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Education for the Professions in Times of Change

Edited by
Linda Clarke

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Special Issue Editor

Linda Clarke

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Special Issue Editor
Linda Clarke
School of Education,
Ulster University, Cromore Rd
Northern Ireland

Editorial Office
MDPI
St. Alban-Anlage 66
4052 Basel, Switzerland

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About the Special Issue Editor

Linda Clarke was born in Brooklyn, New York, moving to Northern Ireland in early childhood. She qualified as a teacher in 1983 and served as a Geography teacher and Head of Department for 15 years. She was appointed as a Lecturer in Education at Ulster University in 2001 and served as Head of the School of Education at Ulster from 2009 to 2013. Linda's key research interests lie in Teacher Education, particularly around Education Technology and Global Learning. Linda was the Northern Chair of SCoTENS (The Stranding Conference for Teacher Education, North and South—a cross border body for teacher education on the island of Ireland, 2013-2016) and Chair of UCETNI (the Universities' Council for the Education of Teachers, 2010–2011 and 2017–2019). She is currently Research Director for Education at Ulster and is member of the UK REF (research Excellence Framework) 2021 Sub-Panel for Education.

Preface to "Education for the Professions in Times of Change"

This book is a critical exploration of the place of professions and professionals across a range of fields, from policing to midwifery, social work to journalism, and the fictional professionals of literature. It arose from a concern about the denigration of professionals by populist politicians which in itself demonstrated the need for the kinds of trustworthy expertise for which professionals seek to be esteemed. I wrote a blog piece about my Place Model for the Good Project at Harvard and was delighted when one of the world's most eminent educators, Professor Howard Gardner, wrote a preface to the piece. He has given permission for his preface and my blog piece to be used as a preface to this book which provides the reader with a clear contextual summary for this Special Issue.

From the Good Project Blog, May 24, 2018

https://www.thegoodproject.org/good-blog/2019/9/30/the-place-model-are-inclusive-professionals-an-ideal-or-rq=linda%20clarke

The Place Model: Are Inclusive Professionals an Ideal or Oxymoron?

Preface by Professor Howard Gardner, Harvard University

In developed countries, few institutions have been as powerfully challenged as the professions. In the 1950s and early 1960s, professions like law, medicine, education, and the clergy were considered to be the gold standard of occupations; talented young people aspired to join their ranks. But, in the last few decades, due to a range of factors, professions have become far less attractive occupations, and some experts question whether they can—or should—survive. In this context, Linda Clarke's blog post, which we are happy to publish below, is timely and useful. She has developed a scheme, called The Place Model, that delineates factors that influence the status of candidate professions. In applying The Place Model, she points out a variety of professional niches that are currently occupied. Like many who study the professions, Clarke is skeptical about their claims to be highly respected—in the way that they were a half century ago. Indeed, though she does not go so far as Richard and Daniel Susskind, who wonder whether the professions as we know them are even viable, she is agnostic on the issue. I also worry about whether, in the future, there will be recognizable professions, with the concomitant status and expertise. But I very much hope that we will continue to value individuals who behave in a professional manner. As we all know, there are certified professionals who disgrace their chosen professions, even as there are workers who may have little status but who behave in responsible and disinterested ways. I want to live in a world where it's an honor to say of someone, "He or she is behaving like a true professional." -Howard Gardner

Blog Piece by Professor Linda Clarke, Ulster University

'Professional' is a slippery and overused term, but there are two essential features of what it means to be a professional. The first of these fundamental characteristics is expertise, which includes both specialized knowledge and skills and trustworthiness. The second, which is often consequent to the first, is esteem. Professionals are learned and are not amateur, their behaviour is reliably moral and not capricious or dishonest, and they are, therefore, able to be trusted to carry out complex and important roles. To compare and critique these features, the Place Model (Clarke, 2016) combines the following: 1. The geographer's view of place as an expanding (learning) horizon of developing

expertise; and, 2. The sociologist's notion of place as public esteem. In what follows I briefly outline and exemplify the components of the Place Model, which resembles a graph. The sub-heading of the Model asks: 'Who is my professional today?'

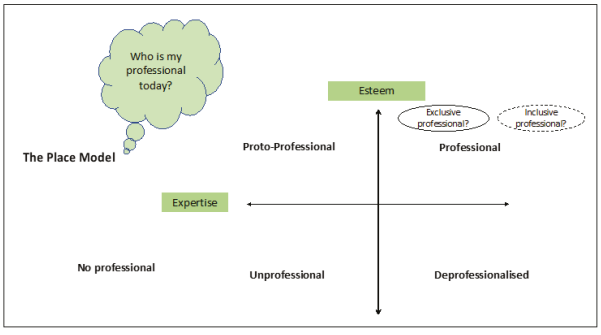

Figure 1. The Place Model.

The horizontal axis represents a cumulative, career-long professional learning journey that combines local and global understandings. Crucially, this axis is not a history (not merely a question of time spent on the job). The vertical axis is based on public perceptions of the esteem in which professionals are held, ranging from low to high. The intersection of these axes affords the creation of four quadrants, which represent four types of professional workers: proto-professionals, precarious professionals, the deprofessionalised, and the fully professional. A fifth element of the model sits outside the axes, where the answer to the question 'Who is my professional today?' is 'No one.' It is possible to populate each of the five sections of the Place Model using illustrative examples drawn from a range of professions to bring the model to life and to provoke questions (Clarke, 2016, a workshop for professional educators and their students). No professional: Outside the axis of the Place Model, there is place to consider, inter alia, areas in which professional expertise is lacking. Consider the plight of the 57 million learners without access to a teacher, the approximately 517 million people in developing countries who are visually impaired because they do not have access to corrective treatment from a doctor, street purveyors of pharmaceutical products from a bucket and also the current proliferation of 'virtual' professionals trained fully online. Proto-professionals: The term proto–professional has been used here to indicate that this quadrant is home to those aspiring professionals in the first stages of their learning journey or sectors that have not fully achieved professional status. Some professionals may (whether by compulsion or choice) be limited in their learning journey to this quadrant, which can include craftworkers or technicians, increasingly liable to replacement by robots. Precarious Professionals: At least two worrying and quite contrasting categories of professionals are found in this quadrant: those who might be described as 'unprofessional', and those who are unlikely to remain in their profession, the 'transitory.' The former engage in a wide range of destructive veniality but may find themselves in this quadrant only if this behaviour is exposed. The latter may have limited support or incentive to enable them to remain or progress in their profession. The Deprofessionalised: This ever-expanding quadrant is also home to strange bedfellows. As retirement ages increase sometimes (and vanishes), it may include ever more of the inveterate cynics whose words and attitudes can discourage both colleagues and clients. In this quadrant, we also find those senior professionals who have been cast down to this place by those who disparage the professions (for example, senior teacher education academics in the

UK, dismissed and headlined as 'the enemies of promise' by the Secretary of State for Education as he sought to create rhetorical space for reform). The quadrant may also be considered the locus of those migrant and refugee professionals who find that their previous qualifications and experience count for little in their new home; in a world where 1 in every 131 people is a refugee, this is a widespread problem. Exclusive and Inclusive Professionals: In the original version of the Place Model, the professional quadrant was designated as the home of the virtuous professional who was expert, yet still learning, and likely to be a highly esteemed role model. However, it is more realistic to see this quadrant as also being a smug and snug home to the learned but exclusive professionals, critiqued most thoroughly by Bourdieu and seen by George Bernard Shaw as conspiracies against the laity. We can also construct, at least in theory, a more virtuous conception of inclusive professionals (whilst being aware of the potential for this to be an oxymoron). Thomas More's concept of Utopia has room for both—in the original Greek, it may mean either 'no place' or 'good place'; of course, reality may be less accommodating. Nonetheless, the other parts of the Place Model point towards potential characteristics of inclusive professionals, for example:

- those most able but least likely to join the professions
- professional associations and, indeed, individual professionals standing up to government ministers who seek to de-skill, technicize and disparage their younger colleagues
- those working to extend and enhance career trajectories
- those emphasizing the importance of professions (and even proposing 'new' professions) to do things which robots do not do well, such as tasks requiring caring and creativity.

In sum, the Place Model is an analytical tool that can be used for re-imagining and comparing all professions, past, present and future. Like all models it is limited, like all maps it is subjective. Nonetheless, in mapping both the varied dystopias of professionals, and identifying an alternative, thinkable utopia (inclusive professionals), the Model provides a useful taxonomy which affords room for both criticality and optimism. Questions about professionals of course remain, not least whether they are necessary, luxurious, or irrelevant.

Linda Clarke
Special Issue Editor

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Article

Reimagining the Place of the Professional, before It Is too Late: Five Dystopias and an Oxymoron?

Linda Clarke

School of Education, Ulster University, Cromore Rd, Coleraine, Northern Ireland BT52 1SA, UK; lm.clarke@ulster.ac.uk

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Abstract: The trustworthiness and expertise of professionals is much in demand even while they are derided as members of slippery, credentialized and self-serving elites. Eliot Friedson's three 'logics' provide a contextual lens for this deconstruction of 'professional' and are updated by adding Artificial Intelligence (AI) as putative fourth logic to provide a contextual background—so, Markets, Bureaucracy and AI are seen as alternatives to and influences on professionalism. This context suggests that it may already be too late to save 'professionals', but them paper confronts a significant conceptual deficit by using a second interdisciplinary lens, Clarke's Place Model, to critically deconstruct the 'place' of professionals to reimagine a commodious and accessible conceptualization, consisting of five dystopias and a potentially potent oxymoron—*inclusive professional*. The Place Model is presented as an example of a Geographical Imagination (Massey), combining two conceptions of 'place': place as esteem and place as a changing position on the expanding horizons of a career-long growth of expertise. This novel conceptualization is then used to examine the dystopias and potential ideals of 'professional'.

Keywords: professions; Place Model; unprofessional; professionalized; inclusive professional

1. Introduction

This paper confronts a significant conceptual deficit by using a novel interdisciplinary lens, Clarke's Place Model [1,2], to deconstruct critically the term 'professional' and to reimagine a commodious and accessible conceptualization, consisting of five dystopias and a potentially potent oxymoron—*inclusive professional*. Bourdieu's [3] argument that the term 'professional' should not even be used flew in the face of a reality in which professionals persisted and proliferated in (mostly) ingenuous defiance of one of the most eminent French public intellectuals of the age. He saw professional as a *folk concept* which has been *smuggled into scientific language* (p. 342, [4]). Today, mapping a critical but polysemous understanding of professional is a matter of even greater urgency, in the light of enormously complex global challenges, the growing distrust of professionals which is a significant trend in a rising tide of populist political discourse, and the mounting concern that most of the traditional professions will be dismantled and replaced by a mixture of Artificial Intelligence (AI) and less expert, more flexible people to quote Susskind and Susskind [5]. It may already be too late to save a chameleon term which is widely used in contexts of ambition, admiration and entreaty but is also viewed as inherently slippery, imbued with ambitions for high status and exclusivity, credentialism and over-regulation, and, as Gatenby observes, as a product of self-serving elitism [6].

The word professional attracts many rhetorical ambiguities not least because it is often defined by its most shiny aspects and polished ideals. At the core of the ideal professional is sheer, often unsung, complex work—underpinned by a combination of two key attributes: expertise and trustworthiness. Professionals deserve to be believed because, unlike the laity, they are, in their respective fields, better at finding the truth. However, O'Neill notes that they will be trusted only to the extent that they

are not deceitful and are trustworthy [7]. Without this, a profession becomes what wrestling is to sport, a monetized and fabricated performance, which could be readily substituted by robotized AI. Meanwhile, Eliot Freidson's [8] alternatives to professionalism, his other two logics, bureaucracy and the market, are in the ascendancy, shaping both the professions and individual professionals. AI is posited as a further contextual logic here—one whose protean development looks set to encroach further on the place of professionals in ways which seem increasingly less than transparent or predictable. And yet, none of these alternative logics is sufficient for what we still want or need or demand from professionals—as, for example, in Bangladesh where Alhamdan, Al-Saadi, Baroutsis, Du Plessis, Hamid and Honan (p. 499, [9]) state, an ideal 'superhuman' teacher is 'neutral, kind hearted, friendly, knowledgeable, brave, sincere, dynamic, cordial, selfless, a motivator of children, attentive to students and unbiased, sincere, punctual and respectful'. By contrast, George Bernard Shaw decried all professions as merely conspiracies against the laity [10]. Some distrust of professionals has persisted and a century later is being stoked by populist jingoism, although the term 'laity' is more rarely used in this context today. Nonetheless, it may be that we, the laities, are asking too much, even while decrying elitism and expense; offering the never-sufficient professional up to the tongue lashing of the demagogue, yet always wanting more from the teacher, the nurse, the academic, the doctor, the lawyer, the engineer, the social worker. It may be that we, the professionals, are asking too much, wanting to maintain an elite, inflexible and expensive place of esteem even while hoarding knowledge, excluding many talented people and hiding the fallibilities which can be exploited by the unscrupulous. We need a better map of this extensive but infinitely contestable place: the place of professionals—this paper aims to provide such a map.

The Place Model will be used to reimagine this important borderland between the world as it is and the world as it could be. Place was a salient idea for the Nobel Laureate, Seamus Heaney, in *The Herbal, Human Chain*. Imagination allowed him to capture and share the landscapes of his life in one of his final poems … "I had my existence. I was there. Me in place and the place in me" [11]. The Place Model maps a similarly embodied view of place, by speculatively redeploying Doreen Massey's notion of *Geographical Imagination* [12] in which we can each map our own position, in our mind's eye, in respect of two key dimensions: status and location. For the Chinese-American humanistic Geographer, Yi-Fu Tuan, these two senses of place are observably interrelated—for example, the status-place of a wealthy person is reflected in where he/she lives, the location of his/her table in a restaurant, and his/her position at the board table [13]. The Place Model, likewise, juxtaposes two senses of place to achieve a timely, *a priori* examination of the place of professionals:

- place in the humanistic geography tradition as a process of expertise building—location in relation to the expanding horizon of a cumulative, career-long learning journey—and also,
- place, in the sociological sense of esteem.

Combining these two senses of place provides an interdisciplinary framework for imaginative discourse which can yield a wide-ranging and challenging set of perspectives on professionals. Clarke [14] admits that whilst "the Model is reductionist in nature (like many models), the Place Model presents a usefully uncluttered landscape which is mapped in a way that is intentionally schematic rather than mathematical in nature (although it does look like a graph), a heuristic rather than a positivist equation". Here it is, once again, proffered as an interdisciplinary thinking tool for two key user groups: student professionals and their tutors. In preparing their students for their professional futures, tutors may invite them to consider critically their future learning journeys and status, across its terrain.

The Place Model will be used to consider and compare contemporary conceptions of professionals, and to provide an unconventional and original map, a conception which acknowledges the flaws while suggesting ideals and their limitations. The places within this landscape are strongly influenced by Freidson's [8] other two logics, to be outlined below, together with AI, a putative additional 'logic', in order to set the scene, before moving on to explore and populate the Place Model itself. This essay will

focus on examples drawn from health, social care and education (the third one will dominate, reflecting the author's professional learning journey) which have arguably been most strongly affected by the ascent and increasing dominance of these alternative logics. It is possible to apply the Place Model to all professions, even to politics and sports, where the term is used in quite different ways—where 'professional' can be an insult while being sufficiently elastic to describe both the player and the foul play. Unpacking these exceptional cases is quite another essay, as is a linguistic analysis of profession, professional and professionalism, which are treated here as grammatical variations of the same logic.

2. Freidson's Three Logics - and a Fourth

Freidson [8] views professionalism as a third (and superior) logic, relative to world-views governed by either the market, where consumers are in control, or bureaucracy, where managers dominate. This essay proffers AI as a fourth logic and the following sections will outline some of the main overlaps between each logic and professionalism. Having used these logics to provide a context, professionalism itself will then be the focus of the remainder of the work.

2.1. Markets

Marketization is based on selling, buying and competition; generating the profits which can enrich shareholders and can also be used to fund innovation and the production, polishing, advertising and selling of a variety of reliable products and services, including an increasing plethora of financial services in the increasingly lucrative rentier economy. Freidson drew several examples from his field [8] (medicine, in the United States), exploring, for example, how patients could no longer trust that the intervention was really for their good as opposed to lining the pockets of private doctors and the pharmaceutical industry, but acknowledging that profits could also fund the discovery, development and testing of better treatments. He may not have even imagined the new level of power or the concomitant lowering of trust, as O'Neill puts it [7], that the impact of markets on professionals' work has helped to bring about today. These are evident in both pervasive progress and widespread disruption. For example, they appear in the development of extraordinary and transformative computing technologies, which have put powerful computers into the hands of billions of people but also in the damage wrought in the opioid crisis in the United States, as well as the mass outward migration of professionals from poorer countries to those where they can build better careers and lifestyles. Volunteers and philanthropists, driven inter alia by ideology, politics and sheer expediency, may seem benign or even altruistic, but are sometimes deployed in ways which are neither.

Giridharadas [15] describes the impact of rampant capitalism (Moneyworld) in creating a few large, rich and powerful global corporations, and in high levels of inequality (mapped vividly by Dorling [16] which mean that money can now wield a new Metapower, which can be both highly exclusive and very destructive, even while, like the doctor, seeming to do good. The apparent benevolence of large-scale philanthropy allows the super-rich to intervene in the work of professionals, as Knox and Quirk said, to 'pay to play' [17], despite their lack of expertise. If your education, medical, social care system is funded by such people, then professionals may feel powerless to offer criticism. This level of trust-without-challenge was once given to the most powerful professionals too, the cardinals, professors, judges and medical consultants. Even as some of these most exclusive professionals have been shown to have feet of clay, they have been replaced at the top of hierarchies of deference by the very wealthy who distinctively support only those interventions which are designed on the basis of a business model described by Giriharadas [15] as 'win-win'. These are interventions which bring some societal benefits, but which also further enrich the benefactors, and, crucially, do nothing to disturb or rectify the iniquitous problems that they have created and which sustain their wealth and power. Even the most powerful professionals are, it seems, increasingly defenseless against Moneyworld and, in their powerlessness, can then seek to abdicate their responsibility. They can do likewise in respect of the impacts of bureaucracy too, particularly, perhaps, where this is technologized . . . computer says no!

2.2. Bureaucracy

In Freidson's [8] second logic, bureaucracies have increasingly been put in place by governments and organizations wishing to enhance, assess, evaluate and monitor the work of employees and professionals, and, crucially, to manage them. Clarke [14] notes that "effective bureaucracy, at its best, can permit and attempt to ensure that general principles are predictably shared across society". At its most technicist, this amounts to Digital Taylorism, a production efficiency methodology that breaks every action, job or task into small and clearly defined segments which can be easily analyzed and taught, named after the US industrial engineer, Frederick Winslow Taylor [18]. However, professionals have long been involved in maintaining, sharing and evaluating evidence of their work in ways which help to maintain standards and also underpin their trustworthiness in the most important aspects of their roles—exam pass-rates, infection control, death rates following surgery, numbers of children placed in foster care.

Such scrutiny, as Foucault [19] points out, can even lead to increased self-surveillance (thus the reducing costs of monitoring) and alterations of behavior to align with the dominant discourses. It is only in recent years, though, when bureaucracy has been underpinned by more pervasive metrics systems based in an increasing range of protean and accessible technologies, that vast data trails have been made available to increasing ranks of managers and also to the public, providing data which can make it very clear whether trust is well founded or not. The latter is often more newsworthy and certainly has provided evidence for that most loaded of insults, "the enemies of the people". While the sharing of datasets can assist in fruitful, interdisciplinary collaboration, it can also evidence more negative collusion among the professions and can be publicly used to portray professionals as a mere cabal of self-interested conspirators. If professionals' esteem depends on expertise and trustworthiness, and the records show that these are individually or collectively dubious, then their esteem lies in very public disarray.

Bureaucratic accountability has also been developed to monitor and curtail the worst excesses of capitalism but is often too ineffectual and/or too late in these contexts. In addition, professionals playing by morally based rules are often no match for profit driven businesses. Nonetheless, a whole new invasive and pervasive cadre of inspectors has developed, and the laity have become engaged with online rating mechanisms and wearable technologies, so that some days it can feel that, at any one time one, half of the world's population is assessing, evaluating, inspecting or rating the other half. The outcomes of such judgements are increasingly made public in league tables which allow users to appraise services and to publicly award prizes which serve both as rewards and advertising opportunities.

In an effort to improve, equalize and sustain standards the most measurable features become the most important, most lionized. The more complex, nuanced, immeasurable realities are less amenable to presentation in league tables or in sound bites and headlines, and are brought to bear much less frequently in such tick boxing evaluations of professionals. Instead, more convenient proxies are used and may be made so overly complex that league tables may be used to confuse consumers and even to subvert their assessments, as in the case of university course directors who tell their students that it would be in their own best interests to rate their courses highly—after all, who wants to be a graduate of a poorly rated course? It is hardly surprising then that professionals seek to avoid and undermine the scrutiny of this 'new managerialism'. Such subversion, bolstered by the marketization of education for example, by viewing students as consumers, is all too obvious in a rise in pupil exclusions or 'off-rolling' from schools prior to inspections or public exams and in pervasive grade inflation in both public exams and university degree classifications. This leads to a spiral of further mistrust, to ever more monitoring, and to the apparent compliance and fabrication of evidence at both institutional and individual levels. In the former, as Clarke [14] points out, we might "witness the proportion of UK universities' energies and resources dedicated to providing evidence for the Research Excellence Framework (REF) and Teaching Excellence Framework (TEF)—which purport to measure research and teaching, respectively, and then allocate both public funding and increasingly complex league table positions based on these". At an individual level, professionals feel obliged to acquire shiny new

skills to deal with such managerialism, as Ball says, and the concomitant *terrors of performativity*: "the skills of presentation and of inflation, making the most of ourselves, making a spectacle of ourselves, in response to audit, inspection and review, and for promotion" (p. 1054, [20]). The overall impact of the "tyranny of metrics" to cite Muller [21] can too often be allied to reductionist training, rather than to critical and complex education of professionals, and can make them feel that they are being trained, commodified and deployed as the AI which seems increasingly likely to replace and/or monitor so many of them.

2.3. Artificial Intelligence: A Fourth Logic?

The English Oxford Living Dictionary gives this definition of AI: *the theory and development of computer systems able to perform tasks normally requiring human intelligence*. Clarke [14] admits "that It is debatable whether AI continues a separate fourth logic, after all AI is being designed and developed in the context of the other logics" Nonetheless she argues that "it is increasingly becoming evident that AI can do more than simply replace and replicate existing roles - it is becoming ever clearer that it can behave in ways which are not fully amenable to human comprehension, ethics and control and it is this new phenomenon that means that it is arguably be best understood as a fourth logic, which will have huge impacts on the work of those professionals which it does not fully replace".

Debates rage across the globe as to whether professionals could or should be replaced by robots and are likely to increase although no one really knows how things will turn out in respect of the erosion, augmentation or replacement of professionals. Conversely, the Susskinds [5] argue that the traditional professions will be dismantled leaving most (but not all) professionals to be replaced by high performing AI (and also by less expert people). Frey and Osborne's seminal Oxford Martin School study [22] showed that about 47% of US employment is at risk of computerization. The study evidenced strong negative relationships between an occupation's probability of computerization, and both wages and educational attainment. When robots are controlled by AI, those jobs most at risk include some of the more technicist professions, including those with high levels of analytical accuracy. In the health sector, these already include those who work on the painstaking analysis of diagnostic images such as X-rays, ultrasound scans and biopsy sections. However, in the longer term, the work of even the loftiest of the traditional professions may be replaceable by AI-controlled robots. The surgeon's expertise and trustworthiness will increasingly be questioned when compared to a robot with the steadiest, most untiring and hygienic hands, informed by a less expensive and more extensive AI expertise which has been synthesized from a truly encyclopedic and dynamic knowledge of every case, everywhere. However, the value of such syntheses is already being questioned, not least because the machine learning algorithms can create models based on huge data sets which even their creators do not understand. In Katwala's opinion, they are, in effect, a black box and can make life-changing decisions in the dark [23]. By contrast, Aoun [24] offers a promising educational solution to preparing humans to confront the rapidly evolving challenges of AI transparency in a novel, interdisciplinary model of learning, termed Humanics, which is already on the curriculum of Northwestern University. The course "enables learners to understand the highly technological world around them and that simultaneously allows them to transcend it by nurturing the mental and intellectual qualities that are unique to humans—namely, their capacity for creativity and mental flexibility" [24]. In addition, the capacity to empathize with and care for others is a key human faculty which is a surprising omission in Aoun's Humanics [24], an omission which may be seen to reflect the fact that much of social care is not, as yet, fully researched and developed—not fully professionalized, even though it is the vulnerable who are most in need of trustworthy experts to understand, to advocate and to care for them. Working with AI in many professional contexts, the key question is 'who takes the key decisions?'. The International Labour Organisation's recent report suggests a "'human-in-command' approach to artificial intelligence that ensures that the final decisions affecting work are taken by human beings, not algorithms" (p. 43, [25]).

3. Components of the Place Model

The speech bubble below the heading of Place Model (Figure 1 below) is significant because it links professionals to their respective laities by asking the question: *Who is my professional today?* Clarke [14] argues that "The Model provides a usefully challenging range of answers based on comparing the two conceptions of place noted above by Massey as a *Geographical Imagination"* [12].

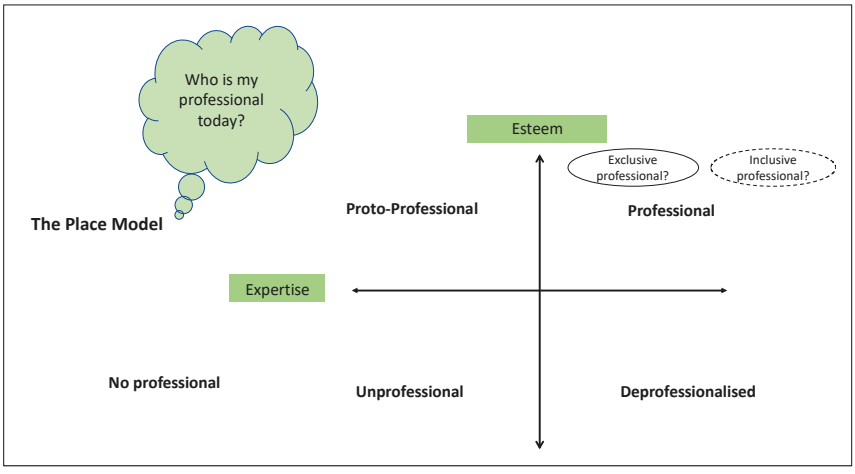

Figure 1. The Place Model.

The horizontal 'axis' is based upon building expertise across one's career. On the diagram (Figure 1) this axis starts where a 'new' professional takes up their first job, but one might imagine that, putatively, on the most extreme left (well off the edge of the diagram) is the position of an egocentric baby, an extreme example of an incipient learner in its utterly Piagetian, "egocentric" [26] world view. To the extreme right is the end of an expansive growth of expertise across a career, or series of careers. Clarke [14] points out that "this axis is *not* about terrestrial space—professional practice most often transpires locally and has local impacts, but the internet means that learning can readily become much more far wide-reaching in both depth and breadth. In addition, the axis is *not* a timeline, *not* a history, and it is *not* a matter of passive survival for 30–40 years, gathering up a few tips and tricks about good practice on the way. Rather, the learning process is conceived as an expanding professional place", using Tuan's [13] clear formula: "*Place = Space + Meaning*". The horizontal axis can be an extensive, complex and intricately featured place, built through cumulatively accreting processes of professional learning, an expanding horizon of Massey's "*outwardlookingness"* [12]. As for Fullan argues [27], "learning is the work". Clarke [14] argues that "This place may be conceived on either personal or profession-wide scales—an individual's career or the systemic capacities for learning within a particular context, drawing on, and contributing to, a critical understanding of the best of what is known though the consumption of and/or the creation of relevant research", with "particularly significant resonance with the early twenty-first century debates about professional status and regulation and marketization". On the one hand, there are those who "promote a narrowly conceived technicist training approach which are linked to greater deregulation, flexibility and privatization (on the left-hand side of the axis), versus, on the other hand, the expansive professional education, predominantly within the master's-level courses within college and university systems across the globe" [14]. Clarke [14] recognizes that "a key limitation of the Model is that the straight line of this axis cannot convey the ways in which careers are becoming more varied and more fragmented" and that "Imagination is needed here to conjure the cumulative, career-long learning journey which the increasingly dynamic nature of work

demands—is there an inherent incompatibility between these demands, and the deep expertise and constant trustworthiness which are essential to professions?"

On the vertical axis, however, professionals often have much less agency as this depends on the constraints of public perceptions of esteem. The intersection of the status and learning axes alloows the creation of four quadrants which have been labelled as proto-professionals, precarious professionals, the de-professionalized and the professional. A fifth, equally important, element lies outside the axes, where the answer to the question 'Who is my professional today?' is 'No one'.

4. 'Populating' the Place Model

Each of these components can be examined by 'populating' Model using the classroom thinking skills technique, Leat's Living Graphs [28], to place a range of potential exemplars. The examples also illustrate how the other three logics have a bearing on professions. Using these examples, the following sections provide a tour of the Place Model. The tour begins by initiating the reader into the axis of the model, starting with the top left corner, the 'proto-professionals' before making a detour to the off-axis 'no professional' component and then moving anticlockwise around each of the three remaining in-axis quadrants of the model, culminating in the 'professionals' quadrant. In designing the Model, it has become evident that these components are neither positive nor neutral, that they are mostly dystopian, but, importantly, that there is still, perhaps, a positive place, perhaps even a utopian place for the trustworthy expert.

4.1. Proto-Professionals

The term proto-professionals has been coined here to indicate that this quadrant is often home to professionals at the earliest stages of their careers, for example newly qualified graduates of university courses which are approved by professional bodies. In the present century, these early entrants have been joined by those recruited via less regulated conceptions of professional preparation. This approach has been developed in respect of governments' attempts to create 'fast track' routes for graduates of any discipline, such as Teach First and Step Up to Social Work in the UK, welcoming these entrants as innovators, often in times of personnel shortages, and adjusting (lowering) the required entry standards and competences to ease their way. In the US and in England, for example, graduates may enter the teaching profession via non-university routes to work, often as Zeichner's *short-term technician teachers, of other people's children* [29], supported by the view that teaching does not require highly specialized knowledge and skills [30]. This change in locus of teacher education from the universities to schools has been coupled with the development of more rigidly defined school curricula which may be formulaically 'delivered' in a lower tier education system by what Pring calls 'deliverologists' [31]. Giroux contrasts this with the value of an informed and critical professionalism, asserting that there is a danger of teachers "erasing themselves in an uncritical reproduction of received wisdom" (p. 20, [32]). An even more dystopian view sees the prescribed competences of technicist professionals being, in future, effortlessly 'delivered', not by humans, but by AI-controlled robots that continuously learning and do not ever tire – although electronic components may break or become infected with viruses.

Clarke [14] describes "the most egregious example of 'training', as opposed to 'education', is perhaps those teachers who are being trained to carry and use concealed weapons in US schools" Alternatively she suggests teachers might be educated (as opposed to trained) "instead seek to combat the systems which produce inequality, poverty and powerlessness for their pupils and hinder their chances of accessing the most elite professions" [14]. In this context she also mentions "teachers who subvert bureaucracy for their students by giving undue help with coursework/exams (see 'unprofessionals') might be seen as a more extreme case of this—in this case, relying on subverting bureaucracy". Finally she notes, "the proto-professional quadrant may thus be viewed as either an early transit point for some professionals, or as the career-long settlement for others, less 'well-travelled' on their learning journey, who remain here because they see this as a comfortable and unchallenging home-for-life, perhaps as a local hero but with few connections and challenges beyond the local".

4.2. No Place for Professional Nobodies

This component, where the answer to the question, 'Who is my professional today?' is 'No one', lies outside the axes of the Model. It is, however, indispensable to understanding the place of professionals not least because it poses an increasingly important, existential question for the professions: are professionals a necessity or a luxury, or are they replaceable by either para-professionals or by the ubiquitous, ever-learning potential of AI? For the purposes of this essay, only those who are 'qualified' professionals are deemed to be professionals. This point is both fundamental and highly contested, for it is clear that for many professions there may not be national, never mind international, agreement as to the requisite qualifications. This issue presents a significant lacuna not least because it has been the gap though which marketization has sought to break the mold of professions via the increasing deregulation which is mostly occurring in the world's wealthiest nations. In the poorest places, meanwhile, many millions of people have no access to professionals at all.

This part of the Model resonates with the arguments of those who assert that mandatory qualifications are redolent of credentialism, are inflexible and ultimately superfluous. The growing impact of marketization in recent years has led to a growth of a second tier of para-professional roles; requiring fewer qualifications, greater flexibility and lower costs; temporary jobs attracting lower salaries but increasingly fulfilling some of the roles which were hitherto the responsibility of qualified, permanent professionals. Such jobs are attractive to applicants because the entry tariffs are not as high as those for professions while the role may attract at least some of the esteem of the professions, as the job titles imply: Associate Physician and Teaching Assistant. In addition, there has been an increase in numbers and an extension of the roles of volunteers in public sector roles. In the UK, this has been particularly notable in public libraries where the negative impacts on the erosion of expertise, care of state-funded resources and the quality of service (particularly in poorer areas where long-term volunteers can be harder to recruit) are becoming more evident, as pointed out by the Scottish Libraries and Inflation Council [33]. Busy professionals may be all too happy to shed some of their more mundane responsibilities to these new minions. The minions, however, may find that they have, for now, undertaken the clearly defined, repetitive types of job roles which are most replaceable by AI. From the perspective of the laity, para-professionals, volunteers and AI may improve access to some services and may even lead to innovation and personalization, but they can eventually create two-tier systems, with the poorest able only to access the services of the least expert and least trustworthy, while the most expert and most trustworthy in any field are available only to the wealthy—exclusive professionals (see below).

UNESCO (the United Nations, Educational Scientific and Cultural Organization) reported on the enormous global disparities in the nature of schools and schooling which mean that 57 million primary school age children lack a teacher [34]. Lack of teachers has a knock-on impact on all other professions and similarly huge deficits are found in other professions. The World Health Organisation's (WHO) report, *A universal truth: No health without a workforce* [35], estimated that the world will be short of 12.9 million health-care workers by 2035; today, that figure already stands at 7.2 million.

4.3. Precarious Professionals

The next section moves back within the axes of the Place Model, to the quadrant occupied by the most 'precarious professionals' (akin to Standing's precariat) [36] who have low esteem, low levels of expertise and/or trustworthiness, and short career spans. This quadrant is home to disparate types including those who might be described as 'unprofessional'), and those who are unlikely to remain in the profession, the 'transitory'. Both occupy precarious positions and both frequently reach the headlines—for very different reasons.

Clarke [14] notes how The Place Model's unprofessionals pose some key questions for professional educators to ask their students about why and how and by whom they might be registered, access checked and 'struck off'. Despite these (often inadequate) checks, there are many and varied instances of unprofessional behavior right across the globe, sometimes with fatal consequences. They severely

dent the credibility of professionals across a wide range of fields, who may be seen as culpable for the catastrophes while being exclusively protected from the consequences. Acting at their most eponymous, professional bodies often profess codes of accountability, sometimes even encapsulated in professional oaths of conduct, based on the values and competences of their profession, against which such cases are judged. Many of these are locally designed versions of internationally agreed codes such as the Declaration of Geneva for the medical professions [37]. However, at the heart of these codes there is an increasingly paradoxical lack of candor: despite the increasingly pervasive and distorting effects of the markets, and of performativity measures, none of these codes declare that their profession is ambitious to make as much money as possible, or to subvert bureaucracy and fabricate evidence of competence and achievements, for example. Newly graduated professionals declaring their oaths may sound heartwarmingly virtuous, and no doubt many are genuinely invested in these statements, at the time, but the realities of human frailties and the influence of a marketized and bureaucratized world may soon override such aspirations to virtue. Squaring the circle of duty and ethics is still most glaringly illustrated in the long-standing issues of doctors who assist with carrying out capital punishments. In more recent years, the challenges of ensuring morality within AI are increasing and are, in Katwala's words, as yet poorly understood [23].

The other exemplar occupants of this quadrant are the low status, poorly educated professionals for whom job security remains a persistent and stressful problem, where professionals are often badly paid, inadequately supported, and held in such low regard that many are forced to consider other career options. The casualization of contracts is widespread, not least in the academic sector where fee-paying students expect that they are buying access to established rather than ad hoc 'expertise'. Many of today's academics are malleable components of flexible labor markets. Many of their predecessors had tenure.

4.4. The De-Professionalized

In creating the Place Model, this quadrant seemed the most interesting and challenging—if it were on an old mariners' map it might be even be labelled *'here be dragons'*—home to more established professionals who have completed a significant part of their professional learning journey, but with a relative deficit of status.

This quadrant is the locus of at least three contrasting sets of examples: the cynics whose sarcastic words and attitudes can discourage professionals and laity alike, those senior professionals who have been consigned to this place by denigration, including those cast aside following 'one mistake', and migrant/refugee professionals who find themselves deemed 'unqualified' and unemployable in their destination country.

Members of the first group might be seen, at their worst, to have repositioned themselves within the Place Model. Cynicism can be much simpler than more open-minded skepticism—turning one's back in vitriolic despair in response to the failed inspection, rather than raising a critical eyebrow and fighting back. McDermott's paper in this special issue discusses this matter. The senior social workers who worked to try to protect Baby P in the UK are in this quadrant too, but not for reasons of cynicism. When the baby died, the head of Children's Services at Haringey was 'named and shamed' by a senior minister in the House of Commons and removed from post [38]. When things go wrong, when mistakes are made, it is often the most senior members of professions who end up being held accountable, sometimes only within the privacy of internal accountability processes, sometimes very publicly indeed with additional vilification via the rabid tabloid press. The further impacts of this case have been on social worker retention and recruitment, on increasing numbers of babies removed from their parents, and on increasing demands for social care at a time of budget cutting austerity. In healthcare contexts, consequences can readily be much more severe; just one mistake can be fatal to patients and also to careers, and the threats of ruinously expensive litigation can encourage coverups. In Northern Ireland's health service, rules for a *duty of candor* are being drawn up following a major public enquiry [39] and The Doctors' Association in the UK (DAUK) has introduced a *learn not*

blame initiative [40]. There is a growing recognition that much medical fault finding is wasteful and deeply damaging and would be better utilized as a positive learning resource. This can be a difficult message for those harmed and requires the most persistent, eloquent and wise sponsors in order to gain public support.

The problems associated with this quadrant seem destined to expand following statutory increases in the length of teachers' working lives in most countries. In England and Wales, Sikes (p. 27, [41]) believes that maintaining professional vigor seems destined to be a particular challenge where the "ageing of members is likely to assume increasing significance for the cultures, ethos and outcomes of schools".

This quadrant may also be considered to be the locus of those migrant and refugee professionals who find that their previous qualifications and experience count for little in their new state, even though it may have shortages in key fields. In 2017, The United Nations High Commissioner for Refugees (UNHCR) reported that 68.5 million people around the world have been forced from home [42]. Among them are nearly 25.4 million refugees and over 80 percent of these are living in economically less developed countries. Perennial arguments around exclusive protectionism in professions versus the wage lowering potential of an influx of new professionals are played out, often *soto voce*, in the common-rooms and committees of professional bodies where the challenges of designing and funding appropriate Continuing Professional Development highlight the importance of delineating, maintaining and communicating the profession's external thresholds and its internal ideals, its distinctive strengths and its singular contribution to the world.

4.5. The Professionals

Thus far, this exploration of professionals using the Place Model has largely pointed towards what an ideal professional *is not,* a vision of multiple dystopias which are partly the by-products of professions themselves and sometimes of the impacts of the other logics. By contrast, the Place Model frames the professionals as being progressively expert and trustworthy, highly esteemed exemplars for new entrants to the professions. This quadrant of the Model is home to a profession's champions, standard bearers, pioneers, leaders and appraisers. Meeting one's idols is, however, a risky business—as Flaubert [43] notes, the gold paint tends to come off on your fingers. These super-trustworthy experts are fallible humans too—which can offer the hope that becoming such a hero is, perhaps, an accessible ambition.

4.5.1. Exclusive Professionals

Dystopia is also found even in this quadrant of the Place Model, not least because some of those at the top of professions may be surrounded by boundaries of exclusivity which are patrolled by Cerberus-like personal assistants, by expensive educations which act as what Kynaston and Green call *engines of privilege* [44], by prohibitive fees, by cut-glass accents and expensive tailoring, or, less tangibly, by an assiduously cultivated aura of godlike inapproachability, which may appear just as insurmountable as any physical barrier. These exclusive professionals often live longer and retain exclusive power longer. Professional education tutors might ask their students to consider critically their highest ambitions**:** where do they want to go within this most senior quadrant of the Place Model? Seniority is one thing, but they might also be challenged to consider if they intend to serve the rich and powerful, the sophisticated and eloquent, the hygienic and sweet-smelling, while presenting a variety of barriers to others.

The growth of AI has not been deterred by these boundaries. An AI surgeon will have the capacity to assimilate and synthesize all of the case notes of every piece of surgery ever performed, as well as the most intricate details of a specific patient's medical history, will have the steadiest and most hygienic of 'hands', will not tire or become distracted, and may be chosen by a patient in preference to the most eminent of human surgeons. Aggrieved litigants and eagle-eyed managers (often fearing litigation) may seek to ensure that accountability mechanisms are used to remove (professionalize) any

surgeon who commits any error. Increasingly, therefore, such exclusive professionals are somewhat less unassailable than they have been to date. Increasingly surrounded, squeezed and encapsulated by the forces of markets, bureaucracy and AI, these top professionals are less likely to rise to their most crucial challenge: using their extensive expertise not to subvert the markets and bureaucracy, not to out-robot robots**,** but rather to out-human them in curiosity, care and creativity as inclusive professionals.

4.5.2. Inclusive Professional: Utopia or Oxymoron?

Like the exclusive professionals, this final category within the Place Model combines high levels of trustworthiness with the capacity to connect local practice and the latest global expertise. The flaw, however, perhaps the fatal flaw in the notion of inclusive professionals, is that it may be that, as Sandel [45] comments, in a market society, exclusivity is absolutely essential to professionals in cornering their market, thus making inclusive professions impossible—a utopian oxymoron. Interestingly, Thomas More's concept of Utopia affords places for both utopias and oxymorons—in the original Greek, utopia may mean either 'good place' or 'no place' [46].

The discussion might end here, if it were not for the reality in which many professionals do, in fact, overcome this oxymoron. While inhabiting a world increasingly dominated by markets and bureaucracy, where AI is also more pervasive, less transparent and insufficient in some important human capabilities, many professionals' expertise and trustworthiness are not for sale, not solely motivated and subverted by ticking boxes, not replaceable by AI. This essay concludes with an attempt to push open the door to a discussion of the possibilities and impossibilities of inclusive professionals.

Most importantly, the place of the inclusive professional might be seen to include the entire map of the Place Model (dystopias and all) which has been created to imagine a more commodious, polysemous understanding of professional. It might be argued that as fallible humans, all professionals have the potential to embody all/many of the components of the model, sometimes several within one day.

Inclusion begins with recruitment into the proto-professional quadrant where most people enter a profession. One hundred percent inclusion is not possible and is only viable at all with the removal of the well documented structural barriers to recruitment: wealth and social class, gender, sexual orientation and race. Realistically, however, professions are still seen as desirable, scarce resources and are thus prey to the perennial sharpening of elbows, (a seemingly incurable, if understandable malaise), starting with the parents of even the youngest school pupils, a phenomenon which is tied to marketization and which, therefore, may be impossible to prevent completely. All professions declare an interest in widening access. Only some succeed to only some extent.

By contrast, the influence of proactively inclusive professionals can be brought to bear right across the Place Model, through the professional bodies which sanction and judiciously (but not wantonly) remove the unprofessionals, in providing mentorship and supporting the learning of peers and proto-professionals, even across national borders in institutional twinning projects or individual one-to-one assistance which aims to supplement or surpass traditional aid projects in the poorest places. Welcoming professions can also reach out within their own localities by seeking to educate the laity about the unvarnished realities their roles: *The Guardian's 'What I'm really thinking'* column [47], for example, allows practitioners to share candidly the view from their side of the desk/scalpel/book/keyboard/bench. Such pragmatic outreach allows professionals to share in, navigate to (and learn in) places which supersede the constraints of markets and bureaucracy, but may (in reality) be viewed as damaging to the market-cornering potential of professions. This might be further compromized if the professional oaths of inclusive professionals were to explicitly preclude acting on the basis of individual or corporate greed and admit, for example, the reality that even the most extraordinarily talented and dedicated people make mistakes—it is how professionals learn, in response, that matters. The inclusive professional is inarguably a more ambitious outcome of what humanity is capable of than an individualistic survival-of-the-fittest based on markets and constantly monitored and managed by bureaucrats—which might be seen as a pervasive underestimation of

humanity. Barack Obama, speaking to *Wired Magazine* [48], made an important observation about the future of professionals in the context of more widespread but never fully ubiquitous AI. He predicted that the totem pole of professional status will be upended and that the most human, caring and creative professionals, those who are often underpaid today (teachers, nurses, caregivers, and those in the arts) will, in future, be better understood and more highly esteemed for the universality of their trustworthy expertise.

5. Conclusions

Using the Place Model to reimagine a more commodious understanding of the place of professionals provides a timely and candid analysis which does not lose sight of those who most need the services of the most dependable experts. The Model delivers a useful map of the tensions which exist between the many contrasting viewpoints about who, if anyone, might still be a professional. Those entering the professions must have opportunities to cast a critical eye over their careers, to appreciate that many professionals may be (required to be) increasingly shiny, but are neither expert nor trustworthy, are vilified rather than supported by those in power, and are subject to both marketization of their services and to bureaucratic accountability and also to replacement or augmentation by AI. Likewise, the Model points to ways in which markets and bureaucracy are deforming underestimations of human potential, whist the potential of AI is as yet insufficiently understood. While the competitive markets patrolled by pervasive (and sometime well intentioned) bureaucracy may well be underestimations of the potential of humanity, perhaps inclusive professions are an overestimation. On the other hand, Bourdieu, for all his enduring esteem, has perhaps underestimated the persistent place of professionals as trustworthy experts, particularly in roles involving human qualities which continue to be in demand but cannot be straightforwardly bought, sold, measured or robotized. Such is the place of the inclusive professional, an ideal which (yet) has much to offer to the betterment of the world.

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Article

Even When No One Is Looking: Students' Perceptions of Social Work Professions. A Case Study in a Northern Ireland University

Denise MacDermott

School of Applied Social and Policy Sciences, Faculty of Arts, Humanities and Social Sciences, Magee Campus, Ulster University, Derry-Londonderry BT48 7JL, UK; dj.macdermott@ulster.ac.uk

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Abstract: Public perceptions, increased scrutiny and successive governments' reshaping and attempting to define what is and what is not social work has eroded the progressive and radical force of the profession. This article explores how students' perceive the profession and presents evidence from a small-scale study conducted in a Northern Ireland University with 37 undergraduate social work students and 25 postgraduate student social workers (training-as-practice educators) on their perceptions of the characteristics of a professional social worker. A quantitative research design was used, consisting of a face-to-face survey distributed to respondents following an input on the Place Model, (Clarke, 2016). Respondents also shared their perceptions in relation to Freidson's (2001) three logics: professionalism, bureaucracy and the free market, with Ternary graphs and word clouds used as a novel way to present this data. Several themes emerged as important characteristics of social work professionals including reliability, accountability, ethics and appearance. At the other end of the scale, respondents identified unprofessional, de-personalised and cynical as the least aspirational qualities of the profession.

Keywords: social work education; students' perceptions; professional identity; higher education; Northern Ireland

1. Expectations of Being a Professional: Reflections from a Service User Perspective

Social workers often engage in lone working, meeting clients, completing assessments, risk management tasks and making decisions about resources. They are expected to consistently adhere to professional standards and ethics. One wonders how does a professional social worker act when no one is looking? The example below offers an insight into the power dynamics which can exist in the working relationships between social workers and clients.

When I retire I plan to embark on a second career as a 'secret social worker'. My rationale for this second 'career' is grounded in an experience I had several years ago. At short notice, I was asked to accompany a woman who felt anxious about being called to the gateway team for a meeting with a social worker. Gateway is a social work service in Northern Ireland for children and families provided by the Health and Social Care Trusts. It is the first point of contact and is tasked with providing an immediate response to safeguard children. Ms A. had contacted social services following the breakdown of her relationship with her husband following 20 years of domestic violence. They had two teenage children who were currently residing with their mother since leaving the family home. Their father wanted them to return to his care. When we arrived at the office, we were directed to the board room and asked to wait for the social worker. I had been at the gym beforehand and wore a tracksuit. On entering the room, the social worker introduced himself and sat down at the head of the table. The social worker explained the purpose of the meeting was to gather information to help him complete an initial assessment. He then advised the woman that he had meet her husband the

previous day and that her husband was a lovely man. The woman became upset. I leaned forward to speak and the social worker placed his hand in a stop position and stated "I don't want to hear from you. I need to hear from Ms. A." At this point I decided it was time to declare to the social worker that:

1. I was a qualified social worker.
2. I was an experienced practice teacher and professional supervisor.
3. It was clear he was a newly qualified social worker.
4. This meeting was now over.

The social worker became flustered and was visibly shocked when I shared this information and requested he leave the room to locate his line manager. Shulman [1] suggests in work practice we expect that practitioners can 'tune in' to their sense of self and the 'unique life histories of others' National Occupational Standards, [2]. This skill enables social workers to get a sense of what the client/ service user/survivor's potential feelings about the interaction with the social worker might be. As professionals, social workers in Northern Ireland must adhere to Standards of Conduct and Practice NISCC [3]. In this example, this did not happen. From the outset, the environment of a board room was not the best place to hold an initial meeting. Furthermore, the information relating to domestic violence was known to the social worker as the woman had referred herself to the gateway team. The statement in relation to Ms A's husband lacked thought or insight into domestic violence or the power dynamics occurring within the interaction. The use of a hand gesture to try and silence someone from speaking was completely unacceptable. When the manager explored the incident with the social worker he referred to the fact that I didn't tell him I was a social worker. He thought I was a friend of Ms A and his focus was to gather the information he needed to complete the assessment. Should that make a difference to the way in which he interacted with Ms A? Where does professional integrity sit within this example? What would have happened had I not called an end to the interview?

2. Introduction

This experience has stayed with me and it is one I share with my students. when we consider their career trajectories—this year, the discussion was also provoked by a presentation of Clarke's (2016) Place Model [4], focused around the question 'What does a professional social worker look like even when no one is watching?'

This paper is written by a professional social worker, a profession whose complexities are writ large in this parable which has become central to the author's teaching and mentorship of students. The empirical data presented within this paper will focus on respondents' views of

1. How students perceive their profession;
2. Differences between undergraduate and postgraduate professional values;
3. Student's perceptions on the relative importance of markets, professionalism and bureaucracy (Freidson's three logics) [5].

Clarke's (2019) [6] definition of professional (trustworthy experts) was presented to the students to consider as were Eliot Freidson's (2001) [5] three 'logics'—professionalism, markets/capitalism and bureaucracy/managerialism. The introductory sections of the paper also provide some local context for the study. This paper draws on data collected from a university in Northern Ireland with two student cohorts. Undergraduate student responses (n = 37)—these students were sampled in week nine of their first semester of teaching on the accelerated degree programme, which is taught over two years. Postgraduate responses (n = 25) —these students are studying at master's level to obtain their Practice Teaching (practice educator) award to supervise students on placement. Schon [7] coined the phrase 'tacit knowing in action' to try and capture what professionals do when they struggle to find the exact language to describe what they do. This resonates with social work as a profession which is often intuitive and where mastery is developed and fine-tuned over time by building on one's personal and professional knowledge and expertise. Ferguson [8] concurs with Briggs [9] that social work education

must enable students to learn to 'sit with uncertainty' and learn about the complexities of 'the self' and the narratives of their career-long journeys.

2.1. Context: Regulatory Bodies

Social work regulation is devolved in the United Kingdom—England (Health and Care Professions Council), Wales (Social Care Wales), Scotland (Scottish Social Services Council) and Northern Ireland (Northern Ireland Social Care Council). These four bodies operate within a Memorandum of Understanding characterised by principles of cooperation. In addition, each of the Councils will have their own Standards of Conduct which students and practising social workers must adhere to. Overarching within all of this is the wider agreed Global definition of the Social Work Profession, as set out by the International Federation of Social Workers [10]:

"Social work is a practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledge, social work engages people and structures to address life challenges and enhance wellbeing".

A total of 50% of the social work degree in the UK comprises practice-based learning (International colleagues will be more familiar with the terms field education or field practicum) and this is regarded as the 'signature pedagogy' of the social work profession. Practice-based learning requires structured formal direct observations of practice, in addition to informal observations and feedback from service users, staff, etc., who have worked with the student. Shulman [11] identified signature pedagogies as the fundamental types of teaching through which practitioners are educated for their new professions. Júlíusdóttir [12] (p. 41) posits "the structure of practice placement in the educational process may fulfil two goals; offering practical training while, at the same time, serving the gate keeping function".

The social work profession occupies an evolving landscape which continues to come under public scrutiny as a result of multiple serious case reviews across the United Kingdom such as those which have produced both huge angst and enormous headlines around Victoria Climbié [13,14] David and Samuel Briggs [15]; Toner Report [16]; Daniel Pelka [17]; Hamzah Khan [18]. At an individual level, there is a sense from social work practitioners of 'appreciation starvation' in relation to the pay and status associated with their role. The financial benefits are not comparable with the levels of complex risk associated with decision making in often 'life or death' situations. Social work is increasingly framed around the logics of commerce and efficiency.

