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Using communities of practice to support the implementation of gender equality plans: lessons from a cross-national action research project

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Abstract. Today, in many European countries, research and higher education institutions have made steps to implement gender mainstreaming: integrating the gender issue in management processes, in staff and leadership development programmes and assessment procedures. There are signs of concerted efforts to tackle persistent gender inequality, with varied levels of success. This paper will outline findings of a cross-national action research project that focuses on the implementation of gender equality plans (GEPs) in research and higher education institutions in order to examine how the interactions between researchers, gender equality practitioners and senior managers are socially-situated. A key theoretic lens is communities of practice (CoP), which underpins the analysis of the process of how people can work together to promote gender equality. The paper outlines the various methods used to promote CoP - the generation of knowledge, opportunities for establishing and maintaining relationships, and sharing experiences and expertise – illustrated with concrete examples. We found that through CoP we have identified gaps and common issues that form the basis for collaborative learning to develop better understandings of good practice in supporting GEP design and implementation.

1 Introduction

Across the European higher education (HE) research landscape gender inequality is evident in the quantitative data produced in national and international contexts, at early career researcher levels through to senior positions, particularly in Science, Engineering and Technology (SET) disciplines[1]. The European Commission's SHE Figures on gender in research and innovation published in 2015 show movements towards greater equality: at doctoral level for example. However, horizontal and vertical segregation remain persistent

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features of the HE landscape. Inequality in HE employment is apparent in gender differences in the working conditions of researchers, as women are more likely to work part-time, face greater precarity, and are paid less than their male counterparts[1].

Notwithstanding the differences between national contexts with regards to the gender gap, across Europe there are moves to develop new modes of governance for academic and research institutions with regard to the issue of gender equality[2]. The key question is how institutions can best integrate a gender mainstreaming approach into concrete measures, outlined in Gender Equality Plans (GEPs).

Gender research and debate has provided a major contribution to the critical assessment of the prevalent structures and modes of governance in academic and research institutions [2]. This critical assessment has led feminist scholars to advocate the implementation of measures such as coaching programmes and mentoring schemes to support women's access to academic careers. Today, research on management and staff development in academic and research institutions acknowledges the potential of such measures to foster institutional change. The importance of the gender dimension to address questions such as leadership, staff development and governance in higher education and research institutions is also highlighted by research on leadership requirements[3] and by research on the impact of organisational structures and flows of communication to explain differences in research productivity between women and men[4]. Research conducted by Colatrella[5] on gender equality, family/work arrangements, and faculty success in Danish Universities highlights that despite the national context of greater equality than other European countries, high levels of women in employment, good childcare provision and maternity leave, women in academia are still struggling to climb to the higher rungs of the academic career in universities. Therefore, it is important to explore, not only the policy-practice-gaps, but the relative impact/effectiveness of measures: the Danish case shows us that policies in themselves are not enough.

This paper provides an overview of the methods developed over the course of a four-year cross-national action research project to facilitate and enhance the implementation of gender equality plans across varied higher education and research institutions in Europe. The theoretic lens of communities of practice (CoP) is applied to explain relationships between researchers, gender equality practitioners and senior managers, which underpins the analysis of the process of how people can work together to promote gender equality. The paper outlines the various methods used to promote CoP - the generation of knowledge, opportunities for establishing and maintaining relationships, and sharing experiences and expertise – illustrated with concrete examples such as: the institutional mapping of existing policies and practices; and the sharing of challenges and successes. The aim is to promote good practice in supporting gender equality plan development and implementation through an understanding of CoP.

2 Communities of Practice Theory and its application to GEP

To explore the change management processes and activities aimed at tackling gender inequalities instigated in institutions, with stakeholders and within the research group we have adopted an approach which recognizes how knowledge and learning is socially situated: namely Communities of Practice (CoP). Lave and Wenger established the conceptual framework of CoP as a result of observing how knowledge is dependent on context and continuously evolving through interactions[6]: and should therefore be understood as an extension of social practice theory. CoP has been defined as 'groups of people who share a concern, a set of problems or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis'[7][8].

