facilitate the development of effective interventions for healthier eating among adolescents (Story, Neumark-Sztainer and French, 2001).

Still, how can we be certain to actually bridge the gap between theory and practice, and to arrive at effective results, through interdisciplinary work? The answer is we cannot. Silos between the different working fields remain. However, such silos also exist within disciplines; the divide between the world of theory and the world of doing is not exclusive to interdisciplinary work; interdisciplinarity as a means to an end instead of a goal in itself can help arrive at more effective results. As an example of such practical approach, in combining action research and interdisciplinary thinking, *Foodways and Futures* introduced a core/peer researcher group of young people. This group intends to be solution focused, adapt to a specific context and make sense to the participants. The group is engaged in an ongoing process of exploring possibilities of improving the organisation's services and hence knowledge creation. Of interdisciplinary nature, the group actively takes the realities of young people's lives into account, recognises public health advice, uses social science methods of interviews and focus groups, and is in itself an ongoing educational experience. In this sense, interdisciplinarity becomes a reality on several levels, including the young people's daily life, the integration of methodological approaches, and the project's informational basis through different fields of knowledge.

Motivations

The motivation for researchers to conduct interdisciplinary research is a problematic issue. From a purely practical point of view, interdisciplinarity does have many

benefits. Interdisciplinary projects might attract funding sources more easily, because a number of different sources might be eligible; and the work could potentially be disseminated in many ways. Abromo, D'Angelo and Di Costa (2012) present some of the 'motives' for undertaking interdisciplinary research: 'adding solutions to complex problems, search for complementary expertise, gain access to facilities, obtain new research funding or improve research performance' as well as more personal reasons such as 'gaining prestige and visibility in the researcher's scientific community'. Only one of the reasons listed, 'adding solutions to complex problems', if at all, seems to be primarily motivated by improving the research output. From this, it would follow that more often than not personal motivations seem to play into the equation of the reasons for working between disciplines.

As summarised by Shaishta (2014), also due to other challenges of 'prevalence of isolation imposed by the existing institutional context' and norms, potential high costs, and difficulties in overcoming well-established individual thinking patterns and group dynamics, concerns about the quality of interdisciplinary projects are being raised. Surely, the actual outcome and benefit of interdisciplinary research may be hard to measure in some cases. For *Foodways and Futures* for example, the positive outcomes of the project are to a large part dependent on the individual perceptions of the participants.

However, the researcher's self-reflection, not only on the mode of working, but also on the structural foundations to the project, such as funding sources as well as faculty and theme affiliations, is essential. Via publications such as this one, we aim to encourage a deeper examination of the project's structural context, including the reasons behind interdisciplinarity. This can help prevent working interdisciplinary for the sake of being part of an interdisciplinary academic movement only; and hence improve the quality of the project's outcome (McNiff, 2002). Researchers shall be encouraged to question the interdisciplinary basis to their work.

In particular, for an action research project, the question of motivations behind the project must crucially be posed with the participants in mind. It seems that all too often the discussions surrounding the purpose of interdisciplinarity do not extend to the field, but stay within the academic realm. Interdisciplinary action researchers must ask themselves questions such as *What does interdisciplinarity mean for the participant? What can the participant gain from interdisciplinarity? If interdisciplinary*

action research was to 'empower' participants, what does interdisciplinarity contribute to this empowerment?

Bureaucracies

Despite a rise in interdisciplinary work, bureaucractic structures still pose challenges to interdisciplinary researchers (Flood, Martin & Dreher, 2013). When being affiliated to different faculties, the researcher will have to work between different bureaucratic environments, accommodate different expectations, and adapt to different logistic working practices. The 'openness' for interdisciplinarity may differ between disciplines (Pattel, 2009). As Pattel (2009) notes, 'while multi-inter-trans initiatives in the natural sciences, medicine, law, and economics might be lauded as signs of innovation, too much multi-inter-trans in the humanities may be perceived as a dilution of the epistemological strength of the university'. The field of public health is in essence interdisciplinary targeted at creating bridges between health policy makers, practitioners and academics for the improved health of the public, but it is not necessarily promoted as such within the University. There thus seems to be an ambiguity within the University landscape in terms of the idea of a structural organisation through disciplines, and, at the same time, a movement in advancing interdisciplinary working. This is not only the case for Universities, but also within and between organisations, and the public sector (Aram, 2004).