2.2. Context: Freidson's Logics

As is the case in other professions, Clarke (2019) [6] asserts that many other issues which impact on the professionalism of social workers arise from or are impacted by Eliot Freidson's [5] other two logics—markets/capitalism and bureaucracy/managerialism. Freidson's [5] third logic of professionalism is a shift away from his earlier work in 1988 [19], which places the professions in a power and privilege vacuum protected from lay interference. This view is softened in his later work, where the third logic imagines a professionalism which can counter managerial and commercial forces and importantly, benefit the quality of care and keep service users at the fore. Ball [20] (p. 1049) describes the markets as 'arrangements of competition and choice, and various forms of privatisations which takes two forms . . . . endogenous and exogenous modes of privatization'. Ball [20] posits that endogenous privatization introduces the market into the public sector, which results in reshaping public services into businesses. Similarly, examples of exogenous privatisation are present within social work education, with the introduction of Frontline in England, a two-year social work programme for graduates. Frontline consists of five weeks residential training followed by employment in a local authority. Successful completion of the first year qualifies participants as social workers. In 2018, Skills for Care announced the new Social Work Integrated Degree Apprenticeship [21], this has no formal entry requirements and it usually takes 36 months to qualify as a social worker. This level of 'mission

creep' with the introduction of various social work education providers is moving education away from a public service to a private commodity. In May 2019, Community Care [22] reported that a popular master's in social work programme at an English university was scrapped with the university citing 'changes in the social work landscape'. The university would not be drawn on whether the growing number of fast-track training providers was a factor in the decision to close the programme.

Carey and Foster [23] (p. 258) concur, suggesting that 'the overhaul of social work education with pedagogical services making way to 'reductionist' skills and vocational courses' and the increased role of the private sector in social work alongside the purchaser/provider split are examples of the way in which social work is increasingly fragmented in the UK, Canada and Australia. Van Pelt et al. [24] (p. 278), writing from a Dutch perspective posit that 'social work is considered an open profession, vulnerable to consumerism, capitalism, bureaucratism and to struggles between professionals and managers over control'. Concomitantly, Freidson [5] (p. 181) postulated 'the reality is and should be a variable mix of all three logics, the policy issue being the precise composition of that mix'.

2.3. Context: Bureaucracy and Managerialism

Freidson [25] (p. 119) posits 'professional work is defined as specialized work that cannot be performed mechanically because the contingencies of the task vary so greatly from one another that the worker must use considerable discretion to adapt their knowledge'. The issue with professional discretion is that it is unpredictable in achieving results and outcomes within social work practice. Applying managerial direction, organised by rules and regulated by policies and procedures, can seem like the 'quick fix' to increase productivity and achieve results. The continued discourse of focusing on standards, competencies and quality improvement strategies is detracting from what Foucault [26] (p. 117) regards as 'the establishment of a certain objectivity, the development of a politics and a government of the self, and an elaboration of an ethics and practice in regard to oneself'.

Since 2005, social workers in Northern Ireland have had Legal Protection for the Title of Social Worker, making it an offence for an individual to call themselves a social worker or carry out the social worker job role if they are not registered with the governing body NISCC. It is a similar picture across the UK. This offered social workers recognition of status and also, increased power and 'legitimate professional authority', e.g., the power to remove a child from their family and to seek the protection of the court for the child. Under certain circumstances and through joint working with doctors, approved social workers may commit a person with mental ill-health to hospital for a period of assessment without their consent. This legitimacy also requires social workers to be accountable for their actions.

The impact of austerity has borne savage cuts to health and social care budgets in the UK. This has led to a reduction in the number, type and range of professional staff across the UK. Within Northern Ireland, there is an increasing number of social work assistant posts (band 4 salary) employed by the Health and Social Care Trusts via recruitment agencies on a month to month basis. Malin [27] (p. 68) suggests that "the principle neo liberal goal is to 'roll back the frontiers of the state' in a belief that unregulated market capitalism will delivery efficiency, growth and widespread prosperity".

Revalier's [28] research on UK social workers working conditions and wellbeing found that 92% of respondents were working more hours than they were contracted to, alongside high levels of presenteeism, where employees go into work despite being ill. Within an organizational context, the push from new managerialism within social work has continued to erode the professional identity of practitioners. Martin et al. (p. 378) [29] posit that 'managerialism and markets now occupy territories that were once the exclusive domain of the health professions'. One of the distinctive issues facing the statutory social work profession in Northern Ireland is the increasing use and costs associated with recruitment of social workers through recruitment agencies. The Department of Health completed a survey with social work graduates across Northern Ireland in 2018 to identify students' intentions and aspirations post-graduation. The results identified several areas for concern in relation to statutory workforce planning and development.

1. The increased use of social workers from recruitment agencies impacts on the security of employment and undermines the ethos of meaningful relationship-based practice between social workers and service users.
2. Newly Qualified Social Workers (NQSWs) at the beginning of their professional careers are receiving conflicting messages from Health and Social Care Trusts that continuity of care and commitment are not core values of 21st century social work practice.
3. A transient NQSW workforce presents difficulties in supporting and supervising them to meet the requirements of their Assessed Year in Employment.

MacDermott and Campbell [30] postulate that the 70% statutory/30% voluntary (NGOs) employment split in social work within Northern Ireland has created a focus on statutory social work and has contributed to NGOs social work being viewed as a lesser alternative. Their 2016 research highlighted that 75% of final-year social work students in Northern Ireland identified an emphasis on statutory social work throughout their studies. Interestingly, in the most recent update of the report for the Improving and Safeguarding Social Wellbeing: A Strategy for Social Work [31], the voluntary sector is mentioned once in relation to a pilot project for looked-after children to measure the quality of the relationship between young people in care and their social workers.

As a seasoned practitioner and practice educator, I have listened to the debate on where real social work takes place for over fifteen years. For students, practice educators and academics there is often a view that statutory fieldwork teams are the place to 'earn your stripes' as a social work professional. This is a troublesome position for all stakeholders in social work education, creating an assumption that the definition of social work rests within statutory agency provision. The influence of welfare state agencies and regulatory bodies in shaping the social work curriculum has contributed to the erosion of radical social work. Scholar et al. [32] (p. 933) suggest that this view of non-traditional placements as being of less value "may encourage students to view themselves as having a poorer deal than their colleagues who were placed in 'real social work settings".

In a climate of increasing bureaucracy, there has been a loss of focus in relationship-based social work, an influence which manifests itself in the production of what Ingram and Smith [33] (p. 4) suggest "became a technical/rational rather than an ethical and relational endeavour . . . increasingly framed around following procedure and ensuring compliance". The production of efficient employees who can complete assessments and paperwork within set timeframes, whilst minimising the actual time spent working with families. This approach reduces the opportunities for students to critically consider their professional identity and ways in which they can meaningfully address the impact of structural inequalities and poverty which plague the lives of service users. Ioakimidis [34] comments that new radicalism in social work must be based on five pillars, democracy, empathy, militancy, anti-oppressiveness and structural practice.

2.4. Context: Social Work as a Profession in Northern Ireland

In March 2018, there were 5912 social work practitioners registered with the Northern Ireland Social Care Council. These practitioners are employed across a range of settings. The majority of social workers in Northern Ireland are employed by the State. Figures from the Northern Ireland Health and Social Care Workforce Census [35] identified 3766 social workers employed within Health and Social Care Trusts (70%). The remaining 30% are employed within the voluntary, education, justice and independent sectors. In the Health and Social Care Trusts, one-third of the registered social workers are over the age of 50.

Social work in Northern Ireland is unique compared to other parts of the UK with the legacy of the thirty years of 'The Troubles' in which over 3500 people lost their loved ones. Northern Ireland is moving forward as a new and emerging post-conflict contested society. Moreover, the complexities of Brexit and securing a 'deal' which guarantees no hard border between Northern Ireland and our closest neighbours in the Republic of Ireland adds another layer of uncertainty, to the fragile peace citizens of Northern Ireland have had since the Belfast (Good Friday) Agreement in 1998. The complexities of the

Northern Ireland political landscape illustrate why Northern Ireland remains a divided society in 2019. Manktelow and Lewis [36] (p. 303) comment "In Northern Ireland, being Catholic or Protestant is not just a matter of religious belief and church membership, but an ethnic identity which influences a whole range of social variables". The NISCC Framework Specification for the Degree in Social Work [37] (p. 6) acknowledges this, "the impact of past and current violence, conflict and divisions in Northern Irish society requires particular emphasis in the education and professional development of social work students".

This sentiment is echoed within a recent British Association of Social Work (Northern Ireland) report [38] which highlighted the experiences of social workers working through the Troubles. Looking at the responses from social work education providers during that time, it concluded that during the Troubles, there was a lack of capacity and, perhaps, even a fear of bringing up the conflict within social work education. Furthermore, their research commented that less than half (47%) of the respondents said that they received support from their employer when they experienced violence during the Northern Ireland conflict. These experiences included death threats, bomb scares, shootings, bombings and sectarian abuse. It is, therefore, essential that social work students in Northern Ireland are aware of the legacy issues from the Troubles and the transgenerational issues which are present when working with service users, carers and survivors.

The age profile of students applying to study social work is changing, with increasing numbers of school leavers accepting places. Many of these applicants are 'children of the Northern Ireland peace process' and have not experienced or been exposed to 'The Troubles' in their lifetime. Gilligan [39] suggests that student's perceptions of the world are more internalised and increasingly individualistic, and without this experience, it may be that these young social workers are in danger of missing a key part of the unique socio-political jigsaw which underpins so much of life in Northern Ireland some 20 years after the signing of the Belfast (Good Friday) Agreement, which brought the Troubles to an (as yet incomplete) end.

Aligning the market logic with the professional logic is a distinct challenge and one in which the priorities of the State are centre stage. This is a question of supply and demand. Each year there are 260 places available on the qualifying BSc (Hons) social work Degree. These places are shared between two universities, Ulster University and Queen's University, Belfast. The Department of Health in Northern Ireland provides a non-means-tested bursary for social work students at both universities. This is £4500 per annum, paid in two parts directly to the student. Students domiciled outside Northern Ireland are not eligible to receive this money.

Increasingly, Northern Ireland graduates are accepting employment in the Republic of Ireland as these posts offer more attractive salaries than those of the recruitment agencies which statutory social work trusts in Northern Ireland rely heavily upon. At present, there are not enough social workers to fill the vacancies and the lack of permanency in employment has created an environment in which Northern Ireland universities are 'producing graduates for export'. Martin et al. [29] refers to strategies from seduction to enforcement being employed by managers and commissioners and there is some evidence of this happening in Northern Ireland recently with job offers and permanent contracts available for students on graduation (seduction). This forms part of a strategic approach to reduce the spend on recruitment agencies and close the supply and demand gap. Although one wonders, if this strategy does not prove successful whether the State will take a tougher stance? For example, acceptance of the student bursary equals two years post-qualifying employment within the Health and Social Care Trusts (enforcement).

It is, therefore, timely to identify and explore undergraduate and postgraduate students' perceptions about being a social work professional in the fourth industrial revolution [40].

3. Materials and Methods

This research employed a quantitative approach with a prepared questionnaire including open and closed questions which asked respondents to describe 'you as a professional' and the key characteristics and expectations of the social work profession. The questionnaire was distributed to two groups of students following a presentation of The Place Model [4]. The data was collected by the author following each presentation. Blaxter [41] define this form of sampling as 'event sampling'—using routine or special events as the basis for sampling. The presentations to students took place at different campus locations dependent on the mode of study—either undergraduate or postgraduate. Grey [42] suggests delivery and collection questionnaires have the advantage of online and postal questionnaires in generating a higher response rate. Participation in the study was voluntary.

Group 1: Undergraduate

BSc (Hons) social work students in semester one of the relevant graduate route programme. These students hold a cognate degree, obtaining a place on the accelerated degree programme (two years).

Group 2: Postgraduate

Postgraduate students completing their practice teaching/practice educator qualification. These students are qualified social workers with three to fifteen-plus years' experience.

Student Survey

A structured questionnaire was distributed to the students after a brief presentation on the Place Model [4]. The questionnaire asked respondents to identify their views of professional characteristics and Freidson's [5] three logics—professionalism, bureaucracy and markets. The response rates are captured below.

Group 1: Undergraduate returned a response rate of (n = 37) undergraduate students from a class cohort of 40.

Group 2: Postgraduate returned a response rate of (n = 25) postgraduate students from a class cohort of 33.

No generalisability is claimed within the results. Respondents ranged from students in their first semester of learning prior to completing their first placement to qualified social work practitioners with fifteen-plus years' experience. Representation from throughout the Island of Ireland was included within the sample.

Ethical Issues

Crow et al. [43] detail the principles of informed consent, which ensures that participants are provided with clear, accessible information about a project, enabling them to make an informed decision on whether or not they wish to participate. Participation in this project is entirely voluntary. Ethical approval was granted by Ulster University Filter Ethics Committee in March 2015 for the duration of the project until 2020. The completed surveys will be stored in adherence with Ulster's Research Governance protocols and will be retained for ten years.

4. Results

The data sets are presented within this section. Quantitative results are presented through ternary and bar graphs. The data comparing the professions in respect of Freidson's [5] three logics are displayed in ternary graphs as these facilitate a visual comparison of the data from the valuations of the various parameters. The mean was calculated for each section of the survey and the three means were totaled and converted to percentages of this total using Microsoft Excel. This data was then used to draw up ternary graphs using the Plotly analytic app.

The open-ended questions within the survey enabled respondents to reveal their thoughts on the types of professional they would like to be; most aspirational and least aspirational. A Microsoft Excel table was created to record the frequency of words used in the responses to these open questions. The responses are presented as words clouds within this section to add further context and offer a visual representation to the reader.

4.1. Demographic Characteristics of Respondents

In group one (undergraduate students), the majority of respondents were female (n = 33), with the remaining (n = 4) identifying as male. The age range of respondents was 21–49 years. In group two, the majority of respondents were female (n = 22), with the remaining (n = 3) identifying as male. The age range of group two respondents was 31–62 years.

4.2. Findings

The respondents were asked to score their perceived importance of commonly cited characteristics of professionals. These findings are presented below in bar graphs in Figures 1 and 2.

Group 1: Undergraduate

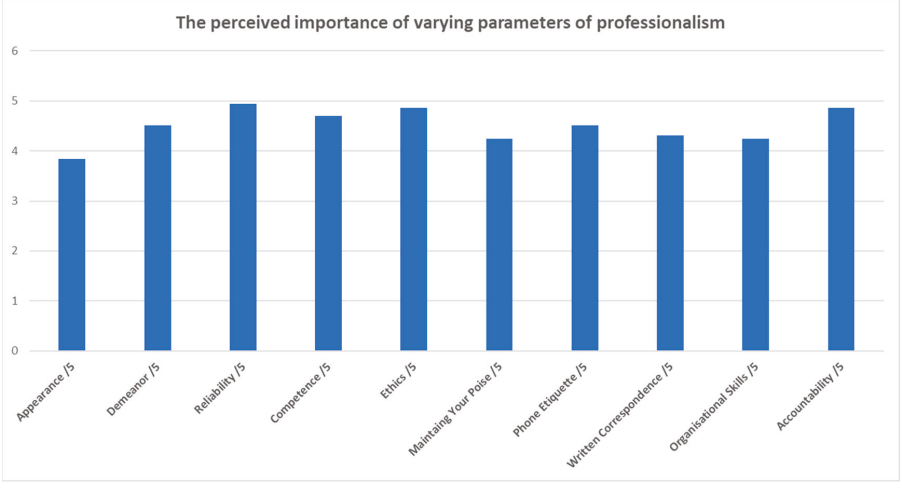

Figure 1. Student social workers perceptions of the varying parameters of professionalism.

Group 2: Postgraduate

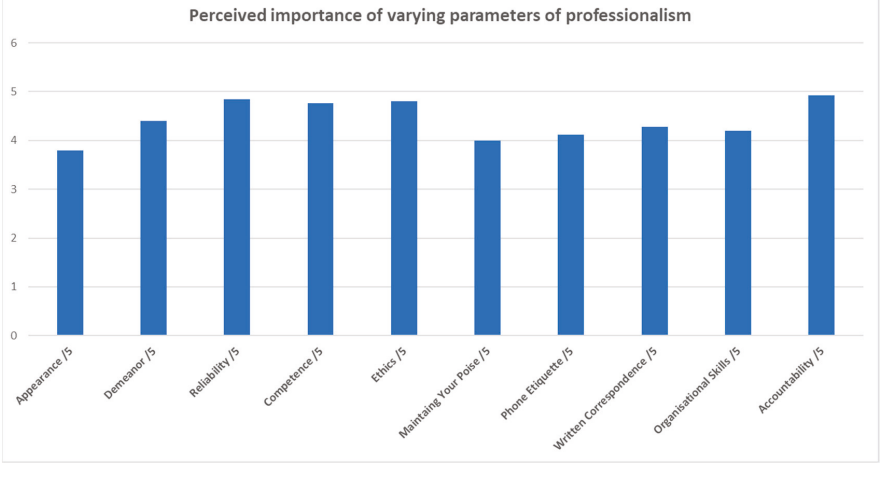

Figure 2. Qualified social workers perceptions of the varying parameters.

There is remarkable similarity between the views of the members of the two groups here. It is also evident that those aspects of professions which might be deemed most superficial (such as demeanor or appearance) were scored just as highly in importance as the more complex matters such as accountability and ethics.

The survey respondents were asked to contrast professionalism with Freidson's [5] other two logics, bureaucracy and markets. The range of professionals included, Medical Doctor, Lawyer, Journalist, Social Worker, Teacher and Nurse. Respondents were asked to record a score out of 10 for each of the professions. Their responses are illustrated below in Figures 3 and 4 using ternary graphs as a 3D visual of their perceptions of Freidson's three logics.

Group 1: Undergraduate

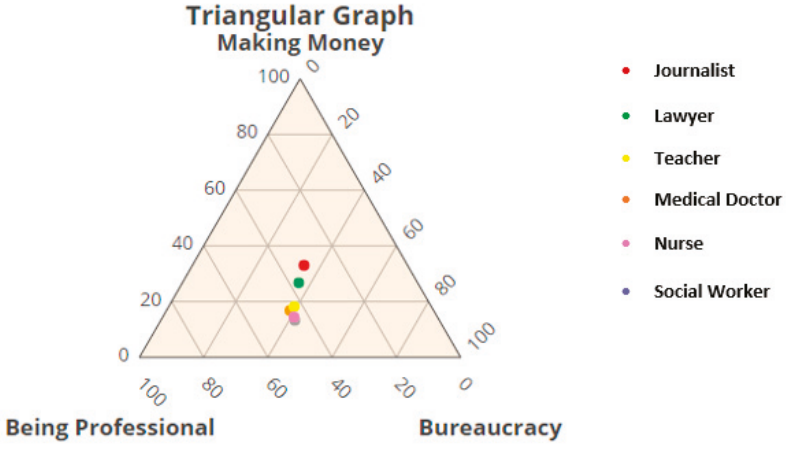

Figure 3. Student Social Workers perceptions of the professions.

Group one respondents identified journalists, lawyers and teachers as professions in which making money is important and readers, clients and students are consumers. Interestingly, those aligned with the helping professions are given almost equal weighting with a strong emphasis on being professional and bureaucracy.

Group 2: Postgraduate

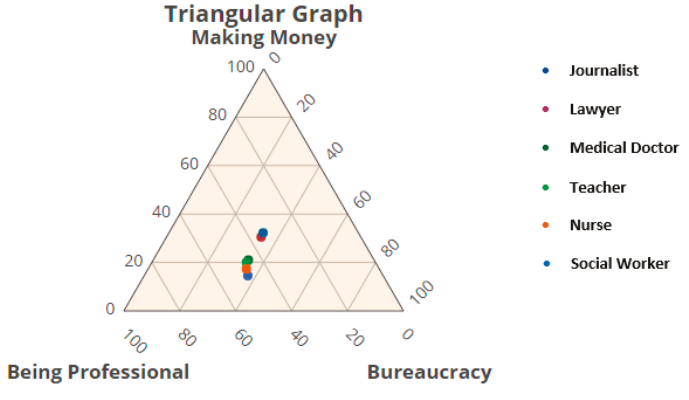

Figure 4. Qualified Social Workers perceptions of the professions.

Group two respondents identified journalists. It was interesting to note that for both sets of survey respondents (undergraduate and postgraduate), journalists were identified as the professionals most motivated by money. It is interesting, and hardly surprising, that journalists, who have a key role in publicising the perceived deficiencies of social workers in the 'headline' cases, such as those note earlier, are perceived as most motivated by money by both groups.

The open-ended questions in the survey generated a range of responses from both sets of students in relation to the types of professional they would like to be. These responses are presented below as word clouds in Figures 5–11.

Group 1: Undergraduate

Figure 5. Student Social Worker and the type of professional they would like to be.

Group 2: Postgraduate

Figure 6. Qualified Social Worker and the type of professional they would like to be.

Group 1: Undergraduate

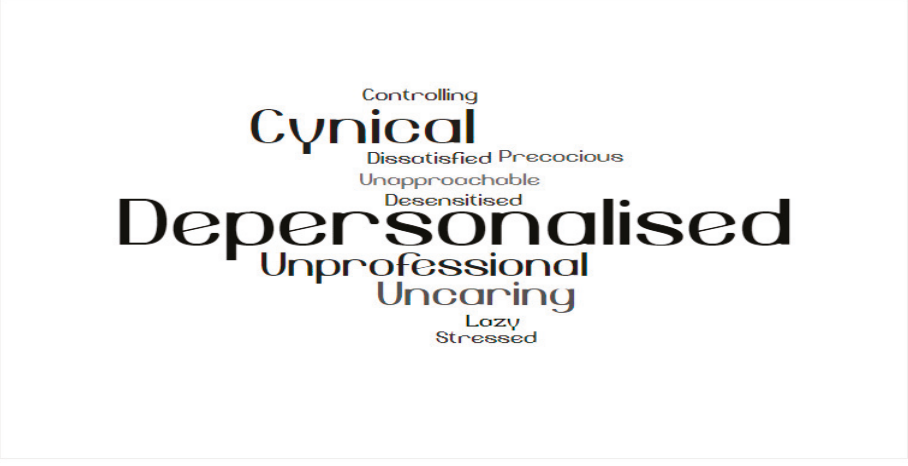

Figure 7. Student Social Worker—Least Aspirational Qualities.

Group 2: Postgraduate

Figure 8. Qualified Social Worker—Least Aspirational Qualities.

In relation to the respondents' views on the least aspirational qualities of a professional social worker, the data revealed similar themes between the two groups.

1. Unprofessional;
2. De-personalised;
3. Cynical.

Both groups of respondents were asked to identify their most aspirational social work roles. For group one (undergraduate), this is a guess without having had any formal experience of social work practice. Group two (postgraduate) have several years of experience working in direct practice.

Group 1: Undergraduate

Figure 9. Student Social Workers: Most Aspirational Social Work Roles.

Group 2: Postgraduate

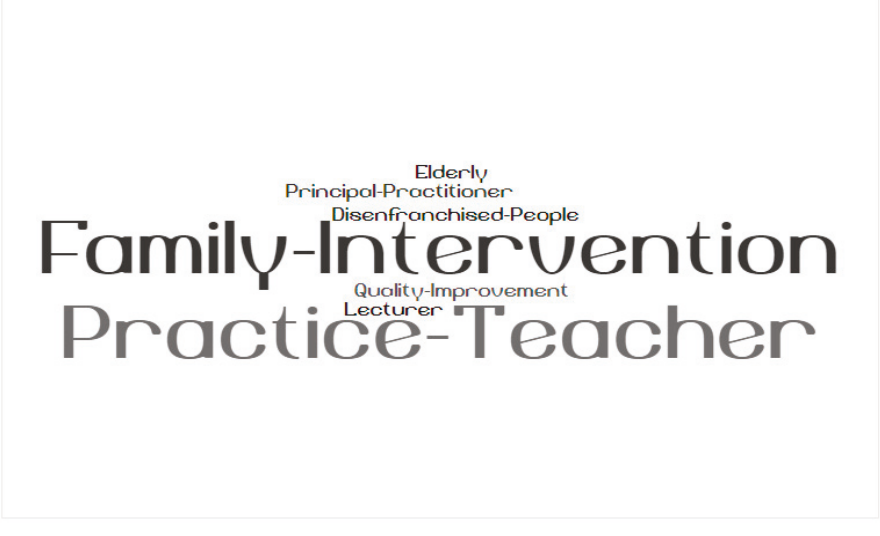

Figure 10. Qualified Social Workers: Most Aspirational Social Work Roles.

Finally, within this section, respondents were asked to identify their least aspirational roles within social work. Group one (undergraduate) responses are captured below in Figure 11. Group two (postgraduate) did not respond to this question in significant numbers. Their responses are recorded as direct quotes as written on the completed survey.

Group 1: Undergraduate

Figure 11. Student Social Workers: Least Aspirational Social Work Roles.

Group 2: Postgraduate

Respondent 24 "The levels of inequality I am witnessing is frightening. My least aspirational role is one in which I don't have a voice to challenge oppression or advocate for Human Rights".

Respondent 22 "A role in which I don't have the time to build relationships with service users".

Respondent 18 "Becoming a manager and being distant from direct practice and the people I work with".

Respondent 15 "Principal Social Worker and being a step removed from practice, struggle to identify with groups on the ground".

Respondent 10 "To be in front line family and childcare for the remainder of my career".

5. Discussion

Edmond and Price [44] posit that the definition of professionalism has a particular emphasis on the key aspects of a profession including status, pay, expertise, standards, values and ethics. In this study, it was interesting to note that both groups of respondents—undergraduate and postgraduate—identified similar themes in relation to their perceptions of the types of professional they aspire to be:

1. Trustworthy;
2. Honest;
3. Professional;
4. Good listener.

Moreover, the respondents are at different stages of their professional journey. Group one (undergraduate) completed the survey three weeks prior to finding out where they will be placed for their first practice learning opportunity (85 days). The statutory sector currently provides approximately 85% of social work placements in Northern Ireland with NGOs offering the remainder. Group two (postgraduate) completed the survey during their taught course prior to being allocated a student when

placement commenced in January 2019. Group two were at the beginning of a new role as 'gatekeeper to the profession', assessing the competence of their allocated student. The role of the practice teacher is complex. They are responsible for helping students to become professional practitioners and to develop the knowledge, skills and values, associated with their professional role and identity [45]. For group two, there is a further challenge as they occupy the dual role of learner and educator and an increased sense of accountability and responsibility about their decision making and assessment. They are also being assessed on their competence to 'pass', to qualify as a practice teacher/practice educator at master's level.

Both groups of respondents (undergraduate and postgraduate) identified the same top three core parameters of perceived importance in professionalism.

1. Reliability;
2. Accountability;
3. Ethics.

In this study, these were the attributes that were ranked as the most important and offered an insight into the respondents' perceptions of the qualities a social work professional should possess. Dillenburger et al. [46] define professional competence as the ability to do something well. Social work students on placement are assessed against a range of social work standards to evidence their competence in direct practice and at the point of graduation, there is an assumption that students are fit to practise. Northern Ireland was the first region in the UK to introduce an additional measure to support Newly Qualified Social Workers (NQSWs), the Assessed Year in Employment (AYE), which recognises the importance of continued formal observation and evidence of knowledge consolidation. It is a similar picture in England with the Assessed and Supported Year in Employment (ASYE), Wales requires NQSWs to complete the Compulsory Consolidation Programme and Scotland is currently developing a probationary year for NQSWs following the Review of Social Work Education [47].

This resonates with the rationale for the continuum of lifelong learning expected of social work professionals. In Northern Ireland, the Professionals in Practice framework is governed by NISCC and requires commitment from registrants to complete continued professional development (CPD) to maintain their registration as social workers. The rationale is to build practitioner expertise and enhance public trust from those who access services. This requirement to improve, enhance and develop specialist and leadership skills is also linked to promotion, career progression and financial incentives, e.g., on completion of their Assessed Year in Employment, social work graduates who are employed by the state move from a Band 5 to Band 6 salary.

The Francis Report [48] (p. 1442) defines candour as ''the volunteering of all relevant information to persons who have or may have been harmed by the provision of services whether or not the information has been requested or whether or not a complaint about that provision has been made". In relation to health and social care and particularly, social workers, this is at different stages across the UK. Despite the recommendations of the Francis Report, duty of candour was not introduced in England owing to the 'ethical duty' of honesty within professional regulatory standards. In Scotland, the government introduced duty of candour legislation in 2016 within the Health (Tobacco, Nicotine etc., and Care) (Scotland) Act. In Wales, following consultation, indications are that the statutory duty of candour will be for healthcare providers instead of individual staff. The Donaldson Report [49] in Northern Ireland favoured a duty of candour on organisations. Donaldson's rationale for this was the view that legislation which brought the threat of criminal convictions/sanctions would contribute to a culture of fear instead of openness and transparency.

As a profession, social work has often had to work to justify its inclusion alongside other professions, e.g., medical. The primary reason for this is the 'generalist approach' used within social work whereby practitioners will move across and between methods and models of interventions often reaching for feedback or input from service users, carers and survivors. This impacts on social work's ability to measure its effectiveness and has led to an increased drive to deliver on metrics and outcomes

and evidence-informed practice to justify the specialist knowledge and professional status of the role. Measurement is a core neo liberal priority. There is growing dissonance between the self-identity of social workers as agents of critical change and their actual role in the technical delivery of neo liberal policies, a sentiment echoed by Garret [50,51].

In this study, both sets of respondents (undergraduate and postgraduate) identified appearance as an important parameter of professionalism. Compared to the more substantial characteristics of reliability, accountability and professional ethics this, at first, seems more superficial. Is this linked to perceptions of professional identity? Or messages from practice? Or the wider influence of a society powered by Instagram and social media? Duncan-Daston et al., in their paper, suggest that social work educators alongside students must be cognisant of the ways in which online profiles impact on their 'professional presence' [52]. Upholding public trust and confidence forms part of the current curriculum for social work in the UK and is embedded within the revised Standards of Conduct for Social Work Students [53]. In Northern Ireland, social work students and qualified practitioners who contravene professional boundaries or NISCC Standards when using social media will be held accountable for their actions, which could include a referral to a 'fitness to practise' panel.

Practice teachers/educators are role models to students in how to be a professional social worker and have a responsibility to ensure students are accountable for competent professional behaviour. Goffman [54] wrote about 'personal front' with reference to how people present themselves within social interactions. An individuals' appearance can often give clues to others about their social status. Do social workers look more professional if they are wearing a suit? Will the quality of the service-user–social worker relationship be aided by formal attire? Or is this about power and influence? Perhaps social work students are receiving conflicting messages between the university campus and the placement site? For example, in social work lectures, students can display their piercings, tattoos and wear shorts or football tops. It is a truism that increasingly universities are focused on the student experience and enhancing metrics by creating inclusive learning landscapes. Davys et al. [55] (p. 341), writing about Occupational Therapists, posits that ''part of being a professional is to consider the impact that self-presentation will have on the service user within her or his social context''. Contrastingly, Williams et al., writing from a social work perspective, postulate that policies requiring staff to cover up tattoos and piercings are perhaps inconsistent with social work core values, leading to discrimination, stigma and prejudice [56]. Furthermore, within the Northern Ireland context, football or Gaelic Athletic Association jerseys are often associated as a signifier of religious or ethnic identity and are not permitted to be worn in the workplace.

Terum and Heggen [57] conducted a longitudinal study in Norway with social work students. Their research suggests that identification with a profession is an ongoing process and one which reflects on the student's answer to two questions.

1. Who am I?
2. Who do I want to become?

They postulated that access to role models, e.g., lecturers, practice educators (on placement) and peers, forms the social work students' 'professional socialisation', which contributes to the creation of an identity. In this study, the undergraduate students are at an early stage in their professional journey, they are appraised of the common values, ethics, knowledge, skills and values required of the social work profession. Although how these are applied in practice (on placement) will be different given the individual approaches and methods they use. This is, essentially, their internalisation of professional identity and what makes a good social worker? Freidson [5] (p. 84) posits that this 'journey' 'contributes to the development of commitment to the occupation as a life career and to a shared identity, a feeling of community or solidarity among all those who have passed through it'.

Reflecting back to the example at the beginning of this paper with the NQSW and Ms. A, the social worker looked like a professional, (appearance) the meeting was held in a professional environment (boardroom) and the social worker was clear on why the meeting was taking place (purpose). However,

on that particular day, his interaction with Ms. A was unprofessional and fell significantly below the basic standards the public and the social work profession expect.

The outcome of the 'your husband is a lovely man' scenario was twofold. In the first instance, a referral was made by the social worker's line manager for him to attend training on domestic violence. Furthermore, a meeting between Ms. A, the social worker and his line manager to enable Ms. A to discuss how she felt during that initial meeting was conducted. Strategic Priority 3 of the Learning and Improvement Strategy [58] identifies professional curiosity and the sharing of information and expertise as vehicles to acquire new knowledge skills and qualifications to better meet the needs of service users, carers and survivors. Despite the access to further training and professional supervision, what is unknown is what the social worker actually learned from this experience. Mezirow [59] refers to as the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding and application.

Greenglass [60] identified two forms of coping 'reactive' when stress is managed following a stressful or traumatic event and 'proactive', whereby resources are developed for future use. Both sets of respondents in this study identified similar themes in relation to the least aspirational type of social worker they would want to be as unprofessional, de-professionalised and cynical. Pithouse's views [61] (p. 4) on social work as an invisible professional activity resonates with this, "social work is an inherently 'invisible' trade that cannot be 'seen' without engaging in the workers' own routines for understanding their complex occupational terrain...social workers who visit people in the privacy of their own homes or see them in the office usually do so free from observation and interference by their colleagues, who likewise pursue a similar form of intervention".

Honesty, unequal treatment, failure to demonstrate respect in their interactions with service users and concerns about technical aspects of practice, e.g., breaching confidentiality were the top four categories of complaints raised about social workers in Northern Ireland from 2006–2015 [62]. The voice of service users, carers and survivors in Northern Ireland is fundamental to shaping social work students and qualified practitioners' understanding of the significance of building effective, professional, person-centred relationships which recognise the service user as the expert through experience [63].

6. Conclusions

This article has explored students (undergraduate and postgraduate) perceptions of professionalism in social work. As undergraduate students engaged in formal learning to become social work practitioners, they are closely monitored and observed throughout placement to ensure they meet the standards required. The NQSW example in this paper highlights that once qualified, practitioners often engage in social work practice 'unobserved', so whether practitioners are 'getting it right' or displaying poor professional practice, this is occurring without independent observation to corroborate. There is a balance to be achieved as Hordern [64] (p. 6) suggests "expertise is also seen as the capacity to exercise judgement with a degree of autonomy".

The role of the social worker in the age of the fourth industrial revolution has changed. We no longer work in silos. We are required to demonstrate professional meta competencies and work across and between trans-disciplinary teams within the health professions, the private sector and alongside 'nonprofessional' colleagues. Baretti [65] (p. 280) comments that 'being proud to be a social worker expresses something not only about organisational affiliation, but also motivation and the desire to do a decent job'.

In this study, there was remarkable similarity between the two groups of respondents considering that one group of respondents were nine weeks into their professional learning and the other group had extensive social work practice backgrounds. Reflecting on the original research questions on how respondents perceive the profession and in relation to those aspects of professions they deemed important, appearance and demeanor were scored just as highly as highly complex aspects such as accountability and professional ethics. Their responses in relation to perceptions of helping professions

had a strong emphasis on professionalism and bureaucracy. The challenge within this is how do we 'row back' from how embedded the institutional logics of management and the markets are within professionalism? The demands of social work education within Higher Education is to review, revise and improve the quality to impact on the professional expertise of graduates. Furthermore, that these graduates will remain in the profession long enough to have a positive impact with the individuals and families with whom they work. This raises the question how much occupational control do social work educators have in (re)shaping the curriculum and trying to retain the core values of social work against this backdrop? Ball [20] (p. 1056) posits that 'our professional identity is rooted in our own principles and we must push back against the bureaucracy to hold onto the power to define ourselves, 'who we are and who we might become'.

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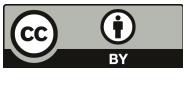

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Connecting Status and Professional Learning: An Analysis of Midwives Career Using the Place© Model

Patricia Gillen [1,2]

[1] Southern Health and Social Care Trust, 10 Moyallen Road, Portadown BT63 5JX, UK; patricia.gillen@southerntrust.hscni.net
[2] School of Nursing, Ulster University, Shore Road, Newtownabbey BT37 0QB, UK

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Abstract: This paper seeks to deconstruct the place of midwives as professionals using the novel interdisciplinary lens of the Place Model—an innovative analytical device which originated in education and has been previously applied to both teachers and teacher educators. The Place Model allows us to map the metaphorical professional landscape of the midwife and to consider how and where midwives are located in the combined context of two senses of place: in the sociological sense of public esteem and also the humanistic geography tradition of place as a cumulative process of professional learning. A range of exemplars will bring this map to life uncovering both the dystopias and potentially utopian places in which midwives find their various professional places in the world. The Model can be used to help student midwives to consider and take charge of their learning and status trajectories within the profession.

Keywords: midwife; profession; learning; esteem; Place; interdisciplinary

1. Introduction

Midwives have a wide ranging and uniquely skilled place in caring for women not only throughout pregnancy and childbirth, but also in antenatal and postnatal care; neonatal care; sexual health and fertility services in partnership with women and their families [1]. The esteem of midwives and their educational trajectories are matters which are both important and contested places. It is for this reason, that Clarke's [2] Place Model, which combines the sociological sense of place as status and the geographical sense of place as a position on a career long learning journey, can provide a useful combined set of lenses with which to view this unique profession.

Midwives are often the lead professional but also work in collaboration and partnership with women, their families and a diverse multidisciplinary team including Obstetricians, Allied Health Professionals and Social Care colleagues. Globally, there is growing recognition that in order to optimize outcomes, *all pregnant women need a midwife and some need a doctor* [3] (p. 323) and that there are improved outcomes for mothers and babies when care is provided by midwives who are *educated, trained, licensed, and regulated* [4] (p. 1). A position statement by the International Confederation of Midwives (ICM) (an accredited non-governmental organization) highlights that while midwifery is recognized as an autonomous profession in many countries that it is not yet afforded this status globally [5]. The ICM identified five key elements of an autonomous profession as: a unique body of knowledge; a code of ethics; self-governance; processes for decision-making by its members and recognition from society through regulation. Others have previously ascribed similar professional attributes such as: an expert esoteric body of knowledge which is profession specific; autonomy that helps to set the parameters for a discrete area of practice, thereby assigning social power to the profession and ethical considerations [6]. However, more recently, Mivšek et al. [7] have highlighted

three additional characteristics of professions: interprofessional collaboration, partnership with user and reflective practice. The ICM advocates for all countries to support midwives to promote midwifery as an autonomous profession, in order to optimize the care that they can provide for women and their families.

Midwifery often receives attention within the media not only about the outcomes of real-life maternity care but also portrayals of midwives in television dramas such as *Call the Midwife* which reflect, through somewhat rose-tinted glasses, on midwifery in the 1960's in an area of relative socioeconomic deprivation. More up to date documentaries such as *One Born every Minute*, while also based on reality, tend to focus on the 'best bits' of childbirth. This may have had the impact of attracting more applications to midwifery courses [8] but has done little to reflect the reality of a twenty first century midwife's role. This paper aims to use the Place Model to provide a more realistic and complex map of the profession. Clarke provides a usefully candid appraisal of the Model in relation to her maps of the teaching profession,

> *Whist undeniably reductionist in nature (like many models), the Place Model presents a usefully uncluttered landscape which is mapped in a way that is intentionally schematic rather than mathematical in nature (although it does look like a graph), a heuristic rather than a positivist equation. Like all maps, it is subjective, like all models it is wrong. Nevertheless, the Place Model is a map with a purpose. It is proffered as an interdisciplinary thinking tool for two key user groups: student professionals and their tutors. In preparing their students for their professional futures, tutors may invite them to consider critically their future learning journeys and status, across its terrain.* Clarke [9] (p. 73)

There are many, conceptualizations, many models, of professionalism. The Place Model focuses on a unique interdisciplinary combination of two senses of place (place as esteem) and place as location (i.e., akin to Massey's notion of Geographical imagination [10]), in this case, location along a career long learning journey. As students begin on this journey, it is useful for them to consider these two key aspects of professionalism-trustworthiness and expertise, especially at a time when trust in professionals is under attack in the public sphere. The model affords an opportunity to examine a range of dystopian aspects (and examples of these—which are not intended to be exhaustive) as well as pointing towards ideals.

It would appear that Midwives are recognized for the key role that they play in the health and well-being not only of childbearing women and their babies but also future generations. They seem to be valued and invaluable exemplars of trustworthy experts. However, all may not be as it seems. This paper will examine not only the place of the midwife from the perspective of their expertise and professional learning but also that of the place within public esteem, focusing mostly on the UK but also drawing on some key contrasting and comparable international examples.

2. Background

Documentary evidence of the role of Midwives can be found in early history and in a number of places in the bible with textbooks and training for midwifery being traced back to 17th century. Donnison [11] and Borsay and Hunter [12] provide useful accounts of the checkered history of the professionalization of midwifery, not least its' evolution from a 'female mystery' and wisdom [11] (p. 11) to one which has often become dominated by a male view of the world and the perceived need to control childbirth. The International Confederation of Midwives set global standards for midwifery practice, education and regulation [12–14]. These standards are reflected in midwifery education, practice and regulatory frameworks that are found in many countries. However, to enable global autonomous midwifery practice, it is expected that these standards provide not only a basis for the review of existing regulatory frameworks but also the impetus, guidance and direction to countries where regulatory frameworks for midwifery are limited or absent.

The International Confederation of Midwives (ICM) define a midwife as:

> *'a person who has successfully completed a midwifery education programme that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education and is recognized in the country where it is located; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery.* [1]

Across the world, country specific legal and professional structures are in place. While legislation is largely viewed as supportive of the profession, fear of litigation has been shown to have a negative impact on how midwives practice [15,16] with regulation and a blame culture and 'the fear factor of risk' [17] and litigation [18,19] inserting a very real fear factor within the realm of professional autonomy and judgement.In the United Kingdom (UK), for example, Midwifery is a protected legal function making it a criminal offence for anyone other than a registered midwife or medical practitioner, (except while in training or in an emergency) to attend a woman in childbirth [20]. All women have the right to access the care of a midwife free at the point of delivery and theoretically, taking account of their medical, childbirth histories and preferences can choose to deliver at home, in a birth center (Midwifery Unit) or in an Obstetric Hospital. There are also a number of independent midwifery care providers; some requiring payment, and some not as they are part of commissioned maternity care provision. However, there is evidence that some midwives, particularly those caring for and supporting women making unconventional birth choices are practicing in fear of litigation [21].

Midwives in the UK, as in many other countries, are a graduate profession and as such are regulated by the Nursing and Midwifery Council (NMC) which is turn is overseen by the Professional Standards Authority for Health and Social Care. At the point of registration, midwives are expected to have the necessary *'behaviors, knowledge and skills required to provide safe, effective, person-centered care and services'* [22] (p. 7). Underpinning these behaviors, knowledge and skills is professionalism, defined by the NMC as being

> *' . . . characterized by the autonomous evidence-based decision making by members of an occupation who share the same values and education . . . '* [22] (p. 6)

A midwife's professionalism is demonstrated through being accountable, a leader, an advocate and being competent [23]. While it is postulated that Midwives are autonomous practitioners, it is clear that they work within a strict country specific legal, regulatory, professional and moral code of practice [24], are expected to follow best practice evidence based guidelines such as those of the National Institute for Health and Care Excellence (NICE) and work within their employer guidelines and policies. While most often the lead professional for women with a straightforward pregnancy, when necessary, close collaboration with obstetric colleagues in particular and other multidisciplinary colleagues, in partnership with women and their families is required to achieve optimal outcomes. Continuing professional development is not only an aspiration for midwives but in many countries a regulatory requirement in order to remain as a registered midwife and to continue to practice [24,25].

Midwives might also be seen to have a relatively strong global identity which is in part due to a network of midwifery associations across the world providing a sense of unity and support among midwives but also fostering strong relationships with policy makers and other health care professionals [25], potentially influencing health care policy and resource allocation. However, Castro Lopes et al. [26] highlight that being a predominantly female profession, gender issues and public opinion in some countries may negatively impact on midwives associations' relationships with those in authority and leadership, restricting their inclusion in key negotiations and discussions. Midwives have a long history of challenging on gender issues, not least in professional discussions where medicalized terminology such as diagnosis of pregnancy, symptoms of pregnancy and the notion of a pregnant woman's return to the normal state after birth [27], were often used by a predominantly male medical profession, until relatively recent times.

So, how can this Place model be applied within the context of midwifery to examine the status and professional learning of midwives?

3. Origins and Components of the Place Model

The origins of the model and how it evolved are explained in depth in Clarke [2], but in essence, in its original version, the model uses two perceptions of 'place' as the lens through which to examine the place of a teacher; (1) '*the humanistic geography tradition as a process-the career long professional learning journey*' and (2) '*place, in the sociological sense of teacher status*' [2] (p. 69). The combination of status and professional learning were recognized as key strengths of teacher education, and it was considered that this would be a useful lens through which to view midwives and explore their status and professional learning.

The subheading of the model is an important starting point for understanding the structure and application of the model within the context of midwifery. Replacing the original 'Who is teaching me today?' with' who is my midwife today? immediately puts the woman at front and center and places the midwife 'with woman'; the literal meaning of midwife.

The Place© model itself resembles a graph. The horizontal axis is a continuum: a cumulative, career-long, professional learning journey for the midwife (not a time-scale). It draws on Hoyle's [28] appraisal of professionality- where 'restricted' focuses on the individual's practice and autonomy and the 'extended' on wider society, multidisciplinary collegiality and career long learning and development towards being and becoming Clarke's (2019) [29] trustworthy experts. The vertical axis focuses on the status of the midwife, based on public perceptions of the esteem in which midwives are held, ranging from low to high. Clearly, midwives have less agency in relation to this but by seeking to control their learning trajectories they may seek to influence this key dimension of professionalism. As Figure 1 illustrates, the intersection of these axes affords the creation of four quadrants: proto-professionals, precarious professionals, professionalized and professional. A fifth element of the model sits outside the axes, where the answer to the question 'Who is my midwife today?' is 'no-one'; the reality for some women globally, particularly in low and middle income countries.

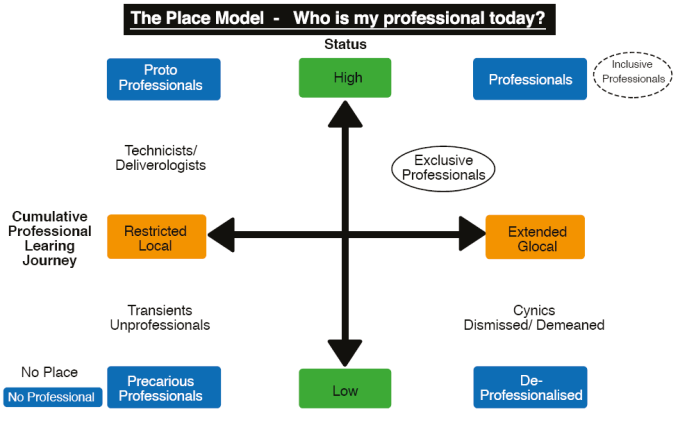

Figure 1. The Place Model.

4. The Place Model within the Context of Midwifery

Examples from midwifery will now be used to convert the Model to a 'living graph' (Leat, 1998) [30] in which we might consider how the Place Model can be used to '*map both career-long professional learning trajectories and to inform comparisons at individual and systemic levels*' [2] (p. 73) in a similar way to how it was used to explore teacher professionalism and status [2]. The starting point is the axis of the model, starting with the top left corner, the 'proto-professionals' before going off-axis to the 'no midwife' component and then moving anticlockwise around the three remaining in-axis quadrants of the model, ending at the 'professionals' quadrant.

It is possible to 'populate' each of the five sections of the model's metaphorical landscape as a Living Graph (Leat, 1998) [30] using illustrative examples drawn from the profession of midwifery to bring the model to life and raise key questions about the profession.

4.1. Proto-Professionals

At the start point of the model- the top left-hand corner, the proto-professional is located. The prefix Proto is derived from Greek (*prôtos*) and means first and from pro meaning before [9]. Within the context of midwifery, this relates to the midwife as a newly registered and/or licensed practitioner. As the entry point for the profession, this quadrant allows us to explore the challenges faced by new graduates and registrants in order to help them to move along the continuum. However, it also affords us the opportunity to consider the relatively new attainment of a professional status for midwifery, the journey which began in the nineteenth century and despite strong medical opposition, was finally legislated for in the first decades of the twentieth century. It may be argued that the progression to a profession has led to the protection of the midwife's role in legislation but closer inspection may indicate that this may have come at the price of being less autonomous as a profession and more closely influenced by 'medical men' [11].

A midwife although signed off as competent and of 'good health' and character (considered to be capable of practicing safely and effectively [31]), they are still on a learning trajectory, will continue to develop professionally and given time and support, will continue to hone the recently acquired knowledge and skills from their education program. Many years ago, newly qualified nurses unpreparedness was described as 'a reality shock' [32] with Fenwick et al. [33] concurring with this and highlighting the importance of context and culture on the transition for new midwives and the need for strong relationships with midwifery colleagues to help them develop and grow in confidence. A structured and tailored induction and preceptorship (a period of support to help new registrants transition from student to registrant advocated by the NMC [34]) can enhance confidence as often a new registrant's experience is unstructured and insufficient to meet their needs [35].

The ICM set a benchmark for the standardization of midwifery education with midwifery being a graduate profession in many countries [14]. It also advocates that as it is an ethical duty for all midwives to provide safe practice that continuing professional development should be compulsory for all practicing midwives [25]. For some midwives, it may be argued that, the ongoing acquisition of knowledge and skills may be solely to meet their regulators' requirements or a means of staying on the professional register. However, for many midwives (one would hope most), the continual learning is driven by a passion to provide women and babies with the optimum quality of midwifery care. This requires not only a theoretical knowledge and understanding of the evidence base and its application to practice but also the acquisition of practical skills including high level communication skills in order to care for women and babies and support women and their partner (if appropriate) in their decision-making and choices.

As with other healthcare professionals, it can be difficult for midwives to find time to undertake these continuing professional development activities. While advocated by the ICM [25] and some countries regulators such as in the UK [36], the plethora of mandatory training for Health and Safety and other corporate priorities, coupled with staffing challenges, make it difficult for midwives to be released to undertake professional development activity. Often activity is undertaken in own time, sometimes at one's own expense with a promise of time in lieu or additional payment.

4.2. No Midwife

The Place Model provides the opportunity to consider the reality that 'no midwife' can present. The World Health Organization (WHO), recognize that within the right context, midwives who meet the ICM standards for education and regulation, can provide most of the fundamental care that is needed by women and their babies [13,14]. However, in many countries in the world, women do not have access to a professionally trained midwife or skilled birth attendant [37]. The State of the

World's Midwifery report [38] has highlighted that only four of the 73 middle-or low-income countries surveyed had midwives who were fully trained and skilled to provide care for women and their babies with fewer than half of these countries having legislation acknowledging midwifery as an independent profession [26]. A shortage of midwives is a worldwide phenomenon, including in high income countries where standardized and regulated midwifery education is available [39], with recruitment and more often retention of registered midwives, a key challenge maternity care providers grapple with for a multiplicity of reasons including workforce planning [40,41], work related stress [42] and bullying [43]. Failure to reach safe staffing levels, poor communication and professional collaboration has been shown to contribute to unsafe and substandard care [44].

In 2018, in recognition of the need for a definition of 'skilled health personnel', a joint statement was issued by the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO) and the International Pediatric Association (IPA) [45]. One way through which to end preventable maternal mortality is to increase the number of births attended by skilled birth attendants or health personnel. Evidence of this is already clear, as during 2012–2017, almost 80 per cent of live births worldwide were attended by skilled health personnel, an increase of 62 per cent since 2000–2005 [46] with a decrease in the maternal mortality rate of 37% since 2000. However, further progress is needed if by 2030, Sustainable Development Goal 3 (SDG 3) to reduce the global maternal mortality ratio to less than 70 per 100,000 live births is to be achieved.

Conversely in high income countries, such as the UK, Australia and the US, there is an albeit small but growing number of women who choose to birth without a midwife or doctor present. Research by Jackson et al. [47] reports that women who free birth, do not view hospitals as safe places within which to birth. This view is further supported by other women who chose free birth in order to have choice, control and autonomy during birth [48] with some women relating the absence of the woman-centered care in maternity services, leaving them feeling vulnerable and unsafe [49]. It is important to note that safety relates not only to the physical sense of safety but also the emotional, psychological, and social aspects of care.

So clearly, while midwives are often recognized as skilled professionals, they are not always viewed as such and are seen to work within a system '*that can lead to a unique set of additional risks to the mother and baby*' [47] (p. 566). However, strong voices and evidence advocating midwifery led continuity of care models for most women [50,51] are leading to change. This will require not only the redesign of maternity care provision in many localities but also the education and willingness of midwives to work within continuity of care models. A continuity of care model is not a new phenomenon having been advocated for many years and one that exists in small pockets already. Indeed, it may be that midwifery is reverting back to a system of care delivery that prior to childbirth moving into the hospital setting and becoming more medicalized was the way in which care was provided.

4.3. Precarious Professionals

The next quadrant of the model challenges us to consider the Precarious professional. Precarious midwives are a particularly important group. Two contrasting professional trajectories are presented in this part of the model—both can produce damaging outcomes. Firstly, those who might be deemed to be unprofessional and secondly those who do not/cannot stay in the profession for long.

There are clear standards for the minimum education requirements expected for entry to a midwifery education program, however, it is much harder to make a judgement about the values and character of a potential student midwife [23]. Given the regulatory mechanisms within midwifery, and the global standards for education and practice, it would be expected that those deemed as unprofessional would be investigated through their education providers' or employers' disciplinary system or by their regulator or both. In the UK, approximately 0.7% of midwives registered with the NMC were referred for Fitness to Practice concerns in 2017/18, accounting for 240 out of 35,830

registered midwives [52]. Referrals can be made by anyone including a service user, a member of the public, an employer or the police.