Following on from this others argue that CoP play a critical role in learning and innovation in organisations[9] and that ‘practice is central to understanding work’[10].

Much of the research on CoP in HE tends to focus on the development of the curriculum or is centred on teaching within those institutions[11][12] – there is much less that applies CoP in the context of Gender Action Plans, Action Research projects, or in research teams more generally (notable exceptions include: McGee, 2016 for CoP in biomedical research fields[13]; Danowitz, 2016 for CoP in becoming a gender scholar[14]; and Burkinshaw, 2016 on CoP in HE leadership[15]). We argue that this is a missed opportunity: as the premise of CoP is closely aligned to the way large research and stakeholder teams form and work together to solve problems and advance knowledge around a key issue. The research of Wenger and colleagues has resulted in a wide-ranging framework for understanding how CoPs operate that is relevant to gender equality action research: Table 1 outlines three elements of CoP theory and how these can be applied specifically to our research, but will be relevant to similar projects. The domain comprises of a set of defined issues or problems that forms the purpose of the groups’ activities – in our case the continuing gender inequality in HE and research institutions across Europe. Community refers to the group members and the quality and quantity of interactions in the group. In this case the community is made up of a mixture of researchers, academics, institutional management and gender equality practitioners. Practice is the processes and knowledge products of the community, accepted and encouraged tools for communication between members. Applying this element to our study we can recognise the importance of regular face-to-face meetings and emails/skypes in the interim periods. Through the project, as a group, or ‘community’, we have established tools for enhancing knowledge sharing and made formal and informal space for this to occur, examples will be shared in the methodology and results sections of this paper. What is important for us to consider on such a project as this is, how do we know what are the best approaches to use in our institutions? what has worked well elsewhere?, really going beyond the messages of policy documents and institutional marketing material to ‘know’ how to practically implement GEPs. To do this we have applied CoP’s two important components of ‘knowing’: competency and experience[16] to the supporting of GEP implementation process, which have underpinned the methods we describe and is considered again in the discussion section in light of the results.

Table 1: Applying Communities of Practice Structural Model

Element	Explanation	Application
Domain	A domain of knowledge, which defines a set of issues. A well-defined domain affirms the purpose and value to members and stakeholders	Gender inequality in higher education and research institutions in European countries.
Community	Socially situated learning. A strong community fosters interactions and relationships	A network of researchers and practitioners communicating and meeting regularly. Some group members have worked together on multiple research projects over many years.
Practice	A set of frameworks, ideas, tools, information, styles, language, stories and documents that community member’s share, which develops specific knowledge on the domain.	Shared knowledge developed and accumulated through data collection, analysis and synthesis; documentation of national and institutional contexts; participation in workshops and thematic discussions of experiences.

Source: Explanation of elements drawn from Wenger et al., (2002)[8]

3 Methodology

The methodology adopted is broadly revolved around the key elements of CoP – that of exploring experience and enhancing competence. In the early stages of the project it was important to develop up-to-date and easy to share information on the current situation in the institutions where GEPs would be implemented. To achieve this, a framework for the systematic mapping and comparison of existing policies and practices was developed: a framework that collected equivalent qualitative and quantitative information across the differing institutions in a format to share between teams and individuals. The raw data and summary analysis actively fed into later steps of the methodology, regarding GEP design and implementation, whereby researchers engaged in activities that attempted to influence those in power and develop actions that support women at various stages of their careers.

The institutions that implemented GEPs are very different in terms of size, discipline, structure, history and national context (countries include: Austria; France, Germany, Italy, Serbia, Spain, Sweden and the UK). These differences were used to explore points of overlap and departure in how GEPs can be achieved: and how difficulties or success factors can differ or persist regardless of national or institutional context.

3.1 Institutional mapping of existing policies and practices

In order to design and implement effective GEPs it was necessary to establish the existing ‘policy and practice landscape’ and design planned actions in response to the current situation in each institution. A first step was to systematically describe the existing gender equality measures in place in the eight institutions, in terms of detailed information about the history, aims, implementation, limitations, actors involved, target group, and costs. This type of information was in some cases readily available in institutions, in the form of website information and internal documentation, though it has also been necessary to liaise with staff in the institutions in order to access informal and/or non-documented information.