Many of such bureaucratic issues come down to interpersonal relations (Shaishta, 2014). In our case, this means it is left to the researcher to explain the work, the expected outcomes, and difficulties during the project work to the different parties involved; and connect them. However, how can it be expected of one person to be professional in communicating between all the different disciplines involved, especially when the critique of interdisciplinary researchers is to not be professional in any one discipline? In fact, misunderstandings are highly possible and the researcher is likely to find him or herself juggling between people, disciplines and expectations (MacMynowski, 2007). MacMynowski (2007) in this regard, in her work on the touching points of social science and biophysics, makes it clear that power is a factor ingrained into interdisciplinary work; even though power has not explicitly been recognised as a challenge and barrier to interdisciplinarity (ibid.).

> "Power can manifest in many ways: an accepted account of a […] problem, individual scientific status, the inclusion, or exclusion of researchers, relative impacts of research findings, access to resources, or perceived relevance to policy decisions […]. In other words, power is synonymous with influence, authority, and validity, and it can be exercised in many overt and subtle social and institutional venues."

To investigate power relations more deeply MacMynowski (2007) proposes to further explore subjectivity in research, responsible for conflict and misunderstanding. When looking at the fields of social and biophysical sciences for example, social science would bring comparatively less social power to the 'interdisciplinary meeting ground' since subjectivity on the part of the social science researcher is strongly recognised (ibid.). When differences in subjective ideas about the work persist, they might impede the potential of interdisciplinary research (ibid.). Recognising and studying these further helps to improve interdisciplinary work in theory and practice and to make 'differences transparent, understood, and open to negotiation' (ibid.). To make the situation more complicated, when looking at interdisciplinary and action research together, action research is sometimes described as a 'chaotic' or 'messy' approach (Brydon-Miller et al., 2003); and it might thus seem that action research adds to the opaqueness of interdisciplinarity. However, such perceived opaqueness and messiness is one of the strengths behind the research approach to *Foodways and Futures*; practically reflecting the complexity and texture of the 'real life' of the participants. This is because as noted above, crucially, the project is bound to be flexible to the needs and ideas of the participants if we want to gain a better understanding of their lived experiences. The theories and learnings emerge from practice (McNiff, 2002), with 'real people' in 'real situations' (ibid.). Knowledge thus develops in a flexible, adaptable, sensitive and considerate process of learning from others, and rethinking the knowledge we already have and sometimes might prematurely consider as scientifically proven or recognized (ibid.). Attempts to categorise our knowledge is hence not expedient in every context. We cannot understand complexity if we try to make too much sense of it (Murray, 2013). In this regard, Cilliers noted that 'we have to deal with what we do not understand, and this demands new ways of thinking' (cited in Murray, 2013) which interdisciplinary work gives opportunity to do.

Conclusion

By no means is this article to be understood as either a critique or a self-justification for interdisciplinary scholars and practitioners. Quite the contrary, interdisciplinary researchers have to keep the discussions surrounding theoretical as well as practical interdisciplinary work alive in order to continuously improve their work.

One way to address the above in themselves interrelated issues is to focus upon how individual researchers can develop and practice interdisciplinary research better. Then, it becomes vividly apparent that 'the human aspect' to crossing disciplines is essential (Shaishta, 2014). Developing a better understanding of individual researcher perceptions is therefore a way to enhance and improve interdisciplinarity (ibid.). In particular, when looking at interdisciplinarity and action research together, we would like to propose interdisciplinarity as an approach and thought paradigm in itself, helping to enrich the experience of and outcomes for the participants - whilst remaining critical about the researchers own practices and position within the project.

Interdisciplinary research has a vast potential for providing integrative solutions, approaches and developing new theories (Shaishta, 2014). This potential of interdisciplinarity can be practically explored and integrated into action research projects if the aforementioned issues grouped under *Synthesis of Theory and Practice, Motivations,* and *Bureaucracies* are being recognised; and researchers engage in an ongoing process of self-reflection.

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