However, despite the great majority of women and their families, accessing the type and quality of care that they choose, in England for example, litigation in maternity care while only 10% of claims, accounted for 50% of the total value of claims [53]. Reports into failings in maternity services in the UK [54,55] have found that care provided by midwives having been subjected to scrutiny was substandard, that there was a lack of openness and honesty, were critical of midwifery supervision and of those who regulated and monitored the Trust. These failings are clearly distressing and life changing for women and their families and can impact on the confidence that women have in maternity services generally and midwives in particular. On a more positive note, a Cochrane review by Sandall et al. [50] concluded that midwife-led continuity models of care resulted in women being less likely to have interventions, with a greater chance of satisfaction with their maternity care and outcomes that were at least comparable with those of women who had accessed other models of care.

Despite clear standards for education and maternity care, globally, there is concern over the abusive and disrespectful practices perpetrated on women during childbirth [56]. A systematic review by Bohren et al. [57] identified a new typology of mistreatment of women during childbirth under seven themes: physical abuse, sexual abuse, verbal abuse, stigma and discrimination, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints. It is clear that disrespect and abuse happens not only at an individual woman and precarious professional level but also at systems' level within health care organizations, despite an increasing body of evidence being accessible at both individual professional and organizational level. Custom and practice and cultural norms are sometimes used to justify the abuse that women are being subjected to during pregnancy and childbirth. Some women reporting that they are traumatized in childbirth not only by how they are treated but also through a lack of communication, control and consent [58].Continuing professional development is vital in ensuring that midwives maintain and update the necessary knowledge and skills which underpin respectful maternity care such as interpersonal skills, values and attitudes [59].

Midwives, who, for a variety of reasons, have both short careers and limited learning opportunities can have negative outcomes not only for the profession but also for the women and families for whom they provide care. Likewise, given the investment in their professional education of both the individual midwife and the taxpayer, it is important to understand what has contributed to the precarious status of these midwives. In the UK, Ball [42] reported that the top five reasons given for leaving the profession were: being unhappy with staffing levels; being dissatisfied with the quality of care they were able to give to woman and babies; being overworked; feeling unsupported by their manager; and being unhappy with working conditions. A recent paper by Harvie et al. [60] identified that Australian midwives are unhappy working within a fragmented system that did not allow them to provide care for women in the way they would like, with midwives under 40 years of age being particularly vulnerable. However, in contrast in Afghanistan [61], the primary reason for leaving was lack of security due to civil unrest and conflict, family disagreement, with increased workload without payment coming further down in the list of contributing factors. It is clear that governments and employers need to support their employees by addressing the specific issues that impact on midwives choosing to leave the profession.

In addition, it is important to consider the selection and recruitment practices used by academic institutions. It is easy to evidence if applicants meet the academic selection criteria but making a judgement about the values, motivation and strength of character needed to be a midwife; the ability to be 'heartstrong' [62] and compassionate is less straightforward.

4.4. The-de-Professionalized

Moving around the model to the next quadrant, the focus is on the de-professionalized. For midwives who are educated to the global standards set by the ICM [14], it would be expected

that they would be professional at the point of registration and for that positive professional learning trajectory to continue throughout their professional working life [25]. This is often a far from straight forward trajectory and there are a range of circumstances which may lead to deprofessionalization, even for the most experienced midwives—some deprofessionalization is a product of intrinsic factors such as personal disposition, some is produced by a range of external factors.

De-professionalized midwives may be experienced midwives who for some reason are disillusioned and who are sometimes also discouraging and unsupportive to student midwives and new registrants. They are the midwives that the students least want as their practice mentors or new registrants don't want as their preceptors as they have little or no interest in teaching them or helping them to gain the experience, they need to develop their midwifery skills and competencies [35]. Reasons for deprofessionalization, may arise from the demands placed on midwives from the emotional and physical aspects of being a midwife. Some midwives can retire in mid to late 50's but as most midwives are women and may have worked part-time; they may have limited pensions so that it is not always possible for midwives to stop working when they would like to or when the job becomes too physically or emotionally demanding. A recent study commissioned by the Royal College of midwives highlighted that many midwives

> *felt exhausted by their day-to-day work, emotionally and physically drained, dreaded the thought of another day's work and seriously wondered how much longer they could carry on.* Hunter (2018) (p. 15) [63]

In addition, as mentioned previously, midwives practice within an increasing litigious environment and are fearful of making a mistake or missing something that may cause harm to a mother or baby [16,17,64]. Examples of externally driven deprofessionalization include overseas midwives who on travelling to UK are not assessed as competent by NMC Competence Centers or are assessed as not reaching the required competency standard in the English language. They may feel deprofessionalized and may actually be unable to join the profession in their new country of residence, at least temporarily until or if they meet the standards. However, given the shortages of midwives globally and the drive in many countries to recruit midwives from other countries, maternity care providers often offer additional support to these potential new registrants in order to assist with their transition. From the perspective of the healthcare provider, this may mean that overseas midwives are more closely supported during their initial months of experience, until they have proved themselves as safe practitioners. Despite the importance of and the increasing number of overseas midwives being employed across the world, Ohr et al. [65] are one of a few papers who report on the learning from the development and operationalization of a program to enhance the transition of overseas qualified nurses and midwives (OQNMs) to Australia. The program included cultural acclimatization and tailored support from leaders across the organization.

Crucially, some midwives within the deprofessionalized quadrant present a risk to the profession, organization and more importantly to the women and babies in their care. It is therefore vital that midwives that are identified as deprofessionalized, perhaps through their employers' appraisals system, are supported to identify how this can be addressed, most often through individualized continuous professional development which can be tailored to meet their needs or being supported to upskill in a particular aspect of midwifery care.

4.5. The Professionals

The final quadrant examines the high status, highly professional midwife in the light of regulation, guidance and professional expectations for continuous professional development, including research-based practice and critical reflection on practice. The professional midwives continue to grow, enjoy the pursuit of learning, retaining and learning new skills and knowledge in order to meet the needs of the women and families they care for.

The day-to-day role model portrayed by the most professional midwives (Clarke's most *trustworthy experts*) is, perhaps, both unrecognized and poorly rewarded. It is useful however, for student midwives to consider who their midwife role models are and to plan their own learning trajectories towards careers which are built on the trustworthy expertise, which is needed in the profession, even whilst avoiding the more dystopian corners of the Place Model.

The great majority of women who access maternity services are satisfied with their care and outcomes. Renfrew et al.'s [4] evidence informed framework for maternal and newborn care has identified, as many as 56 outcomes for mothers and babies that could be improved by care that is within the scope of a midwives practice. It is clear therefore that where the professional midwife or 'skilled health personnel' provides care for women and their families that they have improved outcomes. Conversely, poor care may lead not only to death but also to morbidity that has long lasting negative impacts on the physical and psychosocial health and well-being of the woman and her family [66] leading to potential intergenerational health inequalities. Professional midwives don't only need to meet the core competencies [25] identified by ICM but also to have the ability to be continually adapt to the ever changing landscape of midwifery care; discerning about the evidence base and increasingly adept at the appropriate use of technology to support their practice [67,68].

In many countries, professional midwives are graduates, with increasing numbers of midwives achieving master's degree level education and being awarded a PhD or Professional Doctorate. However, having achieved these academic qualifications, there is limited structures to support them to continue in clinical practice while fully utilizing these higher-level skills for the good of their profession, women and their families. Often, the PhD midwives return to a similar role to the one they left in practice or move to a university setting, becoming subsumed into an academic life that is focused on research outcomes such as securing funding and peer reviewed publications. However, there are examples of structures that have been put in place to support clinical academic researchers to flourish in the recognition that '*A rich and diverse health research environment helps patients and invigorates the workplace*' [69] (p. 4). No one approach or model fits all and it is incumbent on the midwifery profession to find ways in which to provide the necessary infrastructure and support to help midwives within all types of roles and levels of expertise to thrive in order that women and their families can in turn be provided with optimum care.

5. Conclusions

The Place© model has helped us to consider how and where midwives are located: in the sociological sense of the status and also place as a cumulative process of professional learning, a widening horizon which combines learning in and from the local and the global. For student midwives in particular, this provides a unique interdisciplinary lens through which to consider not only the beginning of their professional journey but also how their status and continuing professional learning might evolve, including ways that are less than professional. Other models of professionalism do not map the dystopian pitfalls in ways which encourage them to proactively shape their learning trajectories. The status of midwifery is important not for status sake itself but rather for the opportunity that status and regard afford the profession to influence healthcare policy, drive optimum standards for education and practice, and further develop the evidence base through high quality interdisciplinary collaborative research. The need for the recognition and support for midwives to have continuing professional development opportunities in order to best meet the needs of the women and babies they care for is clear. However, while there is evidence to support the assertion that care provided by professional midwives leads to improved outcomes for women and babies [4], it is also known that some women have no access to midwives (often not by choice), there are midwives who are precarious professionals, career-long proto-professionals or those midwives who have become de-professionalized. The reasons for midwives remaining as proto-professionals and becoming de-professionalized are varied but given the need to provide women, her baby and family with the optimum quality of care and the ongoing challenges with recruitment, there is a need to find way to shift all midwives towards

the high status, high learned professional. For those women who have 'no midwife', WHO [70] recognizes the need for "Competent, motivated human resources" as one of the eight domains of the WHO framework for the quality of maternal and newborn health care. Globally, midwives need to continue to work closely with women and to use the evidence base that demonstrates their effectiveness in the provision of high-quality maternity care and outcomes to influence and encourage interprofessional collaboration across the increasingly complex topography of multi professional and agency maternity care.

In the UK, the NMC is currently consulting on new education standards and proficiencies for the Future Midwife, looking towards 2030 in order to forward plan education that will prepare midwives to meet the needs of the woman, baby and families of the next decade and beyond. This is a challenge as the diversity and complexity of the childbearing women needs to be balanced with the normal physiology of childbirth. In all of this, it is important to consider what matters to midwives. How best can the profession of midwifery continue to attract bright, articulate and 'heartstrong' individuals to not only become a compassionate, skilled and professional midwife but to continue to be one throughout their professional career. We know that midwives value the support of their managers and colleagues as a way of minimizing the fear factor and maximizing their potential to support women to achieve optimal outcomes [71]. After all, uniquely amongst the professions, the most fundamental place of midwives is enshrined in the name—midwife meaning 'with woman' and the Place Model© has moved beyond this intimate scale to permit a broader mapping with regard to status and professional learning both nationally and internationally.

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Article

Changing by the Click: The Professional Development of UK Journalists

Colm Murphy

School of Communications and Media, Ulster University, Cromore Rd, Coleraine BT52 1SA, Northern Ireland, UK; c.murphy@ulster.ac.uk

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Abstract: Changes in technology, audience engagement, the business model and ethical requirements have greatly expanded the skills required to be a professional journalist in the UK. At the same time, the esteem in which the profession is held by the public has diminished. This research used the UK journalism profession as a case study of change in a profession. It asked what were the changes in the profession since 2012. The research method includes an in-depth survey of 885 UK journalists, two previous similar surveys, interviews with stakeholders, national data and documentation. The study finds that UK journalist numbers, their educational attainment and workload has increased significantly in the period. The majority have become multiplatform journalists—working across at least two mediums like print and online. There has been a significant shift of job roles from traditional newsroom to a wide range of other organizations and some 36% of journalists are now self-employed. Diversity continues to be an issue with the profession having a white middle-class bias. The implications of these changes for future professional UK journalism education were then analyzed. They include the need to develop a national continuous professional development framework, better cooperation amongst competing accrediting bodies to enhance the public trust in journalists and greater flexibility on the professional pathways to senior qualifications.

Keywords: media ethics; change management; mobile journalism; journalism education; professional education

1. Introduction

Globally, journalism education has changed significantly over the past decade to keep abreast with the profession which has been through huge upheaval. The profession is transforming itself to keep relevant with the technological, audience and business model changes. It has also to deal in many countries with declining public trust in journalists and increased threats to both journalists' safety and media freedom. The challenge for educators and the profession is only just beginning given unrelenting pace of change. This research used the UK journalism profession as a case study of a profession in a state of change. It asked what were the changes in the profession since 2012. The implications of these changes for future professional UK journalism education were then analyzed.

Educators must plan for this ever-changing profession's future, and prepare teachers and students to cope with even greater turbulence throughout their careers. Frost [1], one of the world's longest serving journalism educators, does not underestimate the challenge. He said that the education bodies face the future where the boundary between the digital and human world become increasing blurred and the technical future may be something not even the most far-fetched sci-fi films could have predicted. Frost [1], postulated that a key future challenge will be teaching those in the profession to learn: "Journalism education also needs to take more seriously the need to not just train journalism students but to give them the tools to deal with a fast-moving world where things can change almost month by month". Across the globe journalism education is becoming professionalized mainly in

courses at private universities. While country specific journalism culture dominates, the curriculum generally is moving to more uniformity globally. There are now over 30 national journalism education associations linked with the World Journalism Education Council (WJEC), the main global journalism education body. There is a strong exchange of information between them on the curriculum.

But the need for greater technical knowledge and agility has, in many countries, re-ignited the long-running debate at the center of global journalism education. This is the tension between the practical on the job training versus intellectual education. For this reason, in many universities' journalism education has been on the fringe of their activities as it lies across professional training and the liberal arts. Folkerts [2] said that "News professionals and university educators pondered whether journalists needed to be college-educated, whether they needed a liberal arts degree, or whether they needed professional education that combined liberal arts and practical training. This debate still rages today around the globe with no international uniform system for journalism education".

Hirst [3] concurs that the same debate is happening on the other side of the globe: "In Australia and New Zealand a key area of discussion is around attitudes towards the concept of professionalism in the practice, training and scholarship of journalism". It has also fueled the debate on how much attention should be given to teaching ever-changing technical skills and traditional news gathering skills. Research conducted amongst veteran American employers indicated disquiet that training of online journalists, in particular, has become too skewed towards technical skills and away from the key tradition skills of information gathering, verification, writing and publication. Ferrucci [4] said: "This study finds that, while veterans said educators are doing a good job teaching technology, there is too much focus on it to the detriment of traditional journalism skills". But the bigger question facing educating the next generation for the profession is how you teach the skill of learning to learn on top of the already packed curriculum of traditional journalism skills. Frost [1] said: "Training simply for today's world is no longer good enough and lets our students down—students need skills for a future".

The added complication is journalism is a profession usually serving several often competing masters-the public's right to information, holding those in authority to account and the business interests of the employer. Given these triple requirements, education within the profession has become even more important. Particularly in a world where there is an increasingly contested information environment via censorship, propaganda or fake news. Richardson [5] argued that journalism is being constantly undermined by a determined counter-offensive that purports to show that 'truth' and 'accuracy' are pliable concepts in the hands of the mainstream media. Journalism educators, Richardson argued [5], have to confront this dilemma and affirm within the classroom the priority of the basic tenets of the job. "Not just reporting accurately and capturing balance, but committing to a process of verification that shows the rigor behind the best kind of journalism". The former editor of The Guardian Peter Preston [6] took it further: "Journalism may put you or your family at risk. Journalism offers no proper career structure. But journalism is also fundamental and necessary. Without it, there is no proper freedom". The Irish Times [7] editorialized too in 2018 about the importance of particularly investigative journalism: "The fundamental fact is that investigations-a basic rationale of journalism itself - are one of the ingredients of democracy". Thus, the importance of a robust professional education system as the profession has a strong ethical and public interest requirement in addition to technical skills. The aforementioned gives the background about what are the key debates around professional journalism education internationally.

2. Materials and Methods

The primary data used in this paper are the Journalists at Work 2018 survey of 885 working journalists across the United Kingdom from a population of 73,000 journalists. The survey was sent to all major employers who were asked to forward it to employees as well as to industry bodies such as the National Union of Journalists and the Society of Editors. Journalists self-selected whether to complete it. The questionnaire was overseen by the board of the National Council for the Training of Journalists (NCTJ), the largest journalism education accrediting body in the UK. It was processed by

Spilsbury Research and BMG Research, England. The response rate and results to the questionnaire were comparable to that of similar Journalism at Work studies in 2002 and 2012. These are also used in this paper for comparison purposes. The response rate for them was slightly higher than in 2018 at 1238 and 1067 respectively. But the 2018 response sample size, given it was random, was sufficient to provide reliable findings. The questionnaire was supplemented with other data from several sources including the UK Office for National Statistics' household survey, the annual Labour Force Survey and UK Higher Education Statistics Agency data. Documentation from the NCTJ relating to curriculum change, diversity and changes in the profession, was also reviewed. So too, surveys by YouGov on the reputation of various professions. This was supplemented with 11 formal and informal interviews with key stakeholders and educational providers. A review of the British and international literature on journalism education and changes in the profession was also conducted to put the UK changes into an international perspective.

3. Results

The Journalist at Work 2018 survey showed that after almost two decades of an extremely turbulent time the UK's journalism profession has changed significantly. The profession has had to adapt to deal with a change in the news business model as mobile devices and the internet have proliferated. There were mass job losses in the traditional print sector as advertising and readers shifted online coupled with recession in 2008/2009. In addition, the profession's reputation with the public has been severely damaged by international scandals involving fake news and a domestic one involving illegal surveillance by leading national tabloid newspapers of celebrity's mobile phones.

Despite these issues, one of the most positive aspects of the research was that the number of journalists rose to 73,000, up 12% from 2012, according to the UK's Office of National Statistics' annual Labour Force Survey [8]. It had reached a trough of 52,000 in 2009. This growth in journalist numbers is forecast to continue, according to the UK government's Working Futures [9] report. It estimated that the numbers in the profession in the UK will reach 79,000 by 2024—a 6% rise.

But while the numbers employed are rising the type of work undertaken is changing. The NCTJ's Journalists at Work surveys show that between 2012 and 2018 the nature of work that a high proportion of journalists do in the UK has altered significantly. The majority now work as multimedia journalists—that is working on more than one platform, e.g., print and online. This is a shift from 2012 when almost half of journalists worked in the 'traditional' areas of print and magazines. By 2018, this had declined sharply to 30%. The number employed outside of traditional newsrooms has risen from a third in 2012 to 42%. The number in broadcasting had doubled to 12%. The numbers working in communications and media relations was steady at 15%.

New job roles had also been created like news aggregator and data visualizer in this decade. These titles are so new that they are not included in the 51 journalism job titles used in the occupational standard classification (OSC) [10] of the UK's Office of National Statistics. However, such new roles, particularly those involving public relations or marketing, fuel the debate about defining what a journalist is. The official Office of National Statistics occupational definition of the job role of a journalist is to: "investigate and write up stories and features for broadcasting and for newspapers, magazines and other periodicals, evaluate and manage their style and content and oversee the editorial direction of these types of output and publication". There is, however, difficulty in this definition particularly as the profession adapts to the new digital reality. Many former newsroom journalists and new entrants trained as journalists are working in what could more accurately be defined as public relations and marketing communications. But as they are trained as journalists, in the various surveys, they continue to define themselves as members of the journalism profession. This is also likely because they have trained so long and invested so much to be a journalist.

Journalists, as the Journalists at Work 2018 survey showed, have much higher qualifications than the workforce in general as it is a knowledge intensive profession. The national data source suggests that 87% of journalists have a degree or a higher-level qualification, compared with 43% of

the UK workforce. An increasing number, 81%, have formal journalism qualifications—the majority of them NCTJ qualifications, which are often the required entry point into first jobs by employers. This compares to 63% having formal journalism in 2002, indicating the increasing requirements of employers. A further 55% of working journalists had undertaken some form of training in the previous 12 months, mainly related to their jobs rather than future employment. But the increase in qualifications required to enter the profession has helped accentuate another problem—the lack of diversity in terms of race and class in the profession. The Journalist at Work 2018 survey showed that almost three-quarters of journalists had parents from a higher-level occupation. This compares to 41% of the general UK labor force. The debt built-up getting the required education—on average £27,000 compared to £4750 in 2002 [11]—coupled with the requirement to build-up experience through on average of two months of non-paid work placement, has re-enforced the elitism of the profession. The expense and period of non-paid work puts off those from poorer backgrounds. Former national UK newspaper editor and retired professor of digital economy, Ian Hargreaves [11] (p. 4) said: "This explains why journalism continues to be an occupation chiefly of young, white people from relatively prosperous backgrounds".

Other research conducted by the NCTJ in 2017 [12] showed that ethnic minorities are very under-represented in UK journalism. For example, the 2011 Census suggests that 60% of London's population is white, with 19% being Asian/Asian British and 13% black, so the numbers in journalism should be significantly higher. The research's author Spilsbury [12] (pp. 1–4) offered several reasons for this lack of diversity. Firstly, employers are mainly recruiting a graduate-only workforce. But the graduate population is not reflective of the overall population as it is biased towards the higher social classes. Even when someone from an ethnic minority does train to be a journalist they are not always then attracted into the profession. Finally, even when they do go forward to get into the profession employers may have, Spilsbury [12] (pp. 1–4) argued, a selection bias against them.

In terms of disability in the profession it is at average levels and in relation to gender the workforce is fairly balanced just skewed 52% in favor of males [12]. The NCTJ's research shows no apparent sex discrimination in job allocation. However, research by Thurman et al. [13] found that females tend to stay in more junior management roles and men are statistically more likely to progress to senior management. There is also concern within the profession that the increasing move towards short-term contracts and freelance work is particularly discriminating against women's career advancement. The national data sources indicate that an increasing 36% of journalists are self-employed [8]. A respondent to the Journalism at Work 2018 survey said: "It's a shifting sea of unpredictable fixed term contracts and freelancing that cannot be manageable for everyone". This shift into less stable employment and rights has not been helped by the reduced role of unions in the profession. Only 41% of journalists are members of a trade union or employee group, predominantly the National Union of Journalists (NUJ). The lack of unions may also explain too why salaries have declined since 2012, according to the Journalist at Work 2018 survey. The average annual salary is £27,500, which is just below that of a teacher and other professions requiring less formal education. The hours are, on average, around 40.7 h per week but can involve shift and weekend work.

The other pertinent issue facing UK journalism education is restoring the public's trust in the profession. A survey by pollster YouGov and press regulator IMPRESS in 2016 [14] indicated that the level of trust varies depending on the publication platform. Journalists working in upmarket titles like The Times (of London) and local newspapers rank above trade union leaders in terms of public trust but below doctors, teachers and judges. But those working in mid-market national papers like Daily Mail and tabloids like The Sun have extremely low levels of trust, ranked near the bottom of the scale with politicians and estate agents. The NCTJ has reacted to various scandals at the beginning of the 2010s by placing ethical good behavior at the core of its curriculum. It is a difficult task as the Journalists at Work 2018 survey indicated that 31% of journalists have felt that business pressures in their job have meant ethical boundaries are not respected.

But journalists seem to be satisfied with their ethical training. Nearly three-quarters of journalists said in Journalist at Work 2018 that they have had sufficient training in ethical issues and more confident

of the regulatory framework. This is a significant improvement on the situation found in 2012 where almost half felt that they had received sufficient training. The NCTJ chief executive Joanna Butcher [11] (p. 5) said: "Journalists are more confident in the regulatory system—up from 29% to 55%. We now need to do more to transfer this confidence to the public". The NCTJ is the only accrediting body which sets a detailed curriculum and runs its own national exams, including those in ethics. NCTJ chief executive Joanne Butcher [11] said: "Much of our effort has been about responding to change and understanding the role of digital and social media in journalism. This isn't easy when the pace of the change is so constant and fast".

Change and the Industry Accrediting Bodies

The industry's swift shift towards multimedia journalism has had implications for the UK journalisms three main accrediting bodies. The decline of print, for example, saw the NCTJ transform itself from 2008 onwards into a multimedia accrediting body. As part of its transition to multimedia journalism the NCTJ board took on editors from BBC television and Sky multimedia as directors whereas before it was dominated by newspaper editors. More recently strategic alliances and joint training was organized with Google and Facebook. The NCTJ's most significant alliance being the securing of £4.5 m from Facebook in 2019 to recruit over 80 trainees to become community news reporters. It is planned that this development with Facebook would benefit the entire NCTJ organization in making it more digitally aware. The NCTJ accredits over 60 courses at 40 centers in the UK. Traditionally it had concentrated on qualifications for the industry's largest sector, newspapers. Thus, it moved into the area of broadcast journalism habitually overseen by a rival UK accrediting body, the Broadcast Journalism Training Council (BJTC). The NCTJ also widened its remit into accrediting magazine journalism, which traditionally was overseen by the sector's professional association, the Professional Publications Association (PPA). The latter accredits 14 university courses in the UK mainly concerned with magazine production while the BJTC accredit over 30 broadcast journalism courses in the UK. This increased tensions between the accrediting bodies who had previously operated generally within their own platform. Despite the convergence in the profession there has only been some modest consolidation amongst the accrediting bodies. The Society of Editors handed over its course accrediting duties to the NCTJ in 2012.

The NCTJ also adopted a digital first approach and will move all its examinations from paper to online from 2020. In addition, the core news writing curriculums have had new skills requirements added in social media, search engine optimization and data analytics. Its law qualifications were enhanced to include more sections on online media law and ethics. New modules and exams are also being introduced in data analytics, social media and data journalism for 2020. In terms of ethics, following the 2011/2012 Leveson Inquiry into ethical standards amongst Britain's major newspapers, the NCTJ introduced new ethical and regulatory testing across its curriculum in 2015. Other similar changes took place across the curricula of the other accrediting bodies and they continue to review their range of qualifications.

This concludes the results part of this paper where the changes to the profession were mapped and the professional education structure outlined. In the final part of this paper the implications of these changes for professional journalism education in the UK are analyzed. Recommendations are then made on how the professional education could be improved which, in turn, would improve the UK journalism industry.

4. Discussion of Results and Implications for UK Journalism Education

Change happens in all professions and journalism is no different. Change can happen at differences paces in different sub-sectors linked to technological, political, business model and competitive change. UK Journalism has, however, experienced change faster than perhaps many other professions as the results of the surveys and other research previously outlined in this paper showed. However, this is not unique. The profession's fundamental core skills remain. Further to this, there has been

significant ethical, legal and technical change and theses are evolving. While the pace of change has stabilized somewhat, the UK journalism educational bodies cannot be complacent. New waves of technology and business models will come along from different directions and the educational accrediting bodies have to judge if these are transitory or a core shift. Accrediting bodies, by their nature, are dominated by existing industry players. But most often change will come from those outside of existing industry actors. Facebook and Google, for example, were student projects 20 years ago and are now the world's leading media companies. So, it is important to reach out to new nascent entrants to the profession. The lines between journalism, advertising and public relations will continue to blur. Thus, the accrediting bodies have to ensure that students and journalists have a strong ethical code to recognize the difference between both and make it clear to their audience. They must also devise ways to get their students to 'learn to learn' and understand that over a career spanning over half a century that constant skills updating will become the norm.

UK journalism education's accrediting bodies have to enhance their skills in forecasting and then pre-empting changes for them to remain relevant. It is a constant process that requires investment in intensive research and input from industry. With the results of the Journalists at Work 2018 survey showing that almost two-thirds of journalists saying they need additional skills to be more effective at their work the continuing professional educational challenge is great. However, the UK journalism accrediting bodies mainly look after entry level skills accreditation. They must broaden their remit to develop flexible, affordable continuous professional education qualifications. Not only would it help safeguard journalism jobs but it would also improve the industry.

The disappearance of the traditional entry route into the profession in the UK, via local newspapers, has meant that the professional bodies have to change their frameworks too. The NCTJ's qualification as a senior reporter, which requires you to produce a portfolio while working in a newsroom, must be achievable by entrants working in non-traditional journalism areas. The increasing move to self-employment within the profession poses issues too about getting advanced qualifications through newsroom experience. It also requires change from the accrediting bodies about who to consult about training, its delivery and who pays for it (Spilsbury [15] (pp. 25–31). This move towards self-employment is common amongst the UK workforce so this is not a training dilemma facing only the journalism accrediting bodies.

However, the challenge of developing enhanced skills amongst journalists in ethics, law, curation, digital fact checking, media analytics and entrepreneurial journalism is immense. Video, audio, graphics and other creative skills are now required too as standard for journalists. In addition, education must work on ways to adjust the mindset of journalist from a one-way linear conversation with the audience to a two-way interactive one. Given the increasing intensity of work required with real-time 24/7 reporting—consideration will have to be given to teaching wellbeing and work/life management as core curriculum. The continued leakage from the UK journalism profession into often better paid and more stable jobs in areas like marketing communication is something harder for educators to address. But is not unique to the journalism profession. The NCTJ is taking this reality into account with new modules in public relations and communications. But this strategy poses risks in that it is blurring the professional lines between the journalists and marketing officers.

It is that risk that is at the center of the profession's relationship with the public. Journalists must win the public's trust for the profession's long-term survival. Re-establishing this is a fundamental task. However, without any cross-industry strategy to address the issue of trust with the UK public it is unlikely that the accrediting bodies actions alone will be effective. A critical component of trust between the profession and the public is ensuring that there is openness in terms of entry and advancement in the profession. As the results of the Journalist at Work 2018 survey have shown entry to journalism in the UK is proving persistently difficult for the lower social classes and minorities. This has implications as to how the media covers working class and ethnic minority issues. The NCTJ's Journalism Diversity Scheme, assisting over 20 students annually from minorities enter the profession, has reached out to these sectors of society with some success but the task is enormous and funding limited. There needs

to be greater industry involvement to fund such initiatives. However, the increasing qualifications required for entry with its accompanying student debt coupled with the requirement for unpaid placement has only re-enforced this class and ethnic bias. Targeting apprenticeships towards minorities is perhaps the way forward, along with a substantial increase in the diversity fund and mentoring for those who undertake it. However, given the convergence in the sector it is essential that there is more cooperation between the accrediting bodies and the development of a national system of journalism qualifications—entry and mid-career—that is easily understood and accepted by both employers and students, and trusted by the public.

In conclusion, there are many valuable lessons to be learnt from studying the changes experienced in the journalism profession in UK over the past decade. The implications they have for the sector's professional education are many, but if taken onboard they will help to improve the industry. In the UK like in many countries, Goodman [16] (p. 7), writes the "the very value of facts, truth, information, and knowledge—the bedrock of journalism and free societies—is under attack. Goodman [16] (p. 7) asks: "What can journalism educators and trainers do to fight back against such undemocratic trends in an increasingly 'less free' media and world? Giving future journalists and press advocates the best education possible is a good start".

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Article

The Silence, Exile, and Cunning of "I": An Analysis of Bildungsroman as the Place Model in the Work of Charlotte Brontë and James Joyce

Kathryn White * and Frank Ferguson *

School of Arts & Humanities, Ulster University, Cromore Road, Coleraine, Co. Londonderry BT52 1SA, UK
* Correspondence: k.white@ulster.ac.uk (K.W.); f.ferguson@ulster.ac.uk (F.F.)

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Abstract: Education, be that on a moral, social or intellectual level, in a formal setting or via lived experience is *Bildungsroman*'s *raison d'être.* 'Moments of crisis' and the resultant demonstration of the journey towards awareness of personal autonomy, agency, identity and place are discussed via geographical imagination. This article examines 'fictional' teachers, the impact of the 'professional' on formative development and how the fictional characters of Jane Eyre and Stephen Dedalus fit within and extend the Place Model.

Keywords: professions; professionalism; the place model; Bildungsroman; literature; teaching; Brontë; Joyce

1. Introduction

"Who is teaching me today?" and "Is my teacher a professional?" are the two salient questions that Linda Clarke's Place Model seeks to address [1] (p. 2). Faced with a global threat to the role and position of the teacher in society, her work supplies a means to comprehend the status and level of practice of any individual teacher and to offer a method for the teacher to develop towards a secure professional standing. Based upon the classroom thinking skills technique, Living Graphs, Clarke suggests five main categories where a teacher can chart her or his career pathway [1] (p. 72). These categories consist of 'Proto-professionals', 'No Teacher', 'Precarious professionals', the 'De-professionalised', and the 'Professional', and then plot the stages where a teacher may be located as they develop, or in some cases fail, to advance in their profession. Clarke argues that this:

> ... allows every teacher, from the least to the most experienced, to locate themselves within a metaphorical professional landscape and to compare their situation with that of all other teachers—everywhere, living and dead, fictional and real. In this model, two senses of place provide comparative lenses for a timely a priori examination of the place of the teacher:
>
> 1. place in the sociological sense of hierarchical status;
> 2. and also place in the humanistic geography tradition of place as a cumulative process of professional learning within ever-expanding horizons [2] (p. 2).

The suggestion that the Place Model could be applied to a fictional individual provides very fertile opportunities for interdisciplinary exchange between pedagogic studies and literary criticism. Approaching the Place Model through this intersection proffers an innovative means in which to examine the role of education within fiction, and to examine particularly those characters who elect to be teachers or whose experience of teaching has profound implications upon their development. In addition, literary exempla and theory provide an original way to interrogate the Place Model and deliver new insights into comprehending how the Model may be understood across a variety

of different times and places, and how issues of gender, class, race and nationality may inflect our understanding of how the Place Model may operate.

Clarke's Model's focus on place in its sociological and humanistic geography senses is especially germane to the study of the genre of Bildungsroman. Place, it could be argued, is central to both. The Place Model seeks to comprehend any teacher's examination of their hierarchical status and how they determine a more sustained professional standing. This is analogous to a fictional central character's quest for their place in the world and the formation of their individuality in the unfolding of a novel. In order to explore the affinity between the Place Model and Bildungsromane, this article examines the role of education in European Bildungsromane, as defined by Marianne Hirsch [3]. Hirsch identifies the European genre's major historical period as the nineteenth century and its two main strands as German and French/English. While there has been considerable debate in the succeeding decades on how the 'novel of formation' developed within Britain and Ireland, Hirsch's generic model of what constitutes a Bildungsroman has been employed as the means to understand what is meant by this form of fiction [3]. To summarise this classification, 'a novel of formation' focuses on an individual character, from a biographical and social point of view. The novel is generally a quest story in which the character seeks meaning, with the development of selfhood as the primary concern of the text. The past experience of the character is approached in an ironic rather than nostalgic manner. Other characters, whether educators, companions or lovers, provide several functions in enabling the development of the central character. The novel serves a didactic purpose in that it educates the reader as they read about the education of the central character [3] (pp. 294–295).

Given the vast literature on this subject, it was thought that two canonical texts from the English language tradition might serve as a means to begin this survey—Brontë's *Jane Eyre* and Joyce's *A Portrait of the Artist as a Young Man.* There are considerable differences between the lives, work and experience of Brontë and Joyce. Born sixty-six years apart (1816 and 1882 respectively), in different countries, with divergent religious, social, political and literary cultures, aside from the obvious link the pair both had with Ireland under the British Empire, it might prove contentious to suggest any association whatsoever. However, the authors share a long history of connection. David Cecil, writing in the 1930s, was one of the first critics to acknowledge this link: "She is our first subjective novelist the ancestor of Proust and Mr James Joyce and all the rest of the historians of the private consciousness" [4] (p. 111). Interestingly, Joyce owned a copy of *Jane Eyre* when he lived in Trieste [5] (p. 94). And Critics have argued of strong intertextual echoes between this novel and *Portrait of the Artist as a Young Man* [6].

Charlotte Brontë published *Jane Eyre: An Autobiography* under the pseudonym of Currer Bell in October 1847 [7]. The book was an immediate success, which ran into three editions in seven months and helped propel the other Brontë sisters, Emily and Anne, into the literary marketplace. Offering a startling first-person account of a woman's childhood, adolescence and adulthood, *Jane Eyre* enthralled and shocked a public with its provocative and uncompromising assertion of female agency. Jane Eyre's memoir is a life story of an articulate, intelligent and self-aware orphan who overcomes the privations and restrictions of the loveless home of her relations—the Reeds. Set in various locations in the north of England in the early nineteenth century, many drawn from Brontë's own experiences, the novel charts her progress through her schoolyears at the harsh and often pitiless environment of Lowood School to see her train eventually as one of the teaching staff. Ultimately, she leaves to become a governess, and finds love with her employer, the enigmatic Edward Rochester, in whom she finds a sense of profound attachment and equality. Her joy is short lived after the discovery on her wedding day that his first wife is still alive. Fleeing, she fortuitously encounters her cousins and eventually learns of her family history and inheritance. Faced with a loveless partnership with her missionary cousin, St John Rivers, Jane Eyre is reunited with an injured Rochester who has been widowed after his wife had perished in a fire she had set at Gateshead.

Published in 1916, Joyce's first novel *A Portrait of the Artist as a Young Man* espouses the modernist features that would dominate his seminal work *Ulysses*, and yet the majority of the narrative is set within the nineteenth century, between the years 1882 and 1903 approximately. Patrick Diskin suggests

that the novel "derives more of its inspiration from nineteenth-century fiction than is … generally realised", due to its autobiographical basis, which he likens to Brontë's *Jane Eyre* [6] (p. 94). This is, to use Hirsch's term, a novel of formation, charting Stephen Dedalus's education from pre-school to university and his growth both intellectually and emotionally; however, it is also a text that examines one's place, both metaphorically in the context of 'self' and geographically. Don Gifford affirms that "Geography also reflects states of being in *A Portrait*: the displacement of Stephen's family from affluent resort village of Bray to the suburban village of Blackrock to increasingly poor Dublin neighborhoods [*sic*] spells out the gradual decline of the family's fortunes" [8] (p. 26). Joyce also alludes to the political landscape with reference to figures such as Charles Stewart Parnell, highlighting historical change, a trope often found within Bildungsroman. As Gifford affirms, in 1890 Ireland was approximately ninety per cent Roman Catholic, a numerical majority and yet "at the same time the community was economically and politically in the minority" [8] (p. 9), a reality that in addition finds its way into the education system: "Stephen's education in *A Portrait* stands in troublesome contrast to contemporary educational practices" [8] (p. 10).

Analysing these texts enables an understanding of how 'educators' within both novels fit within and extend the Place Model. It also draws attention to the profound impact that teachers and education, in addition to physical, social and historical setting, have on the formative development of the individual and how consideration of the fictional world of the novel can be used as a means to reflect upon and engage with the process of pedagogy. The Place Model is highly pertinent when we turn to examining two of the most significant characters from British and Irish Bildungsromane—Jane Eyre and Stephen Dedalus. The novels engage with issues of personal formation which correlate to the realisation of professional praxis in the Place Model. They can be listed as: the connection between the individual and British imperial hegemony; the significance of age, class and gender position upon the individual; and, the extent to which the individual can be mapped on the Place Model. The article will now examine these texts in the following manner. Clarke's model will first be applied to *Jane Eyre* in a developmental series of thematic sections. *Portrait of the Artist* will then be approached as a case study with a sustained analysis of these issues.

Few genres of writing lend themselves as well to the geographical imagination as the Bildungsroman. In *Jane Eyre* in particular, the reader is offered a particularly profound experience of a fictionalised life recounting its coming to knowledge, self-command and personal authority. Jane Eyre's account of her life assembles an engaging narrative that asserts the conquering of many obstacles as she moves from orphan, to school child, to assistant teacher, to governess, to missionary, to wife and estate owner [9]. Jane Eyre's sense of being is plotted intricately alongside her physical and sociological place in the world of the novel. From this, much can be gathered. In the novel, these can be understood to chart her progress on the place model and to use the model as a means to ascertain her gaining of professional and pedagogic standing. The novel lends itself very well to Wenger's conception of educational imagination: Educational imagination is about not accepting things the way they are, about experimenting and exploring possibilities, reinventing the self, and in the process reinventing the world [10,11] (pp. 272–273; p. 146).

This section will argue that while Jane Eyre's trajectory can be plotted from Proto-professional to Professional fairly easily, her career pathway presents challenges to a simple lineal advancement from one quadrant to the next and moreover, her attainment of station, sense of well-being and success may be contingent on others failing to do so. For example, there is considerable critical literature that suggests the freedom and autonomy that Jane Eyre gains as an English woman is often at the expense of other women whose race, religion and politics differ from hers [12,13] (p. 361).

2. Jane Eyre as Proto-Professional

Proto-professionalism may be viewed as an early-career transit point for some teachers. Alternatively, for other teachers, it may be a career-long settlement where they will remain

> because they see this as an uncomplicated and cushy place to become and to be a teacher, or because there is little impetus and/or opportunity to move any further [2] (p. 15).

The childhood character of Jane Eyre is tested fairly quickly once she moves to her relations home at Gateshead Hall. It is there that she begins to learn to control her righteous anger at her predicament and to contain desire to retaliate in outbursts against her guardians. At this point, her aptitude for teaching might be called into question. Indeed, given Jane Eyre's anger and disinclination to fit within her new home, the pre-professional stage of place model might include a test to ascertaining those who might be said to have a vocation for teaching. Initially, it might be said that Jane Eyre has a great incapacity for settling into her place of adoption. One does have considerable sympathy for her, given the sadistic treatment meted out to her by her relatives. Her initial responses to her predicament generate furious responses:

> "Dear! dear! What a fury to fly at Master John!" "Did ever anybody see such a picture of passion!" Then Mrs. Reed subjoined—"Take her away to the red-room, and lock her in there" [14] (p. 4).

This fury renders her to lose consciousness:

> . . . impatient of my now frantic anguish and wild sobs, abruptly thrust me back and locked me in, without farther parley. I heard her sweeping away; and soon after she was gone, I suppose I had a species of fit: unconsciousness closed the scene [14] (p. 8).

This debilitating habit is something that Jane Eyre confronts when she is moved to school at Lowood. While initially it appears that she will be forced to deal with similar villains, she is equipped with friends and mentors who recognise her abilities and potential, and provide her with the means to undergo socialisation and inculcate the teaching and values of the curriculum. Helen Burns and Miss Temple provide her with a caring and supportive network which enables her to settle into the rhythms and working practices of the school. It is worth noting that Brontë does not criticise the subjects taught at the school, but the way in which the school is managed under Mr Brocklehurst and the hunger, depredations and disease that this engenders [15] (p. 175). Jane Eyre is quickly assimilated into a system that can transform capable pupils into monitors, under-teachers, teachers and ultimately superintendents. Once the figure of Brocklehurst is removed, the school becomes a much more germane and humane place to develop as a teacher. Indeed, had Miss Temple never contemplated marriage and left, the school might have become Jane Eyre's final destination. However, there is a sense that teaching, even being superintendent at Lowood might become too narrow a role for her. Indeed, even a form of "servitude" that must be avoided. Eschewing an easy long-term position at the school enables her to apply for the role of governess at Rochester's estate. This act of public articulation of her purpose and attainments may be said to extend her professional profile, elevate her potential in terms of specialism and reach, as well as reward her economically and enhance her class profile—all obtained through her individual efforts and not by marriage, or inheritance. She has, in effect, put into practice engaging in a painful but rewarding act of reflection upon her practice which results in a promotion and extension of her scope as a teacher [14] (p. 12).

3. *Jane Eyre* as No Teacher

> Learners with no teacher are the elephant in the model. Their plight is often discussed by development agencies but seldom by the profession itself. Tied to the fact that literally no teacher is teaching approximately 57 million primary-school-age children (roughly equivalent to the entire population of England and Scotland) is the equally disconcerting challenge that an additional 1.6 million teachers (almost the same number as the entire population of Northern Ireland) are needed to achieve universal primary education by 2015 [2] (p. 18).

> I stepped across the rug; he placed me square and straight before him. What a face he had, now that it was almost on a level with mine! what a great nose! and what a mouth! and what large prominent teeth! [14] (p. 17).

In a novel that is famous for its disregard for physical beauty, it is interesting to note the disinclination felt for Reverend Brocklehurst based on contemplation of his face. This is further emphasised by the unprepossessing phrenological attention to detail of his physiognomy. A further level of caution is introduced with alluding to tropes of fairy tale villains and monsters such as the wolf in *Little Red Riding Hood*. Jane Eyre's responses to his inquisition are telling and demonstrate her fearlessness and audacity to counter the inquiries of a loveless patriarchal evangelism. When asked on how she might avoid Hell, Jane Eyre retorts: "What must you do to avoid it?" I deliberated a moment; my answer, when it did come, was objectionable: "I must keep in good health, and not die" [14] (p. 18).

One of *Jane Eyre's* great strengths is how it records Jane Eyre's ability to speak her mind when confronted with a range of antagonists. These moments have a dual purpose for the focus of this article. They act as significant moments in the development of her character as it moves towards maturity in the Bildungsroman and stand as crucial points in her growth as an evolving professional. Brocklehurst is depicted as a poor teacher and Christian through his various acts of hypocrisy. While he does not *teach* the children directly, his poor management of the school, aligned with his brutal didacticism in his homilies underscore the dangers to society's most vulnerable in not having a proper principal educator. This is made apparent through his sermonising:

> Consistency, madam, is the first of Christian duties; and it has been observed in every arrangement connected with the establishment of Lowood: plain fare, simple attire, unsophisticated accommodations, hardy and active habits; such is the order of the day in the house and its inhabitants [14] (p.19).

Such statements cloak the inhuman conditions the starving pupils and teachers experience and the disease and ill health which such a regime created. His accusation that Jane is a liar in front of the whole school assembly is a further indictment of his inability to teach as he lacks the basic facility to comprehend the true nature of individuals in his charge.

4. Jane Eyre Precarious Professional/Unprofessional-Transitory

> This chapter considers the quadrant (see page x) in which teachers have low status and also have not progressed their professional development beyond a very basic initial qualification. Two worrying categories of teachers are discussed in this chapter: those who might be described as unprofessional, and those who are unlikely to remain in the profession—the transitory teachers. In both cases, their position in the teaching profession might be described as precarious [2] (p. 26).

The novel underscores how teaching could be a very precarious role for a woman in the nineteenth century and was based in part on the experiences that Brontë had as a teacher herself [16] (pp. 288–9). While *Jane Eyre* is set prior to a time of professionalism in teaching, and especially before women were permitted to be perceived as professionals, Clarke's category of the Precarious Professional is very pertinent to understanding Jane Eyre's role as an educator, and by extension as a human being. Jane Eyre is often placed in very difficult power relationships with family, teachers, managers, employers, and potential life partners. As previously stated, these usually result in heated arguments in which Jane Eyre is forced to defend herself against any number of false accusations. In addition, for a great part of the novel her life choices, as well as her ability to stay in a particular place are dictated by the decisions of others. The novel underscores her often precarious and transitory existence as it draws upon similar tropes in the fairy tale tradition and in John Bunyan's *The Pilgrim's Progress* (1678). It is only when Jane Eyre has independent means that she is capable of making a choice that allows her to assert an ability to decide ultimately on where she will reside and whom she will marry.

Up until that point she is constantly at risk of being deprofessionalised. It is interesting to note that deprofessionalisation is associated very strongly with marriage. For instance, Jane Eyre's agency as a woman, Christian and *teacher* would be compromised either through a bigamous marriage to Rochester or a loveless role of missionary's "helpmeet" with St John Rivers.

5. Jane Eyre as Professional

> The ideal professional should be able to argue that their role is too complex—too open to innovation, creativity, ambiguity and risk—to be done by robots. They are autonomous, not automatons [2] (p. 42).

Jane Eyre's professional status is very much bound up in her gaining of autonomy and agency. Her autonomy is based on her gaining economic independence and being able to choose her preferred life partner. In a sense then, as a *teacher* she may well then be a retired "local hero", in Clarke's terms, who once had looked after some pupils in a couple of schools and had one charge as a governess. But then this is to perhaps miss completely the significance of the novel. Jane Eyre might equally, if not more profoundly, be a global hero as the novel operates under the conceit that it is an *autobiography* written by Jane Eyre which narrates her life history from child to mature, fulfilled adult [17] (p. 43). This is a powerful testimony that delivers a number of pedagogic lessons. Firstly, this acts as a reflection on what are important professional values which have been inculcated over a lifetime. It draws on the example set by Helen Burns and by Miss Temple:

> she was an exact, clever manager; her household and tenantry were thoroughly under her control; her children only at times defied her authority and laughed it to scorn; she dressed well, and had a presence and port calculated to set off handsome attire [14] (p. 20).

Secondly, it shows the immense significance of personal integrity exercised against the failings of powerful antagonists:

> If all the world hated you, and believed you wicked, while your own conscience approved you, and absolved you from guilt, you would not be without friends [14] (p. 43).

Thirdly, the ability to fuse subject knowledge, with professional values and develop a reflective approach to teaching (as she does with her life) makes her a profound inspiration for readers who too found themselves in similar positions and sought the means to respond to their position in society. This combination of qualities may well then offer a version of an ideal teacher as "an autonomous, accountable, reflective, evidence-based and career-long learner" [18] (p. 50).

6. Jane Eyre as Questionable Global Hero

> This chapter outlines the Place Model as an alternative, original way in which both teacher educators and student teachers can begin to consider the singular importance of career-long learning in supporting and sustaining a high-status teaching profession. Those who aspire to become teachers are also challenged to proactively plan and create their own professional learning journey and to ensure that they value both local knowledge and global expertise [2] (p. 8).

While there is much that can be commended about the narrative that Jane Eyre offers about her life history and the powerful character that emerges of a woman subverting and overcoming the power structures and limitations of patriarchy, there is much that might cause difficulty for the contemporary reader and teacher. Feminist and Postcolonial analyses of *Jane Eyre* have found difficulties with what are perceived as Anglocentric, Eurocentric and imperialistic worldviews in the novel. This might produce difficulties for situating *Jane Eyre* within an international framework today as a paragon for espousing global values for the teaching profession or as a perfect model for depicting the growth of individual selfhood. Jane Eyre's and *Jane Eyre's* views on class, gender, race and empire, though highly radical in

1847, offer challenges if she were to be admitted to a contemporary classroom today. Studies have suggested that Jane's success may be based upon the losses that others, and those who are othered, must suffer and as such her professional values, reflective practice, indeed interior monologue, may have to be viewed as unreliable and ultimately questionable in a global context.

7. A Portrait of the Artist via a Portrait of the Pedagogue

As Breon Mitchell affirms:

> The rise of the *Bildungsroman* in eighteenth century Germany was closely tied to a lively interest in how to best prepare a young man to take his meaningful and rightful place in society. The word *Bild* in *Bildung* had originally referred to a model (in the sense of modern German *Vorbild*) in terms of which the young man was to be molded [sic]. The first such model was Christ, and *Bildung* was the process of formation in his spiritual image [19] (pp. 63–64).

Jane Eyre exemplifies the characteristics indelible in the Bildungsroman by the end of the eighteenth century, where, as Mitchell attests, formal education is supplanted by life experience in the trajectory of personal growth and experience [19] (pp. 63–64). However, ultimately, *education*, be that on a moral, social or psychological/intellectual level, in a formal setting or via lived experience/social interaction is the genre's *raison d'être,* which calls attention to the Place Model's query, *Who is teaching me today?*

James Joyce, similar to Brontë, foregrounds the patriarchal sense of education, notably in *A Portrait of the Artist as a Young Man*; and it may be suggested that it is the experience of formal education that is central to the development of Stephen Dedalus. The novel's Latin epigraph, "*Et ignotas animum dimittit in artes"* (and he sets his mind to work upon unknown arts), taken from Ovid's *Metamorphoses*, Book Eight, immediately draws our attention to the mythical dimension of Dedalus's name, with its links to the great artificer and his rebellious fallen son, Icarus, and the flight and fall structural rhythm of the novel which Gifford discusses [8] (p. 129); however, it also highlights a key point, which undermines the concept of the *Bildungsroman*: our protagonist falls. Education, indeed negative pedagogy, is the catalyst for change here, an interesting revelation in a period where the education system was being utilised for reformation and, in particular, professionalisation. As John Nash attests, "Schools such as Belvedere and Clongowes [which both appear in *Portrait*] were, in general, consciously training a new strata of middle-class Catholics: educated and professional, supporters of Home Rule and defenders of the Church yet at the same time 'a little bit English', trained to play English games and, often, taught from an English syllabus" [20] (p. 65). Joyce's critique of pedagogy is interesting, especially given the fact that he himself was a teacher, and left Ireland for a post at the Berlitz School in Zurich. In her study on Joyce's teaching life and methods, Elizabeth Switaj discusses Joyce's intent on exposing the impact of authoritarian teaching:

> Rather than expressing a set of thought-through ideals, these scenes of pedagogy show, in nascent form, a resistance to authoritarianism and other traditional aspects of teaching that will develop in *Ulysses* and *Finnegans Wake* into ideals about power and exchange in teaching and learning that he could more clearly articulate and his audience more readily identify [21] (pp. 42–43).

The concept of the professional in Joyce's work is challenged, as those in authority, and in particular those in institutions of learning, are exposed as not only precarious professionals, in the sense of the Place Model, but precarious individuals per se, raising the question, "is it better to have no teacher at all than the damaging, unprofessional teacher?" [2] (p. 26).

The unfolding of the infant consciousness depicted in the opening pages, posits the patriarchal instructor in the formation of identity; Stephen's father uses the art of storytelling, with added neologisms, to open his son's mind to the concept of identity, 'He was baby tuckoo' [22] (p. 7). Hence begins a preoccupation with place and the concept of self which continues into *Ulysses,* and is highlighted in the opening chapter when Stephen writes his name and address, which includes

"Ireland, Europe, The World, The Universe" [22] (p. 17), on his geography notebook. This need to articulate name and place is conveyed again in the second chapter, interestingly at a point when he is increasingly becoming alienated from his father, "I am Stephen Dedalus. I am walking beside my father whose name is Simon Dedalus. We are in Cork, in Ireland" [22] (p. 105). Familial pedagogy, occupying the position of 'No Teacher', could easily facilitate a new term within the Place Model, 'Precarious Instructor'. *Portrait* illustrates the impact of conflicting information, as Stephen endeavours to disentangle and comprehend conflating views on religion, politics and nationality, as espoused by his father, mother, governess and uncle: "It pained him that he did not know well what politics meant and that he did not know where the universe ended. He felt small and weak" [22] (p. 18).