As this is a cross-national study, it was important to consider measures that attempt to deal with the underrepresentation of women in STEM or more generally about gender equity, which may originate at supra-national, European, national, regional, sector or institutional levels in order to properly take into account the differing national contexts that GEPs operate in. It was decided by the cross-national research group during the collection of data that a ‘narrow’ definition of existing measures would be applied, meaning that the measures looked at would fall within a specified institutional GEP or have direct relevance for gender equality policies. The main reason for this approach was to attempt to place a clear boundary around what it is we are looking at in the mapping analysis, though this approach has limitations.

3.2 Supporting GEP design and implementation

Building on the mapping exercise, it was key to develop methods to support GEP design and implementation that recognised the need for social interaction in line with CoP theory. With this in mind our preoccupation was in building and maintaining cross-institutional relationships using a broad range of methods: collaborative workshops, online discussion forums, in-process consulting, and frameworks for information sharing (following specific guidance, or on particular topics), alongside more informal networking time that is important to building working relationships. The focus was to offer information about possibilities for gender equality interventions (building competence), but also to stimulate

learning processes and knowledge sharing among the beneficiaries and the organizations involved (sharing experiences). As Wenger suggests: practice is the process and knowledge products of the community, developed through communication between members [16].

In this paper we will focus on two specific methods we used to support GEP design and implementation: an institutional 'pairing' exercise; and World Cafés style workshops on challenges and successes that were held throughout the project. The Institutional Pairing Exercise was developed from recognition of the different states of institutions in terms of gender equality policies and practices. Here we placed institutions in pairs, so they had the opportunity to seek information from institutions that already have experience of particular aspects of GEP. Teams were paired up following the rationale of experience levels in equality (e.g. a team more experienced in developing and running career development workshops for women is paired with an institution who has an interest, but little experience, in carrying out these activities), who agreed a practical 6-month plan of how they will work together. In order to take a step forward in the knowledge sharing among the beneficiaries, practice and knowledge exchange between institutions was fostered through annual collaborative workshops using Word Café methodology. World Café is an increasingly popular approach to participatory research and policy-making that is also frequently defined in relation to community development. This method seeks to create environments in which participants' shared activity and inter-subjectivity enable positive responses to problems and challenges[17].

The workshops, attended by members of the research group and key persons based in the institution (named Transfer Agents), consisted of guided collective reflections about the experiences when implementing the GEPs at different stages of the project, that left space for questions about how co-support be facilitated through discussions about GEP implementation. To ensure a successful outcome, relevant questions were formulated to enable innovative thinking by making use of collective intelligence. The workshops focused on the exchange of experiences on the challenges and success factors that permitted the participants to identify common challenges and share ideas for how to respond to these: this approach was reinforced in discussions during knowledge transfer visits to institutions that were organised in addition to research project meetings. Ultimately the purpose of the methodology outlined here – mapping, pairing institutions and workshops - is to support effective GEP implementation that recognises the social basis of individual and organisational learning and change processes.

4 Results

4.1 Institutional mapping of existing policies and practices

The eight institutions who took part in the mapping exercise outlined information about a total of 149 existing gender equality measures - an average of 19 measures per institution. The top three broad topics that these measure address are on 'Institutional culture', 'Management and policy making' and 'Work-life balance'. This was encouraging for us at the start of our GEP implementation as it demonstrates that there are policies in place to address equality in the workplace around the key issues of the organisational culture, the ways management have mainstreamed gender equality and policy around the issue and the balancing work with private/family life, all of which have been raised in research as crucial for women in employment.

The mapping found that the three areas that have the least amount of measures are in relation to 'salaries', 'recruitment' and 'staff development and support'. These three areas are important as; we know that a gender pay gap exists in all institution's national contexts

(a recent report describes the gender pay gap in the UK[18]); the loss of women at key stages of careers is a known factor in their under representation in higher positions in organisations; and that support and development mechanisms in organisations can have a beneficial impact on the efficacy of women researchers.