Lack of composite instruction, or valuable mentoring is evident throughout Stephen's schooling. As Clarke affirms:

> Mentor was the name of Ulysses's friend. He was asked to take care of Telemachus, Ulysses's son, during his father's absence at the Trojan wars. Taking care did not mean simply looking after in a passive way but more in the proactive sense of becoming a role model for Telemachus—helping him develop the skills and knowledge he would need in later life [2] (p. 11).

And interestingly, in Joyce's *Ulysses,* Stephen Dedalus is representative of Telemachus. The mentor is not solely for proto-professionals, but essential throughout the professional learning journey; and indeed, it is not only a mentor that is required, but a 'professional mentor', one who will enable the development of the right skills and appropriate knowledge; one who will encourage independent thinking, challenge precarious (education) systems or methods and contest the "paternalistic teacher-student relationship" [23] (p. 14). In this regard, Stephen functions as a mentor to his peers at various points, most notably following his beating at the hands of Father Dolan, a punishment which was undeserved, described as "unjust, and cruel and unfair" [22] (p. 60), highlighting Clarke's 'precarious professional' with the characteristic use of corporal punishment [2] (p. 27); Stephen's subsequent reporting of the incident to the rector, at the behest of his friends, is a victory and subversion of the 'natural' order, resulting in the boys hoisting him above their heads. This challenge against the 'professional' highlights Stephen's individuality and early break with authoritarian and patriarchal systems. As Shaull contends, and as Joyce illustrates,

> There is no such thing as a *neutral* educational process. Education either functions as an instrument that is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it, *or* it becomes "the practice of freedom," the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world [23] (p. 16).

The educational process at Clongowes and Belvedere College ultimately facilitates freedom, not through an adherence to that process but rather via the transgression of it. The 'professionals' which Stephen encounters, including those who may be described as precarious and de-professionalised, serve as models for what Stephen knows he does not want to be. Although he briefly considers the priesthood, he recognises his inability to become integrated within the system: "His soul had risen from the grave of boyhood, spurning her graveclothes . . . He would create proudly out of the freedom and power of his soul, as the great artificer whose name he bore, a living thing, new and soaring and beautiful, impalpable, imperishable" [22] (p. 193). The university education compounds the process, culminating in his declaration, "I will not serve that in which I no longer believe, whether it call itself my home, my fatherland, or my church" [22] (p. 281).

Portrait ends with Stephen's decision to leave Ireland, abandoning the 'professions' for the life of an artist, and therefore it is ironic that when we encounter him again in *Ulysses* he has returned to Ireland and is teaching. *Portrait's* Bildungsroman label is thoroughly challenged, as Stephen's formative years do not produce 'the artist' of the title but rather an aspiring artist, or perhaps a 'fallen' one. Here we are

reminded of George Bernard Shaw's adage, "He who can, does. He who cannot, teaches" [24] (p. 213), which raises the question posed by Eric Holye, and which the Place Model interrogates, "Is teaching a profession?" [2,25]. Kiberd states that Stephen "has become one of those bad teachers whom he warned against" [26] (p. 55). Stephen does not fit the traditional mould of the pedagogue and as a 'professional' his 'otherness' is noted. His statement at the beginning of episode three in *Ulysses*, "Signatures of all things I am here to read" [27] (p. 56), highlights his position; he is a 'professional learner', not that this will enable him to progress to "extended global teacher-learner", as detailed in the Place Model, because fundamentally he is not invested in teaching but rather in learning, and learning that will benefit his journey towards 'artist' as opposed to pedagogue. He misses the reality, summarised by Kiberd, that "In a true pedagogy, tradition is the medium in which the learner changes constantly into the teacher, and vice versa" [26] (p. 55). As Mr Deasy, the Headmaster, proclaims, "You were not born to be a teacher, I think—A learner rather, Stephen said" [27] (p. 53). The desire to learn and the prominence of esoteric thought makes Stephen's oft-quoted statement, "History, . . . , is a nightmare from which I am trying to awake" [27] (p. 52) questionable; often interpreted as a desire to escape the past, it may be suggested that it is not history per se that he is trying to escape but rather the *teaching* of it, considering this statement is made during the exchange with Mr Deasy.

The Anglo-Irish, pro-unionist, Mr Deasy himself transverses the position of the precarious professional and the de-professionalised, and Joyce amplifies his bigotry and anti-Semitism, tropes that will be developed throughout the text and interestingly are posited at the beginning in a formal education setting. His comment that, "England is in the hands of the jews. In all the highest places: her finance, her press. And they are the signs of a nation's decay" [27] (pp. 50–51), foreshadows the text's revelation that our main protagonist, and 'hero', Leopold Bloom, will himself have Jewish origins. Negative comments espoused by the head teacher to a junior member of staff highlight the potential destructive culture cultivated, reinforced and taught within the confines of a formal institution. Stephen's 'otherness' aligns him with Bloom, and his need to escape the servitude of two masters, English and Italian, highlights his desire to flee all systems of oppression: political, religious and educational. As Kiberd affirms, "Joyce's entire work is a sustained meditation on true and false pedagogy, and on how best the young may learn from their elders" [26] (p. 54).

8. Conclusions

Bildungsroman enables both Brontë and Joyce to position their protagonists within metaphorical 'professional' landscapes and demonstrate the impact of the 'professional' on formative development. Education, including formal, social, moral and intellectual becomes a 'practice of freedom' and a conduit for locating self and place within society; it enables Jane Eyre to become integrated to an extent and cultivates Stephen Dedalus's marginalisation and 'otherness', confirming Wenger's conception of educational imagination. Ultimately, both writers challenge us to interrogate the value and meaning of the term 'professional', and fundamentally assess our motivation for professionalisation, especially when the professional is endowed with negative connotations. Burstow and Maguire argue for teachers becoming "agents of change" [2,28], which transgresses negative pedagogy and authoritarian oppression, enabling Paulo Freire's vision, as detailed by Shaull:

> Freire incarnates a rediscovery of the humanizing vocation of the intellectual, and demonstrates the power of thought to negate accepted limits and open the way to a new future . . . man's ontological vocation is to be a Subject who acts upon and transforms his world [23] (p. 14).

Is this, the portrait of the artist or rather the paradigm for the 'inclusive professional'? Autonomy, creativity, awareness of self and place, and knowledge of professional destiny constitutes professionalisation, and the creation of a new category within the Place Model. It suggests that powerful correspondences exist between the Place Model and the novel of formation which creatively

inform the search to determine who might be teaching me today and how professional that pedagogue may be.

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Article

Towards Professionalism and Police Legitimacy? An Examination of the Education and Training Reforms of the Police in the Republic of Ireland

Jeremy Thompson [1,*] and Brian Payne [2]

[1] School of Education, Ulster University, Cromore Road, Coleraine BT52 1SA, Northern Ireland, UK
[2] School of Applied Social & Policy Sciences, Ulster University, Shore Road, Newtownabbey BT37 0QB, Northern Ireland, UK; b.payne@ulster.ac.uk
* Correspondence: jeremythompson1@live.co.uk

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Abstract: In this paper, we present a thought piece examining recent core policing reforms introduced in the Republic of Ireland (ROI), responding to a perceived crisis of legitimacy, for An Garda Síochána (AGS) (translated: 'The Guardian of the Peace'). Central to this process is the critical reform of the education and training of police and their relationship to the professionalisation and legitimacy of policing. In this paper, we put forward an explorative analysis of the potential link between the professional education of police and their perceived legitimacy. A literature review was carried out on the reform process, including the related elements of police education, training, professionalisation, community policing, police legitimacy, code of ethics (CoE) and police culture. We consider the espoused ambition to professionalise policing via processes including the provision of professional learning in universities and how this might be deemed to contribute (or not) to legitimacy. While no empirical research to date has been carried out on these specific reforms in the ROI, the reform recommendations had several resonances with broader examination of the themes and challenges (in particular police ethics and culture) associated with reform of democratic policing in other jurisdictions, particularly with respect to increasing professional learning and perceived police legitimacy.

Keywords: education; training; legitimacy; profession; professionalisation; police; policing; reform; community

1. Introduction

1.1. The Police Professional and the Place Model

Exploring what it means to be a professional is a task in itself. Bourdieu suggests the following:

> 'Profession' is a folk concept which has been uncritically smuggled into scientific language and which imports into it a whole social unconscious. It is the social product of a historical work of construction of a group and of a representation of groups that has surreptitiously slipped into the science of this group. [1] (pp. 242–243)

Similarly, Clarke [2] focuses on both the currency and slipperiness of 'professionalism', citing Bourdieu's assertion of a profession as 'dangerous' yet resting in its 'appearance of neutrality' [1] (p. 242). Clarke [2,3] proceeds to define professionals as those with trustworthy expertise built up by a process of career-long professional learning. Her place model seeks to examine the relationship between this professional learning (building expertise and trustworthiness—on a notional horizontal axis) and public esteem (on a notional vertical axis), uncovering dystopias (including

unprofessionalism and professionalisation) in many aspects of the relationship but also highlighting an ideal of learned (and learning) and trustworthy inclusive professionalism, which is highly esteemed by the public [2,3].

Such factors resonate strongly with critical aspects of the policing literature; therefore, it is unsurprising that previous research has exercised Bourdieu's key concepts of field, capital, habitus and symbolic violence in the context of university police education, which in turn is perceived to enhance the status of police learning and professionalism [4]. However, as described below, mapping police education is not without problems [4] (p. 1), with its impact generally unexplored and scant of empirical examination [5] (pp. 1–2, 12). In this paper, we hope to provoke further debate by applying Clarke's place model to the concept of police education and professionalism. In this conception, police legitimacy replaces esteem on Clarke's vertical axes, and professional learning is the horizontal axis. While the relationship between the two can never take the form of a panacea, the potential discrepancies and concurrencies are worth exploring in this early think piece.

1.2. Police Professionalism, Legitimacy and Community Policing

While acknowledging Marenin's consideration that the necessities for democratic policing fall into three principle conditions, that of accountability, professionalism and legitimacy [6] (pp. 109–110), in this paper, we will focus mainly on the latter two, as we argue that they resonate most with the idea of police learning. To maintain and develop police legitimacy, certain fundamental factors such as prejudicial neutrality, moral consensus, responsiveness to society and the representation of officers to the society they serve, are critical [6–8]. The broader notions of professionalism and professionalisation have evolved together with organisations and the educational learning processes that prepare people to work in them [9] (p. 154), which, for policing, relates to a range of skills, values and standards of fairness, integrity and human rights [6] (p. 109). In the last century, the police professional has experienced a demanding change moving from reacting to crimes to encompassing the broader gambit of 'preventing' crimes and problem-solving [7], detailing deeper cooperation between the police and their communities and emphasising a shift in the coproduction of public safety towards a model of community-orientated policing [7,10–12]. In America, Williams et al. [9] (pp. 9, 156–157), having observed transitions in paradigms of police professionalism, note that it is the support for community policing that shows the most growth. In Northern Ireland, the Independent Commission on Policing for Northern Ireland (ICPNI) [13], referred to as 'The Patten Report', regarded internationally as a template for democratic policing [14,15], arguably elevated community policing so it is not solely the responsibility of the police but rather involves the active support, involvement and consent of the communities based on the principle of 'policing with the community' (PwC) [13] (pp. 6, 7, 40, 82)—an ambition that echoed Flanagan's view that community policing 'is much too important, and too impactive on all our lives to be left to the police alone' [16] (p. 2).

Reforms in the professionalisation of policing and the embracing of a community policing model, including the important related factors of education and training, have not been advanced in isolation and remain the subject of debate in the democratic world. Proponents reason that better-educated officers will exhibit less bias and provide more objective and reflective decision making, linked to enhanced communication and problem-solving skills central to the concept of community policing [17]. However, the benefits to both future student officers and recruits studying at universities remains underexplored [5] (p. 2).

1.3. Policing in Ireland and Recent Reform

Ireland as a country was established in 1922 as the Irish Free State within the British Commonwealth, becoming a sovereign state with its own constitution in 1937 and severing its last official link with the United Kingdom in 1949. It has remained an economically productive member of the European Union since 1973, with an economy mainly resting on technology and agriculture [18] (p. 350). It has a population of 4.7 million (2016 census) with non-Irish nationals representing 0.5 million. Residents

who do not speak English as their first language number 0.6 million, while 78.3% of the population identifies as Catholic. The average age in Ireland is 37.4 [19], and as of February 2019, there were 13,977 sworn An Garda Síochána officers serving the public [20].

The origins of An Garda Síochána (AGS), although relatively recent, are similar in many ways to the experiences of other jurisdictions and share similar problems. Described previously as colonial, AGS was devised to protect the English establishment and subdue the unruly masses [18]. While the foundations of modern-day policing can be said to be found in the reforms of Sir Robert Peel, it is perhaps important to note that this Peelian model arguably extends from Peel's experience, gained with the Irish Peace Preservation Force in maintaining control of colonial Ireland prior to 1922 [18,21].

Ireland has been identified as the first new democracy of the twentieth century, and the central role that AGS played in the emergence of the state has left it closely associated and loyal to the state institutions, which it has felt mandated to protect. As Manning states, 'the police were and are an accepted arm of government' [18] (p. 353) and can be viewed as a shallow reflection of Anglo-American police forces, being 'bottom-heavy', with officers being moderately trained in a formal setting and inadequately supervised when dealing with complex policing matters. Approaching its centenary, AGS' history has been punctuated by a range of miscarriages of justice and scandals, which have tested the perceived legitimacy of the organisation but have brought about little change, with culpability being placed more so on the activities of wayward officers rather than systemic deficiencies requiring reform [18,22–24].

However, in 2002, in what is described as a watershed in Irish policing history, the government established the Morris Tribunal in the wake of serious allegations of policing misconduct. Its findings after 686 days of hearings and 4000 pages of script highlighted widespread corruption and malpractice within AGS, concluding that significant reform was required if policing legitimacy was to be restored [21,23,25]. The tribunal heralded a raft of changes, some institutional, others driven mainly by the 2005 Garda Síochána Act, the purpose collectively being to address the growing deficit in police legitimacy [24,25]. Amongst the more notable reforms was the establishment of a Professional Standards Unit within AGS and the overhaul of both the promotion and recruitment processes: in the former, to fairly promote those with the competencies required of the role and, in the latter, to encourage a more diverse and representative police service. Neglected engagement of communities was sought through newly established joint policing committees supported by a new community policing model, which was to 'renew, reinvigorate and re-structure' this new community partnership approach by harnessing and revitalising the community culture within AGS [25] (pp. 488–489).

The Tribunal also concluded from evidence that AGS was falling short of the standards of discipline required in policing and recommended the introduction of a code of ethics and the expectation that officers should exhibit in their duties the professional traits of equality, fairness, justice, respect and continuous professional development. It also identified that many of the internal Garda systems had remained unchanged for decades and established an Independent Inspectorate to report on improving the effective and efficient standards of the Gardaí as measured against international best policing practices, including the remit to report on any aspect of Garda administration or operations. Lastly, an independent Garda Síochána Ombudsman Commission (GSOC), with powers to investigate and pursue prosecutions against complaints received from the public regarding the behaviours of Garda and promote the organisational accountability of AGS, was established [25]. Ten years later, further reforms were established by the 2015 Garda Síochána Act [26], the most central being the introduction of a Policing Authority [24].

In an analysis of these institutional changes, Manning [18] (p. 357) draws a contrast between Walsh's 'quite pessimistic' [27] examination of the success of the GSOC and his own more optimistic view on the impact of the Independent Inspectorate under the guidance of Kathleen O'Toole. However, he notes that the reports from the Independent Inspectorate were merely advisory and reemphasises that AGS still remains sheltered from rigorous scrutiny due to its close connection to the formation of the state. In summary, he concludes that approaches towards police accountability in Ireland have been

ineffectual, quoting from Walsh, 'Police accountability in Ireland, in short, is neither to the people at large, nor to any collection of groups, and has never been so' [27]. Mulcahy provides additional analysis on what proved to be an inability of these reforms to stem further policing scandals [24,28], which eventually created a political crisis leading to the 'Commission on the Future of Policing in Ireland' (CFPI) [29,30]. He contends that despite the opportunity to observe other world-leading models, such as that in its bordering neighbour Northern Ireland, those comparable institutions in the ROI were 'marked by foot-dragging and a dilution of the very powers which made the Northern Irish institutions so robust and so worthy of emulation' [24]. He further argues that the necessary political will did not exist at the inception of those institutions to equip them with the powers and function to deliver on their obligations or the public's expectations.

The CFPI [30] was established in 2017 during a further controversial period in the history of AGS [31–33], with Conway suggesting that this period reflected both a crisis of legitimacy and a unique opportunity to reform [34] (pp. 1, 8). Problems became apparent throughout AGS when in 2012 'whistle-blower' Gardá officers highlighted the abuse of a road traffic offence penalty points system, their behaviour branded by the Garda Commissioner as 'quite disgusting' [35], forcing the Commissioner to resign [31,32]. The succeeding Commissioner was then embroiled in allegations that she had attempted to discredit the 'whistle-blowers', linking one of them to unfounded allegations of child sex abuse. This Commissioner subsequently retired amidst further controversy [31,36]. Damaging factors included the following:

- An admission that 937,000 non-existent alcohol breath tests were simply concocted, presenting ethical concerns around AGS [31,37,38].
- An admitted error, leading to the wrongful conviction of 15,000 motorists for minor traffic offences [31,39].
- Alleged bugging and recording of the offices of AGS Ombudsman Commission and calls between those in police custody and their legal representatives [40,41].
- Continued concern about the quality and accuracy of crime statistics [42,43].
- Serious allegations of financial misconduct at the sole Garda training college [44].

The subsequent report 'The Future of Policing in Ireland' [30] (TFPI), published in late 2018, represents the most significant core reform process in the history of AGS with the Chairperson, Kathleen O'Toole, making the following key remarks at its launch:

> 'We have spent over a year listening to the people of Ireland, and the police . . . the message was loud and clear. Everyone wanted more Gardá working in and with the community. They wanted a . . . professional police service...Communities around the country told us that they attach great importance to community policing...We recommend that all police service personal in the districts will be community police. This is the backbone of police work and the police mission...We have focused on transformative changes that will support those people serving communities. A more effectively managed police service will instil a culture of professionalism, beginning with recruit training and carrying through the careers of everyone in the organisation'. [45]

Mulcahy [46] (pp. 14–17) reminds us that 'reform', along with its two overlapping elements of 'representation' and the 'response' of society, is fundamental to the process of police legitimation. It would, therefore, be difficult not to contend that the suggested reform process of education and training, as it relates to the professionalisation and legitimacy of AGS, presents a current and significant opportunity to examine policing in Ireland but also to broaden understanding towards the potential application of such reform processes in other jurisdictions. However, examination is hampered due to the recent implementation of these reforms, relative to the timing of this paper, which have not been subject to any identified, published, empirical research to date. Moreover, current empirical literature

available on police culture within AGS is described as limited by Conway [34] (p. 3), while Manning notes that AGS has not been studied ethnographically by academic observers [18] (p. 455).

Nonetheless, this paper undertakes a literature review of the reform process in AGS, scrutinising the key publications and reports available, identifying and focusing on the elements and key themes that are both relevant and central to the paper. A broader review of international literature was then conducted examining the specific themes of police education and training and their relationships to core elements of reform including community policing, police legitimacy, professionalisation, a code of ethics (CoE) and police culture. At the heart of this paper is the broad examination of the potentially valuable but as yet untested relationship between police legitimacy and professional learning (in particular, where the latter is based within higher education), set against the critical context of community policing in AGS, which has yet to be developed or analysed.

2. Professional Learning and Legitimacy

2.1. Learning for Community Policing

The effectiveness of community policing both as a means for increasing trust and confidence in policing and, significantly, the perceived legitimacy of the police is now widely accepted by reformers and policy influencers alike, for example, see the UK's College of Policing's [47] citing of a systematic review from Gill et al. [48]. The popularity of community policing has, in part, been derived from research that successfully critiqued traditional models of crime fighting such as preventing and detecting crime, patrolling in cars and upholding public order [8]. However, scholars have also argued that community policing has evolved as a response to public perceptions of an aloof and legalistic police, ill-prepared to accomplish the primary mandate of preserving and protecting the citizenry [49]. Community policing may, therefore, be conceived of as 'the collective answer to abuses of power, lack of effectiveness, poor public confidence, and concerns about legitimacy' [50] (p. 47) [8,49].

Gleeson and Byrne contrast the rise of community policing in the United States of America (USA) in the last few decades, where it has become the 'dominant philosophy' in policing, with Ireland, where it was not until 2010 that AGS introduced its first community policing model, even though it could be argued that AGS had exhibited some of the fundamentals of a community policing ethos, as, from its formation in 1925, it has been an unarmed force relying on community support to carry out its functions [51] (pp. 70–71). Similarly, the TFPI report acknowledges this transformative shift towards community policing across the democratic world and identifies that neither the structure nor the practices of AGS reflect this [30] (pp. 6, 7, 17). Responding to the TFPI report and its focus on community policing, the Garda Inspectorate published its Policing with Local Communities (PwLC) report in 2018 [52], establishing critical actions to support effective policing with communities. A summary of some of those relevant key actions is presented below:

1. Collaboration with universities to undertake academic research towards the development of evidence-based approaches to the core policing reform issues was recommended [52] (p. 7).
2. Several community policing models were identified in operation; while principle to them were internationally recognised elements of community policing, there was lack of clarity and purpose. The PwLC recommended one clear community policing strategy with vision and purpose [52] (p. 10).
3. Inconsistent delivery of community policing, with long-term problem-solving being poorly understood and infrequently used and with most community policing officers having not received training in problem-solving, was found. In response, it was recommended that community policing be embedded within continuous professional development (CPD) and a national training program [52] (pp. 23, 25).
4. Development of trained and skilled community policing teams in all areas to provide long-term problem-solving was also recommended [52] (pp. 26, 62).

Mulcahy's submission to the CFPI called for community policing to be at the core of policing in Ireland, supported and reflected in training content [24] (p. 7), and while AGS' community policing strategy still remains unpublished [52] (p. 4), the PwLC examined the *'Final Report of the President Task force on 21st Century Policing'* [53], which provided descriptors of community policing, including the following:

> Police interventions which are implemented with strong policies and training in place, rooted in an understanding of procedural justice, which in turn contributes to police legitimacy. [52] (p. 62)

Such views resonate with the American context, where Paynich argued previously that the origin for better-educated police did not have its genesis within community policing or professionalisation but rested with key campaigners, such as Peel in England in the 1800s and Vollmer in America in the 1900s, with reoccurring recommendations for higher-level education appearing in subsequent reform movements. She contends that such reforms, while seeking to professionalise police, actually eroded officer discretion and increased the centralisation of policing, weakening that relationship between the police and citizens. Secondly, as the range of problems police officers negotiated broadened and became more complex, the less effective purely legal-based remedies became, creating a requirement for both community involvement and improved police–community relationships. The community policing model utilised, she argues, set about addressing such displacement, enhancing relationships with the communities and working with citizens to problem solve [17]. Paynich identifies how the reform of both police professionalisation and community policing can generate and encourage a '*need*' for higher education, as the lower ranks are given this autonomy to problem solve within communities, but then poses whether or not higher education aids the successful enactment of such reforms [17] (pp. 8, 19). Addressing her own question, she cites Paoline et al. [54] (p. 598), who observed that small but varying and decipherable degrees of attitude existed amongst officers towards community policing, with more educated officers reporting more positive views. She also cited Chappell [55], who identified that those less well-educated recruits did not perform as well as more educated officers in community policing curriculums. Radelet and Carter reinforce this requirement for higher education to effectively implement community policing, stating the following:

> Given the nature of this change, the issue of college education is even more critical. The knowledge and skills officers are being asked to exercise in community policing appears to be tailored to college preparation. [56] (p. 156)

Goldstein notes that the community policing work environment delivers to those more highly educated officers a more self-satisfying scape in which to exercise their creative abilities towards problem-solving [57]. In reforming and transitioning to community policing, Roberg and Bonn [11] (pp. 476–478) argue that the potential of higher educated officers should be employed, identifying a common thread of enhanced skills from higher-level education delivering enhanced skills, which are necessary for the effective delivery of community policing and, as will be discussed below, also bring real benefits for police legitimacy [58].

2.2. Police Legitimacy

Legitimacy can be expressed as the justifying of a state of affairs so that it becomes accepted socially, while being legitimate is behaving in a way that is regarded as having been founded on valid and justifiable grounds [46]. The legitimation process, therefore, presents a unique opportunity to appreciate how a set of relationships can come to dominate others [46] or, as Gramsci defines it, the particular workings of states where a specific group is successful in having other societal groups accept its values [59]. Societies depend on the police at their core to ensure that the elements of democracy are defended and that order is maintained [60,61]. Police legitimacy, therefore, according to Tyler, [62] is a property enjoyed by the police when societies view the police as just and submit to them voluntarily,

as observed in the actions and motives of individuals [63], while Manning likens it to an unwritten agreement between the police, the public and society, encompassing those implicit expectations and common responsibilities that draw together social stability [18] (pp. 349–350). For citizens, police legitimacy is therefore both the acceptance of decisions from a lawfully established authority and the enforcement of that law, if required [64,65]. However, both Tyler and McEwen et al. [62,66] observe how compliance with these decisions is either based around fear of punishment or self-interest, providing citizens with moral values in compliance. Citizens can be at odds with these decisions yet simultaneously view those decisions as being made by a legitimate authority, Reiner, summarising, states the following:

> Police legitimacy means, at a minimum, that the broad mass of the population . . . accept the authority, the lawful right, of the police to act as they do, even if disagreeing with, or regretting some specific actions. [8]

As a legal authority, the legitimacy of a police service is therefore dependent on its ability to demonstrate to the public why its exercise of powers is rightful and why the public should, in turn, choose to obey, cooperate and comply with its request [67–69]. A critical factor in achieving cooperation of this nature has been the embracing of democratic policing models, which concentrate on the notion of protecting human rights as their core responsibility [13,49]. Such approaches focus on professional and ethical standards, codes of conduct and processes to ensure the adoption of such standards into the practices and culture of police, with efforts to reform these democratic models tending to be based on the community policing model [6] (p. 110).

Marenin [6] explains, that while the process of defining what democratic policing should resemble in its culture, practices and operational policies is generally agreed upon, challenges remain in the creation and implementation of sustainable reforms, including education and training. He holds that such reforms will only become sustainable when the existing features against which they work are nullified, requiring a sense of knowing of what to dispense with and what to replace it with. He supports Karstedt [70], that successful models of reform can only serve as examples and resources to be adapted and shaped to mould to the variances of other societies, which is a template evidenced in Connolly's submission on community policing to the Irish government [71].

Bringing about reforms of this nature in the Irish context is a sizable undertaking. Manning [18] argues that AGS' close affiliations to the origins and formation of the 20th-century Irish state and central government have mandated it to protect the state's interests, rendering AGS sacred, legitimate and resistant to reform. This near semi-sacred status has also protected AGS from public opinion even in the face of scandal over its history, and he points out that they have subsequently failed to benefit from sustained and meaningful reform, despite a growing scrutiny. Bowden and Conway also point to a long history of unflagging crises that have challenged and strained police legitimacy [21,22]—a sustaining principle of which is moral consensus [8], highlighting that the laws that the police represent and enforce must relate positively to the broader held moral values of society [6], which, arguably, within Irish policing, have been imbalanced. Connolly's historical reflection on the government in Ireland was one that sought to create a policing service based on public consent but only succeeded in creating a model symbolised and characterised by the absence of consent and public accountability [72].

The principle of 'policing by consent' [73] or that public consent towards policing must exist to deliver legitimacy, acting as a keystone in the relationship between police and citizens [74], requires it to be vigorously pursued by the police rather than being an artificial or theoretical strategy [75]. Reforms in pursuit, however, can suffer from apathy as they become embedded and institutionalised within policing culture, and that initial effectiveness, while delivering on police legitimacy to citizens in the short term is incapable by itself of maintaining that legitimacy [6] (pp. 112–113). It might therefore be argued that professional learning must be ongoing and career-long to make a sustained positive impact on police culture and legitimacy.

2.3. Education, Training and Continuous Professional Development

While the TFPI report identifies police education and learning as critical to the transformation and development of professional policing in Ireland, it crucially observed that it had been neglected, devoid of either a specific strategy or budget, with an absence of both resulting in an embargo of police recruitment for nearly six years and a near-zero delivery of in-service training, impacting the function and delivery of professional policing [30] (p. 69). Consider the following examples:

- Approximately 700 untrained detectives were identified, some of whom had up to 10 years of experience in investigating serious crimes yet had no specialised training and lacked CPD. Despite a capacity to train 60 detectives annually, between 2010 and 2013, only 88 detectives were trained, identifying a potentially increasing backlog [43,76,77].
- Under use of fingerprinting opportunities was found; in 2012, of 26,149 people who should have had their fingerprints taken, only 8147 were fingerprinted, and 69% were not [76,77].
- The Garda Inspectorate analysing Garda foundation training between 2000 and 2009 estimated that Garda recruits only spent 25% of available training time on operational policing and crime investigation skills, which was less than the total time spent on language skills (12%), physical exercise (17%) and study assessments (9%), with no time given to the practical interview of suspects. [43,76] (pp. 25, 244, 247, 248).
- Between 2005 and 2009 and suspension of recruitment, there was a large increase in the numbers recruited (275 per quarter), accompanied by a change in the training delivery for recruits. Its focus incorporated little practical training with a move away from small classes to presentations to 190 students at one time, with minimal assessment and screening processes. The Garda Inspectorate identified that this has led to difficulties for recruits emanating from this period, recommending a specific training needs analysis for this cohort [76] (pp. 248–249).

The TFPI report identifies a degree-level foundation program introduced in AGS in 2014 and validated by Limerick University, Ireland as the current core to recruit training. It is delivered entirely within the police training college with nearly all staff being sworn police officers and initially involves 32 weeks at the Garda Training College, at which point recruits are attested. This is followed by 34 weeks of supervised on-the-job experiential learning at designated Garda stations. In the third and last phase, recruits work as probationer Garda officers with short periods spent at the training college, with the whole process lasting two years [30] (p. 70). One further voluntary option is available to those who complete this training with the same university. It is a two-year undergraduate course that is predominantly online, leading to a Bachelor of Arts in Applied Policing and Criminal Justice [78]. While the report acknowledges that the current recruit training program, which remains unchanged at the time of this paper, is further advanced than some other policing organisations, it does fall short of those of other democratic jurisdictions [30,79]. There, the process of the professionalising of policing is evidenced in a clear shift from 'training' to 'education', blended with a move from police institutional delivery to that incorporated directly within universities and Higher Education Institutions (HEIs) [30] (p. 70).

In response, Recommendation 30 of the TFPI report recommends a new learning and training strategy, which should incorporate recruitment, in-service training and CPD, supported by a ringfenced budget to deliver a developed educational and professional culture, all overseen by an expert review group inclusive of higher-level educational partners [30] (p. 70,), [80] (p. 10). The authors recommended that recruit induction must shift from 'training to education', in a move from university-validated courses delivered in house by police to 'direct involvement of [HEIs] in developing and delivering recruit training' in partnership, a reflection it observes of the professionalisation of policing internationally [30] (pp. 69, 70, 73). It was also recommended that police recruits who already hold degrees should spend less time in police training and should, rather, receive 'top-up' academic modules specific to policing, delivered directly by individual universities—a strategy that would also deliver cost savings according to the report. Universities would also be encouraged to both develop and directly deliver a policing

studies degree, that when successfully completed, would provide the swiftest route to becoming a sworn Garda. Those recruits without a degree would have the opportunity to attain a degree and become a sworn Garda, attending both the Garda Training College and universities [30] (pp. 69–73). While current recruitment is running at 800 Gardaí per year [30] (p. 67), to give additional focus to the possible future demand on HEIs, recently released figures indicate that between 2017 and August 2019, some 2090 Gardaí officers have been attested, while it is anticipated that a further 1500 will require attestation by 2021 [81], taking the force to its target figure of 15,000 officers by that date [82].

The TFPI report also advances the notion of 'in-service training' to that of in-service 'education' as a mandatory and accountable organisational requirement, designed to enable officers and employees to effectively carry out their policing roles and governed by the learning and training strategy. Differentiating from in-service training, it highlights that no overall CPD strategy existed and recommends its development, ensuring that all members have annually reviewed personal plans. To strengthen the overarching learning and training strategy, it directed a productive and robust review of partnerships with HEIs towards supporting all education and learning [80] (p. 10), [30] (p. 74,76).

Transitioning police training to higher education is a widespread phenomenon inextricably linked to reforms in the professionalisation of democratic policing [17,83–85]. Nonetheless, there is ambiguity in the relationship and the perceived benefits to policing, including that highlighted in Cox & Kirby's recent study challenging the proposition that for prospective police officers who engage in higher education broader, benefits will inevitably follow. Whilst citing Wood [86] (p. 276), who suggests that '[r]ecruits have an exposure to the external influence of an open campus . . . thereby limiting potential entrenchment of the negative culture which might be encouraged if their entire training was conducted in a closed and isolated residential college', they argue that specific policing degrees within a university setting can strengthen the relationship among the students, who are more likely to identify with a police culture and distance themselves from other students [5] (pp. 14–15). More widely, an argument exists that, as increasing numbers of officers professionalise through higher education, the police will fail to adequately reflect society [5,87].

Paterson [88] suggests three conceptual pillars from Marenin's [6] (p. 109) prerequisites for democratic policing, that of 'professionalism, legitimacy and accountability', as adapted yardsticks of the 'added value' that higher education delivers to police education and training. It is argued that such added value will only be achievable when the design and implementation of a learning strategy is supported by a robust evidential base tied to defined learning objectives [88] (p. 19). Heslop [4] cautions this hybrid police education, through the lens of Bourdieu's [1] related concepts of field, capital, habitus and symbolic violence, as evidenced in a United Kingdom (UK) study of police recruits engaged in a collaborative police and university foundation degree. He contends that universities hold the 'status' and academics the 'capital', this manifesting itself with as much 'repelling' as 'attraction' [4] (p. 9), highlighting the criticality of what he terms the development of the 'professional habitus'. He also identifies complexity within such hybrid approaches, in that student officers could find themselves in universities having had no formalised education, as entry to the police may not be based on academic qualifications [4].

Similarly, Wood & Tong report the tension that can exist between HEIs and police interests over the issue as to 'who owns' the student officers [89], and for the students themselves, an unclear identity emerges (between that of a police officer and a student), creating further conflicts of interest [5] (p. 7). In contrast, Huey's [90] systematic review (2000–2015) of in-service police training had to be halted due to inadequate numbers of peer-reviewed, published research papers on the worth of police training models on any one topic. Relative to this, Brown [91], when updating and extending Paterson's [88] narrative literature review of the value brought to policing by graduate officers as opposed to non-graduate officers including the value of specific policing or criminal justice degrees, fell short of finding conclusive evidence that higher levels of education delivered improved policing outcomes, which she viewed more as an indictment on the lack of research available [91]. All this suggests that there is unease between the police and universities as stakeholders in the education

of student police officers, with students often attaching to an ambiguous and conflicting identity (as neither student nor police officer), all set against inconclusive evidence that the higher educational habitus will typically deliver advantageous professional policing attributes.

However, if Heslop's ideal 'professional habitus' does indeed exist [4], one might look no further than the findings of Canterbury Christ Church University (CCCU) [92] in its case study of professional police education and training (PET) for a framework:

- The professionalisation of policing requires a validated, verified core of knowledge responding to changing environments.
- This core of knowledge must be derived via a 'critical friendship' with the world of academia.
- The assessment and accreditation of PET is essential, including, critically, the use of problem-solving models and a requirement to emphasise professionalism and ethics.
- The pedagogic requirements for the delivery of PET are made complex when the two worlds of higher education and police training converge.
- Finally, there is an emphasis on the development of national consistency in the linkage between police and higher education.

The CCCU case study evidences the 'impact' that these critical factors have had on communities, individuals and organisations that play crucial roles in PET, including the strategic direction of UK and European discussions around the professionalisation of policing through education and its delivery [92] (pp. 3–4). Moreover, in highlighting the 'significance' of their findings, the authors have added weight to debates in the UK, including contributing to the Independent Commission on Policing [93], concerning initial police training and education [92].

The reform and processes recommended by TFPI are now presented within a four-year implementation plan published in December 2018 and referred to as 'A Police Service for the Future' (PSF). Delivery of the plan will be governed by the newly established 'Implementation Group on Policing Reform' (IGPR), which will have two working links to the Department of the Taoiseach (Prime Minister). The first of these is to the 'High-level Steering Board on Policing Reform' (HSBPR), designed to assist with obstructions experienced in implementing the plan, and, secondly, to the newly formed 'Policing Reform Implementation Programme Office' (PRIPO). It is the responsibility of the latter to report to the HSBPR quarterly on the process of implementation and annually publish public reports on progress. Unfortunately, no annual progress report has been published, which does hamper research; however, PSF indicates that the first year is given over to the 'Building Blocks' and 'Launching' phases [94] (pp. 5–6).

2.4. Police Professionalism

Schinkle and Noordegraaf [95] (pp. 68, 71), reviewing Bourdieu's [1] (pp. 241–242) vigorous denunciation of the concept of 'profession', note that his rejection may appear startling when set against the mass of sociological literature of the early twentieth century on professions, leaving observers to question if the Bourdieusian approach to professionalism is feasible at all. However, they argue that it is conceivable to uphold Bourdieu's contention against such weight, if professionalism is viewed as a form of symbolic capital in what Bourdieu [1] (pp. 55–56) terms the 'field of power', stressing that adopting Bourdieu's approach facilitates a feasible and empirically useful conceptualisation of professionalism, as Bourdieu in his rejection of 'professionalism' facilitates an explanation of how power is established, appropriated and exploited in a manner that strengthens interpretation [95] (p. 71). While Brenhm et al. [96] describe professionalism as complex and a challenge to define, Clarke observes 'professional' as a 'slippery and overused term', contesting that there are two crucial characteristics of what it is to be a professional, firstly, that of expertise, including specialised knowledge, learning and skills, underpinned by ethical behaviours [3]. The second, critically flowing from the first, involves the esteem in which the public perceives the profession to be held, which within the context of this paper

could arguably be viewed as an essential element to those public perceptions of police legitimacy, perhaps suggesting a relationship between that legitimacy and Clarke's views on professionalism.

Studies of police officers' understanding of professionalism reveal their commitment to a high service ideal as well as temperate support to self-regulate, along with higher levels of professionalism demonstrated by entry-level officers [97]. Current literature also identifies education and training as key to police professionalisation and modernisation [98] (p. 8), [84] (p. 281), evidenced in the spread of police partnerships with academia and universities throughout the USA, Europe and the UK, developing training, education, research and knowledge transference [99]. Within Ireland, the TFPI is categorical that policing should not be seen as a job but as a profession supported by a professional culture and essential traits, including that of a cultural commitment to CPD [30] (p. 85). It identifies the greater involvement of HEIs in the education processes as a means for enhancing professionalism [30] (pp. 85–86), reflecting Neyroud's [100] recommendations on police professionalism in the UK, which focused on partnerships between the police and HEIs. While Neyroud [100] defines the police as a profession not unlike that of medicine or law, as they share sets of traits, such as a CoE, Holdaway [101] (p. 17) observes it as a benign approach to measuring a profession using a list of traits and argues that it overlooks the broader social context of the developed entitlements of the profession. In this context, claims to professionalism are neither expressed or examined nor are the meanings of these claims taken into account. Lumsden [98] also proposes that the trait-based approach to professions is discredited by Abbott's [102] broader sociological account of the systems of professions, avoiding issues raised by the traits-based approach, while assisting in understanding the complex and multiple views of the police themselves. Abbott points to the link between a profession and its work as a jurisdiction, which is contested by other occupations and professions in rivalry, raising the core question: who has 'control of what, when and how' [102] (p. 9)?

While Lumsden [98] identifies a growing body of literature on the professionalisation of policing, especially in the USA, Europe and Australia [103–105], Holdaway contends that academics tend to accept the police as a profession. He argues there is an uncritical and under-investigated acceptance by academics, who rely on an implied belief that the police 'might be and probably are a profession' [101] (pp. 1, 4–5), ignoring the broader social understandings of professions. Lumsden and Evetts [98,106] both declare that the professionalisation of the police can be a contested space, with tension being derived from top-down notions of what professionalism should be, the bottom-up thoughts and conceptualisations of the rank and file, and the external direction given by the state as to what professionalism in policing should resemble. Both Manning and Heslop take the view that police professionalism is employed by the police as a strategy to uphold their mandate and advance their authority, autonomy and self-worth [107,108] (p. 314). Thursfield [109] also links police professionalism to a need to influence society, echoing a belief that the public expect the police to act professionally [103]; therefore, in exhibiting professionalism, officers feel they can achieve recognition of their work by other professionals, the state and the public [110]. Vaidyanathan proposes that professionalisation requires a sense of belonging [111], while Lumsden [98] (p. 15) observes that the police identify themselves as professionals through perceived privilege and status linked to their recruitment, qualifications, and education, and if faced with a necessity to achieve this status within the organisation, they must show success in those areas, supported by the use of evidence-based knowledge (developed in conjunction with universities) and the exercising of new public management principles. Clarity in defining the term professional in a policing context does appear elusive, supporting Clarkes contention that 'professional' is indeed a slippery term [3].

The police can and do question the legitimacy of the organisational model and the political agenda that often underpins it, as it challenges their self-held belief as professionals. Some contest the managerial model and the external attempts to drive the new professionalisation agenda [98] (p. 17). In Ireland, this tension has most strikingly been demonstrated in recent months as 48% of the 12,000 Gardaí trained on the Code of Ethics refused to sign the code [112].

Holdaway's research suggests that police officers 'seem to assume that the police are already a profession and then go on to talk about professionalising the service' [101] (p. 3). Moreover, while some police officers may resist top-down reforms in policing, the marking of the police as professional is perceived as raising its esteem in the eyes of both the public and politicians and brings benefits for recruitment both in the terms of quality of applicants and their diversity [98] (p. 16), [113]. Lumsden observes in her research that professionalism can be viewed as a technology of control and discipline, propelling the occupational reform of police function and culture and suggesting that it is an amalgam of the following:

- The external political motivation to professionalise policing;
- Police education towards professionalism and recruitment towards diversity;
- An evidence base built from research between academia and police–academic partnerships towards the professionalisation of policing;
- The principles of new public management, including performance management and efficiencies;
- Ethics of policing [98] (pp. 10–14, 16).

It is to the last point on Lumsden's conception of professionalism, that we turn next, namely, the vital application of ethics in policing.

2.5. Police Code of Ethics

Neyroud et al. [114] (pp. 3–4), identify an array of external and internal problems as policing evolves and argue strongly for the merging of human rights with policing as a critical requirement for the continued progression and success of policing. They point to the comments of the Independent Commission on Policing for Northern Ireland [13], where they note the following:

> … a central proposition of this report that the fundamental purpose of policing should be … the protection and vindication of the human rights of all … policing means protecting human rights. [13] (p. 18)

Neyroud et al. place particular emphasises on the contention that 'ethical policing' with human rights at its core is vital to the reform process [114] (p. 4), while the earlier ICPNI report recommended a Code of Ethics as being critical to the integration of human rights into all police practice [13] (p. 20). England and Wales soon followed this lead, introducing a CoE in 2014, which is now theoretically rooted in the national decision making model, as the acid test to all police decision making [115,116], and is viewed as another step to full professional status for policing, comparable to that of medicine and law [115] (p. v). However, concerns have been raised as to whether it genuinely has become embedded across the 43 English and Welsh forces [117] (pp. 6–7). It is important to note once again the importance of conceptions of the police as a 'profession' versus their perceived need to 'professionalise'. For example, Lumsden [98] (p. 14), in her research, notes that the CoE in England and Wales may not be viewed by police officers as a means to professionalise policing, as they already view policing as a profession, citing Abbott [102], that occupations can be successful in pursuing professional standing as they are proficient in defending claims to a specialised knowledge. Lumsden also identifies a reliance on this specialised knowledge in defending professionalism, against the 'top-down' technology of professionalism [98] (p. 14).

In Ireland, the TFPI [30] (pp. xv, 12, 85) introduced an amended CoE, ensuring that Garda move from 'respecting' to 'acting' in a manner consistent with human rights, again reflecting the embedding of human rights theory into police practice, supported by a significant shift in training [114,118]. Despite the TFPI recommendation that the organisation must embrace the revised Code of Ethics [30] (p. 12), it was confirmed in 2019 that 48% of the 12,000 Gardaí who have received training on the Code of Ethics had actively failed to sign the code [112]. The Garda Representative Association (GRA) blamed the reluctance to sign on perceived training deficiencies, which they argue hinders Garda in their ability to deliver on the code, with the association quoting the following language:

> Ethics come with professionalism and as such there is an onus on An Garda Síochána as a responsible employer to provide adequate, continuous and up to date professional development, training...In the absence of organisational support to achieve professional competency, the Code places an unfair burden on the individual member. [119]

The Garda Commissioner has now refused to promote Gardaí who have failed to sign the Code of Ethics [120], raising questions around the culture within AGS to the point where AGS Policing Authority are considering an inquiry [121]—all evidence which may suggest that an existing occupational culture is a key barrier to reform.

2.6. Police Occupational Culture

> Cultures are the complex ensembles of values, attitudes, symbols, rules, recipes, and practices, emerging as people react to the exigencies and situations they confront, interpreted through the cognitive frames and orientations they carry with them from prior experiences. [8] (p 116)

While Bowden [21] (p. 3) refers to Reiner's [8] definition of a 'cop culture', he expands further, citing policing literature illustrating the affinity of the police to involve in 'group think' [21] (p. 3), which he defines as a distinctive occupational police culture, which is designed to shield the organisation from perceived external threats, such as examination by distrusting citizens, which, in turn, causes them to become ever more resistant to public scrutiny. The history of AGS, he concludes, reflects the extent to which it has been shaped by its own culture [21]. Charman and Corcoran observe that this culture is not something that AGS 'has', but, rather, it characterises informally what the organisation 'is', contesting that the reform of Irish policing is challenged by this culture and that it is simply not the straightforward implementation of improvements to policing [25] (p. 489). Connolly also contends that AGS was occupied by a 'cop culture', suspicious of outsiders and fused internally when facing external challenges, which was obstructive in the investigation of wrongdoing [72] and a barrier to accountability [6]. The independent 2018 report 'Play Your Part, Cultural Audit of AGS' delivered similar findings as the Commission itself principally identified an organisation distant from §being a professional service [30] (pp. 83, 84) [122].

Gundhus [104] contends that new regimes often face resistance, not just from the stubbornness of police culture, but also from the perceived threat to existing professional systems. In reality, police culture does not conform to homogenous depictions [123,124], varying within and between forces, including the social and political context in which they operate [125,126]. Police training institutions are fundamental to the socialisation of officers; therefore, a key lever to transforming police culture is to reform the culture of such institutions [53] (p. 23), [5] (p. 3). Goffman [127] observes the re-socialisation of police recruits, contending that it occurs in 'total institutions', described as places where individuals' physical and social freedoms are restricted. It is defined as a two-step process: first, the 'mortification of self', during which in individual attitudes, views and behaviours are stripped away, and second, a 're-socialisation', during which new values and beliefs are provided [127]. This mirrors the recruitment and initial training process of police training facilities, reflecting 'total institutions', where new officers interact with more experienced officers, reinforcing a new set of values, which brings them into line with the ethos and cultures of the institution [128] and which is reflected in the following words of Conlon:

> The day the new recruit walks through the door of the police academy, he leaves society to enter a profession that does more than give him a job, it defines who he is. [129] (p. 9)

The TFPI report identifies a similar 'closed culture' of separation from those outside the force, which has its geneses within recruitment training in AGS [130], the majority of which is delivered by other sworn officers. It recommends that further curriculum development and immersed delivery with HEIs will create an open and professional police culture [30] (p. 70). Specifically, when exploring

the prospects for cultural transformation within AGS, Mulcahy attaches importance to police training content in challenging the inappropriate loyalty of AGS officers both to themselves and the organisation over that of their responsibility to citizens [24] (p. 5).

3. Discussion and Conclusions

While AGS has traditionally enjoyed the widespread support of communities over the last decade, the research would suggest that its public legitimacy has actually been in contest, given the various policing controversies that have only served to undermine both public confidence and the legitimacy of policing [21,24,72]. This contested legitimacy was compounded internally and externally by changing perspectives in the delivery of 21st-century democratic policing [30] (p. 102), [24]. In this context, the CFPI are firmly focused on the development and delivery of education for AGS, central being the learning and training strategy; however, it is beset with challenges, including those emanating from the culture of policing, the varied characteristics of police recruits and even cultural and political factors from within HEIs [4]. Cox & Kerby reinforce this view, observing that the culture of policing is so intense that it can have a negative effect on reform, service delivery and police education. To counteract this within higher education programs, they see the need to strengthen student resistance to police culture both in the pre-recruitment stage and throughout a policing career [5]. They also argued that further consideration should be given to the minority of individual student officers within their research who contested and resisted the negative attitudes of police culture [5] (pp. 12–13). The strength and benefits of such an educational strategy, while not being totally discounted, must be placed in the context of inconclusive research outcomes from the recent studies of Brown [91], in relation to the value of graduate officers and the 15 year systematic review by Huey of police training, which failed to reach a conclusion due to inadequate research in any one area [90]. These findings point more towards an inadequacy of the research and critical examination, as opposed to the value of higher education [5] (pp. 2, 12).

It is important to give recognition to a significant driver for such an educational strategy—that of professionalism. Neyroud [100] sees education and, specifically, the forming of partnerships with HEIs as key to the development of professional policing. Therefore, it is telling that evidence of these intended HEI partnerships can be observed across AGS reforms. In terms of the UK experience, Brown's [91] (pp. 9–11) aforementioned highlighting of a lack of available empirical evidence ensures that we cannot draw a definitive conclusion as to the value of HEI partnerships to UK policing. However, the opportunity for conducting empirical research in the unfolding police educational reforms in the ROI certainly has the potential to deliver valuable evidence for England and Wales in their own progression towards 2020, when all new officers will have to be educated to the degree level [131–133], and for the subject of police education more broadly, as it develops importance for police organisations across the world [5].

According to Cox & Kerby [5] (p. 3), citing Worden and Butler & Cochrane [134,135], police officers are said to be sceptical, authoritarian, hardened, conservative, loyal, secretive, suspicious and isolated, presenting unethical behaviours, eroding citizens' confidence in policing and acting as a barrier to organisational reform [136]. In this context, the cultural audit of AGS delivered some not unexpected results [122] and is supported by the 2019 Monitoring Report of the Policing Authority, which found little evidence of a positive cultural change in AGS [137] (p. 8). The AGS cultural audit, in quoting Peter Drucker that 'culture eats strategy for breakfast' [122] (p. 50), raises concerns about the implementation of the key AGS learning and training strategy and shares the doubts previously raised by Cox & Kerby as to whether higher education has the capabilities to dilute police culture [5] (p. 4). If cultural positives exist, then it may be in the contention of Charman and Corocoran [25], who observed within their research that the influence of the occupational culture of AGS on individual officers responding to reform presented as much less insidious, harmful and compelling than might have been typically suggested in studies of police culture. They argue that the Gardaí should not be seen as 'cultural dopes' [138] (p. 500) but, rather, as a group who displays an ability to select what is best

from a 'cultural tool kit' [138] (p. 500), concluding that their research moves the debate beyond that offered by Manning—that AGS is 'an organisation very resilient and resistant to change' [18] (p. 347). However, further cautionary tones are raised by Conway, who identifies that little empirical research has been carried out on the police culture of AGS, although that which has been done indicates that it is 'at play'. She calls for further research and confrontation of the internal culture of AGS supported by strong leadership [34]. While the potential threat presented by police culture is clearly recognised, it does emphasise the need both in AGS and other policing jurisdictions for the requirement of any police educational strategy to be strong in design and flexibility to respond to the influence of police culture.

While AGS is focused on the role of Gardá being seen as a profession and not a 'job', Clarke's model in adaption and suggestion potentially presents an analytical lens with which to examine professional learning for the police, sensing its relationship to the perceived public legitimacy of policing while critically not ignoring the wider social context of the police professional, which both Lumsden and Holdaway identify as enriching that understanding [98] (p. 5), [101] (pp. 4, 5, 17, 27). As the TFPI reaffirms, 'From the time of recruitment, police education should not only teach the duties and responsibilities of police officers . . . It should also instil in members of the police service the cultural values we expect to see in our police—high ethical and professional standards' [30] (p. 69). However, it is impossible to ignore the evidence that police occupational culture presents a significant impediment to such reform; however, as Paoline et al. [54] suggests, concentrating efforts around enabling officers to engage positively in community policing may hold more potential in reform as opposed to changing the attitudes of officers. They envisage a developed police environment including supervision, training in key skills and staff appraisals as a means for supporting and not inhibiting community policing. It is suggested that the successful incorporation of a 'policing with the community model' and ethos within an educational and professional framework would be the most effective means for resisting an erosive occupational culture and ultimately supporting improved police legitimacy. While as yet not tested in this context, Clarke's model is potentially structured and flexible enough to provide future analysis on a synthesis of such a process and the other variables highlighted within this paper.

What clearly presents itself from the research is the most far-reaching policing reform to take place in Irish history and the first democracy of the 20th century. Its overarching objective is to professionalise AGS, thereby improving and maintaining its failing legitimacy, which historically has been fraught and offset by the reoccurrence of scandals and corruption. It has been argued that the police culture of the Garda coupled with their close alliance to the state have left them impervious to previous reforms. Mulcahy has also argued that the institutions established in earlier reforms to monitor and provide oversight to policing, such as the GSOC, were weakly equipped for their purpose from the onset due to a lack of political will [24]. Despite the attempts of these earlier reforms to militate against police malpractice, further scandals did reoccur, leading to both policing and political crises. However, the TFPI and its processes of implementation have deliberately integrated the Department of the Taoiseach into the process, securing political tethering to the reform implementation and AGS. It is around this model of political binding of AGS, the implementation of the reform process and the politicians themselves where further research may reveal its effectiveness or otherwise and allow reflection more broadly on such processes for democratic police reform.

One of the principle reforming strategies set out to achieve the 'professionalisation' of AGS is the 'education' as opposed to 'training' of Garda officers both at the time of recruitment and through CPD as they progress in their careers. The TFPI has recommended a full and strategic working partnership with HEIs in the design, input and delivery of education recruits and Garda officers. However, evidence posed on the education of police students in HEIs has been revealed as inconclusive, presenting opposing arguments regarding the experience and its value to the policing student, with one contention being that it can resist the pervasive and negative nature of police culture, while in contrast others

have argued that universities, in fact, can isolate police recruits further, strengthening and accelerating the establishment of police culture. However, consider Heslop's argument as follows:

> [T]hat professionalisation is not just about police officers having letters after their names, but much more critically it is about the need for the development of what might be termed 'professional habitus'. If universities are to be involved in education of police recruits, then this is also one of their most important roles. [4] (p. 12)

It would appear that the university will continue to be a vital cog in any such process with Heslop [4] prefacing his argument with the acknowledgement that he himself initially would have had little hesitation in agreeing with Lee and Punch on the importance of university education:

> Policing needs to be continually enriched with critical, enquiring and challenging minds. Uniformity and conformity lead to stereotypical thought and conduct that undermines this. A sound university education still provides the best basis for this thought. [139] (p. 248)

However, in summary, he not only identifies a policing culture but also that of a separate and distinct culture held by universities and contends that *'some'* academics are a part of that culture, and as such, it is not always positive. He explains that his research moved to employing a Bourdieusian lens to examine his results using the related concepts of field, capital, habitus and symbolic violence, which he argued provided an *'explanation in broader and relational terms'* [4] (p. 12). It could therefore be debated that adopting this Bourdieusian platform could be a critical element to researching the successful design of a university program more suitable for police recruits. Secondly, researching and developing such a program with elements of the additional thinking, arguments and findings identified, could provide a refined focus of thinking towards designing a more suitable *'professional habitus'*.

Some of the issues described above can be viewed in the work of Cox & Kirby [5], who engaged with 84 students on a two-year foundation degree in policing (FDP), available to police students only in a UK University, which itself delivers a range of criminal justice-related degrees to a total of 383 students. Their main findings included the following:

- The 84 police students were identified as being different and behaving differently to the other students, moving to social isolation and loyalty to their own cohort.
- The decision to enrol in an FDP programme clearly altered the way in which they viewed their own identity and the manner in which they behaved.
- The emergence of a confusing self-identity was found—neither student nor police officer—generating conflicts of interest and leading them to distance themselves from sensitive or problematic situations or lifestyles.
- They increasingly viewed themselves as police officers and socialised more with their own cohort, withdrawing from other student associations.
- Lecturers on the FDP were either police officers or ex-police officers with academic experience. Students disclosed that they were clearly influenced by these lecturers, with credibility stemming not from academic achievement but more from their stories and experiences as police officers. Critically, Cox & Kirby raise the question, can this be combatted by using 'pure academics' devoid of police experience?
- The students felt they spent more time at lectures and studying than other students.
- Their lecturers differentiated from their operational police trainers, who were more assertive and cut corners.
- As the course progressed, students displayed a changing attitude towards certain sections of the public, developing a 'them and us' attitude.
- Changing attitudes developed on human rights and diversity, with many observing that the police as an organisation was too politically correct.

- Students themselves began to recognise that a policing culture existed and varied between police teams and areas, and for some, this was a barrier to their own acceptance.
- Recognition by police students that policing was a lifestyle choice presented moral and ethical choices, forcing them to isolate themselves from other university students.

While Cox & Kirby acknowledge that immersion in university education does arguably deliver benefits to police students that could serve them well as they go on to engage with communities, building policing legitimacy, their study did highlight the shifting manner in which the university experience caused them to view themselves and how others perceived them.

They argue that it is simply not a question of moving police education from police training institutions to a university campus to change policing culture. The broader thinking, therefore, could be an acceptance that police culture exists in either habitus; nevertheless, universities potentially should present more convincing outcomes. It is therefore vital to design university programmes that recognise both the police and university cultures but in an innovative and creative manner that can compensate for such impediments and best conceive that 'professional habitus'. Paterson's argument that the value of higher education for the police rests within the design and implementation of an evidenced-based learning strategy that meets clearly defined goals [88] (p. 19) adds further support to the contention that if higher education programmes are to pursue this 'professional habitus', they should be evidence-based and subject to rigorous academic research.

As described earlier in this paper, further work should also be undertaken to consider how higher education can be extended further to fill shortfalls in the current level of training for serving officers. In addition to the 700 sworn AGS detectives who were assessed as being critically undertrained [32,43], recent evidence obtained by the Garda Professional Standards Unit (GPSU) in 2018 established that, although 81% of Gardá interviewed were involved in the taking of DNA samples, only 55% had received some form of training on the taking, submission and retention of samples [140]. It was also reported critically that some of the training was received via a 'how-to' video via a Garda portal, while representatives from the GRA states that it is only recruit officers from 2015 onwards that have been adequately trained [141,142], stating the following:

> We are screaming for this training for years. The Garda Representative Association puts high importance on training, it should not be a luxury, the report that has come out in relation to Garda training for DNA testing is not a surprise. [141]

Such findings are likely to be evident across other important areas of policing practice, pointing to a potentially strong need for additional training of Garda. Certainly, the range of potential measures discussed in this paper serves to highlight an opportunity to further develop these officers through the delivery of specialised modules within a university setting, supporting that movement of ethos from 'training to education' and 'job to profession'.

Finally, there is a clear need for empirical research on the reform process detailed in this paper, and perhaps, this is one good reason why police education needs to take place within a university context, (assuming of course that this is the best arena in which to facilitate evidence-based learning). Moreover, perhaps the police, including AGS, as in other professions, should be trained as researchers and research their own profession. Within a RoI context, this could be conceptualised in an independent National Police Research Institute, which could blend together experienced police and academics (both local and international) in a clearly defined role. Their aim would be to research what is best for the education and development of the police professional at this critical time of live and significant police reform in a democratic society. In providing research, guidance and support locally to both universities and AGS, it would have the opportunity to add significantly to the important knowledge base on the education and professionalisation of the police.

Overall, the recent unfolding of the reform of AGS in Ireland presents an opportunity to research and examine the transformational process further to improve practice and promote learning going forward.

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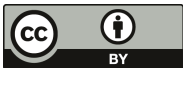

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Article

Focusing on the Place Model for Optometrists

Julie F McClelland * and Karen Breslin

Optometry and Vision Sciences Research Group, School of Biomedical Sciences, Ulster University, Coleraine BT52 1SA, Northern Ireland, UK

* Correspondence: jf.mcclelland@ulster.ac.uk

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Abstract: Background: The Place Model was developed in order to conceptualize the various roles and career pathways of the teaching profession. It can be used to evaluate long-term professional career trajectories and to encourage the student-teacher to visualize their future personal and professional development. Methods: In the present study, the Place Model has been applied to the Optometric profession. The four categories of the place model have been discussed in terms of Optometry and a survey of undergraduate Optometrists highlights the perception of the model amongst pre-qualified professionals. Results: The majority of participants placed qualified optometrists in the Professional area on the Place Model (87%, n = 88) with the remainder placing qualified optometrists in the De-Professional area on the Place Model (13%, n = 13). There was no statistically significant difference between responses from male and female participants (t-test, p = 0.38). There was also no statistically significant difference between responses from participants in year 1, 2 or 3 of their undergraduate program (one-way analysis of variance [ANOVA], p = 0.10). Conclusion: The Place Model may be an opportunity to discuss with Optometry students their future career pathways and to ensure that we maintain a highly skilled and caring profession that provides high quality eyecare for the public.

Keywords: Optometry; Place Model; professional; education

1. Introduction

The Place Model was developed in order to conceptualize the various roles and career pathways in the teaching profession [1]. It can be used to demonstrate how the user can consider long-term professional career trajectories and to encourage the student-teacher to visualize their future personal and professional development. It classifies the place of teachers in respect of (place as) esteem and (place on a) learning journey.

In the present study, the Place Model has been applied to the Optometric profession. The five categories of the place model will be discussed in terms of Optometry and a survey of undergraduate Optometrists highlights the perception of the model amongst pre-qualified professionals.

1.1. Proto-Professional

The prefix 'proto' derived from the Greek word 'protos' meaning first, suggests that this may be applied to professionals in the early part of their career journey. Considering the application of this term to the Optometrist, it may be considered that pre-registration and newly qualified Optometrists are considered proto-professionals.

In the UK, pre-registration Optometrists are those who have completed an undergraduate Optometry qualification at the honors degree level and are working in a practice or hospital under the supervision of a qualified Optometrist during their 'Scheme for Registration', administered by The College of Optometrists. They are required to complete a period in practice, examining and dispensing a specified number of patients during this period. Following this time, which is typically a one-year period, they are required to undertake a series of assessments, or Objective Structured

Clinical Examinations (OSCEs). These OSCEs represent Stage 2 of the qualification, with Stage 1 being the completion of the degree level qualification. In addition to the Stage 1 and 2 qualifications, Optometrists are also required to achieve clinical competency in a number of areas at both these time points and in addition, have observed assessments during the course of the pre-registration period.

Pre-registration Optometrists work full-time while studying for their final professional qualifications. There are limited data describing the perceptions of pre-registration Optometrists, however, Parkins, et al. [2] suggested that newly qualified Optometrists are more likely to generate a higher number of referrals to the Hospital Eye Service than more experienced practitioners. This study revealed that two newly qualified Optometrists generated 12.5% of the total number of referrals in the audit. The study suggested that pre-registration Optometrists referred more appropriately than newly qualified Optometrists, but this is perhaps due to the fact that pre-registration Optometrists are supervised closely and any referrals will be signed off by the supervisor.

The General Optical Council (GOC), the regulatory body for Optometrists, published a discussion paper on 'Professional boundaries and service needs in eye health services' and recognized that there may be specific areas of training required for newly qualified Optometrists to ensure 'registrants are equipped to practice safely across the UK in accordance with professional standards' [3].

Howell-Duffy, et al. [4] also agreed that experience influences management and prescribing decisions made by Optometrists. Newly qualified Optometrists were more likely to prescribe full spectacle corrections while older and more experienced optometrists more likely to 'prescribe a partial correction'. This was three times more likely for Optometrists with a career of at least 40 years. Reasons for this included more experience with patient's intolerance to spectacle prescriptions.

Often, Optometrist's duties may be delegated to other optical staff including dispensing opticians and optical assistants. Dispensing opticians are a separate professional group, educated to either diploma or degree level who work with Optometrists to ensure that patients have an appropriate choice of spectacle frame and lenses. These delegated duties may include dispensing and pre-screening which involves obtaining measurements prior to the actual eye examination to inform the Optometrists' clinical management decisions (e.g., measurements of intraocular pressure or visual field assessments). Post eye examination screening may also take place following recommendations for further tests by the Optometrist (e.g., measurements of retinal thickness during optical coherence tomography). These roles may be considered proto-professional in the context of the Optometry practice. Delegation of duties is often viewed as a minefield and leaves the Optometrist exposed to legal ramifications. Delegation is discussed in detail as part of the Professional Guidance from The College of Optometrists [5]. The guidance states that when you delegate duties you are still responsible for the overall management of the patient and the work of the person to whom you have delegated. Recently, Optometrist Honey Rose was convicted of manslaughter after a missed diagnosis of papilledema, or optic disc swelling in an eight-year-old boy who later died [6]. Although the photographs of the child's optic discs were available at the trial there was a query regarding whether the Optometrist had actually seen these on the day the patient attended. This highlights how the delegation of roles can put both the patients and the professionals at risk of adverse outcomes. This conviction has since been overturned, however, the case has prompted Optometrists to seek additional training and advice from professional bodies regarding this medical condition.

1.2. No Optometrists

Whilst strictly outside the Place Model, millions of people across the world have limited access to eye care. Globally, 36 million people are blind with over 200 million having a moderate or severe visual impairment, however, more than 75% of all vision loss is avoidable [7]. In 2012, the World Health Organisation stated that governments could add millions of dollars to the global economy by investing in eye examinations and the provision of glasses for 700 million people worldwide [7]. The study estimated that 65,000 more Optometrists, Ophthalmologists, Optical Dispensers and other eye care professionals would be required to provide these services and that a cost of approximately

25,000 million to set up and run would be returned 10 fold by providing much needed eye care services. Investing in eye care demonstrated a 22% productivity increase amongst tea plantation workers in India during a one-month period [8]. Investing in education for eye care has vast economic and health benefits for the community.

1.3. The De-Professionalised

According to the Place Model, the de-professional includes practitioners who have significant experience in their profession but have become demotivated and disengaged with their professional values and skills over time. The members of this quadrant may previously have been highly motivated and enthusiastic professionals but have been affected by their experiences in the workplace, which have left them cynical and uninspired by their role. The role of Optometrists has changed gradually over the previous generation with newer practitioners being more likely to work in large practices with multiple Optometrists rather than smaller community practices. In addition, the increase in the use of technology has been rapid over the previous 20 years with many practices now owing optical imaging technology, automated refractive technology and computerized patient record systems. Some practitioners may be unable or unwilling to invest in the technology which they may feel is unnecessary or prohibitively expensive which may perhaps present an image of not being up-to-date with modern practice.

Fortunately, Optometrists in the UK are required to enroll on a continual scheme of education and training which ensures that they engage with peers and Optometric educators on a regular basis. The scheme, administered by the regulatory body, the General Optical Council ensures that Optometrists must gain new or updated knowledge and skills across a broad range of different clinical areas. In addition to gaining a specific number of 'CET (continuing education and training) points' over a three year period, registrants are required to gain a certain number of points per year, some of which must be 'interactive'. The interactive nature of this engagement ensures that practitioners have some level of engagement with others during the course of their work, preventing those practitioners working in more remote locations or in small practices from becoming isolated from any important developments in the field.

1.4. Precarious Professionals

The Place Model describes precarious professionals as those who may have low status and have not maintained professional development beyond their initial qualification. It also may include both transients and also unprofessionals.

This status may be due to many contributing factors, such as the inability to secure a permanent position, an unsupportive or inefficient workplace or a lack of enthusiasm for the profession. The precarious professional may also represent over-confident professionals who place their own professional judgements above guidelines and regulations. The Precarious Professional is at risk of being investigated for Fitness to Practice issues.

In the UK, the General Optical Council is the professional regulator for Optometrists, Dispensing Opticians and optical businesses [3]. One of the four key functions of the GOC is 'investigating and acting where registrants' fitness to practice, train or carry on business is impaired'. Fitness to practice complaints about GOC registrants can be received from members of the public, patients, carers, employers, the police and other GOC registrants. Fitness to practice issues may relate to one or more of the following factors:

- Poor professional performance;
- Physical or mental health problems affecting their work;
- Inappropriate behaviour;
- Being under the influence of alcohol or drugs at work;
- Fraud or dishonesty;
- A criminal conviction or caution;

- A finding by another regulatory body.

The precarious professional may find themselves the subject of a Fitness to Practice investigation if they do not maintain an adequate level of knowledge and skills.

1.5. Professionals

This area of the model outlines the 'Ideal Optometrist'. In June 2015, the General Optical Council prepared a report on the public's perception of the optical profession, based on a survey of 2250 adults from across the UK. The sample was designed to reflect a cross-section of the population across various ages and socio-economic grades. Findings suggested that overall confidence in and satisfaction with opticians (both Optometrists and Dispensing Opticians) is high.

In 2018, Irving, et al. [9] suggested that patient's knowledge of eye care had notable gaps with the potential for these gaps to increase risk of vision loss due to late detection of ocular conditions. In recent years, Optometrists have been able to access further additional professional qualifications. In 2007, the Department of Health (UK) granted permission for Optometrists to train as Independent Prescribers. This qualification allows Optometrists to manage a wider range of patients than with the entry-level qualification providing patients with more accessible eye care. In addition to independent prescribing, in the past decade, a range of Professional Certificates have been launched, allowing Optometrists to upskill in a number of areas including glaucoma management, pediatric eye care and low vision. The number of Optometrists currently undertaking these qualifications is increasing and in recent years, employment vacancies have been advertised specifically requiring these additional qualifications as part of the 'essential criteria'.

These additional qualifications allow Optometrists to maintain and update their skills and knowledge in alignment with emerging evidence, allowing for career progression. In the past two decades, there has been a shift towards the majority of Optometrists working for large multiple franchises rather than independent practices. These additional qualifications allow Optometrists to enhance their employability and transferability.

Across the globe, the term 'Optometrist' does not refer to a consistent standard for the profession. In many countries, including the United States and Canada, newly qualified Optometrists hold an OD (Doctorate of Optometry) and have a wider scope of practice than in the UK, offering a greater range of therapeutic services to patients and are regarded as highly qualified professionals.

In other countries in Europe, Optometrists have a more limited role, closer aligned with Dispensing Opticians where medical eye related issues are always referred to a hospital Ophthalmologist.

It may be argued that the drive towards higher qualifications is partly motivated by the increasingly litigious nature of health care or the age of self-diagnosis via the internet. Where patients are considered as consumers, Optometrists may feel obliged to maintain their knowledge and skills to a higher level and therefore undertake courses to protect themselves.

However, whatever the motivation, there does seem to be an appetite for further qualifications in Optometry and this increased level of skills and knowledge will benefit both patients and practitioners [10].

1.6. Undergraduate Optometry Students' Perspective of the Place Model

Due to the limited published data on professional perspectives in Optometry, we conducted a scoping exercise to determine how the Place Model may be applied to the profession.

2. Materials and Methods

The Place Model [1] Survey was originally designed to determine the views of teachers and teacher educators of the Place Model and Freidson's three logics [11]. For the purposes of this study, the Place Model Survey has been adapted to determine the views of undergraduate Optometry students (Appendix A).

Data collection took place during the 2018–2019 academic year and the study was approved by Research Governance at Ulster University which adheres to the tenets of the Declaration of Helsinki.

Participants were undergraduate Optometry students at Ulster University and prior to participation, were provided with an information sheet outlining the study. All undergraduate Optometry students were invited to participate in the study. Consent was assumed when the subject choose to complete the survey as indicated on the survey itself (Appendix A).

Participants were provided with an oral description of the Place Model and were then asked to complete the survey. This comprised; initial demographic questions, Place Model questions where the subject was asked to locate themselves (with an X mark) and their perception of the status and professional learning journey which is typical of optometrists within their own (United Kingdom based) education system (with a 0 mark). In addition, they were asked for a written explanation of these two locations [11].

Following survey completion, statistical analyses were performed using IBM Statistical Package for the Social Sciences (SPSS) (version 25).

3. Results

From the undergraduate Optometry population at Ulster University, 33 year one students, 34 year two students and 34 year three students took part in the study (n = 101). Reflective of the current undergraduate population, the majority of participants were female (74%, n = 75).

The Place Model

All subjects placed themselves in the Proto-professional area on the Place Model. Examples of written feedback are described in Table 1.

Table 1. Written feedback on personal Optometry undergraduate placement within the Place Model.

"I don't know enough yet to be anywhere else."
"Have only begun learning about Optometry."
"At the beginning of my career."
"Don't have enough experience."
"Don't know everything yet."
"Need to see lots more patients."
"I have a lot more to learn!"

The majority of participants placed qualified optometrists in the Professional area on the Place Model (87%, n = 88) with the remainder placing qualified optometrists in the De-Professional area on the Place Model (13%, n = 13). There was no statistically significant difference between responses from male and female participants (t-test, p = 0.38). There was also no statistically significant difference between responses from subjects in year 1, 2 or 3 of their undergraduate program (one way ANOVA, p = 0.10). Examples of written feedback from subjects who placed qualified optometrists in the De-Professional area on the Place Model are described in Table 2. There were no comments relating to 'precarious professionals' or 'no professionals'.

Table 2. Qualitative feedback on Optometry undergraduate placement of qualified optometrists within the Place Model.

"I know lots of optometrists who are fed up with their job and not just old people."
"I think Honey Rose is making optometrists scared."
"there are optometrists I know that have left their job and are very stressed."
"I know an optometrist who gave up their work after 15 years because they didn't enjoy their job anymore."
"Stress"
"A practitioner in the practice where I work says the job is very boring and he's only been qualified for about 10 years."
"A qualified optometrist I know says he has no motivation."

4. Discussion

Reassuringly, undergraduate optometry students unequivocally view themselves as proto-professionals. They clearly identity as professionals at the beginning of a learning career in healthcare practice.

Undergraduate Optometry students largely view qualified optometrists within the 'Professional' category of the Place Model which would suggest that they, as individuals, aspire to the role of the 'Ideal Optometrist'. However, somewhat worryingly, there seems to be some evidence to suggest that there is a small number of qualified practitioners in existence who have become disillusioned with their profession. Whilst this evidence from undergraduate students is subjective and anecdotal in nature it does back up evidence from the Association of Optometrists' Optometric Workforce survey that there is a growing shift towards de-professionalization. More work needs to be done in order to explore this further, and the Place Model may be a useful tool in order to facilitate this.

The Association of Optometrists published a report on 'recruitment, retention and career aspirations of the optometric workforce' in 2018 [12]. The main findings from the report suggest that the direction of the profession is changing to a more female dominated profession with a high proportion of locums with flexible work patterns. The report also suggested that Optometrists feel that, the profession is feeling devalued with other health professions and the general public not being aware of the Optometrists' scope of practice. They reported that Optometrists feel under pressure to sell spectacles with the situation being exacerbated by the low NHS fee for sight tests. In contrast, a workforce survey by The College of Optometrists revealed that the majority of respondents (80%) rated their job satisfaction as either 5, 6, or 7 on a 1–7 scale (with 7 being the highest level of satisfaction) [13]. The findings of the survey suggested that clinical appraisals are key to maintaining and developing clinical practice [13]. This may be difficult to implement in smaller or independent practices, and particularly with part-time or locum Optometrists. This highlights the importance of continuing professional development (CPD) in order to maintain a secure professional position in terms of the Place Model. The General Optical Council (GOC), the regulatory body for the optical profession, launched the Education Strategic Review (ESR), a consultation on optometric education standards and learning outcomes in 2017. The review's primary objectives are that the regulator is able to clearly identify the major risks within the sector; there is clarification of the role of the optometric professional and there is a clear understanding of how healthcare is delivered across all UK regions [14]. This consultation-led review received 539 responses from individual registrants (Optometrists and Dispensing Opticians), universities, professional bodies and other relevant stakeholders [14]. Following on from the consultation exercise, the GOC described five key steers all of which point towards the 'Ideal Optometrist' most notably the fourth steer of 'increasing emphasis on professionalism'.

5. Conclusions

In summary, it is important that undergraduate educators ensure that Optometrists in training are fully aware of the issues relating to current practice and that they carefully consider the direction of their career progression. The Place Model may be an opportunity to discuss with Optometry students these issues and highlight the choices that are available on graduation to ensure that we maintain highly skilled and caring professionals that provides high quality eyecare for the public.

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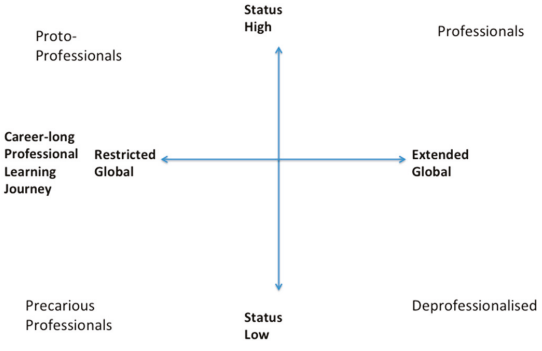
Appendix A

The Place Model: Survey

I would like to ascertain your views in relation to the Place Model. They will be anonymous and will be treated in confidence. Completion of this survey is voluntary and implies consent (please see Information Sheet provided).

1. As an optometry student, please indicate how long you have been a student: _____years.
2. Your gender_____
3. On the Place Model diagram below:

(a) Please use an X to indicate where you perceive that you fit on the Place Model.
(b) Please use a 0 to indicate where you consider that optometrists are generally perceived to be placed on the Model (by the public) within the United Kingdom.



(c) Please explain briefly where you have placed yourself (X).

_____
_____
_____

(d) Please explain briefly where you have placed optometrists in your UK (0).

_____
_____
_____

(e) Please use the space below to describe an optometrist who you consider might clearly exemplify any of the areas of the model—please indicate which area (professional, precarious professional proto-professional or deprofessionalized.

_____
_____
_____

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Article

Role and Scope Coverage of Speech-Related Professionals Linked to Neuro-Advancements within the Academic Literature and Canadian Newspapers

Valentina Villamil and Gregor Wolbring *

Community Rehabilitation and Disability Studies, Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, AB T2N4N1, Canada; valentina.villami1@ucalgary.ca

* Correspondence: gwolbrin@ucalgary.ca

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Abstract: Speech-related professionals such as speech language pathologists (SLPs) and audiologists make use of neuro-advancements including neurotechnologies such as cochlear implants (CIs), brain-computer interfaces, and deep brain stimulation. Speech-related professionals could occupy many roles in relation to their interaction with neuro-advancements reflecting the roles expected of them by their professional organizations. These roles include: service provider, promoter of neuro-products such as CIs, educator of others, neuro-related knowledge producer and researcher, advocates for their fields and their clients in relation to neuro-advancements, and influencers of neuro-policy, neuroethics and neuro-governance discussions. Lifelong learning, also known as professional development, is used as a mechanism to keep professionals up to date on knowledge needed to perform their work and could be used to support the fulfillment of all the roles in relation to neuro-advancements. Using 300 English language Canadian newspapers and academic articles from SCOPUS and the 70 databases of EBSCO-Host as sources, we found that the neuro-advancement content linked to speech-related professionals centered around CIs and brain computer interfaces, with other neuro-technologies being mentioned much less. Speech-related professionals were mostly mentioned in roles linked to clinical service provision, but rarely to not at all in other roles such as advocate, researcher or influencer of neuroethics and neuro-governance discussions. Furthermore, lifelong learning was not engaged with as a topic. The findings suggest that the mentioning of and engagement with roles of speech-related professionals linked to neuro-advancements falls short given the expectations of roles of speech-related professionals for example. We submit that these findings have implications for the education of speech-related professionals, how others perceive the role and identity of speech-related professionals, and how speech-related professionals perceive their own role.

Keywords: speech-language pathologist; audiologist; speech therapist; speech language therapist; neuro-advancements; lifelong learning; stakeholder; ethics; governance

1. Introduction

Knowledge around neuroscience is advancing, as is the development of neurotechnologies [1–3] (the term neuro-advancement will be used for both areas from now on). Neuro-ethics emerged as a field to discuss the social, legal, and ethical issues that arise with neuro-advancements [4]. Neuro-governance is another discourse focusing on how to best advance neuro-related products and processes [5]. Stakeholder involvement is identified within neuroethics and neurotechnology governance discussions as an essential aspect of dealing with neuro-advancements [4–6]. Given that speech-related professionals such as speech-language pathologists (SLPs) and audiologists are exposed

through their work to various neuro-advancements, they have a stake in neuro-advancements, including the ethics and governance discussions focusing on neuro-advancements. Newspapers are one source of information for the public communicating knowledge, including on topics of scientific and technological advancements [7–9], in ways that influences readers [10,11]. As such, it was investigated how the neuro-advancement linked content in Canadian newspapers engaged with speech-related professions and the roles of speech-related professionals. Academic data influences policy decision and the academic neuro-governance and neuroethics literature asks for stakeholder engagement. As speech-related professionals are stakeholders, it was also investigated how the academic literature engaged with the role of speech-related professionals in relation to neuro-advancements.

1.1. Role of SLPs and Audiologists

SLPs are trained professionals who focus on the treatment and assessment of communication and swallowing disorders [12]. Audiologists specialize in the prevention and identification of hearing and balance disorders [12]. According to the organization Speech-Language & Audiology Canada (SAC), the role of these practitioners is very similar, and the scope of practice can be subdivided into three categories: (1) clinical services, (2) advocacy and promotion and (3) education and research [13]. Clinical services include (a) screening of hearing, communication, and swallowing, (b) intervention for communication and swallowing disorders including treatment, rehabilitation, and management, and (c) consultation with other professionals. According to SAC, under the advocacy and promotion sub-category, SLPs are expected to be "advocates on behalf of individuals with communication and swallowing disorders that are at risk" [13]. Audiologists have a similar scope of practice, with an emphasis on the assessment, rehabilitation, treatment, and consultation of individuals, as well as advocacy of those with a hearing disorder [14]. Advocacy is linked to the belief that communication is a human right [15] and can be used to influence organizations such as the World Health Organization, the United Nations and World Bank [15]. At the same time, it is stated that more is needed from SLPs to fulfill the human rights language they use [16]. No studies exist that looked at role narratives of speech-related professionals within content in academic literature and media that deals with neuro-advancements.

1.2. Neuro-Advancements and Neuroethics

Neuroethics was coined as a term and developed as a field to investigate various ethical, social and legal issues raised by the advancement of the neuro-field including the areas of neuroscience, neuro-technologies and neuro-engineering [17–23], as well as individual neuro-applications such as brain-computer interfaces [24,25], cochlear implants (CIs) [26] and deep brain stimulation [27]. Roskies subdivides neuroethics into two groups: ethical issues raised when defining neuroscientific studies, and the evaluation that results from those studies [17]. The first subdivision includes issues such as privacy rights, autonomy, and informed consent. The second subdivision focuses more on the aftermath; how will the use of that knowledge shape society? For example, what will people now determine to be right or wrong in occasions where the use of brain imaging helps to discover that inmates have damaged brain cells. In other words, the issues in this subdivision consider if new knowledge will redefine what normal is. Levy (2008) further highlights the above findings with the conclusion that neuroethics has a heavy focus on how people should pursue knowledge [19]. With the increasing need to create ethical frameworks due to the advancement of neuro-technologies, there is a heightened need for stakeholder engagement to get a range of social and ethical perspectives [28]. Stakeholder engagements exist around neuroethics discourses related to various neuro-advancements [24,29,30]. Media coverage impacts how neuroethical issues are perceived and can influence stakeholder engagement with neuroscience [4,31]. Speech-related professionals have a stake in which neuro-advancements are pursued and how, and as such should play a role in neuroethics and neuro-governance discussions. Given the roles outlined for speech-related professionals by their professional organizations mentioned before, the roles could include influencer of neuroethics and neuro-governance discussions, advocate for their field and their

clients in general and within neuroethics and neuro-governance discussions and other neuro-policy discourses, and knowledge producer (researcher) on topics related to SLP and audiology in general and linked to neuroethics, neuro-governance and other neuro-policy discussions.

1.3. The Speech-Related Field and Lifelong Learning

The utility of continual learning, lifelong learning and professional development for individuals is to enable individuals to promote and advocate for the resources needed to care for others [32], to meet the needs of clients [32] and to deal with the constant changes in the health field [32]. The scope of practice for SLPs and audiologists includes ongoing education and learning to provide safe and competent care [13], see also [16,33].

It is argued that SLPs should be given the opportunity to "seek out and be permitted to engage in continuing education experiences to update their knowledge base and hone their skill" [34]. The education of SLPs is recommended to use more problem-centered lifelong learning rather than memorizing a body of knowledge [35]. Furthermore, SLP professional organizations and employers recognize the need to build clinician expertise including continuing professional development courses and mentoring, although many question the usefulness of these approaches [35].

The framework of lifelong learning can help practitioners with different roles in audiological rehabilitation, such as audiologists and SLPs, to provide a holistic approach for individuals with hearing disabilities by updating their competencies. As one expert commented, "A hearing disability is never only the problem of an individual person but also a problem for all those living and working with these individuals. (Re)Habilitation will never be successful without keeping attention and working on the whole social context" [36] (p. 9). Linked to clinical services [37], conscientiousness is linked to a commitment to lifelong learning [38].

It is argued that audiologists should be encouraged to report unethical or morally distressing incidents, using the literature related to ethics in healthcare as a resource [39].

Due to the ongoing changes and development of speech-related fields, practitioners are encouraged and expected to continue their learning as well. As such, the purpose of this study included to investigate how and to what extent newspapers and academic literature mention lifelong learning of SLPs and audiologists in relation to neuro-advancements.

The following research questions were investigated in our study: (1) Which of the 49 neuro-terms were engaged with in relation to speech-related professionals in the literature we investigated; (2) which roles of speech-related professionals were present in relation to neuro-advancements; and (3) to what extent and how was lifelong learning engaged with in relation to neuro-advancements and speech-related professionals?

2. Materials and Methods

2.1. Study Design

2.1.1. Newspapers

It is reported that newspapers and other media influence discourses [10]. The media has a large impact on individuals and is influencing their perspective on many issues. Media set agendas in what is reported and provide an opportunity for flow of information and new perspectives [11]. Framing is one way to perform a newspaper analysis [40,41]. The aim of the study was to analyze what frames were used to describe the role of speech-related professionals in relation to neuro-advancements. Three ways of framing includes structural [42], content [43], and issue-specific framing [44,45]. The content analysis used in this study focused on how the communicator (the newspaper) frames the role of speech-related professionals as it relates to neuro-advancements.

2.1.2. Academic Literature

The objective of this study was to ascertain whether, to what extent, and how the academic literature around neuro-advancements engaged with speech-related professions especially in relation to the role of speech-related professionals. To achieve this objective, a modified scoping review drawing from [46] was chosen as the most appropriate for the study given the research questions. Scoping studies allow to "map rapidly the key concepts underpinning a research area" [46] (see also [47,48]), and to identify the extent of research present on a given topic [49–51] and the current understanding of a given topic. The following study followed in a modified way the stages outlined by [46], namely: identifying the review's research questions, identifying databases to search, generating inclusion/exclusion criteria, recording the descriptive quantitative results, selecting literature based on descriptive quantitative results for qualitative analysis, qualitative analysis of data, and reporting findings of qualitative analysis.

2.2. Data Sources and Data Collection

2.2.1. Academic Literature

To maintain a clear and feasible scope [48], eligible academic data was identified using explicit search strategies across a range of data sources [50]. On March 28th, 2018, two academic databases were searched, namely EBSCO-HOST, an umbrella database that includes over 70 other databases itself and Scopus, which incorporates the full Medline database collection, with no time restrictions. These two databases were chosen because together they contain journals that encompass a wide range of topics from areas of relevance to answer the research questions. To continue to maintain a feasible scope [48], three search strategies were employed.

Strategy 1: The abstracts of articles in EBSCO-HOST and Scopus were searched for the terms "speech language" OR "speech patholog*" OR "speech therap*" OR "audiolog*" in combination with "Neuro*" (not downloaded) OR 49 neuro-related terms (Table 1, downloaded) OR "neurosc*", "neuroen*", "neurotechn*", omitting cochlear implant (downloaded), obtaining n = 368 unique results.

Strategy 2: The abstracts of articles in EBSCO-HOST and Scopus were searched for the terms "speech language pathologist*" OR "speech therapist*" OR "audiologist*" in combination with the term "cochlear implant*" obtaining n = 251 unique results (downloaded).

Strategy 3: Scopus was used to search journals that contained "speech*" or "audiolog*" in the journal title and the following terms in the abstract: "neuro*" (not downloaded) OR the 49 neuro-related terms not containing cochlear implant (downloaded), OR the terms "neurosc*" or "neurotechn*" or "neuroen*" (downloaded) obtaining n = 353 unique results.

Additional inclusion criteria: EBSCO was only searched for scholarly peer reviewed journals, while Scopus was searched for reviews, peer reviewed articles, conference papers, and editorials.

2.2.2. Newspapers

To answer the research questions, the University of Calgary's Proquest online database *Canadian Newsstream* was used as a source, a database consisting of n = 300 English Language Canadian newspapers, for its complete time range from 1980 to March 2018. Canadian newspapers were chosen because (a) existing and potential speech-related professionals are readers of newspapers, (b) the database comprises over 300 news sources including all regions of Canada, (c) over 75% of Canadians still read newspapers [52,53], and as such are influenced by what they read and (d) parents, teachers, and career counselors who often give advice on career ideas to young adults also are readers of newspapers [54].

To maintain a clear and feasible scope [48], eligible newspaper articles were identified using explicit search strategies [50]. On March 28th, 2018 four search strategies were employed.

Strategy 1, The newspaper database was searched for the terms "speech language" OR "speech patholog*" OR "speech therap*" OR "audiolog*" in combination with "neurosc*" OR" "neurotechn*" OR "neuroen*" or "neuro*" obtaining n = 403 unique results articles,

Strategy 2, The newspaper database was searched for the terms "speech language" OR "speech patholog*" OR "speech therap*" OR "audiolog*" with 49 neuro-related terms (Table 3) omitting cochlear implant obtaining n = 83 unique results,

Strategy 3, The newspaper database was searched for the term "speech technolog*" obtaining n = 438 unique results, and

Strategy 4, The newspaper database was searched for the terms "speech language" OR "speech patholog*" OR "speech therap*" OR "audiolog*" with the term "cochlear implant*" obtaining n = 321 unique results.

The newspaper articles found for each of the four search strategies were downloaded as individual PDFs and imported into Atlas.TI8™, a qualitative data analysis software application for qualitative, thematic content analysis.

2.3. Data Analysis

2.3.1. Newspapers and Academic Newspapers Together

A descriptive quantitative and thematic qualitative content approach was employed to answer the research questions using the software's ATLAS.Ti8™ Adobe Acrobat. For the descriptive quantitative data analysis, hit counts were generated for the presence of terms representing various speech-related fields and professionals in relation to neuro-related terms. For the qualitative content analysis both authors read the content of academic abstracts and newspaper articles. While reading the content, both authors generated codes using a term or phrase reflecting a given role seen as evident in a given content. The coding was deductive in the sense that the top-level theme examined (role) was predefined by the scope of the study [55,56]. The actual roles found, however, that emerged from reading the academic abstracts and the full-text of the newspaper articles were not pre-set and as such could be seen as an inductive approach [55,56].

2.3.2. Trustworthiness Measures: Newspapers and Academic Literature

Trustworthiness measures include confirmability, credibility, dependability, and transferability [57–59]. Differences in codes and theme suggestions of the qualitative data were few, discussed between the authors, and revised as needed to ensure credibility and dependability. Confirmability is also evident in the audit trail made possible by using the Memo and coding functions within ATLAS.Ti8™ and the sticky note function in Adobe Acrobat. As for transferability [57–59], the methods description gives all required information for others to decide whether they want to apply these keyword searches on other data sources such as other newspapers, or social media such as twitter or other academic databases or want to expand on the keywords used.

2.4. Limitations

2.4.1. Academic Literature

The search was limited to two academic databases and English language literature. As such, the findings are not to be generalized to the whole academic literature, non-academic literature, or non-English literature. These findings, however, allow conclusions to be made within the parameters of the searches. Furthermore, the 49 neuro-related terms we used are not the only ones present in the literature but reflect terms we came across in our research for the grant listed below that we obtained. However, the data based on the existing terms used allow for some conclusions around the terms used.

2.4.2. Newspapers

The focus of this study was on Canadian newspapers. Sources such as social media or online-only news content (e.g., the Canadian Broadcast Corporation) were not the focus, and therefore were not included. Furthermore, the focus was on English-language newspapers only. Therefore, the results cannot be generalized for media in general, newspapers in Canada, and media including newspapers from other countries. Furthermore, the 49 neuro-related terms we used are not the only ones that could be present in the newspapers but reflect terms we came across in our research for the grant listed below that we obtained. However, the data based on the existing terms used allow for some conclusions around the terms used.

3. Results

3.1. Descriptive Quantitative Data

As the first step, abstract counts for all search terms were generated and used to obtain abstracts for manifest and latent thematic content analysis. First, the focus was on searching the abstracts in Scopus and EBSCO ALL for different neuro-related terms in conjunction with "speech therap*", "speech patholog*", "speech language" or "audiolog*" OR the term "speech" (Table 1).

Table 1. Hit count results for abstracts mentioning different neuro-related terms in conjunction with "speech therap*", "speech patholog*", "speech language" or "audiolog*".

First Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract
	Speech	"Speech Therap*"	"speech Patholog*"	"speech Language"	"Audiolog*"
N/A	N/D	9156	4772	26326	25604
Neuro*	17,073	948	466	2138	1350
Neurosc*	925	12	15	58	18
Neurote*	5	0	0	4	1
Neuroen*	96	0	0	0	0
Artificial brain	N/D	0	0	0	0
Auditory brainstem implant	N/D	0	0	7	39
Bionic eye	N/D	0	0	0	0
Brain imaging	N/D	8	3	29	0
Brain to speech	N/D	0	0	5	0
Brain stimulation	N/D	37	5	98	0
Brain-computer interface	N/D	0	0	6	2
Brain-to-text	N/D	0	0	0	0
Cochlear implant	N/D	49	22	542	1556
Cognitive stimulation	N/D	5	1	0	0
Collaborative cognitive simulations	N/D	0	0	0	0
Cortical modem	N/D	0	0	0	0
Cranial electrotherapy stimulation	N/D	0	0	0	0
Darpa Ram senor	N/D	0	0	0	0
Deep brain stimulation	N/D	13	4	14	0
Direct acoustic cochlear implant	N/D	0	0	0	0
Ear-EEG	N/D	0	0	0	1
Electrocorticography	N/D	3	1	0	0

Table 1. *Cont.*

First Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract	+Second Search Term in: Abstract
	Speech	"Speech Therap*"	"speech Patholog*"	"speech Language"	"Audiolog*"
Emotive	N/D	0	0	3	0
Exocortex	N/D	0	0	0	0
Facial electromyography	N/D	0	0	2	1
God Helmet	N/D	0	0	0	0
Hemoencephalography	N/D	0	0	0	0
Hippocampus prosthesis	N/D	0	0	0	0
Human Computer	N/D	6	1	2	0
Intracranial electroencephalography	N/D	0	0	0	0
Muse headband	N/D	0	0	0	0
Neural stem cell	N/D	1	0	0	0
Neuralink	N/D	0	0	0	0
Neurochip	N/D	0	0	0	0
Neurofeedback	N/D	1	0	0	2
Neuroimaging	N/D	13	6	127	61
Neuroinformatics	N/D	0	0	3	0
Neuromodulation	N/D	1	11	6	3
Neurostimulation	N/D	3	0	3	4
Nootropics	N/D	1	0	0	0
Optogenetics	N/D	0	0	0	0
Prosthetic memory device	N/D	0	0	0	0
Pulsed electromagnetic field therapy	N/D	0	0	0	0
Responsive neurostimulation	N/D	0	0	0	0
Sacral nerve stimulation	N/D	0	0	0	0
Speech BCI	N/D	0	0	0	0
Spinal cord stimulator	N/D	0	0	0	0
Subvocal speech device	N/D	0	0	0	0
THync mood altering headset	N/D	0	0	0	0
Transcranial direct current stimulation	N/D	23	1	16	4
Transcranial magnetic stimulation	N/D	29	3	17	16
Virtual reality	N/D	4	2	11	16
Whole brain emulation	N/D	0	0	0	0

Hit counts were also done in Scopus to search "speech" and "audiolog*" in the journal title and different neuro-related terms in the abstract (Table 2). The results are as follows:

Table 2. Hit count results for abstracts mentioning different neuro-related terms within "speech" and "audiolog*" journals.

Search Term in: Abstract	In Journals That Contain "Speech*" in the Title	In Journals That Contain "Audiolog*" in the Title
Neuro*	1172	757
Neurosc*	77	13
Neurote*	3	0
Neuroen*	2	2
Artificial brain	0	0
Auditory brainstem implant	1	11
Bionic eye	0	0
Brain imaging	16	6
Brain to speech	0	0
Brain stimulation	22	2
Brain-computer interface	72	1
Brain-to-text	1	0
Cochlear implant	352	764
Cognitive stimulation	3	2
Collaborative cognitive simulations	0	0
Cortical modem	0	0
Cranial electrotherapy stimulation	0	0
Darpa Ram senor	0	0
Deep brain stimulation	18	2
Direct acoustic cochlear implant	0	1
Ear-EEG	0	0
Electrocorticography	9	0
Emotive	18	0
Exocortex	0	0
Facial electromyography	0	0
God Helmet	0	0
Hemoencephalography	0	0
Hippocampus prosthesis	0	0
Human Computer	152	0
Intracranial electroencephalography	0	0
Muse headband	0	0
Neural stem cell	0	0
Neuralink	0	0
Neurochip	0	0
Neurofeedback	0	1
Neuroimaging	36	15
Neuroinformatics	0	0
Neuromodulation	3	0
Neurostimulation	3	4
Nootropics	0	0
Optogenetics	0	0
Prosthetic memory device	0	0
Pulsed electromagnetic field therapy	0	0

Table 2. *Cont.*

Search Term in: Abstract	In Journals That Contain "Speech*" in the Title	In Journals That Contain "Audiolog*" in the Title
Responsive neurostimulation	0	0
Sacral nerve stimulation	0	0
Speech BCI	0	0
Spinal cord stimulator	1	0
Subvocal speech device	4	0
THync mood altering headset	0	0
Transcranial direct current stimulation	3	1
Transcranial magnetic stimulation	10	5
Virtual reality	26	3
Whole brain emulation	0	0

Finally, the full texts of Canadian newspaper articles were searched in the database Canadian *Newsstream* for different neuro-related terms in conjunction with "speech therap*", "speech patholog*", "speech language" or "audiolog*" (Table 3) and downloaded for manifest and latent thematic content analysis.

Table 3. Mentioning of the terms "speech therap*", "speech patholog*", "speech language" or "audiolog*" in conjunction with terms indicating neuro-advancements within Canadian Newspapers.

First Set of Search Terms	Second Search Term	Article Count Total
"speech therap*" OR "audiolog*" OR "speech patholog*" OR "speech language"	Neuro Terms	19,216
	Neuro*	433
	Ethic*	234
	Neurosc*	87
	Speech technolog*	3
	Neurote*	0
	Neuroen*	0
	Neurotechnology	
	Artificial brain	0
	auditory brainstem implant	2
	Bionic eye	0
	brain computer	0
	Brain stimulation	15
	Brain to speech	2
	Brain-computer	0
	Brain-to-text	0
	Cochlear implant*	314
	Collaborative cognitive simulations	0
	Cortical modem	0
	Cranial electrotherapy stimulation	0
	Darpa Ram senor	0
	Deep brain stimulation	8
	direct acoustic cochlear implant	0
	Ear-EEG	0
	electrocorticography	0
	Emotive	5
	Exocortex	0
	Facial electromyography	0
	God Helmet	0
	Hemoencephalography	0
	Hippocampus prosthesis	0
	Human computer	1
	Intracranial electroencephalography	0

Table 3. *Cont.*

First Set of Search Terms	Second Search Term	Article Count Total
	Muse headband	0
	Nerve stimulation	6
	Neural stem cell*	1
	Neuralink	0
	Neurochip	0
	Neurofeedback	0
	Neuroimaging	5
	Neuroinformatics	0
	Neuromodulation	0
	Neurostimulation	0
	Nootropic*	0
	Optogenetics	0
	Prosthetic memory device	0
	Pulsed electromagnetic field therapy	0
	Responsive neurostimulation	0
	Sacral nerve stimulation	0
	Speech BCI	0
	Spinal cord stimulator	0
	Subvocal	0
	THync mood altering headset	0
	Transcranial direct current stimulation	0
	Transcranial magnetic stimulation	6
	Virtual reality	12
	Whole brain emulation	0

All three tables indicate that "neuro*", which can include words such as neurotoxicity and other terms that one would not link to speech-related professionals, and "cochlear implant*" are the only terms leading to substantial hits. The terms "neurosc*" for neuroscience, "neurote*", and "neuroen*" and most of the 49 neuro-related terms did not generate many hits, if any. Phrases containing the term "brain" and "human–computer" had some hits in the academic literature we investigated but not in the newspapers.

In a second step, manifest and latent content coding was performed on the academic abstracts and newspaper articles downloaded. The below is separated into two main parts: academic abstract content analysis and Canadian newspaper full text article content analysis.

The academic abstract part is subdivided into 3 sub-parts: the role of speech-related professionals (a) evident in abstracts containing the terms "neurosc*", or "neuroen*" or "neurote*" or 49 neuro-related terms and speech-related terms; (b) evident in abstracts containing the terms "neurosc*", or "neuroen*" or "neurote*"or 49 neuro-related terms and the terms speech* or audiolog* in the title of the journal; and (c) in relation to CIs.

The Canadian newspaper part is also subdivided into 3 sub-parts: the role of speech-related professionals (a) evident within the context of neuro-advancements (not CI), (b) evident within the CI of neuro-advancement, and (c) evident outside context of neuro-advancements. In all sections, content linked to "speech" is first examined and then content linked to "audiolog*".

3.2. Qualitative Data

3.2.1. Academic Literature

Roles of Speech-Related Professionals Evident in Abstracts Containing the Terms "Neurosc*", or "Neuroen*" or "Neurote*", or 49 Neuro-Related Terms Omitting CIs (Search Strategy 1)

In total, n = 368 academic abstracts were downloaded and looked at. Within the downloaded abstracts, it is made explicit that neurology has an interest in and influences areas that are also of interest to speech-related professions such as speech therapy [60], audiology [61] and speech language pathology [62], and that cooperation between neuro- and speech-related professionals is warranted [63].

To give one quote: "The analysis of aphasia as a matter of fact is a crucial question not only for neurology and related clinical areas, but also for linguistics, neuropsychology, psychology, and speech therapy" [60] (p. 267). It is seen as important that speech language pathology students learn about the "neuro-anatomy and neurophysiology of the normal speech, language, swallowing, and hearing systems" [64] (p. 27).

Neurotechnologies mentioned within abstracts containing the terms "neurosc*" include EEG, neurostimulation, neuro-pharmaceuticals, imaging technology, neuro-scans, rTMS, tDCS and MRI. The terms "neuroen*" and "neurote*" did not mention any neurotechnologies. Instead, "neuroen*" was used to describe individuals with neuroendocrine dysfunctions and their possible vocal symptoms; however, the role of SLPs and audiologists was not mentioned. Furthermore, there was no relationship with the keyword "neurote*" and speech-related professionals. Two abstracts mentioned that transcranial brain stimulation (TMS and tDCS) might be worthwhile as a complimentary method to speech therapies and useful for SLPs [65,66].

As to the role of speech-related professionals, it was noted that neurotechnologies such as Neuroimaging Techniques, Magnetoencephalography Imaging, diffusion Tensor MRI, Transcranial Magnetic Stimulation, Transcranial Direct Current Stimulation, Laryngeal Imaging and biofeedback for Acquired Apraxia will impact the practice of SLPs and audiologists [67]. SLPs were mentioned as evaluators in $n = 6$ abstracts and as a clinical service provider in $n = 5$ abstracts. The role of researcher was evident in $n = 4$ abstracts, of which $n = 3$ were linked to providing grouping/classification of research subjects. The role of knowledge consumer was evident in $n = 3$ abstracts. The role of producer of best practice guidelines, knowledge producers (refining communication disorder phenotypes) [68] (p. 245), advocate, and preventing worsening of a condition were mentioned once. Furthermore, audiologists were mentioned in their role of evaluator in $n = 4$ abstracts and as programmers in $n = 2$ abstracts.

The keyword "neuroethics" had $n = 0$ results in the downloaded academic abstracts and only one mentioned ethics but not in relation to SLP. Essentially, SLPs and audiologists were not mentioned as influencers of neuro-governance or neuroethics discourses. Furthermore, lifelong learning was not mentioned as a mechanism or tool for SLPs and audiologists to update their knowledge.

Roles of Speech-Related Professionals Evident Containing the Terms "Neurosc*", or "Neuroen*" or "Neurote*" or 49 Neuro-Related Terms in the Abstracts and the Terms "Speech*" or "Audiolog*" in the Title of the Journal (Search Strategy 3)

In this section, the findings of $n = 353$ downloaded academic abstracts are reported on. As to the role of speech-related professionals, none mentioned a role using the terms "audiologist*" or "therapist*". Using the word "pathologist*", one abstract of an article reported on the results of a systematic literature review that investigated the involvement of SLPs in communication interventions of people with dementia, whereby it is concluded that cognitive stimulation approaches might be useful, and that the findings of the literature review might have implications for clinical services of SLPs [69] thereby indicating the role of knowledge consumer. One abstract listed challenges for SLP practice such as "preparation of future speech-language pathologists, reimbursement for services, availability of appropriate technology, and widespread connectivity" [70] (p. 189). These challenges were all linked to clinical services, although one could envision that the role of advocate and educator might also fit to face the challenges. Another abstract mentioned SLPs in the role of evaluator of a patient in a clinical trial. SLPs as knowledge consumers, researchers, clinical service providers and evaluators were mentioned once. SLPs and audiologists were not mentioned as influencers of neuroethics and neuro-governance discussions. They were also not mentioned as lifelong learners of neuro-advancements and the implications that can arise with the use of such advancements. Ethics was not mentioned in the abstracts.

Roles of Speech-Related Professionals in Relation to CIs (Search Strategy 2)

Regarding CIs $n = 251$ academic abstracts were downloaded and analyzed for the roles linked to speech-related professionals in relation to CIs (Table 4).

Table 4. Role narrative of speech-related professionals linked to CIs.

Role	Frequency of the Found Roles
Evaluator of clients and CI	69
Programmer of CI	20
Promoter/Referrer of CI	12
Rehab	11
Educator of others	8
Expert	6
Knowledge provider	5
Counsellor	4
Fitting device	4
Service provider	4
Knowledge consumer	4
Support parents/family	3
Knowledge producer	3
Researcher	3
Stakeholder	3
Integrate into Hearing World	1
Compliance Role	1
Help User	1
Trainer of client	1
Supporter of social life	1
Designer of device	1

As is evident from Table 4, the main role of speech-related professionals was linked to providing a service to a client with the main role being to evaluate the usability of CIs and the applicability of a CI for a potential user. The role of programming CIs was linked mostly to audiologists. Other researchers discussed SLPs' important role in pretreatment counseling [71].