An analysis of the levels of implementation of existing measures already in place found that 60 per cent of the measures listed had been fully implemented; 28 per cent had been partially implemented and a small proportion (7%) had not been implemented at all - some of the measures that had not been implemented had imminent plans for action. There were variances across partners with regards to the levels of implementation of existing measures – some institutions had fully implemented all measures, whilst others have lower levels of implementation, which suggests differences in organisational cultures with regards to gender equality policy and practice. The mapping clearly points to the impact of the organisational context on the ways gender equality measures are positioned in the institution – for the Austrian institution gender equality is thoroughly embedded into the processes and procedures of the institution. The situation of the Austrian institution, as a relatively autonomous, small and young research institute, means it can develop policies and cultures in a more responsive way than those institutions who were working within large and long-established traditional university contexts. The multiple ways that institutions deal with gender equality will reflect existing contextual strengths and constraints. An institution like the UK institution, a university with devolved school structure but strong centralised policy for employees, will need to engage responsible staff not only in the school, but also across the whole university hierarchy. Traditional university committee structures have clearly defined paths for communication and policy development, the success of the project in those types of institutions will depend upon the ability to infiltrate those established structures.

Information about the measures was broadly categorised by topic: Careers development and networking; Institutional Culture; Management and policy making; Recruitment; Salaries; Staff development and support; and Work-life balance. The ordering of measures according to these broad categories, though an imperfect categorisation, enables greater clarity in providing an overview of institutional gender equality policy and practice. It also provides a framework for identifying gaps and measures that could be transferred between institutions and possibly making comparisons between institutions.

The analysis was not only about assessing the state of the art of gender equality policies and practices across the institutions, the mapping exercise also resulted in a set of concrete recommendations for GEP design and implementation:

Recommendation 1. Institutions should conduct evaluations of existing measures.

Recommendation 2. Institutions should consider investing in policies that have only been partially implemented so far.

Recommendation 3. Institutions with relatively low levels of gender equality activities should focus on initiating new measures, learning from the successes of other institutions.

Recommendation 4. Identify the gaps around particular objectives in your own institutional activities and use the knowledge and ideas from other institutions to devise new actions.

Recommendation 5. Research teams should build positive relationships with the key actors where this has not already been established. Working to enable communication and action between key groups of the institution should be part of the GEP for all institutions.

Recommendation 6. Secure the commitment of people in the organization who are involved in change processes: the sustainability of dedicated gender equality structures at institutional level is important.

Recommendation 7. Create tools for enhancing knowledge sharing and develop formal and informal space for this to occur. Organise events that bring the community together and make the most of the experiences of participants foster and enhance knowledge transfer.

These recommendations proved a useful starting point, based on up to date empirical data collected in institutions, which underpinned the methodology developed for supporting GEP design and implementation.

4.2 Supporting GEP design and implementation

4.2.1 Learning from each other through institutional pairings

The mapping exercise highlighted the different starting points of the institutions in the project. Some institutions were based in countries with a strong gender equality policy framework and an established culture in addressing organisational equality and diversity objectives: whereas other institutions were relatively new to this kind of work. The institutional pairing exercise took advantage of the differences between institutions and research teams' strengths by promoting a closer relationship and providing a framework for collaborative knowledge sharing. In a workshop environment participants were asked to consider the challenges they would like to address; the institution(s) that may help me to address them; strengths/success practices that can help others; and which institutions might benefit from my strengths/successes. In response to the answers given, teams were then paired up and given a set of structured questions to work through: at the end of the session a plan was mutually agreed for information sharing and support focused on specific tasks in the GEP.

An example of this includes: one institution sharing information about the system for collecting gender disaggregated data to an institution where no such system exists; another offered expertise in conducting focus groups; another described in detail the homeworking policy in place, including information on how this is evaluated at institutional level and the experiences of staff who work this way. One pairing looked in detail at academic career models and how careers develop in the institutional context. Clearly this kind of knowledge sharing is simply good practice on such a project, however, the pairing-model allowed more in-depth knowledge exchange – so we could ask questions about 'what really happens in your institution', to go beyond the rhetoric of written policy documentation, or even that which might be shared in a formal meeting context.