To be part of a team was mentioned as being important for SLPs and audiologists. Teagle and Moore (2002) outlined the pivotal role SLPs have in the CI team [72]. This role was described as the "need to recognize symptoms and make prompt recommendations for quick intervention". Researchers in another abstract outlined that audiologists have a role in the CI team, particularly in the rehabilitation phase [73].

Some abstracts linked with the "educator" role of speech-related practitioners, whereby the education role was linked to educating individuals on the clinical benefits and uses of CIs [74].

The term "educational audiologist" was present in $n = 7$ abstracts, whereby this role was linked to the role of ensuring compliance [75], ensuring the benefits of CIs [76], that special education teachers benefit from CIs [77], having a role in the school of the deaf [78], providing education that increases auditory learning of children [79,80], and providing good devices to students [81]. A study from 2009 called "*Preparation and perceptions of speech-language pathologists working with children with cochlear implants*" "examined the level of preparedness of North Carolina speech-language pathologists (SLPs) who serve school-aged children with cochlear implants (CIs)" [82] (p. 142). The study concluded that SLPs and audiologists need "to engage in continuing education to update their knowledge of emerging innovations in CI technology and habilitation" [82] (p. 142). Another study argued that audiologists should educate pediatricians [83]. One abstract indicated that providing "specialty training for SLPs working with deaf and hard of hearing children" [84] (p. 297) improves the ability "to work with culturally diverse children who are deaf or hard of hearing and in particular, those who use cochlear implants and have differing experiences with spoken language" [84] (p. 297).

Berg (2007) highlighted the idea that audiologists should be trained and increase their knowledge of educational audiology and deaf culture perspective to gain better discussions with clients on CI [85]. Researchers in another abstract concluded that the role of an audiologist is not only to provide assessment, but also to provide information and knowledge of speech and CIs to families so parents "can continue to respond to their child" [86]. This role is reflected in the quotes, "the role of the audiologist is therefore not just to assess the child's auditory thresholds and provide effective amplification, but perhaps more importantly, to support parents through the stages of grief by fine-tuning the amplification so that parents can see their infant's early responses to sounds" and "By more closely fulfilling the needs and expectations of parents, audiologists are better placed to achieve improved speech, language, and social outcomes for children with early identified hearing loss" [86] (p. 3).

There were $n = 3$ abstracts that mentioned speech-related professionals as stakeholders in relation to CIs, with one abstract describing their role as "stakeholders in the adoption process" [87]. The second abstract discussed the importance of the support of all stakeholders, including speech therapists, for commencement of a CI program [88]. The third abstract indicated audiologists as stakeholders by stating that audiologists see themselves in the role of providing sensory management, but that aural rehabilitation is done by others [89].

Some abstracts suggest the role of knowledge consumer by indicating gaps of knowledge within speech-related professionals. One study from the UK suggested that "audiologists support cochlear implantation, but due to a lack of training and familiarity, not all are confident in discussing CIs with patients and making an appropriate referral" [90] (p. 213). A study from Brazil concluded that audiologists and other involved professionals do not have enough knowledge of CIs [91]. A 2018 abstract "*Awareness and Knowledge of Cochlear Implants among Speech-Language Pathologists*" concluded that SLP in Mississippi lack CI related knowledge and skills to work with CI clients [92].

In one abstract, "*Exploring the Identities of Hearing Parents Who Chose Cochlear Implantation for Their Children with Hearing Loss*", four identities of parents were identified: advocates, resilient parents, obedient worriers, and matter-of-fact narrators. Identifying and understanding these parent identities was seen as useful knowledge to "improve audiologists' abilities to help families seek out, implement, and follow-through with family centered hearing healthcare" [93] (p. 131).

As to lifelong learning, one abstract mentioned the use of technology to advance professional development [94]. Another abstract made the case that "experts in their respective fields, including neuroscience, speech-language pathology, and educational psychology" do not know enough about the literacy field and the case is made in the abstract for these experts to "attend professional development sessions concerning big picture perspectives and make observations in schools where these perspectives have been effectively implemented" [95] (p. 1).

3.2.2. Canadian Newspapers

In the final step of our analysis, we investigated the full text of Canadian newspaper articles (Table 5). Although an article might mention speech-related professionals and neuro-advancements it is not a given that these two areas are mentioned in relation to each other. They might be linked to totally different stories and as such could be classified as non-relevant or false-positives. Therefore, we report in Table 5 the roles of speech-related professionals in relation to neuro-advancements and in relation to non neuro-advancements (search strategy 1–3). As to the articles containing CIs (search strategy 4), not one mentioned SLPs or audiologists in a non-relevant fashion. All mentions were linked to some aspects of CI whether technical aspects or mentioning of social discussions around CI. As such, Table 5 has only one column for CIs (search strategy 4).

Table 5. Role narrative of speech-related professionals linked to neuro-advancements vs linked to neuro-advancements and linked to CIs.

Role	Search Strategy 1–3 n = 924 Articles		Search Strategy 4 Cochlear Implant n = 321 Articles
	Not Linked to Neuro-Advancement	Linked to Neuro-Advancements	All Linked to the Neuro-Advancement of Cochlear Implant
Facilitator of Therapeutic Interventions	71	3	6
Expert (indicated by being quoted)	30	4	16
Advocate for their field	9	0	6
Educator (of others)	5	0	8
Researcher	4	1	1
Therapeutic evaluator of clients and devices	4	0	2
Influencer of policy, ethics and governance discourses	2	0	0
Learner (obtaining new knowledge)	1	0	1
Promoter of CI	0	0	5
Programmer of CI	0	0	2
Advocate for others such as clients	0	0	1

Table 5 indicates that for the non-CI content, roles of speech-related professionals were mentioned much less in relation to neuro-advancements than outside of neuro-advancements. However, between the two non-CI columns which roles were mentioned most, and which roles were rarely or not mentioned were mostly the same.

Within the CI content, there were certain specific roles highlighted, such as programmer of CI, which could be seen also as service provision. However, the role of influencer of policy, ethics and governance discourses was also not mentioned as in the non-CI content.

Roles Evident within Context of Neuro-Advancements Omitting CIs

As reflected in Table 5, the role of SLPs and audiologists was rarely mentioned. Even the role of service provider the role mentioned the most was mentioned only n = 3 times. Within all the downloaded newspaper articles not one article reported on the role of SLPs or audiologists as advocates, researchers or influencers of neuro-advancements including neuro-policy, neuro-ethics and neuro-governance discussions.

Roles Evident within Context of CIs

As to the content reflected in Table 5 relating to CIs, the top roles mentioned for SLPs and audiologists were expert (n = 16 articles), educator of others (n = 8 articles), and service provider or advocates for their fields (n = 6 articles).

Beyond these roles for SLPs, one article reported on a camp run by SLPs for children to meet other implant users and learn communication skills [96]. Another article described SLPs as members of the CI team needing to provide assessment, therapy, and rehabilitation [97].

One article reported on a workshop that was held for the personal and professional development of women in the speech field, specifically on CIs [98].

As to CIs, some roles were exclusively linked to audiologists such as: promoter of CI (n = 5 articles all before the year 2000) and programmer of CI (n = 2 articles). As to the promoter of CI role, this was seen as either negative; for example, "So what does this device do? It offers false hope to the parents of deaf children. However, do parents have enough information on the alternative? Not likely: they are mobbed by the doctors or audiologists from the day deaf babies are born" [99], or as needed; for example, "However, Dr. Sipke Pijl, an audiologist at St. Paul's hospital, who does about five or six operations every year says he takes exception to the deaf community dictating what other people should do with their lives" [100]. Two articles highlighted audiologists' input on CIs, with one stating that CIs are not the only solution to hearing loss, as there is a lot of therapy and rehabilitation in the

process as well [101]. The other reported on an audiologist's opinion that CIs work best in people who could speak before being deaf [102].

Roles Evident Outside Context of Neuro-Advancements

Canadian newspapers rarely linked the role of the speech-related field to neuro-advancements including CIs. As to the roles evident without linkage to -neuro-advancements and CIs, one article from 2004 stated:

> "Speech-Language Pathologists (SLPs) and Audiologists (Auds) are highly trained professionals who can help people make their lives richer, more productive and enjoyable through improved communication skills. What we do: Identify, assess, and rehabilitate children and adults with hearing difficulties and communication disorders. We counsel clients and families and provide referrals to other professionals. We are committed to ongoing research, public education, and training of new speech-language pathologists and audiologists. What we study: Acoustics, anatomy, assessment, counseling, hearing disorders, hearing aids, language development disorders, linguistics, neurology, neurophysiology, non-vocal communication, parent training, psychology phonetics, voice, speech and voice disorders, statistics, stuttering and research methods. Where we work: Speech-language pathologists and audiologists work in private practice, child development centres, pre-schools, schools, hospitals, rehabilitation centres, government agencies, health units, industry, colleges, universities and research centres throughout the world. We are often part of teams which include physicians, psychologists, social workers, nurses, teachers, counselors, occupational therapists and physical therapists". [103]

The results are summarized in Table 5. More specifically, the role of service provider, whether in a clinical setting or in-home service, was evident in over $n = 71$ articles, while the role of being an expert was indicated $n = 30$ times by the many speech-related professionals quoted by name and the quoting of speech professional organizations and phrases such as: "audiologists say . . . ".

The role of being an educator was evident in $n = 5$ articles that highlighted talks given by professionals. The role of being an advocate for one's profession was present in $n = 9$ articles, whether in questioning negative consequences such as cuts in numbers or changes of status, or positive aspects such as awareness month.

Being a researcher was evident in $n = 4$ articles; for example, one article stated that audiologists are "committed to ongoing research, public education, and training of new audiologists" [103]. Being an influencer of policy decision beyond advocating for one's profession was only evident in $n = 2$ articles. To give one quote, "The Canadian Pediatric Society and the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) recommend hearing screening for all newborns" [104]. That one has to learn was present in one article [105]. However, the issue of professional development and lifelong learning was not discussed. No article highlighted the importance of the role of the speech-related professionals to deal with neuro-advancement related policy, ethical, social and governance issues arising in relation to their fields.

4. Discussion

The purpose of this study was to investigate which of the many possible roles of speech professionals are mentioned in conjunction with neuro-advancements in academic literature and Canadian newspapers, and how speech-related fields are engaged with in relation to various neuro-advancements in the same literature. The role of user of neuro-advancements in one's clinical service provision was the role found the most. Other roles, such as educator and advocate, were much less frequently mentioned, and the role of influencer of ethics, governance and policy discourses of neuro-advancements was missing. The findings suggest a narrow and problematic role narrative of speech-related professionals in relation to neuro-advancements. In the remainder of this section

we first engage with our problematic findings through the lens of neuroethics and neurotechnology governance discussions and then look at our findings through the lens of lifelong learning.

4.1. Neuroethics and Neurotechnology Governance Discussions: Role of Speech-Related Professionals

Stakeholder engagement is one focus of discussions within neuroethics and neuro-technology governance discourses [4–6]. It is seen as important to bring stakeholders together to "provide relevant perspectives and broadly considered insights" [5] (p. 6) and to build recognition of the importance of ethical issues into the training of all of those involved in utilizing neurotechnologies [5]. Speech-related professionals use neuro-advancements in their practice. Speech-related professionals have been engaged with some neuro-related products for quite some time such as CIs and some neuro-related products that are just emerging such as speech supporting brain computer interfaces and deep brain stimulation. The use of such emerging products will increasingly become part of the scope of practice of speech-related professionals. Furthermore, there are some neuro-advancements in which the use might not become part of the scope of practice of speech-related professionals directly but still might impact the clients of speech-related professionals. As such, speech-related professionals have a stake in how neuro-advancements are discussed, including in the ethics and governance discourses. Therefore, it is problematic that not one academic abstract or newspaper article in the literature we investigated engaged with the role of speech-related professionals as influencers of and knowledge producers for policy, ethics or governance activities related to neuro-advancements.

Sherwin stated that "we [ethicists] lack the appropriate intellectual tools for promoting deep moral change in our society" [106] (p. 80). Involving people is part of promoting change in society. That the role of speech-related professionals being influencers and knowledge contributors to neuroethics and neurotechnology governance discussions is not present in the literature we investigated suggests that speech-related professionals are not seen as potential and needed change agents in society or in need to change as part of being members of society.

According to an OECD report, one of the key objectives of the BNCT project "Neurotechnology and Society" is to "pool ideas, norms, and approaches for achieving more responsible innovation in neurotechnology for health-related applications through a step-wise process of dialogue involving researchers, innovators, policy makers, health care professionals, and the publics" [5] (p. 9). Speech-related professionals are also health care professionals but are not mentioned in the document explicitly. According to SAC, the expectations in a practitioner's role are to get involved in producing research and to become knowledge producers themselves [13]. As such, one would have expected some mentioning of and engagement with that role in relation to neuro-advancements, neuroethics and neuro-governance.

According to the SAC Code of Ethics [107], respect for autonomy, beneficence, non-maleficence, and justice are the main principles to be upheld. More specifically, respect for autonomy refers to the practitioners "enabling individuals to make informed choices"; beneficence refers to "balancing the benefits of intervention against the risks and costs"; non-maleficence refers to "avoiding the causation of harm"; and justice refers to "ensuring clients in similar situations are treated in a similar manner" [107]. Such wordings as those present in the SAC code of ethics suggest that speech-related professionals should be involved in neuroethics and neuro-governance discussions. That the role of speech-related professionals includes advocacy on behalf of their clients [13,14], promotion, education and research [13] also suggests that the gap found in this study should be filled.

How newspapers portray speech-related professions and the role of speech-related professionals may influence an individual's perception of the field and its professionals. The study findings suggest that the readers do not obtain any idea that being influencers of ethics and governance discourses is one role of speech-related professionals. Furthermore, when the role of educator is mentioned, the topic of education was on the clinical services and the topic of hearing and not on ethics or governance issues. The academic literature also did not discuss the role of the speech-related professionals as educators and influencers of ethics and governance issues.

4.2. Lifelong Learning and Professional Development

Building clinician expertise for SLPs and audiologists including professional development [35] and lifelong learning fits with the scope of evidence-based practice [35]. A commitment to lifelong learning is expected [12,38], and SLPs and audiologists should be given the opportunity to update their knowledge and skills [34], including skills for working in an interdisciplinary environment [36]. An interdisciplinary competency framework was developed that is seen to enable the person to identify whether they need to update their competencies in order to be able to work in an interdisciplinary way [36]. Continual learning, lifelong learning and professional development for SLPs and audiologists enables the professionals to provide safe and competent care [13,16,33] and to advocate on behalf of their clients [13,14]. It is also noted that audiologists should have the skill to make use of ethics literature [39].

However, according to the literature we investigated, lifelong learning and professional development of speech-related professionals was not present as a topic in relation to neuro-advancements, neuroethics or neuro-governance. This gap in the literature should be filled. Indeed, the findings could be seen to be empirical evidence supporting claims that lifelong learning procedures are not effective [35]. The findings also fit with studies that focused on certain groups of health professionals (not speech-related professional) and that concluded that there is a need for better knowledge of health professionals on ethics issues [108,109]. Our findings suggest that discussions of how to make use of lifelong learning mechanisms to increase skills and knowledge needed to contribute and influence neuroethics and neuro-governance discourses have not even started. Work is needed in this area especially given that the existing system is seen as not working [35]. Others have suggested that lifelong learning is needed to be able to discuss social and technological changes [110]. Given the constant change in neuro-advancements, lifelong learning is needed as a mechanism to be up to date not only on the neuro-advancements but also on their impact, if speech-related professionals are to fulfill their roles of providing safe and competent care [13] and to advocate on behalf of their clients [13,14].

5. Conclusions and Future Research

The findings from this study suggest that the role narrative of speech-related practitioners linked to neuro-advancements focuses on clinical practices such as the assessment, therapy, and rehabilitation of clients and not on influencer of and knowledge contributor to neuroethics and neuro-governance discussions. Lifelong learning and professional development are not discussed as tools to obtain the skills and knowledge to contribute in a meaningful way to neuroethics and neuro-governance discourses. The findings of the study are problematic given the role understanding of speech-related professionals [12,13] and the focus of neuroethics and neuro-governance on stakeholder engagement. Given the results of the study, future research could be conducted in two main areas. One area could investigate in detail the views of speech-related professionals on their role in relation to and outside of neuro-advancements in order to obtain a better understanding whether our role narrative findings reflect the role understanding of speech-related professionals or not. More concretely, such research could obtain the views of speech-related professionals on specific roles such as being influencers of neuro-advancement discourses including ethics, policy, and governance discussions and being educators of the public on neuro-advancements including ethics and governance aspects of neuro-advancements. Linked to this focus, speech-related professionals could be asked about their views of the importance of neuroethics and neuro-governance and their own involvement in neuroethics and neuro-governance discussions. A second focus of research given our findings could be on the utility of lifelong learning to empower speech-related professionals in fulfilling all of their potential roles. More concretely, such research could obtain the views of speech-related professionals on whether lifelong learning and professional development could and should be used to (a) give them the knowledge and skills needed so they can in a meaningful way contribute to the neuro-advancement discourses including ethics, policy, and governance discussions, and (b) increase

their role of being educators of the public on neuro-advancements including ethics and governance aspects of neuro-advancements. Furthermore, an analysis of the current lifelong learning programs for the speech-related field with a focus on which roles they enable might be warranted.

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Industry 4.0 Diagnosis from an iMillennial Educational Perspective

Gabriela Beatrice Cotet [1,*], Nicoleta Luminita Carutasu [2] and Florina Chiscop [2]

[1] Training for Teaching Career and Social Sciences Department, University POLITEHNICA of Bucharest, 313, Splaiul Independenţei, Sector 6, RO-060042 Bucharest, Romania

[2] Robots and Production Systems Department, University POLITEHNICA of Bucharest, 313, Splaiul Independenţei, Sector 6, RO-060042 Bucharest, Romania; nicoleta.carutasu@upb.ro (N.L.C.); florina@mix.mmi.pub.ro (F.C.)

* Correspondence: gabriela.cotet@upb.ro

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Abstract: Although the new economic paradigm is based on the rapid evolution of technology, it is not clear if this evolution is only dependent on a spectacular transformation of human resources or if the evolution of human resources has imposed major changes at a technical level as well. The main focus of this paper is to identify how to cope with these new technologies as educational actors, using a diagnosis of contemporary generation characteristics. The fourth industrial revolution (Industry 4.0) imposes a rapid evolution (or revolution) of the human resources paradigm in engineering: iMillennials should adapt to that paradigm, and the paradigm should be adapted to them. The research objectives were to identify some relevant characteristics of iMillennials' technological background and to create a map of the abilities of this generation as required by the evolution of new technologies. For a batch of students with a technical background, two psychological inventories that describe emotional intelligence and motivation acquisition were applied. Each inventory used focuses on certain features that describe motivational achievement (AMI) or emotional intelligence (EQ-I). Besides the motivational features, the AMI questionnaire also refers to socio-emotional abilities. A correlation between the parameters of the two inventories occurred. Three correlated parameters (assertiveness, reality testing, and commitment) were identified. Based on these results, a constellation map of soft skills was designed to match characteristic features of iMillennials with necessary competencies for an Industry 4.0 environment. Furthermore, this paper proposes a tool for educational actors to cope with these transformations based on the new technologies of Industry 4.0 and the characteristics of the iMillennials generation.

Keywords: iMillennials generation; soft skills; constellation map of capabilities for education; Industry 4.0

1. Introduction: Industry 4.0 and the iMillennials Generation

Over the last decade, the workplace market has changed considerably. Many of the jobs for which people have been educated and trained have changed significantly, and their configuration is determined by the emergence of new digital technologies [1–7]. In some industrial fields and beyond, artificial intelligence now performs specific tasks, forcing employees in these sectors to exercise different, unique and human skills [7–12]. Changes due to Industry 4.0 should not be ignored. The evolution of technology requires the attention of decision-makers from the political, economic and social levels, especially from the perspective of educational policies. The role of the human factor in future advanced manufacturing has great significance in the competition with artificial robotics and intelligence [2,10].

One of the significant changes in the fourth industrial revolution will be the introduction of cybernetic systems (CPSs) [3,4,12]. Virtual reality and speech recognition, as well as the use of

augmented reality, will change how work is done [2]. Another example is the direct collaboration of robots and people working together without obstacles [7,12].

Almost four out of ten millennials (38%) declare that their organizations already achieve a large or fair amount of advanced automation, advanced connectivity, artificial intelligence or robotics to adequately fulfil the mechanical tasks or analyses previously done by humans. Meanwhile, nearly half (47%) say their employers use Industry 4.0 technologies to improve efficiency by increasing staff tasks or studies. Many millennials of Generation Z are already aware how Industry 4.0 is working in the labor market and prevision even more significant change [13].

We proposed the term "iMillennials" for young people in the new generation, replacing Generation Z, because we believe that the "i" joined to Millennials better characterizes this generation. The evolution of technology due to the development of the Internet and the speed at which this self-centered generation wants to connect to the real world have determined us to propose this term. This generation was born in 1995–2012. For us, iMillennials and Generation Z are the same, and the difference lies in the "i".

To focus of this research was to analyze the characteristics of iMillennials and identify the attributes corresponding to the requests of Industry 4.0 by assessing a batch of 120 students studying Industrial Engineering. Two inventories were used in this assessment, "Emotional Quotient Inventory"—EQ-I, and "Achievement Motivation Inventory"—AMI.

Dr. Reuven Bar-On's research on emotional intelligence has been conducted for over 20 years and has been tested by over 110,000 people worldwide. Bar-On's EQ-i® is the first inventory of emotional intelligence, which measures intelligent emotional and social behavior. One of the premises of the study is that emotional intelligence is an essential determinant of success in life. This inventory of emotional intelligence was formalized and applied to a group of students whose specialization is in the technical field. Emotional intelligence, as measured by this psychological inventory, refers to the emotional, personal, social and survival dimensions of intelligence, rather than one's ability to learn, think, reason or abstract. An emotional intelligence score helps to predict success in life. It also reflects current coping skills, one's ability to cope with daily environmental demands, common sense and, ultimately, general mental health. This psychological instrument consists of 133 items. For each statement, there are five possible answers: Very rarely or even never right for me—1, to Very often or even always right for me—5. The individual's responses render a total EQ score and scores on the following five composite scales. These comprise 15 subscale scores: Intrapersonal (involving Self-Regard, Emotional Self-Awareness, Assertiveness, Independence, and Self-Actualization); Interpersonal (comprising Empathy, Social Responsibility, and Interpersonal Relationship); Stress Management (containing Stress Tolerance and Impulse Control); Adaptability (providing Reality-Testing, Flexibility, and Problem-Solving); and General Mood (containing Optimism and Happiness). It is recommended for use in corporate settings for recruitment, screening, employee development and leadership programs [14].

The Achievement Motivation Inventory (AMI) is a personality inventory designed to measure a broad construct of work-related achievement motivation and the motivational traits that lead to socio-professional and also personal achievement. The motivation for accomplishment includes many facets that are closely linked to some traditional personality concepts. AMI is a psychological diagnostic tool that covers all the dimensions that are considered by one or more theorists as part of the motivation of achievement. In addition to the research forms in differential psychology and applied psychology, the major applications of AMI are for personnel selection, staff development, professional counseling, and so forth. It allows users to test candidates for 17 different facets of achievement motivation. For the first time, the essential social reasons from implementation are also integrated. AMI consists of 170 items to which the persons examined in a 7-point Likert format must respond: Not at all—1, to and Completely agree—7 [15]. A correlation between the parameters of the two inventories occurred, as explained later in this paper.

At first sight, the changes generated by the technological evolution create a very different generation from the one previously known. The real question is, however, if e-Revolution technology

is shaping a new generation or if a new generation shapes the change at the technological level. The manufacturing industry continues to be a critical growth factor for economies around the world with a considerable contribution to trade, research and development and productivity, which accounts for 70% of exports and 90% of R&D investment in major manufacturing economies [16]. We can say that the skills and qualifications of the workforce are the keys to the success of an innovative factory, and the role of the human factor in future advanced manufacturing has great significance in the competition with artificial robotics and intelligence. To develop the potential of human resources in production, social actors represented by political power, education and industry have committed themselves to work together in efforts to create and develop their workforce.

Nowadays, production is in the middle of the fourth industrial revolution. Digitization inserts integrated and communication technologies into manufacturing architectures. With these new integrated systems, the future factory becomes adaptable in the production of small and unique batches tailored to the customer's requirements. Automation will become more and more critical, but a fully automatic factory is currently inadequate both in terms of control and economy. For the moment, it is only noticed that with the increase in the number of sensors used, there will be much more data extracted from the production processes, allowing for further analysis and optimization. These challenges will make support systems and services more critical in the future. The role of data analysis will be enhanced, thus helping factory employees to make smarter decisions and optimize processes.

One of the significant changes in the fourth industrial revolution will be the introduction of cybernetic systems (CPSs). CPSs are networks of interaction elements, including sensors, machine tools, assembly systems and parts, all connected through digital communication networks. The data collected by these networks will be virtually represented and the processes remote controlled. A CPS works as a system and is part of what is often called the Internet of Things (IoT), defined as a set of data and information stored in the virtual environment and accessible in integrated systems allowing the elements of these systems to communicate with each other [17–20]. According to Zuehlke, the Internet of Things "will probably be a non-deterministic and open network where self-organized intelligent entities (e.g., Web services) and virtual objects will be interoperable and capable of acting independently, following their objectives (or shared ones) context, circumstances or environment" [21].

The machines will communicate with each other, and the decentralized control systems will be able to optimize the production sequence. The manufacturing process will consist of small, standardized and combinable stages, where each product knows its way through the production sequence. There may be different products in the same production line, and machines and workers must be flexible in the event of changes in the production process. The work environment will move to the control or monitoring centers, where a qualified worker will have control over the manufacturing process. Virtual reality and speech recognition, as well as the use of augmented reality, will change how work is done. For example, displayed information or graphical instructions allow the user to see the work instructions during the critical activities [22–24].

The vision for the factory of the future begins to emerge. What is apparent is that the work done by qualified labor in a factory of the future will differ significantly from the situation in today's factories. The skills and competencies of the skilled workforce that are required to perform the tasks that are produced in a factory of the future will be different, modeled by interaction with robots and artificial intelligence [25–33]. This specification fits perfectly with the iMillennials typology in terms of the speed of information processing, primarily through visual techniques. Another example is the direct collaboration of robots and people working together without obstacles.

Figure 1 depicts the elements that the fourth industrial revolution intends to integrate into the development of new technologies: Internet of Things—IoT, Cyber-Physical Systems—CPSs, Artificial Intelligence—AI, Cloud Computing, Robotics and Additive Manufacturing. Industry 4.0 must rethink the role of robotics, 3D printing, artificial intelligence, nanotechnology and biotechnology. Also, Industry 4.0 has pushed us toward a rethinking of wearable devices and augmented reality, the Internet of Things, Cloud Computing, and Autonomous Robots. The human factor is implicitly behind these

new technologies, with their role not being directly linked to production but being especially linked to creation.

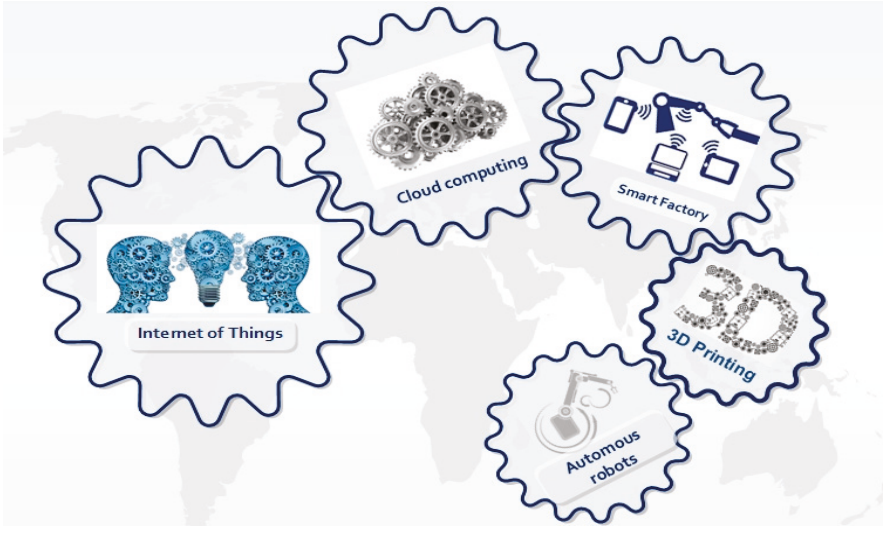

Figure 1. Industry 4.0: a vision of future industrial production.

On the one hand, according to Mannheim, the older generations form the social context with which the new generation comes into contact and is transformed. When this happens, the new generation changes social meaning by selecting or highlighting certain aspects. In conclusion, every new generation offers opportunities for continuity and social and cultural change for the next one [34].

It must be understood that new experiences are shaped by past experiences and are the source for shaping the future. The new spheres of learning (non-formal and informal learning, specifically lifelong learning) require a rethinking of learning strategies. According to the model developed by Strauss and Howe (1991), in our society, there is a generation change once every 20 years, with some signs of cyclicality [35].

It is essential to recognize the shades of human behavior in social groups to understand how small changes in attitude can lead to significant changes in the industrial paradigm.

For a generation that grows in full diversity and technological avalanche, innovations are no longer considered as disruptive. They represent the new normality. Virtual reality, self-driven cars and the ability to print almost everything using 3D technology do not surprise the members of Generation Z. They are only waiting for the next iteration of the process, and they want to play a part in designing it. It is the generation that went from expectation to innovation (Table 1).

Table 1. Specific characteristics for iMillennials [36–38].

Characteristics/Meta-Factors	Particularity	Description
Behaviors	Goal orientation	This generation is motivated by social rewards, mentoring and constant feedback. They also want to make sense and be accountable. Like their predecessors, they also require flexible hours.
	Positive attitude	Dynamism, a bright career, inspiring work atmosphere and flexibility in work schedule.
	Technical experience	Generation Z is the most technologically gifted generation, connected at the global level.
	Multi-tasking	They can work efficiently with multiple tasks at the same time, with various sources of distraction in the background—multitasking. This kind of productivity flow could change how the activity is running.
	Global generation	Generation Z is the first truly global generation, primarily through technology, globalization and diverse cultural patterns, online entertainment, social trends, etc.
	Educational goal	The reformed reality from an educational point of view—moving from formal delivery to interactive environments. Therefore, education is no longer dependent on one stage of life but a lifelong reality.
Attributes	Low concentration	The iMillennials generation consumes many data. The result is a more rapid transmission of information, increasing the consumption of information, but with decreased concentration.
	Thinking outside the box	Ways of thinking differently, coming out of conventional patterns or matrices or from a new perspective. This expression often refers to new or creative, innovative thinking. It involves a process of thought focused on the implementation of an unusual approach to the structure of logical thinking.
	Taking career responsibility	iMillennials members seem to be more aware and concerned about their career. They are much more focused, determined and informed about career choice compared to Generation Y.
	Digital generation	They are digital integrators—the age at which we use technology for the first time determines how embedded it becomes in our lifestyle.
	Individualism	This is related to their competitiveness. They want to manage their projects so that their abilities shine. They do not want to depend on other people to do their job.
	Quick visual Interpretation	Transformation of visual interpretation pattern: image vs. word. Rapid processing of information.
Values	"Carpe diem"	They like to be involved in lawsuits, to contribute to finding solutions and being more engaged in various experiences.
	Meaningful work	The work carried out should be positive, deliberate and meaningful. Cultivating significance by focusing on the greater good of the work and by clearly showing the reason why the thing counts is a crucial practice researched to stimulate importance.
	Interpersonal relationships	The members of Generation Z revolt against personal interactions; human resources leaders should reassess how best to put the "human" aspect into business. For example, employment processes should focus on interviews in person more than online applications.
	Personal achievements	While all adult generations say that family is most important to their sense of self, the identity of Generation Z is best defined by their results.

These are the main challenges that employers will likely face when they hire candidates from iMillennials: they want to change and provoke things, dogmas and best practices, and they want to explore and experiment [39,40].

2. Materials and Methods

The iMillennials generation believes that Industry 4.0 will increase the size of job offers, giving them more time to focus on creative, "human" and value-added work. One-fifth of them consider that

they will not be affected, while others think that the new paradigm of industry will be a severe threat. While only 17% of iMillennials expect Industry 4.0 to replace all jobs or some jobs, this increases to 32% for those whose organizations are extensively using Industry 4.0 technologies. These results suggest that familiarity with Industry 4.0 can inspire more fear than comfort [13].

Educational leaders should consider the features outlined above when they develop educational curricula to come to meet the expectations of this generation. Alongside educational leaders, industrial actors and political representatives involved in shaping social policies must participate.

Technical skills that will undoubtedly be useful, but not necessarily, are, for example, programming or coding abilities or not very profound technical knowledge. The future factory worker will be a generalist rather than a specialist [41].

Soft skills such as social and communication skills as well as teamwork and self-management skills become crucial. At present, the typical factory worker does not receive training in these areas because the job content usually does not require the use of these skills.

Our research can be regarded as a projection of what the future will be. The purpose of the study was, on the one hand, to diagnose the characteristic features of the iMillennials generation. On the other hand, our purpose was to map the competences that this generation has pursued, which will reshape the labor market, as we now know, and which will have to respond to the challenges posed by new technologies. The research was based on the application of two psychological instruments, the first based on emotional intelligence and the second based on the realization by motivation. The working hypothesis was that the values obtained for the representative scales would describe the characteristics considered relevant for this generation. Our interest has also focused on comparing the features described by other authors for iMillennials with the results obtained.

The values obtained by applicants for scales considered relevant for the characterization of iMillennials were considered in the two inventories: Achievement Motivation Inventory—AMI, and Emotional Quotient Inventory—EQ-I. The number of respondents was 120, students of the University Politehnica of Bucharest, with the specialization of industrial logistics and robotics.

According to the authors H. Schuler, GC Thorton III and Frintrup, AMI assesses the relevant factors for professional success. It goes from the premise that the motivation of realization results from the way in which a wide range of personality components are directed to performance. Its power is influenced by the following factors: the desire to establish and work towards achieving objectives—ambition; confidence in the ability to accomplish this—self-confidence; capacity to support efforts to attain set goals—self-control. Each of the above three factors is influenced by several aspects of one's personality [14]

The model for EQ-I is described as one of the most important approaches to emotional intelligence in Bar-On Emotional Quotient Inventory, TECHNICAL MANUAL (A Measure of Emotional Intelligence. This inventory of emotional intelligence was formalized and applied to a group of students whose specialization is in the technical field [15].

Following the analysis of the characteristics defining the iMillennials, we extracted a series of attributes that we have overlapped as the scales considered by us as relevant to the corresponding employee profile of the future that will be activated in Industry 4.0. Table 2 correlates the specific characteristics identified in the iMillennials generation (Table 1) with the scales we selected as relevant to the employee profile in Industry 4.0., from the two psychology inventories (EQ-I according to Bar-On, which describes emotional intelligence, and Achievement Motivation Inventory, which describes performance motivation).

For each critical attribute for the profile of the future employee, which characterizes iMillennials (left column), we have attached specific scales to the two psychological instruments AMI and EQ-I (middle column, respectively, right). We describe selected scales for AMI and EQ-I in Tables 3 and 4.

Table 2. The correlation between iMillennial competencies and selected scales from the Emotional Quotient Inventory (EQ-I) and the Achievement Motivation Inventory (AMI).

Main Factors	AMI	EQ-I
Goal orientation	Status orientation	
Positive attitude	Flexibility Confidence in success	Flexibility
Technical experience	Competitiveness	
Educational purpose	Status orientation	
Thinking outside of the box	Preference for difficult tasks Fearlessness	Problem solving
Responsibility for careers	Engagement Internality	Social responsibility
Individualism	Independence	Assertiveness Independence
Carpe diem	Goal Setting	Reality testing
Meaningful work		Optimism Happiness
Personal achievement	Pride in productivity	Self-actualization

Table 3. Description of the selected scales of the AMI inventory [15].

Engagement	Identifies their availability to support an effort, its level and the individual workload. Actively engaged in their activity. Very active people, who give priority to work against other fields of business.
Confidence in success	Confidence in one's success describes the expectation of positive results from the activities one carries out. They act accordingly and expect to succeed, building on their skills and knowledge, even when faced with difficulties, obstacles or competition.
Flexibility	The way they relate to new situations and tasks. They have high availability for new professional conditions and prefer change or uncertainty. They are attracted to new locations that allow them to experience novelty, even if it means accepting a certain degree of discomfort or even the risk of failure.
Fearlessness	The people described by this scale are not afraid of failure. When faced with important tasks and situations, they do not feel a high level of pressure, and therefore their results are not negatively influenced.
Internality	Internality denotes how the results of one's actions are explained. They attribute the effects and consequences of their behavior to the actions taken. Depending on their response and effort, they interpret professional success or failure.
Preference for difficult tasks	They are described as ambitious, looking for challenges, ready for risk, self-questioning, wanting to prove their abilities, arduous, solving problems, stimulated by obstacles, testing their limits, and overcoming obstacles. Issues that arise are incentives rather than obstacles.
Independence	It is characterized as being responsible for oneself, autonomously, freely, and without obligations. They are involved in decision making; they are self-confident in the decision-making process. They want to decide on their way of working and make decisions independently. They do not like being controlled.
Status orientation	It describes the effort made to play an essential role in the social field and a leading place in the social hierarchy. Seeking recognition of their performance by others. They want to occupy influential positions and are interested in their professional promotion. Career growth prospects are, for them, essential motivators of professional performance.
Competitiveness	It measures the tendency to experience competition as an incentive and as a motivation for professional performance. People with high values are looking for match and comparison with others. They are quickly challenged; they want to be better and faster than others. They need to win. The gain strengthens them in their effort.
Goal setting	Setting goals for both short-term tasks and long-term projects. They are future-oriented and have high expectations of what they want to achieve. They have long-term plans, and they know in which direction they want to develop, from a personal point of view.

Table 4. Description of the selected scales of the EQ-I inventory [14].

AS: Assertiveness	Direct expression of one's own beliefs, thoughts or ideas. They use their own opinions for constructive purposes. Assertiveness involves finding the right language to support one's beliefs.
IN: Independence	Describes those who have high self-confidence. The importance of making the right decision in risk situations without being influenced by external factors. Identifies the persons who prefer being in a position to coordinate the activity in the team, taking initiative and responsibility.
SA: Self-actualization	The ability to realize their potential. Preference for learning new things that will bring them professional satisfaction. Identifies a long-term vision with motivational energy, and leads a meaningful life.
RE: Social responsibility	Ability to act responsibly. Socially responsible people accept, respect, and help others and respect social rules, also being able to use their skills to identify people with high moral and ethical standards.
RT: Reality testing	It characterizes people who can evaluate the relationship between what they experience (subjective) and what exists (objective). They are realistic people, looking for objective and pragmatic evidence to confirm, justify and support their feelings and actions.
FL: Flexibility	Rapid adaptation to unexpected situations, capable of responding to changes without rigidity. In search of new ideas and challenging, innovative situations in response to the problems they face.
PS: Problem-solving	A practical approach to solving the problems that arise, offering innovative solutions. The pleasure of facing risky situations. They have an individual ability to obtain intellectual and social resources. Heuristic and creative.
OP: Optimism	Positive attitude, which leads to high confidence in their strengths and themselves. They adapt quickly to troublesome or stressful situations. Optimistic people are generally desirable members of a team because they are more motivated and persevering.
HA: Happiness	The feeling of adequacy at work, in professional life, but also in leisure time and personal experience. They present a high degree of job satisfaction. They have a greater desire to explore, to seek new information and to have creative thinking.

3. Results

The results obtained from the application of the two psychological instruments are shown in the graphs below.

The results obtained after applying the AMI, for the scales considered relevant for the study: Engagement—EN, Confidence in success—EZ, Flexibility—FX, Fearlessness—FU, Internality—IN, Preference for difficult tasks—SP, Independence—IN, Status orientation—ST, Competitiveness—WE and Goal setting—ZS, are presented in Figure 2. In the graph, the green color indicates the scores obtained for the selected scales, reported along with average scores for the same scales, presented in the chart with blue color.

The values are in the statistical range 90–110, described by the authors, H. Schuler, GC Thorton III and Frintrup as average motivational performance. The obtained values show us that there is an opportunity to develop an educational curriculum adapted to new paradigms imposed by Industry 4.0, to improve these traits.

The results obtained after applying AMI are in the average range of 90–110. This result shows us that there is a willingness to improve these traits.

The values obtained after applying the EQ-I inventory, for the scales relevant to the psychological profile required by the Industry 4.0 specification, are within the statistical range 90–109, described by Reuven Bar-On as efficient acting. This range represents the dynamic operating range (Figure 3).

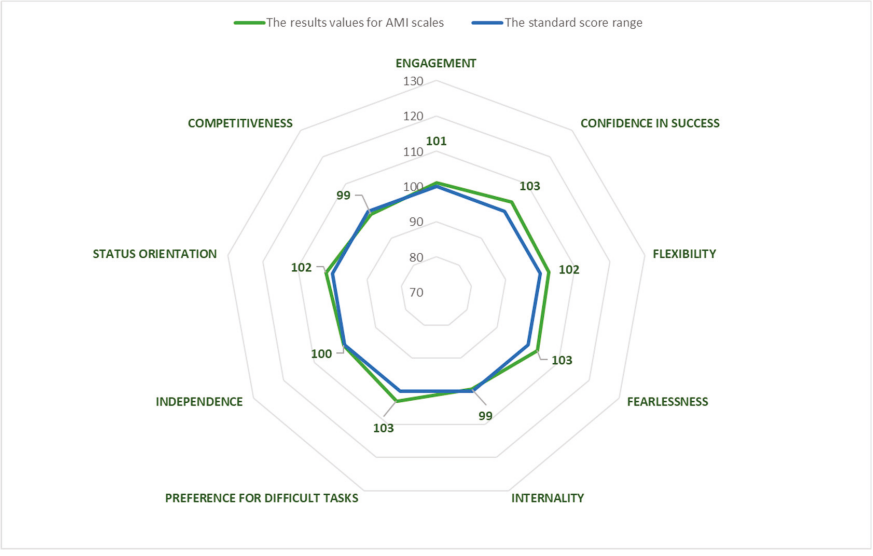

Figure 2. Selection of AMI scales correlated with the characteristics of iMillennials.

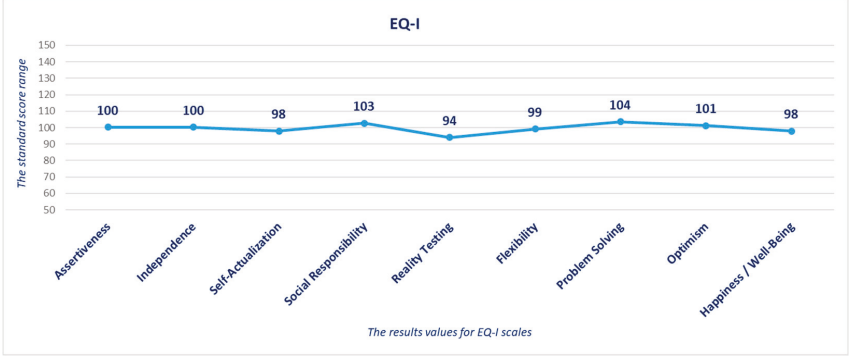

Figure 3. Selected EQ-I scales.

New technologies impose challenges with the rise of Industry 4.0. The intelligent systems associated with AI require from both of the actors involved in the development of new technologies, i.e., education and industry leaders, individual attention to ethics. There is a correlation between *engagement* and the *total coefficient of emotional intelligence—EQT* (general degree of adequate emotional and social functioning), the degree to which a person has specific noncognitive abilities and skills that they use successfully in adapting to the pressures and demands of the environment.

The values calculated by the Pearson coefficient indicate a correlation considered reasonable: 0.54 between engagement and assertiveness, 0. 49 between commitment and reality testing, and 0.41, respectively, for the total quotient of emotional intelligence (Figures 4 and 5).

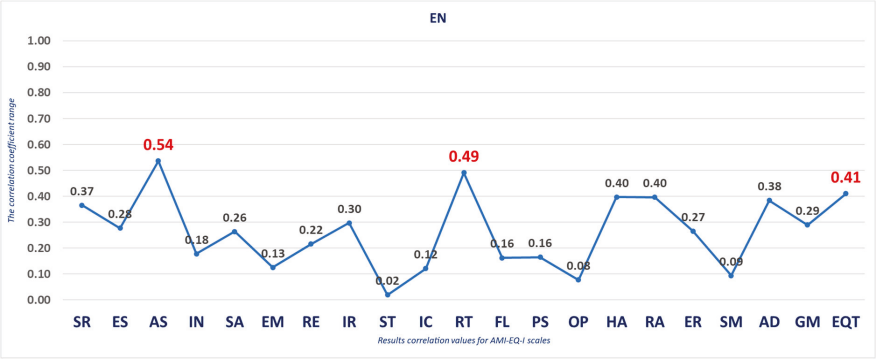

Figure 4. Graphical representation for the correlation between AMI and EQ-I.

	SR	ES	AS	IN	SA	EM	RE	IR	ST	IC	RT	FL	PS	OP	HA	RA	ER	SM	AD	GM	EQT
BE	0.11	0.04	0.13	-0.12	0.10	-0.09	0.05	0.04	0.01	-0.08	0.03	-0.15	0.34	0.05	0.06	0.07	0.01	-0.05	0.07	0.06	0.05
DO	-0.14	0.20	0.14	-0.30	-0.20	-0.03	-0.02	0.08	-0.24	0.01	0.08	-0.12	-0.28	-0.33	-0.07	-0.12	0.02	-0.11	-0.11	-0.24	-0.14
EN	0.37	0.28	0.54	0.18	0.26	0.13	0.22	0.30	0.02	0.12	0.49	0.16	0.16	0.08	0.40	0.40	0.27	0.09	0.38	0.29	0.41
EZ	-0.07	0.12	0.19	-0.14	-0.08	0.14	0.08	0.35	-0.25	-0.18	0.03	-0.26	0.04	-0.13	0.10	-0.03	0.25	-0.25	-0.08	-0.01	-0.03
FX	-0.03	0.03	0.19	-0.23	-0.07	0.04	0.10	0.13	-0.23	-0.03	0.20	-0.04	-0.03	-0.15	0.17	-0.05	0.11	-0.14	0.08	0.02	-0.01
FL	0.17	0.07	0.38	0.08	0.07	-0.09	0.04	0.10	-0.06	0.11	0.35	0.00	-0.09	-0.07	0.23	0.18	0.04	0.05	0.15	0.10	0.16
FU	-0.21	0.03	0.00	-0.29	-0.30	0.06	0.15	0.14	-0.13	-0.13	-0.12	-0.27	0.12	-0.18	-0.17	-0.22	0.14	-0.16	-0.14	-0.21	-0.17
IN	-0.09	-0.16	-0.03	-0.19	0.00	0.14	0.26	0.10	-0.06	-0.01	-0.07	-0.07	-0.01	0.03	0.05	-0.12	0.19	-0.04	-0.07	0.05	-0.02
KA	0.21	0.02	0.32	0.07	0.23	-0.10	-0.04	0.07	0.07	-0.04	0.12	0.17	0.10	0.15	0.27	0.21	-0.01	0.01	0.17	0.26	0.18
LS	0.02	-0.08	0.23	-0.22	0.04	0.06	0.14	0.11	-0.19	-0.11	0.04	-0.18	-0.06	-0.07	0.15	-0.02	0.12	-0.17	-0.08	0.05	-0.03
LB	-0.02	-0.11	0.31	0.03	-0.10	0.28	0.36	0.20	-0.11	-0.06	0.18	-0.18	-0.09	-0.03	0.06	0.00	0.32	-0.10	-0.02	0.02	0.06
SP	0.07	0.20	0.23	-0.10	0.07	0.07	0.16	0.33	-0.13	-0.11	0.20	-0.27	0.04	-0.13	0.11	0.10	0.24	-0.14	0.00	0.00	0.07
SE	-0.08	0.17	0.19	-0.27	-0.25	-0.08	0.02	0.31	-0.27	-0.11	0.09	-0.24	-0.24	-0.34	0.03	-0.10	0.13	-0.22	-0.14	-0.18	-0.13
SK	-0.05	-0.03	0.11	-0.21	-0.04	0.07	0.17	0.21	-0.08	0.06	0.03	0.05	0.26	-0.10	0.05	-0.07	0.19	0.00	0.13	-0.02	0.04
ST	-0.09	-0.16	0.05	-0.23	-0.03	0.06	0.14	0.11	-0.26	-0.23	-0.12	-0.34	-0.16	-0.16	-0.01	-0.12	0.13	-0.29	-0.27	-0.10	-0.17
WE	0.15	-0.10	0.27	0.23	0.07	-0.10	-0.13	-0.10	0.26	-0.22	-0.21	0.03	0.21	0.26	-0.10	0.16	-0.13	-0.02	-0.02	0.09	0.05
ZS	-0.21	0.04	0.13	-0.25	-0.29	0.28	0.14	0.38	-0.34	-0.17	-0.07	-0.20	-0.10	-0.30	0.06	-0.19	0.33	-0.29	-0.16	-0.13	-0.13
IMG	0.04	0.05	0.20	-0.10	0.03	-0.02	0.01	0.12	-0.19	-0.11	0.06	-0.05	0.13	-0.08	0.08	0.04	0.05	-0.17	0.05	0.00	0.01

Figure 5. Results of the correlation between AMI and EQ-I scales.

According to the authors H. Schuler et al., Engagement—EN—describes the personal willingness to support an effort, its level and the workload. In other words, the ability to maintain a high level of activity over long periods. [15]

Following Reuven Bar-On, *assertiveness* represents the ability of a person to express their feelings, beliefs, and thoughts, and to defend their rights in a non-destructive manner. Assertiveness does not mean handling situations through high social and verbal skills but instead finding the proper language to support one's point of view [14].

Each inventory used focuses on specific features that describe motivational achievement (AMI) or emotional intelligence (EQ-I). Besides the motivational features, the AMI questionnaire also refers to socio-emotional abilities. A correlation between the parameters of the two inventories is described in Figures 4 and 5. We identified three correlated parameters (assertiveness, reality testing, and commitment). As one can see in Figure 5, these results fill the existing gap in terms of the correlation between engagement and total coefficient of emotional intelligence (the quotient given

by the general degree of emotional and social efficiency). Table 5 describes in detail the correlation between commitment, assertiveness, and reality testing.

Table 5. Correlations between AMI and EQ-I.

AMI	EQ-I
Commitment	**Assertiveness**
An individual with a high score on the EN scale is described as an employee who is eager to work, diligent, busy, diligent, ambitious, enthusiastic for performance, dynamic, diligence, lively, action-oriented, entrepreneurial, agile, and restless, with ambitious skills.	Finding the right language to make others understand their point of view. Openly and constructively expresses their views. Expresses a categorical attitude to defend their beliefs, thoughts, and opinions, and express disapproval when they feel it.
	Reality Testing
	It is a characteristic of people able to assess the correspondence between what they experience (subjective) and what exists in reality (objective).
	Realistic persons, with their feet on the ground, trying to keep a refreshing perspective on the reality of things. Another feature of them is that they are always in search of objective and pragmatic evidence to confirm their ideas.
	They focus on examining ways they can cope with situations as they arise. Attention to the relevant information for the immediate solving of problems, taking better decisions and with fewer errors.

4. Conclusions

In the technological context of Industry 4.0, the goal of an educational leader is to respond effectively to changing learning styles by implementing virtual and augmented reality, teaching as a facilitator, supporting group work, providing case studies in the real world and teaching through kinaesthetic learning methods. The skills mapping system proposed in this paper acts as an instrument to better understand what we want from iMillennials, as simple operators will be replaced by intelligent systems or creative employees, who must be speculators adapted to technological challenges.

Educational policies are the first source of modeling of the human resources of tomorrow. Competences imposed by new technologies will reshape the labor market as we know it. Today's students are continuously connected through advanced technologies and social networks. The education sector responds to this by adapting curricula and strategies to address the challenges and opportunities posed by this change.

The iMillennials generation is a globally connected generation in which people communicate in the virtual environment and industrial equipment communicates in the virtual environment as well. IoT technology opens the possibilities for creating sustainable economic growth, if educational policies will manage to ensure the competence of Generation Z to communicate with both people and industrial equipment with the same ease. In reducing the skills gap, it is essential to address the expectations coming from the new generations properly while also finding an appropriate response to the challenges of new technologies. Figure 6 describes the interaction of meta-factors and the main factors as given by the characteristics of iMillennials described in Table 1. The main elements are quantified by the scales of the two inventories, with the yellow color representing EQ-I, and the orange color AMI.

Figure 6. Constellation map of soft skills.

The focus was on identifying the level at which some main positive characteristics of iMillennials could be quantified to improve them through special programs. Lack of concentration is a negative element that was not quantified. For a group of students with a technical background, two psychological inventories that describe emotional intelligence and motivational acquisitions were applied. Each inventory used was focused on specific features that describe motivational achievement (AMI) or emotional intelligence (EQ-I). As a result, a correlation between three parameters (assertiveness, reality testing, and commitment) was determined. Based on these results, a constellation map of soft skills was produced matching characteristic features of iMillennials and necessary competencies for an Industry 4.0 environment. Starting from the vision of the main meta-factors, around which the secondary factors orbit, we defined the constellations of abilities and personal qualities—soft skills. We designed three meta-factors (primary valences): emotional intelligence, communication strategies, and thinking outside the box. Around each of these primary valences gravitates a series of substructures described as secondary valences. For each new job involved in the Industry 4.0 paradigm, certain specific secondary factors could be selected so as to fit the job description.

Further research will focus on the various applications of this constellation map of soft skills. We also intend to consider the inclusion of the negative features of iMillennials. The approach from this perspective will constitute one of the further developments of our research, especially from the standpoint of educational policies.

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The Preparation of Stewards with the Mastery Rubric for Stewardship: Re-Envisioning the Formation of Scholars and Practitioners

Christopher M. Rios [1], Chris M. Golde [2] and Rochelle E. Tractenberg [3,*]

[1] Graduate School, Baylor University, Waco, TX 76798, USA; chris_rios@baylor.edu
[2] BEAM Stanford Career Education, Stanford University, Palo Alto, CA 94305, USA; golde@stanford.edu
[3] Collaborative for Research on Outcomes and –Metrics, Departments of Neurology, Biostatistics, Bioinformatics & Biomathematics, and Rehabilitation Medicine, Georgetown University, Washington, DC 20057, USA
* Correspondence: rochelle.tractenberg@gmail.com

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Abstract: A steward of the discipline was originally defined as "someone who will creatively generate new knowledge, critically conserve valuable and useful ideas, and responsibly transform those understandings through writing, teaching, and application". This construct was articulated to support and strengthen doctoral education. The purpose of this paper is to expand the construct of stewardship so that it can be applied to both scholars *and non-academic practitioners*, and can be initiated earlier than doctoral education. To accomplish and justify this, we describe a general developmental trajectory supporting cross-curriculum teaching for stewardship of a discipline as well as of a *profession*. We argue that the most important features of stewardship, comprising the public trust for the future of their discipline or profession, are obtainable by all practitioners, and are not limited to those who have completed doctoral training. The developmental trajectory is defined using the Mastery Rubric construct, which requires articulating the knowledge, skills, and abilities (KSAs) to be targeted with a curriculum; recognizable stages of performance of these KSAs; and performance level descriptors of each KSA at each stage. Concrete KSAs of stewardship that can be taught and practiced throughout the career (professional or scholarly) were derived directly from the original definition. We used the European guild structure's stages of Novice, Apprentice, Journeyman, and Master for the trajectory, and through a consensus-based standard setting exercise, created performance level descriptors featuring development of Bloom's taxonometric cognitive abilities (see Appendix A) for each KSA. Together, these create the Mastery Rubric for Stewardship (MR-S). The MR-S articulates how stewardly behavior can be cultivated and documented for individuals in any disciplinary curriculum, whether research-intensive (preparing "scholars") or professional (preparing members of a profession or more generally for the work force). We qualitatively assess the validity of the MR-S by examining its applicability to, and concordance with professional practice standards in three diverse disciplinary examples: (1) History; (2) Statistics and Data Science; and (3) Neurosciences. These domains differ dramatically in terms of content and methodologies, but students in each discipline could either continue on to doctoral training and scholarship, *or* utilize doctoral or pre-doctoral training in other professions. The MR-S is highly aligned with the practice standards of all three of these domains, suggesting that stewardship can be meaningfully cultivated and utilized by those working in or outside of academia, supporting the initiation of stewardship prior to doctoral training and for *all* students, not only those who will earn PhDs or be scholars first and foremost. The MR-S can be used for curriculum development or revision in order to purposefully promote stewardship at all levels of higher education and beyond. The MR-S renders features of professional stewardship accessible to all practitioners, enabling formal and informal, as well as self-directed, development and refinement of a professional identity.

Keywords: Mastery Rubric; stewardship; curriculum development and evaluation; actionable evidence of learning; professional identity; professional development

1. Introduction

In 2001, the Carnegie Foundation for the Advancement of Teaching instituted a five-year project entitled the "Carnegie Initiative on the Doctorate" (CID) that sought to examine the purpose of doctoral education in the United States. The primary outcomes included two publications: *Envisioning the Future of Doctoral Education: Preparing Stewards of the Discipline* [1] and *The Formation of Scholars: Rethinking Doctoral Education for the Twenty-First Century* [2]. These volumes argued that the goal of doctoral education was to create more than simply experts in a field but also stewards of a discipline [1] (p. 5). The CID defined a steward as "a scholar first and foremost", one to whom "we can entrust the vigor, quality, and integrity of the field" (p. 5) and went on to describe the activities of a steward in three categories—generation, conservation, and transformation. A steward is someone who "will creatively generate new knowledge, critically conserve valuable and useful ideas, and responsibly transform those understandings through writing, teaching, and application" [1] (p. 5).

In a higher-education symposium held at Baylor University in October 2016, a panel reviewed the first 10 years of the construct's use [3] and drew attention to current applications in three settings: in the Graduate School at Baylor University (Waco, Texas), the "Reframing the PhD" project (2015–2018) in Australia (http://reframingphd.com.au/), and as an alternative model for training and certifying "mentors" through the American Statistical Association. The panel affirmed the validity and value of the stewardship model as the goal of doctoral education, demonstrating how the active promotion of disciplinary stewardship is well worth supporting [3–5]. In doing so, they also highlighted the relevance of the characteristics of stewardship in areas beyond the scope intended by the CID. Namely, they asserted: (1) its validity for professionals and practitioners within a discipline as well as scholars in the traditional sense; and (2) its validity for educational levels prior to the doctorate. This expansion is alluded to in the original [1] (p. 10): "Upon entry into practice, all professionals assume at least a tacit responsibility for the quality and integrity of their own work and that of colleagues. They also take on a responsibility to the larger public for the standards of practice associated with the profession". In order for "all professionals" to assume these responsibilities, teaching and learning about them is essential. The purpose of this paper is to expand the construct of stewardship so that it can be developed by all professionals and practitioners, and can be initiated earlier than doctoral education.

This paper expands upon the ideas generated at the Baylor symposium. We developed a general curricular framework that can be used by different disciplines to promote the explicit integration of stewardship throughout higher education and into the workplace. This framework is in the form of a curriculum development tool that can also be used outside of formal curricula, the Mastery Rubric [6]. With its development, we sought to ensure that, rather than assuming a "tacit responsibility" for integrity and their professional practice standards, all those who proceed through the developmental trajectory for stewardship—whether or not they do so in a doctoral curriculum—would be prepared to engage fully and responsibly in their profession.

Articulating such a framework adds formative value to the stewardship model by permitting both students and faculty to determine where they are in their own stewardly development so that individuals can set goals for further growth. Additionally, while we agree that the characteristics of a steward are fully and most explicitly formed through doctoral education, many individuals do, or would, advance and sustain their disciplines *without* pursuing doctoral education. Further, many doctorally-prepared faculty around the US *teach* first and foremost, with scholarship playing a secondary role in their professional lives. Thus, the construct *is* relevant for more than just "the scholar first and foremost". We therefore argue for the expansion of the stewardship model beyond doctoral education and beyond those for whom scholarship is their primary responsibility. This expansion

could also enhance the practical value of the model, but articulating a developmental trajectory for stewardship is needed to promote its wider adoption across disciplines and levels of practice, providing guidance for curricula that can prepare stewards throughout higher education rather than solely for doctoral education.

Subsequent sections of the Introduction more fully describe stewardship and explain and contextualize the proposed expansion of its scope. The Mastery Rubric construct is also introduced. The Methods Section is focused on the creation of the Mastery Rubric for Stewardship and the validity evidence supporting its creation and use, as well as the alignment of this Mastery Rubric with diverse disciplinary professional practice standards. The results of these methods reinforce the determination that stewardship can be achieved by all practitioners, and can be initiated prior to doctoral training.

1.1. Who is A Steward of the Discipline?

As noted, the CID described stewards of the discipline as those committed to the foundation and future development of one's field as expressed in three activities: generation, conservation, and transformation. Generation is the heart of doctoral study, and of the PhD in particular. Of all graduate education, the PhD is distinguished by the expectation and obligation to make a new and significant contribution to one's field. Doctoral graduates are expected to be able "to ask interesting and important questions, to formulate appropriate strategies for investigating these questions, to conduct investigations with a high degree of competence, to analyze and evaluate the results of the investigations, and to communicate the results to others to advance the field" [1] (p. 10). Included here is the responsibility to critically evaluate new and existing claims in order to ensure the quality of others' work in the field, and to help promote scholarship that *advances the field*, and does not simply augment the author's CV. Thus, "generation" implies both making one's own contribution and judging the contributions of others.

Conservation means understanding the history and fundamental ideas of one's field so that depth of knowledge in one aspect of the discipline is balanced by understanding how that knowledge fits within the discipline overall. While doctoral students typically acquire narrow expertise, their specialization should be balanced by a commitment to knowing the field more broadly. Similarly, stewards know how their field (or their niche in it) complements the larger intellectual landscape beyond their own discipline. Stewards are thereby called to move the field forward while maintaining its defining characteristics. By doing so, stewards are "aware of the shoulders on which they stand and are able to judge which ideas are worth keeping and which have outlived their usefulness" [2] (p.12).

Transformation includes the tasks of responsible writing, teaching, and application. It represents "teaching in the broadest sense of the word" [2] (p.12). Whether one is in or outside of a traditional academic or research setting, stewards must clearly communicate within and across traditional disciplinary boundaries and to diverse audiences, including novice learners, specialists in the field, or the broader society. These transformations represent significant achievements, not all of which are taught or practiced in doctoral training. Transformation also includes the ability to apply one's knowledge and expertise to help solve problems, or bring greater understanding, within and outside of the specific discipline. Such application varies by field and topic of study, but stewards in all fields have a responsibility for transparency—open, honest, and thorough documentation or communication in all aspects of this broadest sense of teaching, including writing, teaching, mentoring, and the application of the knowledge of their discipline to problems within and outside of their discipline.

Thus, stewards are those who contribute to the generation, conservation, and transformation of their fields, and PhD program graduates should be able to bring their knowledge, skills, and expertise to bear on a wide range of challenges [7]. Significantly, the CID did not limit stewards to traditional faculty roles, but affirmed the diverse career paths pursued by doctoral graduates (see also, e.g., [8–10] (p. 299). Whether they serve in the academy as researchers or teachers, or they use their education in business, government, or non-profits, doctoral graduates may be seen as scholars, because, in the words of the CID, "the work of scholarship is not a function of setting but of purpose and commitment" [2] (p. 8). Admittedly, this is a broad view of scholarship, stemming in part from the Carnegie Foundation's

understanding of doctoral education as a kind of professional preparation: it is preparation for an academic profession [2] (pp. X–XI). This broad view is one we affirm, in so far as "scholar" means a steward of the discipline. Where we differ from the CID is with their: (a) view that stewardly formation occurs only within doctoral education; and (b) definition of stewards as those for whom scholarship is first and foremost. That is, we argue that, while stewards are fully and explicitly formed at the doctoral level, stewardship *can* also be developed earlier than doctoral training, and/or in professional practice. In our model, instilling the characteristics and identity of a steward can be a goal for doctoral, professional, and undergraduate education, promoting a commitment to the integrity and vigor of the discipline by scholars, professionals, and practitioners within a field.

For example, in many professions, conservation is practiced in that there are requirements for an understanding of the fundamental ideas of the field. Nurses, accountants, lawyers, statisticians, and many other professionals have a responsibility to maintain the standards and fundamental principles of their professions. Similarly, transformation in the words of the CID, "teaching in its broadest sense", is a common expectation across workplaces, professions, and environments. Even "generation"—the hallmark of the PhD—can be achieved by those who are dedicated to their fields yet lack the doctoral degree. Concretely illustrating this point is the GitHub repository for code and computing tools, which is a venue for "publishing" and making public—open to user and community input—new tools and techniques to promote scientific advances (see, e.g., [11]). Contributors to resources like GitHub need not hold doctorates, but they *do* need to be stewardly (e.g., [12]).

Additionally, the rate of PhD production across disciplines in the US has long outstripped the needs of the academic job market (see, e.g., [13]). Thus, increasing numbers of doctoral graduates work outside of the academy, and yet may continue to function as stewards in their non-scholarly roles. In addition, many doctoral graduates seek employment in colleges or universities where *teaching*, and not scholarship, is the principal obligation. If the construct of stewardship is limited to those for whom scholarship is in fact "first and foremost", then the majority of college and university faculty (whose principal role is education, not scholarship) might not self-identify as stewards—which is clearly neither desirable nor true. Importantly, modern scientific practice has become highly inter- and multi-disciplinary, which suggests that academics may be contributing scholarship to their own discipline as well as others, or into the literature that comprises the intersection(s) between disciplines. These recent changes in the landscape of scholarly preparation and employment must be accommodated if the construct of stewardship is to be more widely engaged. We seek to promote commitment to the construct in the widest possible sense in scholars, educators, and professionals outside of the academy.

Finally, reserving the cultivation of stewardship to only doctoral students, who are the smallest proportion of students in any academic setting (sometimes by orders of magnitude), *leaves to chance* the development of stewardly attitudes towards a discipline or profession among the vast majority of graduates. While it is argued that "(u)pon entry into practice, *all professionals assume at least a tacit responsibility* for the quality and integrity of their own work and that of colleagues" [1] (p. 10—emphasis added), this should not describe only professionals who are graduates of doctoral programs. We conclude that, for the benefit of society broadly, and higher education specifically, the stewardship model *should not be limited* to doctoral education.

1.2. A Developmental Path for Stewardship

In the words of the CID, "doctoral education is a complex process of formation". It includes technical training, but is more importantly concerned with developing the intellectual expertise, commitments, and perspectives required of a custodian of the field. "What is formed, in short, is the scholar's professional identity in all its dimensions" [2] (p. 8). This is perhaps most true—and observable—in doctoral education, but professional identity development could be more widely promoted if stewardly preparation were started *earlier* than the doctoral level. A Mastery Rubric is a tool for curriculum development and evaluation [6] that articulates a curriculum's intended outcomes and integrates a developmental trajectory that moves learners from novice to more expert performance

within an evidence-centered design framework. The Mastery Rubric construct supports the articulation of a developmental framework for stewardship where students as early as the first year of college (two- or four-year programs) and faculty can engage in, and actively monitor, development of the target knowledge, skills, and abilities [14]. Thus, we used the Mastery Rubric construct to create a developmental path for stewards of the discipline, profession, or enterprise across disciplines.

Mastery Rubrics have been published for clinical research [14], ethical reasoning [15], evidence-based medicine [16], and statistical literacy [17]. The construct is described in detail in [6]. In order to create a Mastery Rubric (MR), three elements are needed [6]:

(1). A list of **k**nowledge, **s**kills and **a**bilities (**KSAs**) to be developed by learners via the curriculum in order for progress towards expertise (or independence) to be attained;
(2). Conceptualization of the **trajectory** of progression from novice to the desired (targeted) level(s) of expertise or independence, and ideas of the evidence supporting claims of classification; and
(3). Descriptions of two or more **mutually exclusive performance levels** (e.g., novice, proficient) on *each* of the list of KSAs.

Performance of the KSAs that are the ultimate objective of the curriculum should progress in recognizable stages from uninitiated towards expertise or independence. The specific achievements of a person at each stage and for each KSA are represented in the Mastery Rubric as performance level descriptors (PLDs). PLDs clarify, but do not restrict or prescribe, what instructors need to teach and assess, and what students need to demonstrate in order for their performance of a KSA at a given stage to be recognized as "achieved". The MR should capture the consensus around the curriculum; making the KSAs explicit, and their achievement at target stages explicit, so decisions about a new curriculum or revisions to existing ones can be facilitated and communicated.

2. Methods

To develop a Mastery Rubric for Stewardship (MR-S, Table 1), we completed each of the three elements, described below. We then sought to determine the value and utility of the construct through three case studies, assessing the alignment of the MR-S KSAs with professional practice standards, all of which are relevant for practitioners of that field in or outside of academia, by way of a Degrees of Freedom Analysis [18,19].

Table 1. The Mastery Rubric for Stewardship.

Developmental stage/ performance level of *stewardship* Stewardship KSAs	**Novice**	**Apprentice**	**Journeyman**	**Master**
General descriptor of performance:	Has interest but limited experience in the discipline or profession, but is being introduced to the ideas and commitments that the Apprentice will build upon. Is discovering the importance of disciplinary and professional stewardship.	Actively engaged in study of the discipline and seeks opportunities to demonstrate and grow the KSAs. Developing the full range of Bloom's cognitive abilities, a greater awareness of their own limitations, and a commitment to professional and disciplinary stewardship.	Demonstrates the KSAs and commitments of a steward of the discipline, including preserving disciplinary integrity. Is engaged in a disciplinary or professional community, and seeks additional opportunities to reinforce less-well developed skills.	An expert in the KSAs and someone to whom apprenticeship in stewardship can be entrusted. Formatively diagnoses and remediates the performance of KSAs, and develops and evaluates summative assessments for specific KSAs in support of stewardly development through the master level.
Requisite knowledge/ situational awareness	Largely unaware of the professional community and standards within which their academic or professional interests operate.	Learning to recognize when and how to demonstrate stewardship, that professional standards of practice involve both legal/illegal and ethical/unethical continua, and how to recognize and respond to these features.	Exercises professional practice standards and recognizes situations in which stewardship should be modeled and/or applied with respect to themselves and others, and to interactions within and outside of the profession or discipline.	Models, promotes, and teaches recognition of situations in which stewardship can and should be demonstrated; identifies strategies for how best to proceed when it is not clear.
Create and/or generate new methods/new knowledge	Has limited awareness of the knowledge and activities of the discipline, and limited exposure to the ethical issues involved in their creation and use. Learning that knowledge is *generated*; and that the creation of new methods or knowledge may have ramifications beyond the original intent.	Learning to create methods and knowledge in a manner that strengthens and advances the field and disciplinary community. Developing the ability to recognize when new methods or knowledge can be used for unethical ends, and how stewards of the discipline respond. Learning how to balance a commitment to strengthen and advance the discipline with advancing one's career	Generates, and transparently communicates, new methods and knowledge to strengthen and advance the field. Considers how new ideas can be used for unethical ends, and models how to respond when such action occurs. Prioritizes the disciplinary community over metrics that devalue it. Challenges such metrics whenever possible.	Models, promotes, and teaches stewards to recognize and exhibit their responsibilities to the disciplinary community and society as they create and/or generate new methods and knowledge. Promotes transparency in the documentation of the new knowledge/methods to others in the disciplinary community and those outside it. Supports systems for professional assessment and developmental milestones for themselves, their mentees/trainees, and others in the community that are consistent with stewardly responsibilities.
Critically evaluate extant and emerging ideas	Limited ability to evaluate ideas or differentiate between assertions and arguments within the discipline. Uncritically treats vetted ideas and materials as "true". Learning how warrants and claims function together to form arguments and evidence-based reasoning.	Learning how professionals review, critique, and challenge each other's ideas and arguments. Practicing these skills through guided work with increasing levels of disciplinary engagement and independence. Developing the intellectual humility necessary to critically evaluate their work according to disciplinary standards.	Critically evaluates knowledge and ideas within the discipline or profession and the paradigms by which this knowledge is derived, and promotes this evaluation by others. Participates in the vetting of new and emerging ideas within the profession or discipline. Exhibits intellectual humility and ensures their contributions to the field are well-reasoned and well-supported.	Models, promotes, and teaches critical thinking. Trains stewards in intellectual humility and the critical evaluation (vetting) of extant and emerging ideas, including their own work and the work of others both in and outside of their own discipline.

Table 1. *Cont.*

Developmental stage/ performance level of *stewardship* Stewardship KSAs	Novice	Apprentice	Journeyman	Master
Conserve ideas (or rejects ideas if non-conservation is justified)	Entering the field by learning about the fundamental ideas, thinkers, and accomplishments of the past. Attention is focused on remembering and understanding core (highly conserved) ideas; justifies neither their conservation nor rejection of ideas or arguments.	Learning to conserve fundamental ideas of the field through engagement, application, relation, and extension, as well as qualification and critique. Learning to recognize processes by which ideas in the field are vetted and that re-evaluation and conservation are essential to the integrity of the field. Learning to describe and justify decisions about conservation or non-conservation. Learning how these decisions have shaped the history of the field and the ideas that are/have been conserved.	Critically conserves the ideas that advance the field and preserve its integrity. Recognizes multiple perspectives, including cultural and extra-disciplinary influences, in describing and justifying decisions of conservation or non-conservation of ideas, models, and views. Recognizes their role in shaping the field/ profession and its history.	Trains stewards to recognize, understand, and critically evaluate the vetting that ideas in the field have/have had, including the influence of cultural and extra-disciplinary forces. Models, promotes, and teaches that conservation or non-conservation of ideas in the discipline or profession must be justified, and how to do so. Strives to instill in others, both in and outside of their own discipline, an understanding of the dynamics of the evolution of the field. Participates in the conservation, non-conservation, or rejection of ideas through teaching or training and enabling others to do so.
Responsibly write	Learning disciplinary writing standards with attention to the details of what must be recorded, how to construct written reports, and why responsible writing requires transparency.	Gaining greater proficiency in discipline-specific writing. Demonstrating increased sophistication in writing, including content, rhetoric and argumentation, and transparency and professional integrity.	Independently writes in the diversity of contexts and styles specific to the field, to generate, conserve, challenge, and reject field-specific knowledge and to engage others in and outside the field. Practices and promotes transparency in their writing for the sake of the discipline and field.	Trains stewards in the importance and execution of transparent, complete, and appropriate—responsible—writing within the field. May also train stewards in cross-disciplinary writing, and in writing for readers outside the discipline.
Responsibly teach/mentor/model	As someone uninitiated in the field, the Novice does not undertake teaching or mentoring roles.	Growing in disciplinary knowledge, skills, and abilities and the ability to pass these on to others. Develops an understanding of the importance of competent mentoring and modeling inherent in professional practice and disciplinary responsibilities. Seeks opportunities to learn about workplace appropriate teaching and learning, and to practice teaching, with supervision if available.	Possess the knowledge, skills, and abilities of the discipline and is able to pass these along to others. Teaches, mentors, and models professionalism and the commitments of stewardship in both formal and informal settings, within and outside the field.	The Master steward teaches others to teach, model, and mentor professionalism and stewardship. *

Table 1. *Cont.*

Developmental stage/ performance level of *stewardship* Stewardship KSAs	Novice	Apprentice	Journeyman	Master
Responsibly apply disciplinary knowledge	As someone inexperienced in the KSAs of the field, the Novice is not expected to apply them but is learning that application entails responsibilities for the practitioner.	Learning how and when to apply the KSAs of the discipline and how application entails professional and ethical responsibilities, including integrity, transparency, and respect. Seeks opportunities to deepen their knowledge of their professional and ethical responsibilities.	Applies the KSAs in a way that preserves and advances the field by demonstrating integrity, transparency, and respect in interactions within and outside of the profession or discipline.	Trains stewards to responsibly apply disciplinary knowledge within and outside of the professional or discipline. Teaches, models, and promotes the recognition and acceptance of the responsibility that accrues to those who practice in the discipline or profession.
Responsibly communicate	Discovering the rules for communicating in the discipline or profession. Learning that stewards of the discipline have a responsibility to represent their field to others in a way that promotes the integrity, transparency, and respect of their profession.	Learning how and when to communicate with insiders and outsiders about their discipline or profession. Recognizes that communicating as a steward imparts responsibilities that include demonstrating integrity, transparency, and respect, and seeks to exhibit their commitment to these responsibilities.	Clearly and effectively communicates the ideas, perspectives, and content of the discipline to insiders and outsiders in a way that promotes integrity, transparency, and respect.	Trains stewards to communicate responsibly across modalities and audiences. Teaches, models, and promotes the acceptance of the responsibility that accrues to those who communicate about the discipline or profession, or its results.

Note: * This cell encompasses the entire MR-S, as well as the entire definition of the steward. Many independent practitioners (journeymen) have responsibilities to mentor or instruct, but have not accumulated evidence of qualification and the focus on the diagnosis and remediation of challenges that are encountered earlier in development, which distinguish the Master.

2.1. KSA Identification

The first step in any MR is to identify core KSAs. We started by applying a cognitive task analysis (CTA; [20]) to the Carnegie Foundation's original definition of stewardship. This analysis is outlined in the Supplementary Materials. KSAs were taken directly from the main characteristics of stewardship: generation, evaluation, conservation, and responsibility in disciplinary/scholarly writing, teaching, application, and communication. Since the MR is a tool for curriculum development, the "teachability" of KSAs, and observability of learning, are prioritized; thus, KSAs were revised until these features were realized. KSA articulation was also informed by whether performance at a given stage in a developmental trajectory could be demonstrated concretely, within a variety of curricula, for the specific KSA. The first draft of KSAs were further separated where this brought clarity to the performance level descriptions, and/or where the evidence supporting achievement of different KSAs could plausibly be separable (by job description or by intention). Ongoing discussion led to consensus on the final KSAs. This process is shown in the Supplementary Materials.

2.2. Trajectory Articulation

Step 2 in developing a Mastery Rubric is the articulation of the stages along the trajectory. The trajectory is designed to ensure that each KSA is learnable and improvable, with concrete opportunities for assessment and demonstration, at each stage. As with all but one MR (see [6]), we used the European guild structure (see [21] (p. 182)), which identifies novice, apprentice, journeyman, and master stages or levels. These developmental stages conveniently map onto higher education generally, as well as to many professions. Thus, this trajectory can be used for curriculum development or evaluation so that the MR-S can be implemented across educational contexts, but can also be implemented in the workplace.

2.3. Performance Level Descriptors

The third step in developing a MR is to describe what each KSA "looks like" when performed at a given stage. Because stewardship KSAs cannot be "tested" but must be observable, we sought to formally specify the level of KSA performance that would be minimally required for an individual to be classified into a given stage on that KSA (following [22], p. 4). The first and last authors did this using a formal approach to performance level description (PLD), combined with the assumption that the performance of a KSA by someone at a given stage can be described using the appropriate level of Bloom's taxonomy [23] (see Appendix A) required for the demonstration or performance of the KSA. Bloom's taxonomy is one of the most widely used, empirically and theoretically supported taxonomies for cognitive functions and is featured in every MR to date. Rather than rely on age, career stage or other such criteria, we drafted *Range* PLDs [24] (pp. 91–92) that could describe the complex behaviors each KSA represents. The three co-authors, who come from different disciplinary perspectives, were participants in the Stewardship panel in 2016 specifically because of their expertise in the development (CMG) and application (CMR and RET) of the construct of stewardship; the first and last authors served as the "subject matter experts" in this iterative standard setting (PLD drafting) exercise following a combination of approaches articulated by Kingston and Tiemann (2012) [25]. Since our goal was to develop a tool that could be used by diverse disciplines, we required that PLDs entailed teachable behaviors that would be demonstrable within a variety of curricula. PLDs were articulated through an iterative process using a modified Body of Work procedure [25]: a first draft of each PLD for a given KSA was created based on Bloom's taxonomy by one co-author (RET), and served as the basis for "range finding" for performance of the KSA at a given stage. PLD drafting used Bloom's taxonomy, refined by appealing to the elements of assessment validity outlined by Messick (1994) [26]:

(1). What is/are the knowledge, skills, and abilities (KSAs) that students should possess at the end (*or a given stage*) of the curriculum?
(2). What actions/behaviors by the students will reveal these KSAs?

(3). What tasks will elicit these specific actions or behaviors?

The integration of Bloom's taxonomy and the Messick criteria facilitated the inclusion of concrete and observable behaviors in the PLDs that can be developed sequentially—and reinforced iteratively for deeper and sustainable learning over time.

The drafts were then discussed among the co-authors (CMR, RET) for "pinpointing", clarifying how different evidence of performance of a given KSA at a given level by anyone developing their stewardship would be exhibited. The "boundaries" between stages relied on Bloom's levels and our own individual experiences with students and colleagues at different stewardship levels. Discussions were both synchronous and asynchronous via online meetings (CMR and RET) and email (CMR, CMG, and RET), to finalize the performance level descriptors.

As each of these three steps were initiated, the interim results were used to triangulate results at other steps in the Mastery Rubric development process. That is, discussions about the PLDs led to the identification of a "missing" KSA (see Results), and also reinforced the choice of the guild structure for the developmental trajectory when concrete descriptions of each KSA at each stage were articulated. Refinements of PLDs for one KSA led to revisions and refinements in other KSA PLDs, to ensure that we pin-pointed performance in terms of stage and KSA, and also that the PLDs were not redundant.

2.4. Validity Evidence

Once the Mastery Rubric for Stewardship was created (see Results), case studies were used both to study its validity—as a function of its relevance for professional preparation—and to assess the evidence for our claim that stewardship can be expanded beyond doctoral education to professional preparation: If the MR-S can be used to support training of professionals as well as scholars, there should be considerable alignment between the KSAs and professional practice guidelines—which are intended to guide both scholars and professional practitioners. Degrees of Freedom Analyses were used in all validation, i.e., we aligned the KSAs as predictive of the MR-S with the guideline principles, tabulating in the marginals the number of instances of simple alignment of these features. We did not carry out statistical analysis on the marginals, utilizing only the qualitative assessment of observed alignment to determine whether there was evidence that the MR-S can be useful in training professionals (to behave in concordance with professional practice guidelines). If there was minimal alignment, then we would conclude that the MR-S would *not* be useful for this training—although it might still be useful for training in just stewardship, if not professional practice.

The conclusion that *scholarly* stewardship is supported by the Mastery Rubric for Stewardship (MR-S) was explored with one of three case studies, representing the discipline of History (Case 1). The second case represents the discipline of Statistics and Data Science; both History and Statistics and Data Science have professional practice guidelines that already embrace the professional, as well as the scholarly, practitioner, but History is predominantly a scholarly discipline while Statistics and Data Science comprise a majority of practitioners *outside* of the academy. The third case explores the alignment of the MR-S with neurosciences, which has practice guidelines that emphasize scholarship (rather than general professional practice), although many neuroscience doctorate holders work in, or will go into, industry or other non-academic jobs. By examining the alignment of the MR-S with these three different disciplines, we explored the relevance for the MR-S generally, to determine if different disciplines each need their own MR-S (i.e., with discipline-specific PLDs, which would be suggested if the alignments across these cases were highly variable) or if the MR-S is sufficiently general, which is expected given that the construct of stewardship was intended to be general (i.e., for all doctoral education); this would be suggested if the alignments of the MR-S KSAs with the diverse practice guidelines in these validating case analyses were similar and high.

3. Results

3.1. Results: Identification of KSAs

As noted, a steward is someone who "will creatively generate new knowledge, critically conserve valuable and useful ideas, and responsibly transform those understandings through writing, teaching, and application". Based on this definition, with consideration of its utility *outside* of doctoral education (i.e., earlier as well as for those who will not pursue a doctorate) as well as within it, the KSAs for stewardship were determined to be:

1. Requisite knowledge/situational awareness
2. Create and/or generate new methods/new knowledge
3. Critically evaluate extant and emerging ideas
4. Conserve ideas (or not, if deemed rejectable and non-conservation is justified)
5. Responsibly write (disciplinary scholarship)
6. Responsibly teach/mentor/model (formally and informally)
7. Responsibly apply the knowledge and principles of the discipline
8. Responsibly communicate (outside of scholarly venues)

Seven of the eight KSAs (all except the first item in the list above) were derived directly from the original definition of stewardship. Following the two-phase approach shown in Figure S1 in the Supplementary Materials, while the PLDs for those seven KSAs were being articulated, it became clear that knowing when to exhibit which aspect of stewardship is, itself, something that needs to be taught and practiced explicitly. In the words of the CID, stewardship encompasses both a set of roles and skills, and a set of principles: "the former ensure competence, and the latter provide the moral compass" [1] (p. 9). Thus, we determined that an additional KSA was needed to describe the responsibility to *recognize when* these behaviors need to be applied or modeled, which can represent a concrete and observable version of a "moral compass" (see also [27], p. xxi). We have called this KSA "requisite knowledge/situational awareness" to capture the attention that would be given to standards of professional practice (if they exist) during education or training, or when orienting new employees in the workplace. The applications of the other KSAs of stewardship are contingent upon this situational knowledge. An individual who learns and grows all the other KSAs, but cannot recognize *when to use* them, is less likely to act in a stewardly manner when it is needed. As an individual becomes increasingly inculcated into the habits of mind and practice of a discipline or profession, their abilities to recognize situations in which stewardship is needed should similarly increase. Formally including this KSA in a curriculum is essential for wider exposure to, and greater likelihood of demonstrating, stewardly behaviors.

One of the defining features of the scholarship is the generation of new knowledge; however, modern scientific scholarship, in and outside of academia, can also emphasize new methods or techniques. Thus, we added "generate new methods", which also includes the development of software; computational, mathematical, and statistical techniques, as well as new methods for cross-disciplinary work. Augmenting the KSA this way both broadens the scope of behaviors to which a stewardly approach is important and specifies professional activities (where techniques and methods are developed for industry and non-academic venues) as meaningful sources of evidence of stewardship.

We also broke one of the features of the steward into two separate KSAs: "the critical conservation of valuable and useful ideas" was separated into "critical evaluation of extant knowledge" (KSA 2) and "conserve ideas and justify rejection in non-conservation of ideas" (KSA 3). In fact, critical evaluation of extant knowledge is essential to both the creation of new knowledge and to the conservation (or non-conservation) of the ideas of the discipline. For the scholar, both of these KSAs invariably require a critical evaluation of extant knowledge. However, for the independent practitioner who is not primarily a scholar, conservation (or non-conservation) of ideas may not require a critical evaluation of the literature supporting the idea or an intention to generate new knowledge. One current (2017)

example is the data scientist who creates a new algorithm and, recognizing that the dominant or prevailing computational paradigm creates bias in the algorithm's output (e.g., [28]), rejects that paradigm and seeks to create a different algorithm that does not have that bias. Including two separate KSAs instead of one makes these features of stewardly practice more widely applicable. The differences in performance of these separated KSAs may be less obvious for scholars than for others, but the fact that different performance level descriptors were generated for each KSA affirms the suggested separation. The distinction was further reinforced by recognizing fundamental differences in the two KSAs. Critical evaluation entails an obligation to contribute to the vetting (e.g., by performing peer review) that is essential to promote the vitality and rigor of the literature or knowledge base. Conservation/non-conservation is distinguished with a dimension of understanding *the process* of vetting, and potential influences on vetting by cultural as well as extra-disciplinary forces.

Similarly, we took the "transformation" feature of the steward ("responsibly transform those understandings through writing, teaching, and application") and divided it into four fundamental KSAs, namely: responsibly write; responsibly teach/mentor/model; responsibly apply disciplinary knowledge; and responsibly communicate. In particular, many faculty members are stewardly specifically because they responsibly teach and apply disciplinary knowledge (but do not primarily write scholarly papers), while many non-faculty stewards (e.g., those in industry) responsibly teach informally (e.g., modeling professional practice and mentoring junior members of a team or work group) and communicate outside of scholarly venues. We distinguished "communication" from both teaching and scholarly writing, because some discipline-specific communication (with collaborators, team members, or the public) is *not* considered scholarly, but communication outside of the discipline must be as stewardly as that within the discipline. All of these are key features of stewardly practice, although all practitioners may not have opportunities to develop or demonstrate all four. By separating the components of this stewardship feature, we sought to make each learnable and improvable throughout the development of both scholars and professionals in any discipline.

Thus, these eight KSAs represent the definition of stewardship with subtle refinements that make stewardship achievable and demonstrable by a wider range of practitioners and professionals across disciplines.

3.2. Results: Trajectory definition

As shown in Table 1, four stages of development were articulated based on the European guild structure.

Novice: The novice is just beginning to engage with the discipline. This individual is focused on their own performance of any given KSA, which tends to be at Bloom's levels of cognitive complexity 1–2 (understand and summarize). They do not recognize that, or act as if, failures to act in a stewardly manner have ramifications beyond themselves. The novice stage represents the individual embedded in the acquisition of discipline-specific content. This could be an undergraduate declaring the major or an early-stage graduate student.

Apprentice: The apprentice is actively engaged in study of the profession or discipline and developing the full range of Bloom's cognitive abilities. She is developing the capacity to practice independently, but has not yet demonstrated ability qualification to do so. However, compared to the novice, her work and KSA performance exhibits greater reflection, and thus, awareness of her own limitations. Additionally, by learning the "tacit responsibility for the quality and integrity of their own work and that of colleagues", and the "responsibility to the larger public for the standards of practice associated with the profession" that Golde and Walker (2006) [1] assume "all professionals" have, the apprentice is aware that professional and disciplinary independence will require stewardship. This stage, which can be the longest period in one's formation, might describe the advanced undergraduate in a major or the later graduate student who has articulated research problems (or their thesis) with some support. However, the stages are not time-dependent, so any individual at any point in a career could be or become an apprentice steward.

Journeyman: The journeyman is an independent scholar or practitioner—a steward of the discipline. Depending on the field, this individual could be a doctoral student, an independent scholar (with or without a PhD in the field), or baccalaureate holder who is prepared for independent work in a profession or practice. The journeyman steward ("steward") is uniformly stewardly in their interactions with others in the disciplinary or professional community. They may seek new opportunities to reinforce less-well developed skills. Performance is reflective, and includes analysis and synthesis of their experience with their knowledge (Bloom's 4–6).

Master: The Master steward is recognized by evidence and consensus as one who teaches effectively. The distinction between the journeyman and the Master is the Master's demonstrated ability to teach effectively, comprising evidence of successful diagnosis and remediation of the thinking or work of practitioners at earlier stages. (This characterizes performance at the master level in every Mastery Rubric that includes this level. Many independent practitioners (journeymen) have responsibilities to mentor or instruct, but have not accumulated evidence of qualification and the focus on the diagnosis and remediation of challenges that are encountered earlier in development, that distinguishes the Master.) The Master steward is therefore an expert in the KSAs themselves (journeyman) and also as someone to whom apprenticeship in stewardship can be entrusted. Evidence of successful diagnosis and remediation of earlier-stage performance of the KSAs, rather than a listing of the jobs or funding that one's trainees/students have gone on to obtain, is an essential feature of master level stewards. This can include the development and evaluation of assessments that are specific to the KSAs and the progressive evolution of their performance, plus methods by which these cognitive skills can be elicited by, or developed in, those who are less-expert. These would be most clear from a formal educational context but are also important in the workplace: rather than focusing on student work, Master stewards in the workplace might focus on transparency in promotional processes and supporting the creation of evidence that mentees and junior practitioners need in order to be recognized as "developing professionals" who are making progress towards career goals. Simply *modeling* stewardship is not sufficient to train others to become stewardly or to promote active, critical, engagement in the profession or the discipline; thus, achieving the master level requires evidence of the ability to support the development of these KSAs in those whose stewardly behaviors and attitudes are still in development.

3.3. Results: Performance Level Descriptors (PLDs)

In the academic or workplace context, the novice steward deals mostly with facts and pre-defined problems, but is also focused on their own actions and is only starting to learn about professional practice standards, such as the fact that standards exist (and why). Novices lack awareness of many or all of the dimensions of stewardship and professionalism, and also of their own development or place in the continuum. In many fields, this corresponds to performance at Bloom's levels 1–2 (understand and summarize), moving towards developing levels 3 (apply) and 4 (analyze/predict) on the stewardship KSAs. The PLDs for the novice are consistently representing these Bloom's levels for all KSAs. Depending on motivation as well as structural support, an individual might spend 1–2 years in this stage (e.g., first two years of college before declaring a major), or longer if they have not begun to identify with a profession or discipline.

The apprentice steward is someone who is actively learning about practice standards as they begin to align themselves and their emerging professional identity with these standards. Their abilities to engage with stewardship KSAs are improving, so they can engage with less-structured problems and less scaffolding. Apprentices perform the KSAs at Bloom's levels 3–4, and because they are learning more about standards of practice for their domain, they would be developing abilities at Bloom's levels 5–6 (evaluate and synthesize) and also demonstrating a growing awareness of their own limitations and opportunities for growth (i.e., developing metacognitive skills). The PLDs for the apprentice represent more confidence with Bloom's levels 3–4 than the novice would be expected to demonstrate for all KSAs, but for those whose sense of professional identity is actively being shaped, engagement

with less structured challenges—requiring Bloom's levels 5–6—would be sought and practiced. In an academic context, this individual collects evidence of their apprenticeship of stewardly behaviors and habits of mind over the period of time "in training" for a job or role. For example, this might be the time spent "in the major" for undergraduates, a master's program, or the majority of the time in a doctoral program. In the workplace, individuals may train for, and learn to identify with, new jobs. However, once an individual leaves the apprentice steward performance level, they will be adaptable to new contexts and might enter this stage briefly, as needed, for refinements to professional identities they are on the way to forming.

The journeyman is a steward of the discipline. They have concrete awareness of professional practice standards and understand how these apply to themselves, to others, and to interactions within and outside of the profession or discipline. The journeyman steward performs the KSAs with understanding, analysis, and synthesis of their experience with their knowledge, functioning at the highest Bloom's levels as they perform all the KSAs that comprise stewardship in their working life. In an academic context, this individual is recognizable as someone to whom the integrity of the field can be entrusted. In the workplace, this individual is recognized as someone whose integrity, and whose commitment to their field or profession, is visibly and concretely demonstrated. One can be considered a journeyman steward when one has evidence of this level of performance on all of the stewardship KSAs that are relevant for their practice; if new dimensions of practice are added (e.g., adding responsibility for junior team members or supervising duties), development of stewardly attributes of those new professional responsibilities can follow the articulated trajectory.

The Master is confirmed, by evidence, as both independent in their performance of the KSAs themselves and also as someone to whom apprenticeship can be entrusted. Master level performance of all stewardship KSAs includes understanding, analysis and synthesis, *and* an understanding of mechanisms by which these cognitive skills can be elicited by those less-expert stewards within their discipline. Evidence of master level performance in stewardship comes from diagnosis (the identification of weaknesses in KSA performance) and remediation (the recommendation of methods to address those weaknesses in the KSAs), including the development and evaluation of assessments that are specific to the KSAs and their progressive evolution. The Master can train others to begin to be, and to be, steward*ly* (novice/apprentice), or to be (journeyman) stewards; they may also train new Master stewards. This individual directly and indirectly supports the development and recognition of stewardly behaviors in those he/she works with whether in academic or workplace contexts. Examples of evidence of master level achievement include the use of individual learning plans that incorporate the development of stewardly behaviors in academic settings, or by encouraging continuing professional development in the workplace. In addition to the explicit "instructional" performance by a Master steward, the Master is also entrusted to support a stewardly context in which the apprentice is trained/prepared for practice. For example, in the academic setting, as the steward creates new knowledge, they understand that the goal of advancing knowledge diverges from the worst characteristics of the "publish or perish" culture, which does not prioritize the discipline and may actually be detrimental to the discipline *and* to public trust in the academic enterprise more generally (see [29]). Outside of the academic setting, where the "publish or perish" attitude may seem absent, there may still be a "rush to results", or emphasis on short-term tasks that can ultimately weaken the discipline or profession. The journeyman steward seeks to ensure that their own work prioritizes the discipline or profession, while the Master steward goes further, seeking to support a culture where the integrity of the discipline is not undermined by pressures such as publication or pushing to complete a project simply for completions' sake or because publication and completion are deliverables.

With these features and characteristics in mind, the specific PLDs were crafted for the KSAs and are presented in the Mastery Rubric for Stewardship in Table 1.

3.4. Results: Validity Evidence for KSAs of the MR-S

The Mastery Rubric supports professionals, practitioners, and scholars envisioning themselves as stewards, "committed to the foundation ("heart and essence") of one's field, but also to thoughtful and innovative forward momentum, and development of the future of one's field". To test more empirically whether stewardship can be extended beyond the scholarly disciplinary domain into professional practice (i.e., to test the validity of this extension), we applied the degrees of freedom analysis method to study alignment of the stewardship KSAs with the guidelines for professional conduct—which guide professional and disciplinary practice—in three disparate domains, History, Statistics and Data Science, and Neuroscience. For history, the guidelines are publicly available in narrative form. The key principles for Professional Practice of History were extracted and summarized for the case analysis. For the Professional Practice of Statistics and Data Science, and Neuroscience, the publicly available text for each standard or principle was copied directly from the then-current website (in July 2018). If there is alignment between the Guideline principle and a stewardship KSA, we indicate this with an asterisk (*)—we made no attempt to quantify "how well-aligned" a KSA and Guideline principle is, partly because this will depend on individual training programs' (in schools or the workplace) specific emphasis on either stewardship or their professional standards. Our indications of alignment are, at their most foundational, signals that (or whether) stewardship is consistent with professional practice guidelines.

Case 1. American Historical Association (AHA) Statement on Standards of Professional Conduct (2018) [30]

First published in 1987 and most recently revised in 2018, the AHA Standards of Professional conduct recognize that the discipline of history does not belong exclusively to historians. It is an area of "shared human fascination" that is accessible to and produced by people outside of the narrow body of professionals. The Standards thus serve not just as a guide to proper historical inquiry, but also as a way of distinguishing professional historians from others. Professionals are defined by "a self-conscious identification with a community of historians who are collectively engaged in investigating and interpreting the past as a matter of disciplined learned practice". The historian's task begins with discovery. In the words of the AHA, "Scholarship—the discovery, exchange, interpretation, and presentation of information about the past—is basic to the professional practice of history". From here, seven principles describe the "discipline of learned practice":

(1). **Critical dialogue:** Historians engage in a complex process of exploring "former lives and worlds in search of answers to the most compelling questions of our own time and place". This process takes place through "reasoned discourse" within "communities governed by mutual respect and constructive criticism".

(2). **Trust and respect:** Historians must maintain the trust and respect of readers, both academic and public.

(3). **Maintain integrity of the historical record:** Related to the need to maintain trust with the readers is the need to guard the integrity of the historical record. This involves a commitment to not invent, alter, remove, or destroy evidence of any kind, as well as to maintaining the distinction between primary and secondary sources and leaving a clear trail in regards to their use to their use of primary sources and the consistent use of scholarly bibliographies and annotations.

(4). **Acknowledging debts:** Trust is also maintained by the proper acknowledgment of one's debts, whether intellectual, financial, or otherwise. This includes avoiding any form of plagiarism, an act of the most serious ethical and professional misconduct. It also includes acknowledging assistance from colleagues, students, or collaborators and or other circumstantial privileges, such as being given special access to material.

(5). **Forming points of view:** Among the most basic tasks for historians is the need to form points of view that argue for a "particular, limited perspective on the past". Historians strive to make sense of the past with the recognition that "all knowledge is situated in time and place, that all

interpretations express a point of view, and that no mortal mind can ever aspire to omniscience. Because the record of the past is so fragmentary, absolute historical knowledge is denied us."

(6). **Valuing multiple and conflicting perspectives:** At the same time that historians form and defend particular points of view about the past, they also recognize and value differing historical perspectives. This does not mean that all interpretations are equally valid. It means that historians recognize that a final interpretation is impossible—"no single objective or universal account [of the past] could ever put an end to this endless creative dialogue within and between the past and the present".

(7). **Recognize personal bias and commit to follow evidence:** Points of view are often shaped by historians' own personal views and biases, thus historians should remain aware of their own biases and commit to following "sound method and analysis wherever they may lead".

Table 2 presents the Degrees of Freedom Analysis matrix to examine the alignment between the Principles of the AHA Guidelines (1–7; columns) and the KSAs of the Steward (Rows). Alignment is indicated with an asterisk.

Table 2. Alignment of seven AHA Guideline Principles (columns) with Stewardship KSAs (rows).

AHA Guideline Principle: MR-S KSAs:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	***ALIGNMENT***
Requisite Knowledge/ situational awareness		*	*			*	*	4
Create and/or generate new methods/ new knowledge	*			*	*			3
Critically evaluate extant knowledge	*				*	*		3
Conserve ideas (or not, if deemed rejectable and non-conservation is justified)			*	*	*	*		4
Responsibly write	*	*	*	*	*		*	6
Responsibly apply disciplinary knowledge	*		*		*		*	4
Responsibly communicate	*	*	*	*	*	*	*	7
Responsibly teach/mentor/model	*	*		*		*	*	5
ALIGNMENT	6	4	5	5	6	5	5	

Table 2 shows that all of the MR-S KSAs are consistent with at least three of the AHA Practice Standard elements. The KSAs of responsible writing, communicating, and teaching/mentoring/modeling have the strongest alignment (with 5–7 AHA standards); this is not surprising given the fact that History is a profession that is practiced mostly within the academy. According to a study of the 10-year cohort of History PhD recipients in the US published in 2018 [31], roughly a third of PhD graduates between 2004 and 2013 work outside higher education of any sort, while just over half hold tenure track positions in four-year colleges/universities.

When it comes to historians working in non-academic roles, the question of their demonstrating stewardship is more complex. There are a few popular historians, such as David McCullah and Ken Burns, whose work serves an important role in promoting historical literacy within our society. There are also public historians, who work in places such as museums, and institutional historians, who serve on staff at places ranging from the US senate to small organizations and associations. Historians also serve an important role in think tanks or in agencies that maintain or establish archives; including the European Molecular Biology Laboratory (which has outposts, associates, and partner organizations hosting cutting edge science all over the world). These roles, though not in the academy, certainly allow one to bring their historical knowledge, skills, and abilities to bear in their areas of service; therefore, historians both in and outside academia are expected to follow the AHA Practice Standards. The "Alignment" column in Table 2 shows that training the historian in the stewardship KSAs will create opportunities to demonstrate 3–7 of the seven AHA Standards; training individuals to follow the AHA Standards in their practice will create opportunities to demonstrate 5–7 of the eight

KSAs of stewardship. The strong alignment of each AHA Practice Standard with the stewardship KSAs supports the claim that stewardship can be exercised by historical professionals, whether or not they complete a PhD.

Case 2. The American Statistical Association (ASA) Ethical Guidelines for Statistical Practice (2018) [32]

The Ethical Guidelines were first endorsed by the ASA Board in 1995 and the latest revision was endorsed by the Board in 2018. These Guidelines include seven general principles and 52 specific elements. The ASA Ethical Guidelines for Statistical Practice describe the professional habits of all practitioners in statistics and data science; practice in government (e.g., Bureau of Labor Statistics; Census), industry (e.g., business; pharmaceutical; biomedical), social science fields (decision making/marketing; industrial/organizational), and scholarship.

A. Professional Integrity and Accountability

The ethical statistician uses methodology and data that are relevant and appropriate, without favoritism or prejudice, and in a manner intended to produce valid, interpretable, and reproducible results. The ethical statistician does not knowingly accept work for which he/she is not sufficiently qualified, is honest with the client about any limitation of expertise, and consults other statisticians when necessary or in doubt. It is essential that statisticians treat others with respect.

B. Integrity of data and methods

The ethical statistician is candid about any known or suspected limitations, defects, or biases in the data that may impact the integrity or reliability of the statistical analysis. Objective and valid interpretation of the results requires that the underlying analysis recognizes and acknowledges the degree of reliability and integrity of the data.

C. Responsibilities to Science/Public/Funder/Client

The ethical statistician supports valid inferences, transparency, and good science in general, keeping the interests of the public, funder, client, or customer in mind (as well as professional colleagues, patients, the public, and the scientific community).

D. Responsibilities to Research Subjects

The ethical statistician protects and respects the rights and interests of human and animal subjects at all stages of their involvement in a project. This includes respondents to the census or to surveys, those whose data are contained in administrative records, and subjects of physically or psychologically invasive research.

E. Responsibilities to Research Team Colleagues

Science and statistical practice are often conducted in teams made up of professionals with different professional standards. The statistician must know how to work ethically in this environment.

F. Responsibilities to Other Statisticians or Statistics Practitioners

The practice of statistics requires consideration of the entire range of possible explanations for observed phenomena, and distinct observers drawing on their own unique sets of experiences can arrive at different and potentially diverging judgments about the plausibility of different explanations. Even in adversarial settings, discourse tends to be most successful when statisticians treat one another with mutual respect and focus on scientific principles, methodology and the substance of data interpretations.

G. Responsibilities Regarding Allegations of Misconduct

The ethical statistician understands the differences between questionable statistical, scientific, or professional practices and practices that constitute misconduct. The ethical statistician avoids all of the above and knows how each should be handled.

An 8th Guideline Principle is specific for *employers*:

H. Responsibilities of Employers, Including Organizations, Individuals, Attorneys, or Other Clients Employing Statistical Practitioners

Those employing any person to analyze data are implicitly relying on the profession's reputation for objectivity. However, this creates an obligation on the part of the employer to understand and respect statisticians' obligation of objectivity.

Table 3 presents the Degrees of Freedom Analysis matrix to examine the alignment between the Principles of the ASA Guidelines relating to the practitioner (A–G, columns) and the KSAs of the steward (rows). Alignment is indicated with an asterisk.

Table 3. Alignment of ASA Professional Statistics Guidelines (columns) with Stewardship KSAs (rows).

ASA Guideline: Stewardship KSAs:	**A**	**B**	**C**	**D**	**E**	**F**	**G**	***ALIGNMENT***
Requisite knowledge/situational awareness	*	*	*	*	*	*	*	7
Create and/or generate new methods/ new knowledge				*	*	*		3
Critically evaluate extant knowledge	*	*	*	*	*	*		6
Conserve ideas (or not, if deemed rejectable and non-conservation is justified)	*		*	*	*	*		5
Responsibly write	*	*	*					3
Responsibly apply disciplinary knowledge	*	*		*	*	*	*	6
Responsibly communicate	*	*	*		*	*	*	6
Responsibly teach/mentor/model		*			*	*	*	4
ALIGNMENT	6	6	5	5	7	7	4	

Table 3 shows that professional behaviors that are consistent with the ASA Guidelines (columns) can also generate evidence of stewardship of the discipline or profession (rows). The row marginals show that between three and seven of these seven core ASA Ethical Guideline principles are aligned with each stewardship dimension. Thus, although stewardship was originally conceptualized for PhD level practitioners whose primary objective is scholarship, it can also generally support practitioners who are not "scholars first and foremost", which describes many, if not most, practicing statisticians and data scientists. Statisticians and practitioners in quantitative sciences (to whom the ASA Ethical Guidelines pertain, see [32–34]) practice in every discipline, and not solely as scholars; thus, finding alignment between stewardship dimensions and ASA professional practice guideline elements strongly supports the claim that stewardship can be relevant for those who are not principally scholars. Master's level preparation is also sufficient for "professional preparation" as a statistician, and with new undergraduate degree programs in data science being developed across the U.S., it is possible that baccalaureate preparation may suffice for professional preparation in some cases. With the role of data increasing in priority in so many science and technology fields, it is essential to engage all those preparing for statistical practice in active consideration of how they may be as stewardly as possible.