4.2.2 Sharing challenges and successes through World Cafe workshops

Workshops gave the opportunity for community members to have open discussions, to work closely together, to reflect on experiences and to offer mutual support and guidance on the self-defined aspects of the implementation. The overall reflection on experiences helped the group to specify 'how to overcome challenging' factors and 'how to use supporting' factors for implementation of the actions (e.g. how to overcome challenges or how to best take advantage of the success factors). A key success factor identified in the workshops is the good timing of the project in relation to other institutional activities (for example, in the UK institution there was building momentum around Athena SWAN engagement – a national scheme that promotes gender equality in higher education

institution). More prominent in the discussions, however, were the challenges faced in trying to address gender inequality in institutions: these were in relation to how to communicate gender equality goals in institutions; how to assess institutional practices; lack of disaggregated data; prominent competitive and meritocratic cultures; and challenges in securing commitment of decision makers in institutions. The workshops provided a secure environment for research team members to articulate and discuss the challenges faced in GEP work.

This has allowed creation of an overview of activities where complementarities can be easily spotted and possible areas for further examination. In this sense, the areas that have most similarities across the institutions are in the analysis of the attrition of women in HE, flexible working policy implementation, instruments for the evaluation of gender policies, mentoring and skills enhancing programmes, gender as a crosscutting issue, how to involve decision makers, bureaucracy resistances and communication.

From this point, this research represents not only an opportunity to implement gender equality actions, but is also a starting point to install a culture of reflection at institutional level. Identified challenges require supportive actions dealing with disaggregated data at institutional level together with internal (at project level and institutional level) and external communication (large scale) creating gender culture. Furthermore, we found in the workshops that efforts are needed to create a common vocabulary across the different institutions (and nations), evaluation methods require specification and more actions are needed to consolidate the commitment from the decision making spheres. The ability to openly discuss challenges and successes in a confidential and supportive community positively impacted on the research teams as they attempt to tackle a complex organisational issue.

5 Discussion: Exploring experiences and enhancing competence in GEP implementation

Our experiences supporting the design and implementation of GEPs during a cross national action research project suggest that the concept of CoP can be illustrated by how large research and stakeholder teams form and work together to solve problems and advance knowledge around gender equality. Consequently, we have applied CoP's two important components of 'knowing': competency and experience[16] to the supporting of GEP implementation process. Through the mapping, pairing and workshops exploring challenges and successes methodology we have facilitated the exploration of experiences implementing GEP and enhanced the competence of those in the community. Learning so defined is an interplay between social competence and personal experience. It is a dynamic, two way relationship between people and the social learning systems in which they participate[6].

According to social learning system theory, different modes of participation exist; *engagement* is doing things together, *imagination* is our interpretation of the social world and *alignment* is making sure our local activities are aligned with other processes[16]. Indeed, at various points of the project the differences between the modes of participation have been evident: collaborating on activities, through the discussions about how we understand the practices in other institutions, to attempting alignment (with an understanding of institutional context) in documenting GEP implementation progress.

A strength of CoP, as one of the structuring elements of social learning systems[16], is the recognition of how knowledge is socially and culturally situated: as this aspect is writ large over the course of a cross-national action research project! The methods employed were focused on community building and the recognition and enhancement of competency on tackling gender equality. The research group and broader community consist of a

network of researchers and practitioners communicating and meeting regularly. Some group members have worked together on multiple research projects over many years. It is argued that effective community design is built on the collective experience of community members and requires an understanding of the community's potential to develop and steward knowledge[8]. The potential for such a group to build a CoP and work together to tackle GEP was promising.

Workshops and pairing exercise given the opportunities for open discussions, to work closely together and to offer mutual support and guidance on the self-defined aspects of the implementation. The "community" reflection experiences helped within the specific 'how to overcome challenging' factors and 'how to use supporting' factors for implementation of the actions (e.g. how to overcome challenges or how to best take advantage of the success factors). By participating in CoP we have defined together what constitutes competence in a given context (GAP implementation in higher education and research institutions in European countries) and offer the opportunity to negotiate competence through an experience of direct participation, which has been established over time.