Not every statistician or data scientist who is (or wishes to be) stewardly will have opportunities to teach or create new knowledge; therefore, these "typical" stewardly behaviors cannot be required of every steward of statistics and data science. However, every ASA Ethical Guideline Principle *is* relevant for every practitioner [32–34]—and practicing these principles is clearly relevant for stewardship of the profession of statistics and the practice of data analysis/data science. Importantly, while some students in statistics and data science programs must complete general training in the responsible conduct of research at their universities, that general training, especially if it focuses on principles and practices of research subject protections, can seem unrelated to data intensive applications (see [33,34]). The "Alignment" column in Table 3 shows that training the statistician/data scientist in the stewardship KSAs will create opportunities to demonstrate 3–7 of the seven ASA Guideline Principles relating to the practitioner (A–G); training individuals to follow the ASA Guidelines in their practice will create opportunities to demonstrate 5–7 of the eight KSAs of stewardship. The alignment of each ASA

Guideline Principle with the stewardship KSAs supports the claim that stewardship can be exercised by the full range of professionals in statistics and data science (irrespective of degree completion).

Case 3. Society for Neuroscience Guidelines for Ethical Practice (2010) [35]

The Society for Neuroscience (SfN) issued its Guidelines for Ethical Practice in 2010. These Guidelines include nine general principles. The Guidelines describe the scope of practitioners to whom guidelines—and the integrity of its scientific mission—pertain. Importantly, many individuals are included in this scope who are not actually producing scholarship themselves, but are supporting its dissemination (e.g., as editors or reviewers). While most neuroscience is carried out specifically for scholarly purposes, neuroscientists also work in industry (e.g., pharmaceutical; biomedical) and in some social applications (networks), as well as scholarship.

(1). ***The integrity of the scientific mission is a collective responsibility.*** SfN members and those who contribute to SfN activities and publications are expected to conduct science in a responsible and ethical manner. The institutions at which scientific work is carried out are responsible for ensuring ethical standards are followed. SfN has a special responsibility regarding those scientific activities for which it is directly responsible, including publication of *The Journal of Neuroscience, eNeuro,* and presentations at the annual meeting. Investigators are responsible for the accuracy of information reported in published articles and abstracts, for insuring that authorship is appropriate, for avoiding plagiarism and duplicate publication, and for insuring the ethical treatment of animals and human subjects. Journal editors and reviewers are responsible for providing a fair, objective, and timely process for reviewing submitted manuscripts.

(2). ***Data must be original and accurate.*** It is essential that researchers and others be able to trust the validity of published data. That trust permits researchers to build on prior observations and thus facilitates the progress of science. Replication and extension of published results allows science to move forward and often entails free sharing of research material. While scientific errors and differences of interpretation are natural aspects of the creative process, data that have been fabricated or falsified contaminate the scientific literature, greatly diminishing its value for researchers and others in the community. Moreover, such fraudulent actions undermine society's trust in the scientific enterprise.

(3). Priority of data and ideas must be respected. Scientific publication is an important part of the process by which priority is established for experimental work and research ideas. Plagiarism—the presentation of other investigator's data or ideas as your own—is unacceptable. Duplication of text or data (including figures, tables, or portions thereof) previously published by others or presentation of ideas or experimental findings of others must be accompanied by citation of the previous work.

(4). ***Authorship should reflect a significant intellectual contribution***. Each author should have made a significant intellectual contribution to the conception, design, conduct, analysis, and/or interpretation of the scientific work. Each individual meeting this criterion should be offered the opportunity to participate in authoring, drafting, or critically reviewing the manuscript.

(5). ***Original data should only be published once.*** Reporting the same finding based on the same data in separate publications without explicit acknowledgement of the relationship constitutes duplicate publication and is unacceptable.

(6). ***Every author shares responsibility.*** All authors share responsibility for the scientific accuracy of an abstract or manuscript, including supplementary material. Hence, in cases of fabrication, falsification, or plagiarism, all authors are potentially culpable.

(7). ***Conflict of interest must be declared.*** Authors are responsible for declaring any conflict of interest or appearance thereof that is relevant to a manuscript, abstract, or presentation. Everyone involved in peer review should declare any conflict of interest or appearance thereof and avoid any inappropriate conflict of interest.

(8). ***Pre-published material is confidential.***Reviewers and editors must avoid breach of confidentiality or using confidential information to advance their own or someone else's research or financial interests.

(9). ***Research using animals and human subjects must be conducted ethically.*** Research using laboratory animals or human subjects must be done humanely and in accordance with institutional and governmental regulations.

Table 4 presents the alignment of the Guidelines from the Society of Neuroscience (1–9, Columns) with the KSAs of the steward (rows). Alignment is indicated with an asterisk.

Table 4. Alignment of Neuroscience Guidelines (columns) with Elements of Stewardship (rows).

Neuroscience Guideline: Stewardship KSAs:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	***ALIGNMENT***
Requisite knowledge /situational awareness	*	*		*		*	*			5
Create and/or generate new methods/ new knowledge	*	*	*			*	*		*	6
Critically evaluate extant knowledge	*		*			*			*	4
Conserve ideas (or not, if deemed rejectable and non-conservation is justified)	*		*						*	3
Responsibly write	*	*	*	*	*	*	*	*		8
Responsibly apply disciplinary knowledge		*		*	*	*			*	5
Responsibly communicate			*	*	*	*	*	*		6
Responsibly teach/mentor/model						*	*			2
ALIGNMENT	5	4	5	4	3	7	5	2	4	

Table 4 shows considerable overlap between the KSAs of stewardship and the guidelines of the Society for Neuroscience. The weakest areas of overlap are "conservation of ideas" and "responsibly teach/mentor/model". It is possible that the reason "responsibly teach" is not more explicit in the SFN Guidelines is because most science research is done in academic settings (including research-intensive and medical school contexts), and teaching is a part of the more general "practice" of academia—and as such, might not be included in the specific neuroscience community practice standards (being more akin to "workplace" standards). The conservation of ideas might have less resonance for Neuroscience than for Statistics and Data Science and History if innovation and discovery are higher priorities for neuroscience; in fact, several of the guidelines themselves relate to treating new/breaking knowledge in a stewardly and responsible manner (which is not considered in the other two sets of guidelines).

The "Alignment" column in Table 4 shows that training the neuroscientist in the stewardship KSAs will create opportunities to demonstrate 2–8 of the nine Neuroscience Guideline Principles; training individuals to follow the Neuroscience Guideline Principles in their practice will create opportunities to demonstrate 4–7 of the eight KSAs of stewardship. The alignment of each Neuroscience Guideline Principle with the stewardship KSAs supports the claim that stewardship can be exercised across the professional contexts for the neuroscientist.

4. Discussion

As noted in the Introduction, this paper has built upon the work of the Carnegie Initiative on the Doctorate to describe a general curricular framework applicable across disciplines and throughout higher education to promote the explicit formation of stewardship. This Mastery Rubric for Stewardship (MR-S) describes how scholars, professionals, and practitioners, whether inside and outside the academy, can develop and document the characteristics (KSAs) of a steward of the discipline. The three case analyses show considerable—but varying—alignment of the KSAs for stewardship and the professional/ethical practice guidelines and standards for these three disciplines/professions.

The different features of stewardship identified as KSAs can thus be seen to be achievable by *all* practitioners in these diverse fields, and are not limited to those who have completed doctoral training, thus accomplishing the goal of expanding the construct of stewardship beyond the scholar first and foremost. Stewardship can therefore be introduced earlier and more widely—to a far wider audience—than was originally envisioned, and the MR-S describes how performance at each of four stages can be concretely observed—and elicited—in the developing steward. The alignment of each of the KSAs with at least some of the professional practice guideline principles across diverse disciplines suggests that stewardship can be learned and exercised by the full range of professionals across fields as diverse as those we analyzed here. Moreover, focus on the stewardship KSAs during professional/pre-professional training is aligned with these professional practice guidelines.

The purpose of the paper was to broaden the definition of "stewardship" so that it could apply to professionals and practitioners as well as scholars, and to describe a developmental trajectory that can be initiated earlier than doctoral education and at any point in a career so that the broadening could be concretely described. The MR-S was iteratively developed by articulating the KSAs and drafting/revising the PLDs once the stages were identified. During this process, as can be seen in Table 1 (the MR-S):

a. The cognitive task analysis extracted additional dimensions (KSAs) beyond the original definition of stewardship (generation, conservation, transformation), and eight different features (KSAs) of stewardship that are each learnable and improvable were articulated so that each maintained the essence of the construct. Thus, the construct itself is conserved, and each dimension is rendered learnable, improvable, and observable.
b. PLDs were formalized to capture a variety of ways that stewardship can evolve organically across different disciplines and throughout a career. They are also general enough so that any KSA at any stage can be demonstrated within and outside of academia, and across fields. Consistent with the original intent of the construct, these PLDs enable any professional or practitioner to demonstrate their stewardship.
c. PLDs recognize that the journeyman steward may have opportunities to teach, mentor, and model stewardly behaviors, but that specific successes in these activities are concretely demonstrated by the Master. Outside of an academic setting, journeyman stewards can demonstrate their achievement of the master level with the same kinds of evidence as instructors, even if they are derived from non-academic activities, from working with their mentees/junior collaborators. This explicitly supports the development of stewardship in professional settings (outside of academia).
d. There is no KSA for "ethical practice" because the entire stewardship model implicitly reflects a virtue ethics approach to professional conduct and identity. The focus in the MR-S is on taking, and demonstrating, responsibility in the dimensions of stewardly practice, enabling ethical practice even if there are no/no specific ethical practice guidelines available.

4.1. Development of the Stewardly KSAs

The CID's construct of stewardship focused exclusively on doctoral education, and we have agreed that stewardship is most fully and explicitly formed at this level. This is particularly true for the traditional academic disciplines, as well as those where highly specialized knowledge is required to create and critique new ideas. Nevertheless, the MR-S shows that, and how the characteristics and commitments of professional and disciplinary stewardship can be fostered earlier than the doctoral level. Since many professionals engage in disciplinary practice without pursuing the terminal degree, instilling stewardly attitudes at the undergraduate and masters' level would benefit the discipline overall. For example, it has been argued [36] that undergraduate statistics and data science majors can be oriented to the importance of stewardship generally, even if their engagement with the discipline or profession entails neither producing nor critically consuming scientific argumentation. Fostering similar attitudes in other disciplines would benefit not only the disciplines individually but also society more broadly. Importantly, although the first KSA, "requisite knowledge", encourages the

steward-in-training to explore "professional practice standards", these may not exist, may be out of date, or may simply be too specific to the particular profession (e.g., historian, statistician, or neuroscientist) for a modern professional (who may do historical analysis one day, statistical analysis another day). This KSA does not require the professional to rely, or rely solely, on one set of standards but rather, to be aware of those that exist and their relevance in practice.

Since the performance level descriptors of the MR-S are based on Bloom's taxonomy, the Rubric *can* be used with students and professionals across levels. Indeed, since the highest levels of Bloom's taxonomy include "evaluation" and "synthesis", two key characteristics of stewards, all levels of higher education that develop these higher-order cognitive abilities would be able to promote stewardship without dramatically altering coursework or assessment. However, without attention to the growth and development of the characteristic KSAs that define the steward, it is unlikely that higher education can prepare all practitioners to be those to whom the integrity of their respective fields can be confidently entrusted. The MR-S can be used in continuing education and other standard training initiatives across workplaces, if that responsibility is taken up by employers; it can also be used by the self-directed learner to demonstrate their intention and commitment to be stewardly.

In addition to its support of the plausibility of integrating stewardship earlier in education than doctoral level training, the MR-S also represents a curricular structure that is general and flexible enough to be applied across disciplines and institutions. The results of the degrees of freedom analyses showed considerable alignment between the KSAs of stewardship and the professional practice standards from three diverse fields. This alignment suggests that the framework is applicable across many areas of study. In particular, curricula that incorporate disciplinary guidelines can use stewardship to underpin efforts to ensure a developing engagement with the discipline and document the achievement of these pre-professional behaviors. If stewardship were adopted as part of "general training" or general education across a college or department, all students would gain experience in their roles as future stewards of their profession or field. Implementation research can be easily envisioned, with "percent documenting journeyman-level performance" using a portfolio approach, as an outcome to be compared across cohorts from different disciplines or training programs.

As such, the MR-S has the potential to enhance the goals of professional and academic societies and to promote the explicit integration of stewardship at any level or career stage. Many other disciplines (but not all) have published codes of professional conduct. These codes represent the profession and describe how professionals in the discipline can and should engage in their craft (see, e.g., [36–38]). While these disciplinary guidelines and codes all serve to promote the integrity of their respective fields, they are essentially focused on the individual practitioner. The concept of a disciplinary steward may be implied in these codes, but it is never made explicit. A formal consideration of how to promote stewardship in a discipline through the discipline's own model of professional behavior would therefore support the explicit incorporation of both stewardship and its development into the process of training the next generations of scholars *and* professionals. The incorporation of the developmental path to journeyman or Master level stewardship can also facilitate and promote engagement with disciplinary guidelines from early in training. Professional associations have an interest in attracting new members, but the professions themselves have a vital interest in inculcating new members of the profession with the habits of mind that are necessary to promote successful engagement in the domain and between domains (in multidisciplinary work) or between their domain and the public and other stakeholders. Any individual, regardless of where they are in their career, can begin to curate evidence that they possess the KSAs at each stage of their development (e.g., [15]). While we hope the stewardship construct will be taught and practiced more universally in doctoral education, the MR-S can also serve disciplines and professions as they train practitioners prior to and within doctoral programs.

4.2. Documenting Teaching and Learning

The MR-S's potential to serve as a general curricular framework lies both in its usefulness in developing scholars, professionals, and practitioners, and its utility for documenting their development.

In this way, the MR-S, as with other Mastery Rubrics, is consistent with recent calls to better document and more effectively communicate learning outcomes in higher education. In 2016, the National Institute for Learning Outcomes Assessment (NILOA) published guidelines for learning outcomes targeting undergraduate education [39]. In 2017, the Council of Graduate Schools (CGS) published the findings of a study of the use of learning outcomes in doctoral education [40]. The 2017 report noted widespread use of learning outcomes among CGS members, as well as growing interest of accrediting bodies in documenting and assessing these outcomes [40] (p. 2). CGS defined a doctoral degree framework as "as set of reference points that defines general skills and competencies of all doctoral recipients" [40] (p. 9). The MR-S (like all Mastery Rubrics) begins with KSAs, and not skills or competencies, but also provides guidance about how "general skills and competencies", if they exist, can be developed in learners [41]. Thus, the MR-S, like other Mastery Rubrics (see [41]) fits and possibly expands on this CGS description. New research to demonstrate how the MR-S meets, and supports meeting, these guidelines, and particularly how implementation of the MR-S in training/education across disciplines can meet the new recommendations, are possible directions for studies of the MR-S and its utility.

Since a key attribute of any Mastery Rubric is flexibility with respect to the source of evidence used to support a claim of achieving a given KSA, the MR-S is well suited for the formal documentation and evaluation of professional development in a variety of settings. Just as a teaching portfolio holds evidence curated to document an individual's attitudes and growth relating to the specific features of education, a "stewardship portfolio" could be curated to document one's attitudes and growth related to their discipline. Those who document their performance of a given (target) KSA, with evidence that is appropriate to their field, would be recognized as achieving that stage. Those who compile this evidence at the journeyman level are designated a "Steward" of their discipline. Those who further meet the Master-level descriptors have demonstrated their expertise and experience in actively and successfully forming earlier-stage stewards. A portfolio approach to the documentation of achievements in stewardship would require the identification and qualification of cohorts of Master level stewards, and a portfolio-based training and assessment program based on the MR-S would support the development and recognition of these cohorts. The potential for faculty development and the strengthening of teaching portfolios could also support faculty buy-in to efforts to integrate the MR-S throughout a curriculum [42]. The stewardship KSAs are opportunities, or suggestions for how to find or create opportunities, to demonstrate accomplishments as well as learning plans. Independent (preferably Master-level) evaluators should agree that evidence supports claims about performance stage achievements (of any KSA) in stewardship. The flexibility in the MR-S arises from the types or sources of evidence that an individual can use to justify claims of achievement, and *portfolios* support this flexibility.

4.3. Limitations of this Project

Weaknesses must be acknowledged in the development of the MR-S and particularly in our validation analyses. The primary consideration is that this project was inherently multidisciplinary but does not capture a consensus from any of the three case study disciplines on the alignment between the disciplinary standards and the KSAs of stewardship. This is particularly true for history, since the guidelines themselves were interpreted (by CMR) before they were aligned with the KSAs. We hope and encourage further exploration of the applicability of the MR-S KSAs and their developmental trajectories within these and other disciplines, so that consensus on alignment, as well as dissemination and endorsement of an emphasis on cultivating stewardship, can be developed. In addition, while the MR-S meets or addresses the NILOA and some of the CGS criteria, it is silent on two specific areas of concern regarding the doctoral degree: assessing the need for and quality of doctoral degrees; and improving public understanding of the value of the doctorate. However, by design, the MR-S would specifically increase transparency and understanding for students of the implicit expectations of degree programs, albeit with respect solely to standards of practice. The MR-S is intended to be used to create a "contract" between the instructor and the learner—making program requirements more student-centered by engaging the student in the identification of opportunities to learn, grow,

or demonstrate each KSA at the desired level. It can also support better alignment of training with career paths, particularly with respect to standards of practice along any selected path.

A second consideration is that we did not observe perfect alignment with Guidelines/Standards and the KSAs of stewardship. However, since stewardship was proposed wholly independently of the three sets of practice standards we analyzed, finding any alignment at all tends to support our assertion that stewardship KSAs can support professional practice whether or not the individual will be a "scholar first and foremost", or has/will obtain a PhD. Since not all doctorate holders will be "scholars first and foremost" (many go into industry and government, where scholarship is not a principal priority), at least some divergence from the MR-S KSAs and the professional guidelines is expected. Moreover, not every practitioner or professional can identify with a single set of professional guidelines, and some professions do not have practice standards. The MR-S can help *all* to meet the definition of the steward: "one to whom the integrity and vigor of the discipline can be entrusted". Our alignment results suggest that the stewardship KSAs can support the development of professionalism across a wide range of disciplines, suggesting opportunities for both training and research to test this hypothesis.

The DoFA matrix results do differ by discipline, and each shows some gaps. Some attributes of stewardship are more consistent with some disciplinary guidelines than others. For example, the guidelines for Neuroscience (2010) [35] are highly focused on publication and the creation of new knowledge (i.e., "scholarship"), while the guidelines for Statistics (2018) [32] are mainly focused on data and decision-making. The gaps in the alignment of stewardship with disciplinary guideline principles suggests that disciplinary stewardship is *not redundant with*, and is actually supportive of, the professional ideals for conduct for these disciplines. From this observation, we conclude that stewardship is consistent with the core ideals of these professions. Critically, none of these three disciplines systematically inculcates their professional guidelines into doctoral or pre-doctoral training. Because membership in each disciplinary organization is *optional*, their practice guidelines, while consensus-based and reflective of ethical and professional conduct by all practitioners, cannot be mandated. If educational programs integrate stewardship into their completion requirements, then even superficial engagement with some professional guidelines, and with stewardship, *can* be required by institutions that accomplish this integration.

5. Conclusions

The MR-S has the potential to connect the goals of higher education with the formation of professional identity that is intended when discipline-specific guidelines are formulated and published. The Ethical Codes and Guidelines that exist for disciplines are typically complex and require instruction and practice, and becoming a steward of a discipline also requires attention and focus for initiation and development of the defining characteristics. The MR-S maps observable but flexible performance level descriptions across academic and professional development.

Two main conclusions may be drawn from this project. First, the formation of stewards is a worthy goal for *all* higher education—at doctoral, master, and undergraduate levels. Expanding the stewardship model, and facilitating the development of stewardly habits throughout a curriculum, promote achievement of both the expertise (journeyman) and the mentorship (Master) that are necessary for the ongoing vitality and vigor of each discipline as well as in cross-, trans-, and inter-disciplinary work. Second, the MR-S outlines how curricula could be conceptualized so that they promote the KSAs of stewardship and their development.

While not all practitioners have opportunities to do (or job descriptions that include) all of the elements of stewardship, all practitioners can engage with these elements, and they *should* be engaged with their disciplinary guidelines (if they exist; see [43]) and the most stewardly—or steward-*like*—conduct possible. Practitioners in fields or disciplines that do not have ethical guidelines (e.g., economics) can also use a stewardship model, and its developmental trajectory, to integrate attention to professionalism (or ethics) throughout a curriculum. Inculcating the attitudes and commitments of stewardship in any given major, certificate, or training program has the potential to

encourage the translation of these commitments to any discipline or profession in which graduates may engage.

Supplementary Materials: The following are available online at http://www.mdpi.com/2227-7102/9/4/292/s1, Table S1: Cognitive Task Analysis Methodology used for KSA identification. Figure S1: A two-phase application of cognitive task analysis to identify KSAs in the Mastery Rubric for Stewardship.

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Appendix A Bloom's Taxonomy

Bloom's taxonomy of cognitive complexity [23] specifies a hierarchy with six levels of cognitive skills or functioning:

(1). Remember/Reiterate—performance based on recognition of a seen example.
(2). Understand/Summarize—performance summarizes information already known/given.
(3). Apply/Illustrate—performance extrapolates from seen examples to new examples by applying rules.
(4). Analyze/Predict—performance requires analysis and prediction, using rules.
(5). Create/ Synthesize—performance yields something innovative and novel, creating, describing and justifying something new from existing things/ideas.
(6). Evaluate/Compare/Judge—performance involves the application of guidelines, not rules, and can involve subtle differences arising from comparison or evaluation of abstract, theoretical or otherwise not-rule-based decisions, ideas or materials.

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All Animals Learn, but Only Humans Teach: The Professional Place of Teacher Educators

Linda Clarke * and Paul McFlynn *

School of Education, Ulster University, Coleraine Campus, BT52 1SA Coleraine, Northern Ireland, UK
* Correspondence: lm.clarke@ulster.ac.uk (L.K.); p.mcflynn@ulster.ac.uk (P.M.)

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Abstract: The profession that creates all other professions has been subject to much debate in recent years. Largely invisible at times, teacher educators have recently been visible mainly in the negative headlines which have surrounded attempts to disrupt this important, but often unsung, profession in order to introduce neoliberal reforms. This paper uses both Eliot Freidson's three logics (adding artificial intelligence as a fourth logic) and Clarke's Place Model to deconstruct and map the contested place of the teacher educator in respect of status and career-long learning journey. The question, 'who is my teacher education professional'? is addressed, highlighting the complexity surrounding teacher educators' roles and realms. In a world where many animals learn but only humans teach, teaching teachers is poorly recognised for the singularly inclusive profession it might be.

Keywords: teacher educators; professionalism; place model

1. Introduction

This paper aims to analyse the professional status of teacher educators by first considering how Freidson's three logics impact this status. Freidson's three logics—professionalism, markets and bureaucracy—are brought into an uneasy form of enforced symbiosis and they will be increasingly joined by artificial intelligence, whose widely identified black box opacity and role in *surveillance capitalism* [1] are arguably sufficient cause to identify it as a discreet fourth logic. Freidson's [2] ideal concept of professionalism was where "the organization of, and control over work is realized by the occupation instead of by the market or by a hierarchy". Freidson saw professionalism as the 'third ideal type alongside Adam Smith's 'free market' and Max Weber's 'bureaucracy' [3] noting that all three can be regarded as different ways of organizing work. Freidson [2] believes that having control over one's own work is one of the key facets for the ideal typical profession and that, in order to maintain such a status, it must be able to "neutralise . . . the opposing ideologies which provide the rationale for the control of work by the market on the one hand, and by bureaucracy on the other".

Professionalism can be regarded as a chameleon term that is widely used in contexts of ambition and admiration, but is also viewed as inherently slippery, imbued with ambitions for high status and exclusivity and over-regulation, and as a product of self-serving elitism. Teacher educators have not been immune to these slings and arrows; described by a UK Secretary of State as The *Enemies of Promise* [4] and subject to *political sticks, stones and ideology* in the US [5]. Ranged across the globe, each of these loaded invectives reflects politicians' attempts to create rhetorical spaces within which to articulate reform [6]. Driven by ideology, they provide space in which to challenge the academy and to broaden choice and competition by changing the locus of teacher education from universities to schools, a phenomenon which is nested within broader attempts to combat perceived credentialism and protectionism within the professions. Once so reformed, such systems are vigilantly evaluated and publicly compared and contrasted by a range of monitoring bureaucracies, including, for example, the privately funded advocacy organisation, which has been operating across the United States. The National Council for Teacher Quality has been grading teacher education programmes from A to F.

The recognition that the logics of marketization and bureaucracy have impacted professionalism and indeed the emergence of AI as an additional threat, opens the way for an analysis of the place of teacher educators as professionals by applying Clarke's Place Model [7]. Clarke's Place Model outlines on two axes, the status (vertical axis) and the professional learning journey (horizontal axis) of professionals. The impact of marketization, bureaucracy and artificial intelligence (4th logic) are key features of the discussion and analysis surrounding the application of the Place Model to teacher educators where, in doing so, we have speculatively redeployed Doreen Massey's [8] notion of *Geographical Imagination* to reimagine the place of teacher educators.

2. Freidson's Other Logics, and AI

Freidson views professionalism as a third (and superior) logic, relative to world-views governed by either markets, where consumers are in control, or bureaucracy, where managers dominate. Before examining the distinctive place of teacher educators, it is useful to explore how each of Freidson's other two intertwined logics effect this. The impact of AI is as yet undeveloped, but looks set to intervene strongly in both teaching pupils in schools and in teacher education.

3. Markets

Marketization is based on ideologies of competition, deregulation, flexibility, choice and privatization. It prioritizes generating the profits which can enrich shareholders and can also be used to fund innovation, producing, polishing, advertising and selling a variety of reliable products at a reasonable cost to consumers. The impacts of markets of many kinds can be less than benign, not least because of the inherent tensions in casting learners as consumers and education as a commodity, which can be unproblematically bought and sold.

Freidson may not have even imagined the new level of power or the concomitant lowering of trust, as O'Neill [9] puts it, that the impact of markets on professionals' work has helped to bring about today. These are evident in both pervasive progress and widespread disruption. Giridharadas [10] describes the impact of disruptively rampant capitalism (Moneyworld) in creating a few large, rich and powerful global corporations, and in high levels of inequality (mapped vividly by Dorling) which mean that money can now wield a new Metapower, which can be both highly exclusive and very destructive, even whilst seeming to do good. The apparent benevolence of large-scale philanthropy allows the super-rich to intervene in the work of professionals, as Knox and Quirk said, to 'pay to play' unquestionably, despite their lack of expertise. If your teacher education system is funded by such people, then professionals may feel powerless to offer criticism. This level of trust-without-challenge was once given to the most powerful professionals too—the cardinals, judges and the professors of teacher education.

The latter have been identified by politicians as part of the problem of traditional teacher education systems, viewed as encouraging credentialism and offering theory-based, expensive and time consuming 'products'. In an effort to create the rhetorical space [6] for reform of these systems, teacher educators in Australia, the USA and England have borne 'the 101 damnations' [11] and the 'discourses of derision' [12]. Apple [13] highlighted the drive within the US at the beginning of the century to create a more uniform approach to what constitutes "good teaching", as part of a move to increase standards and levels of professionalism at a time when teacher education programmes were being ranked and having to compete with "each other for both funding and status". Fast forward to the modern era and the effects of marketization are deeply embedded in US teacher education. Cochran-Smith, Keefe and Carney [14] describe the entrepreneurial reform which has taken place in parts of the United States subsequent to the moving aside of traditional teacher education provision, within what they have termed nGSEs (new Graduate Schools of Education)—in which training (not 'education') courses are shorter, less expensive, more flexible and more practice-focused. Interestingly, the nGCSEs use characteristic university language (such as GSE and Dean) although they are not affiliated to universities, and offer both initial teacher licensure and master's degrees [14]. They view

their teacher education programmes as efficient producers of skilled and practically-focused teachers for inner-city schools where there are persistent teacher shortages. Skerrit [15] has analysed the impacts of neoliberalism on Irish teachers' traditional value systems as they migrate to teach in schools in England, where the values of the market are more in the ascendancy—the table (Figure 1) below sums up some of the tensions which the teachers strive to deal with in this new environment.

Teachers perceived that they need to be more …	As opposed to …
• Extrinsically motivated	• Altruistically motivated
• Cold	• Warm and caring
• Individualistic and self-oriented	• Selfless
• Competitive	• Collegial

Figure 1. Irish teachers' perceptions of working in schools in England (Skerrit 2018).

How does teacher education prepare student teachers for this new reality? At least teacher educators have had to become part of neoliberal universities, so they know from first-hand experience the realities of such tensions and the bureaucracy which upholds them—if teachers are increasingly like the street level bureaucrats described by Lipsky [16], what must their teacher education be like? Perhaps the answer must inevitably include not just the capacity to deliver the technicist curricula of such systems, but also the capacity to critique and move beyond such neoliberal framing of their professional work.

4. Bureaucracy—Metrics and Managerialism

In Freidson's second logic, bureaucracies have increasingly been put in place by governments and organizations wishing to enhance, assess, evaluate and monitor the work of employees and professionals, and, crucially, to manage them. Effective bureaucracy, at its best, can encourage and incentivise improvements and attempt to insist that general principles are predictably shared across society and made transparent through shared data league tables and inspection reports; providing data which can make it very clear whether trust is well founded or not. The latter is often more newsworthy and certainly has provided evidence for that most loaded of insults, "the enemies of promise" and also for market-driven interventions.

In an effort to improve, equalize and sustain standards, the most measurable features become the most important and most visible whilst the more complex, nuanced, immeasurable realities are less amenable to presentation in university league tables. Course directors will encourage participation by students who may well be informed that it would be in their own best interests to rate their courses highly—after all, who wants to be a graduate of a poorly rated course? It is hardly surprising then that professionals seek to avoid and undermine the scrutiny of this 'managerialism' [17]. Such subversion, bolstered by the marketisation of education for example, by viewing students as consumers, is all too obvious in pervasive grade inflation in university degree classifications. In recent years, universities in the UK have seen an increasing proportion of energies (staffing, funding) dedicated to marketing and providing evidence for the REF (Research Excellence Framework) and TEF (Teaching Excellence Framework)—which purport to measure research and teaching, respectively, and then allocate both public funding and increasingly complex league table positions based on these. At the level of the individual teacher educator, "performativity and conformity are more likely than dissent while enhancement of a sense of professional responsibility is rendered more difficult, marginalised if not entirely silenced" [18]. Menter [19] asserts that teacher education is a bell weather which is "deeply revealing of the currently dominant values of that society", a point which is well illustrated in the analysis of Cochran-Smith, Keefe and Carney [14] which contrasts entrepreneurial, managerial and democratic reforms in teacher education, describing the United States as a place where teachers are trained, commodified and deployed. A further consideration in respect of the future of teacher educators must be the potential impact of artificial intelligence, the deployment of intelligent machines both in school classrooms and in the academy.

Artificial Intelligence: A Fourth Logic?

The English Oxford Living Dictionary proffers this definition of AI: *the theory and development of computer systems able to perform tasks normally requiring human intelligence.* https://en.oxforddictionaries.com/definition/artificial_intelligence [20].

It is debatable whether AI continues a separate fourth logic, but here is one key reason for arguing that it should. It is increasingly becoming evident that AI can do more than simply replace and replicate existing roles. It is becoming ever clearer that it can behave in ways which are not fully amenable to human comprehension, ethics and control, that are a black box, and it is this new phenomenon that means that it may be best understood as a fourth logic, which will have huge impacts on the work of those professionals which it does not fully replace.

It is questionable whether teachers and/or teacher educators will ever be replaced by AI, but it has been suggested that AI could free up professionals to be more creative and more productive by augmenting, rather than eroding, expertise. On the other hand, the Susskinds [21] argue that the traditional professions will be dismantled, leaving most (but not all) professionals to be replaced by high-performing AI (and also by less expert people). AI forms the basis of personalised learning in several language learning Apps including the free, polyglot, personalised language behemoth, Duolingo https://www.duolingo.com/ [22] which has 300 million learners across the globe. AI's intervention in teaching and teacher education is already in the horizon in the form of personalised learning programs such as Summit Learning, which is funded by Mark Zuckerberg. Summit Learning is already to be found in 380 schools, involves 3800 educators, (largely as mentors and facilitators, rather than teachers) and more than 72,000 students across the United States, in schools from Kansas to Brooklyn where the laptop-based, one student with one computer, components of the program have not met with universal acclaim—bringing student strikes in Brooklyn schools, where students were most concerned that their teachers were not properly trained for the programme [23]. The Times [23] notes that Summit chose not to utilise the evaluation which they had commissioned from the Harvard Center for Education Policy Research. Is it far-fetched to ponder the potential to combine such classroom systems with facial recognition cameras placed around the school, wearable monitoring devices (such as Fitbits) and the ubiquity of social media to move towards an insidiously omnipresent form of surveillance capitalism [1]? Such a scenario brings together all of Freidson's logics (except professionalism?) in ways which have barely imaginable potential impacts for learners, schooling and teacher educators. Finally, one might consider the novelist Ian McEwan's [24] fictional robot, Adam, who ponders university education, considering it to be extraordinarily inefficient in comparison with the future potential of education . . . by download.

Freidson's logics have been used and extended to set the scene for the use of the Place Model to examine the place of teacher educators.

5. Components of the Place Model

The sub-heading of the Place Model (Figure 2 below) is important because it links professionals to their respective laities by asking the question: *Who is my professional today?* The Model provides a usefully challenging range of answers based on comparing the two conceptions of place noted above by Massey as a *Geographical Imagination* [8].

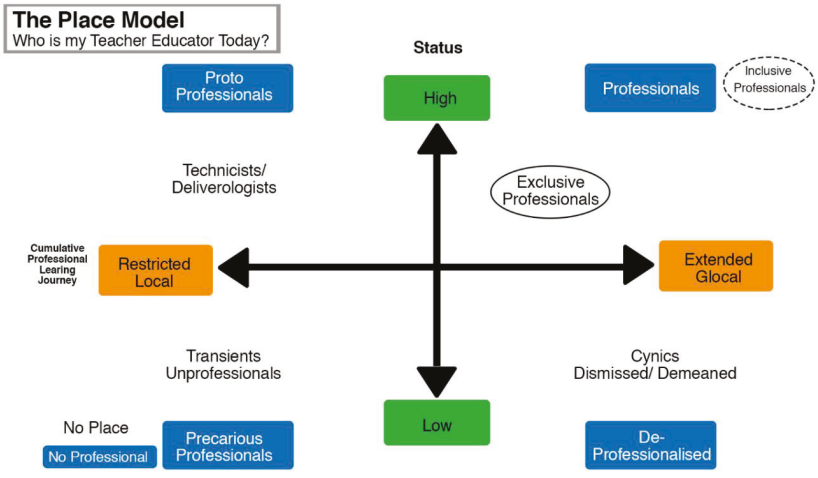

Figure 2. Clarke's Place Model (2016).

The horizontal 'axis' is based upon a cumulative, career-long, professional learning journey. On the diagram (Figure 2), this axis starts where a 'new' teacher educator takes up their first job, but one might imagine that, putatively, on the most extreme left (well off the edge of the diagram) is the position of a baby, an extreme example of an incipient learner in its utterly Piagetian, egocentric world view. To the extreme right is extirpation at the end of an extensive learning career (or series of careers), with an expansive global reach. However, this axis is *not* about terrestrial space—professional practice most often transpires locally and has local impacts, but the internet means that learning can readily become much more far reaching in both depth and breadth. In addition, the axis is *not* a timeline, *not* a history, and it is *not* a matter of passive survival for 30–40 years, gathering up a few tips and tricks about good practice on the way. Rather, the learning process is conceived as an expanding professional place, and, it must be stressed, *not* a space, using Tuan's [25] lucid formula: *Place* = *Space* + *Meaning*. The horizontal axis can be an extensive, complex and intricately featured place, built through cumulatively accreting processes of professional learning, an expanding horizon of Massey's *outwardlookingness* [8]. As for Fullan [26], "learning is the work". This place may be conceived on either personal or profession-wide scales—an individual's career or the systemic capacities for learning within a particular context, drawing on, and contributing to, a critical (and that criticality is a key feature of what university-based teacher education can offer) understanding of the best of what is known though the consumption of and/or the creation of relevant research. In this respect, the axis has particularly significant resonance with the early twenty-first century debates about professional status, regulation and marketization. Luke et al. [27] highlighted the increase in accountabilities and responsibilities that were creating the "privatization and marketization of all forms of education, including teacher education". They chose to conduct a broad focus of these issues across numerous countries and continents and found that education—and in particular teacher education—was impacted by market forces. For example, they found that in North America, the emergence of "high stakes" testing was influencing "teacher training, promotion and professional development" in what many considered to be a "politically divisive and educationally self-annulling situation" [27]. They also reported that in New Zealand, teacher training could now be conducted by "private, corporate service providers" [27]. Contemporary debates centre on the relative merits of, on the one hand, promoting a narrowly conceived technicist training approach which is linked to greater deregulation, flexibility and privatization (on the left-hand side of the axis), versus, on the other hand, the expansive professional education, predominantly within the master's-level courses within college and university systems across the globe. A key limitation of the Model is that the straight line of this axis cannot convey the ways in which careers are becoming

more varied and more fragmented—a sinuous, fragmented, rollercoaster of an axis might be more appropriate. Imagination is needed here to conjure the cumulative, career-long learning journey which the increasingly dynamic nature of work demands—is there an inherent incompatibility between these demands, and the deep expertise and constant trustworthiness which are essential to professions?

Whilst the integrity of the horizontal axis is increasingly questionable, the vertical axis is even less predictable, although esteem is of undeniable importance in all professions. Whilst it may be argued that it is important that professionals seek to exert their agency in respect of building their own learning trajectory, it is likely that they will have much less agency in respect of the vertical axis, which depends on the exigencies of public opinion of status. In consideration of the examples cited above from the US and New Zealand, as well as others from England, Sweden and China, Luke et al. [27] stated, "If we view teacher education globally, it is hardly business as usual . . . the position and status of teachers as intellectuals is at risk". This axis is *not* about remuneration, although this is often both an important component of status and a significant reflection of it, as is frequently evidenced in unionized pay disputes. The Place Model requires users to apply a subjective judgment of status, based on estimations of public perceptions of the esteem in which professionals (individually or collectively) are held, from low to high.

As Figure 2 illustrates, the intersection of the status and learning axes affords the creation of four quadrants which have been labelled as proto-professionals, precarious professionals, the de-professionalized and the professional. A fifth, equally important, element lies outside the axes, where the answer to the question 'Who is my professional today?' is 'No one'.

6. Populating the Place Model

Each of these components can be examined by populating the Place Model using the Living Graph technique developed by Leat [28]. Leat [28] developed this as a thinking skills exercise, whereby learners are helped to understand graphs by populating them with realistic exemplars and then, in groups, the learners arrange where best to position each example. These examples would allow the user (teacher educators) to consider how the Place Model can be used to map both career-long professional learning trajectories and to inform comparisons at individual and systemic levels. In consideration of a series of hypothetical professional examples, the following sections provide a tour of the Place Model. The tour begins by initiating the reader into the axis of the model, starting with the top left corner—the 'proto-professionals'—before making a detour to the off-axis 'no professional' component and then moving anticlockwise around each of the three remaining in-axis quadrants of the model, culminating in the 'professionals' quadrant. In designing the Model, it has become evident that these components are neither positive nor neutral, that they are mostly dystopian, but, importantly, that there is still, perhaps, a positive place for the trustworthy expert.

7. Proto Professionals

Proto professional teacher educators are those who are relatively new to the profession. In universities' Graduate Schools of Education, these typically are former teachers, often appointed for their reputation as excellent heads of deportment in schools. Typically, the transition from teacher to academic is not easy. There is often too little induction of neophytes [29], who find themselves dealing with a confounding admixture of multiple new demands and impostor syndrome. In university schools of education, the choice between appointing staff who have credibility and experience in schools, but no research background, and those who have researched and published, can bring headaches for Heads of School, keeping inspectors happy on one hand and university research directors preparing for REF submissions on the other. For the former and for the increasing prevalent school-based teacher educators, it can be all too tempting to focus on the practicalities of survival in the classroom, to focus on training rather than education—a distinction which has increasing relevance in the ideological 'wars' fought in recent years in the United Kingdom (UK), which reflect those in the United States (US):

greater deregulation and privatization versus investing in strengthening the dominant college and university system of teacher education [30].

The most egregious example of 'training', as opposed to 'education', is perhaps those teachers who are being trained to carry and use concealed weapons in US schools, something which is supported by President Trump. A recent Channel 4 documentary, 'Teachers Training to Kill' [31] explored this issue and showed teachers being trained by a volunteer organization which was allegedly linked to the NRA (National Rifle Association). The teachers explained that they were doing this out of love for their pupils, who came from deprived urban areas and for whom these teachers also bought both clothes and food as the need arose. On the face of it, this seems commendable, but the fact that that their response is to go to the 'market' to obtain goods for their pupils rather than protesting the inequity that leads to large scale inner-city poverty, perhaps reflects their wider teacher training, rather than education. Teachers who subvert bureaucracy for their students, by giving undue help with coursework/exams (see 'unprofessionals'), might be seen as a more extreme case of this—in this case, relying on subverting bureaucracy. A professional alternative, which might be a product of a critical professional education, is that teachers would instead seek to combat the systems which produce inequality, poverty and powerlessness for their pupils and hinder their chances of accessing the most elite professions.

8. No Professionals

It must be noted that there is not a national—much less European or internationally agreed—set of qualifications which are required to become a teacher or, indeed, a teacher educator. The recent introduction of deregulated market forces has diversified the latter in the USA, England and some parts of Australia, which have each seen a remarkable increase in the variety of routes into teaching.

There is a real shortage of both teachers and teacher educators in less economically developed countries, but here academics are less able to travel and are more endangered. Across the globe, there is an almost insatiable demand for teachers [32] and some 57 million primary-level learners are not being taught by a teacher. As noted by Clarke [33] "this deficit is all too rarely discussed by professional bodies in the more economically developed countries or by mainstream teacher education researchers and the iniquitous global teacher shortage is, thus, the elephant in the model".

In addition, there are parts of the curriculum for which teachers are not prepared—as is often the case when curricula are changed and teacher education must play catch-up—for example, in the introduction of Citizenship Education in countries across the globe in recent years. A more long-standing case in point is the Sign Language in Ireland. There was no teacher education for this unique version of sign language, which had developed from a uniquely gender-segregated bifurcation (imposed by Catholic priests and nuns to keep deaf children in gender segregated Schools for the Deaf in Dublin from meeting, marrying and reproducing). Gendered versions of Irish Sign Language developed and are apparent in older deaf People and it is only in September 2019 that Dublin City University will introduce the first specialist teacher education for ISL. https://www.dcu.ie/courses/Undergraduate/institute_of_education/Bachelor-of-Education-Irish-Sign-Language-Restricted [34].

9. Precarious Professionals

Two contrasting types of teacher educators are to be found in this part of the model; those who have short, broken, temporary careers on short term part-time contracts and the unprofessionals for whom the ethical dimensions of professionalism are lacking.

9.1. Transient Professionals

The transience of teacher educators is reflective of a wider university system where short-term, part-time contracts are becoming the norm. Abbas and McClean [35] argue that the increase in short-term contracts for academia work is in direct response to 'government-imposed funding restrictions and to the changing and intensifying demands on full-time academics'. Beck and Kosnik [36] point to the increased numbers of contract staff working in initial teacher education, whilst Furlong et al. [37]

highlight the case of a particular pre-service secondary school programme where the number of permanent staff in 1992 was 14, but by 1995 was reduced to nine, "despite an increase of 20% in enrolment" [36]. Finance is often the main reason why many Universities decide to appoint contract staff in initial teacher education courses, with another being the need to have a certain number of contract staff who are currently teaching in schools or who have very recent experience; as this can ensure those involved have up-to-date, relevant knowledge of the school system [36]. Slick [38] points to problems that can often arise when courses depend on a significant number of contract staff, in that they often lack the authority and/or do not possess the required knowledge of the University programme that would permit them to conduct appropriate supervision. Whilst Casey and Howson [39] argue that such problems can be overcome when there is increased dialogue between teacher educators and contract staff, there are others who argue that university teacher educators must be heavily involved in school practicum supervision of students, allowing them to support students in their development [29,36,40]. Within the United Kingdom, the approach has always been to integrate the University programme and the school-based practicum, with permanent teacher educators fully involved in school-based supervision of pre-service teachers. Owing to the increased numbers of contract staff, referred to above, there has been an emphasis on ensuring that they are involved in both university-based course instruction and supervision of practice, thus mirroring the practice of permanent university staff [36]. However, many university teacher educators have other roles and responsibilities outside of their initial teacher education duties, such as research, programme development and administration. Therefore, as the number of permanent university teacher educators continues to decline, it is proving very difficult for them to have a significant supervision presence during school-based practicum [37]. Abbas and McClean [35] argue that "little is known about the effect of casualisation on the quality of teaching", however Metcalf et al. [41] emphasize that those on short-term or part-time contracts are likely to experience a reduction in their levels of satisfaction. If we are to accept that the university-based programme and the school-based practicum should be integrated, meaning those permanent teacher educators who address theoretical and practical approaches to pedagogy in university are fully involved in supervising school-based practicum, how can this be achievable when "only a very small proportion of the staff are permanent academics with a career commitment to formal theory development"? [36]. It would seem that, if such an approach were to continue, it is likely to have negative implications for the quality of programme delivery and ultimately negatively impact the quality of teachers that such courses produce.

9.2. The Unprofessionals

Swennen et al. [42] recognise the important tole of teacher education in the preparation of future teachers, but are quick to emphasize that there is a "limited body of knowledge about teacher educators", a view supported by Vanassche and Kelchtermans [43]. Zeichner [44] believes that this lack of research focus on teacher educators can be partly explained by the assumption that "educating teachers is something that does not require any additional preparation". Wilkinson [45] believes that the teaching profession has failed to "unite any agreed set of transcendental values which it might serve" and believes it is the responsibility of teacher educators to develop a clear set of ethical values that will help to protect teachers' professional identities. Shortt et al. [46], in referring to the creation of the General Teaching Council for England's code of conduct and Practice for Registered Teachers, highlight government claims that the code did not fulfil its function of preventing unsuitable teachers from entering the profession [47], a view also supported by the teaching unions [48,49]. Shortt et al. [46] see the GTCE's rapid decline as being "symptomatic of a deeper cause: society's inability to work out for itself the desired relationship between its children, its Government and its teachers". Osborn [50] points to similar debates and struggles across Europe, where more and more countries began to respond to article 126 of the Maastricht Treaty which asked for "more cooperation between member states and their national education systems" [46]. Van Nuland [51] points to practice beyond Europe in New Zealand and Australia, where codes of professional ethics are the norm rather than a code of practice,

and that these educational authorities appear to have created a "philosophical coherence between teachers, society and the state" [46]. It would therefore appear that there is a lack of consistency across various jurisdictions in relation to the ethics associated with teacher professionalism [52], which is likely to have resulted in different approaches from teacher educators when it comes to teaching and modelling ethical practice. Swennen et al. [42] emphasize that teacher educators agree that they should be positive role models for students, but point to evidence from Wubbels, Korthagen and Broekman [53] where student teachers did not learn very much from the model behaviour of teacher educators because they did not see the behaviour as being something they should desire to replicate.

10. Deprofessionalised

Initially, relative to the well-charted other parts of the Model, this seems to be akin to the part of the medieval map where the cartographer's knowledge was scant. . . . and they wrote 'here be dragons'. Here is the place of those with long educational journeys applying knowledge garnered over the years from across the globe to their local contexts, yet poorly esteemed. Livingston [54] argues that neither the knowledge base nor the status of teacher educators is well-established and that they may be viewed as hidden or unrecognised professionals, whose work is important and complex (encompassing policy, practice and research), but is often invisible [55]. Yet this area may be quite readily populated by at least three quite disparate groups, each with varying degrees of agency—the cynics, the disparaged and also increasing numbers of migrants and refugees.

Universities seem some days to be packed full of cynics . . . and there may be more of these in an age when retirement age is extending . . . disappearing . . . imagine observing your student teacher teaching 10Z on a Friday afternoon . . . and you're 75. It is all too easy to slide into cynicism, but informed skepticism is useful—this Model is part of the authors' journeys as informed skeptics. The second group of inhabitants have been noted in the introduction—those teacher educators who have been dismissed by politicians as noted earlier in England, Australia and the USA. Thirdly, there is a group of increasing size; migrants and refugees whose qualifications and experience are not recognized in a new country, even where an influx of migrants may mean that there is increasing demand for their expertise. The British Council is providing advice for this very scenario. https://www.teachingenglish.org.uk/article/developing-teachers-refugees [56].

11. Professionals, Exclusive and Inclusive

The most highly-esteemed, most trustworthy and expert teacher educators fill this important category. International heroes of teacher education may be known only to teacher educators, but they do play import roles as champions of the profession. The singular importance of such teacher educators is thus aptly summed up by Czerniawski [57] *as weapons of mass instruction*. It might be argued that it is only university-based teacher educators who can have time and space to develop their breadth and depth of knowledge (to conduct research, to complete PhDs etc.), but it is also possible that these are, relative to school-based teacher educators, more likely to be exclusive professionals—the inhabitants of yet another (sixth) dystopia. Access to postgraduate qualifications is not supported by widening access policies, meaning that the teacher educator profession almost exclusively comprises of individuals who progressed through the traditional route of Bachelor of Education or subject degree followed by PGCE, which in either case will have been followed by at the very least a Master's degree. Galman et al. [58] point to the lack of diversity that exists amongst teacher educators, who as a group are considered to be "predominantly white, middle class" females whose practices are heavily influenced by their notions of gender and power [59,60] and whose programmes tend to produce a "predominantly white, middle class teaching force" [58]. There have been many calls for such programmes to address this issue since these teachers will be working with an increasingly diverse population of pupils [61–64].

Like other exclusive professions, the most senior teacher educators may find that their roles are in danger of replacement by AI although this is difficult to predict. The recent Office for national Stats survey (see Figure 3 below) suggests that both teachers and teacher educators in the UK are relatively secure form

this threat. https://www.google.co.uk/search?q=jobs+at+risk+from+automation+office+for+national+statistics&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi9ibqck7zjAhUholwKHZzTB2YQ_AUIESgC&biw=1366&bih=657#imgrc=9eIWllUqecvOlM [65].

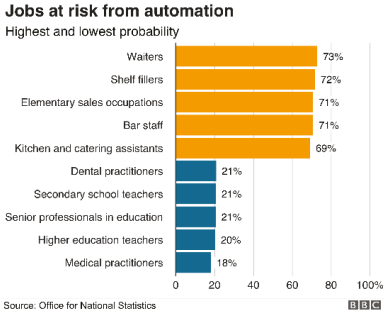

Figure 3. Jobs at risk of automation.

However, it may be that teacher educators' roles are most threatened by AI only by proxy, because teachers are, in future, replaced or downgraded to diminished local roles as facilitators, coaches and mentors as discussed earlier.

The Place Model offers one further location for teacher educators in the form of the logical antithesis of exclusive professionals, inclusive professionals. However, it may be that this very notion is no more than an oxymoron—after all exclusivity (and the esteem and concomitantly inflated wages it can produce) may be inherent in the very notion of professions. Alternatively, we might consider that teacher educators have a singular claim to inclusive professionalism. As teacher education becomes more diverse in nature and location, it is increasingly important to recognize that the place of teacher educators is intimately bound to that of the teaching profession, a group that Rutherford [66] is referring to when he argues that *only humans teach*. Of course, human teaching occurs in a huge variety of contexts but the formalized, state provided, often mandatory teaching of other humans happens in schools and most of that learning happens though the aegis of teachers. A salient corollary of this is the unique positioning of teacher educators as those who teach teachers to teach and considering that their potential tutees include all of humanity, teacher educators might possibly be the ultimate inclusive professionals.

Less idealistically, there are a range of possibilities:

- Cochran-Smith points out their role in challenging systemic inequality as reformers [14] proffering a range of examples which include new programs with democratic goals and deans' organizations focused on equity and justice;
- Inclusive teacher education might be usefully augmented (but not replaced) by AI. Korthagen's [67] CPD 3.0 emphasizes the human qualities of teachers and indeed President Obama interviewed by Wired Magazine https://www.wired.com/2016/10/president-obama-mit-joi-ito-interview/ [68] argues that in the age of AI; it will be possible to invert the totem pole of esteem; because the most human of professions (teachers and nurses, for example) will be most highly esteemed even as other roles will be automated.
- If inclusivity were to increase amongst teacher educators, then those individuals who aspire to be teacher educators would require more support from their government in terms of accessing education at postgraduate and doctorate levels. Such support is likely to be in the form of providing adequate time and finance to allow such individuals the opportunity to study for a Master's degree; or indeed a PhD. Therefore, aspiring teacher educators who have a B.Ed. or PGCE do not have the sufficient qualifications that would permit them to join this version of the Place Model at all, except in the (admittedly overcrowded, on a global scale) 'no teacher educators' category.

12. Conclusions

This paper has used the interdisciplinary Place Model to probe the notion of professionalism as applied to teacher educators and has found several dystopias which are being created by pressures from other logics, particularly that of marketisation (which is developing and sustaining innovation, but also creating rampant inequalities) and bureaucracy, with its all-pervasive oversight and comparative, evidentiary metrics but also their fabricated, performative subversions. The paper also finds a place to begin to examine the growth of classroom learning, which is underpinned by powerful AI, funded by billionaire philanthropists and may well be developing without the involvement of teacher educators, indeed blindsiding and bypassing the increasingly busy teacher educators in schools and universities. Inclusive teacher education may be an unachievable ideal, but there is arguably a need to invest more in a comprehensive, coherent and relevant strategy for teacher educators' induction and career-long professional learning, taking into account policy, practice and research perspectives and allowing more room for the human qualities of care and creativity.

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