The pairing exercise was an interesting example of recognition of apprentice/expert status, not necessarily defined by institutional position, rather through skills and experiences. For some of the research group, action research was a new experience and the move from apprentice to expert occurs through participation in the CoP over the course of the project and in the institutional context – for example, by becoming a known gender expert in the institution who can provide information and opinion based on research literature and cross-national networks. For Lave and Wenger, the movement from apprentice to expert through participation offers clear indications of the social situation of learning[6].

There were challenges and limitations with these kinds of approaches on a cross-national action research project with regards to definitions/categorisations, power relations (in the research group and in institutions) and geographical distance.

The mapping provided an insight into existing measures towards gender equality and raised some key questions early on in the project; how do we conceive gender equality measures (narrow or broad definition) and how can we fully understand the situation in other institutions. There was an interesting debate within the research group on the usefulness of particular categorisations and concepts of gender equality measures. We recognise that there are issues about how we can conceptualise gender equality measures – for example, there are measures with the main purpose to combat inequality and target specifically women and can therefore be clearly included in an analysis of gender equality measures. However, there are also measures that target both men and women, but are understood to have increased importance for women wishing to balance work and home life (for example, flexible working policies). Some questions were raised about the clarity of utilizing the categories in practice; however a discussion around this issue did not result in a more preferred approach. Further we can see that the way we define gender equality measures has impacted on the mapping results for some institutions, particularly those whose gender equality measures are implicit rather than explicit in the way organisation policy is articulated.

It is argued that existing power relations impact on researchers in action research and the importance of recognising this as an issue[19]. Further, as CoP depends on connections and visibility; knowing people; priorities and intellectual property; and communication and values[8], the ability to participate fully is dependent upon established social status in the group – in fact CoP *relies* on power differentials as it acknowledges the move from apprentice to expert, privileging experts and implicitly diminishing the role that newer members might play in tackling gender equality. It has been found that the behaviour of

community insiders influences the attitudes of the newcomers, thus it matters with whom one interacts upon entry into a community [20].

A final challenge and limitation for applying CoP to a cross-national research project is the major issues confronted by geographically distributed communities: distance makes it difficult for people to connect; the large membership size makes it hard for people to know each other (though this issue was minimal on a project of this size – across ten institutions); problems of priority and intellectual property arise; and cultural differences among members located across different countries can lead to communication difficulties[8]. Each of these issues was experienced in varying degrees in this project and measures to counter these should be taken into consideration in similar GEP projects that wish to adopt a CoP approach.

6 Conclusion

The findings obtained from this research show that in order to design and implement effective GEPs it is necessary to establish the existing ‘policy landscape’ and adapt the GEP in response to the current situation in each institution and context. The context is a significant driving force for stimulating gender equality and enacting structural change in academia and research institutions. Another factor that activates structural change dynamics and supports GEP design and implementation is the stimulation of learning processes and knowledge sharing. Communities of practice are one of the structuring elements of social learning, highlighting how knowledge and learning is socially situated. Through these communities we have been able to identify gaps and common issues, formulate new solutions, and help to highlight measures that have been developed to foster women’s careers in higher education and research.

The institutions involved in the study were at different stages of gender equality engagement at the start and differed in terms of development and pace of change. Process is unique and individual for each institution, and the participatory approach as defined in CoP allows for (and perhaps relies on) differences in experiences and competence. Working to enable communication and action between key groups of the institution and with other and should be part of GEP for all institutions.

Based on the experiences of cooperation on structural change, monitoring and assessment of GEPs established by institutions across eight national contexts, we consider that the results show that foregrounding CoP in GEP work can be a valid and useful conceptual model for promoting organisational change. An emphasis on the community of those working in this topic enables individual members to benefit from the advantage of being in a community, especially when they may be relatively isolated at institutional level. Indeed the confidence gained from a strong sense of community is an important basis for challenging the gender equality status quo: and when there are challenges to face we know we are not the first to face these, nor are we alone in doing so.

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