American Journal of Pharmaceutical Education 2015; 79 (10) Article 153.

RESEARCH

Using Bourdieu's Theoretical Framework to Examine How the Pharmacy Educator Views Pharmacy Knowledge

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Submitted November 14, 2014; accepted May 5, 2015; published December 25, 2015.

Objective. To explore how different pharmacy educators view pharmacy knowledge within the United Kingdom MPharm program and to relate these findings to Pierre Bourdieu's theoretical framework.
Methods. Twelve qualitative interviews were conducted with 4 faculty members from 3 different types of schools of pharmacy in the United Kingdom: a newer school, an established teaching-based school, and an established research-intensive school. Selection was based on a representation of both science-based and practice-based disciplines, gender balance, and teaching experience.
Results. The interview transcripts indicated how these members of the academic community describe knowledge. There was a polarization between science-based and practice-based educators in terms of Bourdieu's description of field, species of capital, and habitus.
Conclusion. A Bourdieusian perspective on the differences among faculty member responses supports our understanding of curriculum integration and offers some practical implications for the future development of pharmacy programs.

Keywords: Bourdieu, knowledge, curriculum, integration

INTRODUCTION

The increasing emphasis on the integration of pharmaceutical science and pharmacy practice in the master of pharmacy (MPharm) degree program in the United Kingdom highlights differences between different academic disciplines in a school of pharmacy. Bourdieu's field theory in the sociology of education is a useful theoretical tool to develop the understanding of scientists and practitioners in the pharmacy school field. The application of a Bourdieusian perspective may facilitate a deeper consideration of factors that impact on the integration of pharmacy knowledge.

As a reflexive practitioner in the French academic and intellectual world, Pierre Bourdieu did not make a distinction between theory and practice. Bourdieu's view was that the practitioner cannot engage with theory without drawing on practice and vice versa. The work of Bourdieu is, therefore, particularly relevant to an exploration of pharmacy knowledge and practice. In *The Logic of Practice*, Bourdieu described how practice is often described negatively, particularly the mechanical aspects that appear to oppose logic and discourse.[1] He aimed to bridge the gap between traditional dichotomies such as the independent action of the practitioner and the institutional structure underpinned by theory.

Bourdieu's concept of "field" has been applied to medical education research. In Albert and colleagues interview-based study, respondents identified field factors that reduced the quality of medical education research.[2] Factors identified included the field or space being polarized, the need for a diversification of methods, and a greater collaboration between academic researchers and clinicians. Miers examined academic nurses and their lack of equal status with other faculty members in the academy and identified a range of cultural factors that contributed to this field position.[3] The application of Bourdieu's theory of practice to nursing research was key to the development of practice innovation and policy change.[4] A review of the literature revealed that Bourdieu's theory was a neglected perspective within pharmacy education. This research focused on Bourdieusian concepts that could be applied to pharmacy education such as: species of capital, field, and habitus. These terms are explained below and summarized in Table 1.

Bourdieu extended the traditional economic notion of capital such as money or assets and used the term "capital" to include knowledge, experience, and social connections that could give the individual or group power to succeed

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Table 1. Summary of the Terms Capital, Field, and Habitus as Applied to Pharmacy Education

Bourdieusian Term	Summary Definition	Example
Capital	Areas such as knowledge, experience and social connections that can give the individual or group power to succeed within their field. Different species of capital include: social, cultural and economic.	A professor of pharmacy practice obtains major research funding (economic capital) and uses this to influence and recruit colleagues (social capital) to undertake a specific research methodology (cultural capital).
Field	A way of describing a network of objective relationships connected and anchored within different species of capital:	A school of pharmacy research group and the network of relationships that exist within this field.
Habitus	The individual demonstrates an attitude or disposition influenced by social structures.	An analytical chemist aligned to working with quantitative research data may feel less comfortable discussing qualitative aspects or implications of a research project.

within their field. Bourdieu also distinguished between different types or "species" of capital. For example, the cultural capital of a group of faculty research chemists would include the formative education in their discipline, doctoral and post doctoral research, industrial experience, and connections with others ("social capital") within their discipline. By contrast, the cultural capital of pharmacy practice faculty group is more embedded in their experience of hospital or community practice and their experience with patients and other health care professionals. Ball defined social capital as "an aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition."[5]

Social capital involves membership in a group where the volume of social capital depends on the size of the network of connections. Social capital is never completely independent of economic or cultural capital and includes relationships, networks, and the ability to influence others. This type of capital is also made up of social connections convertible under appropriate conditions into economic capital.[6] For example, for the faculty microbiologist at a school of pharmacy, this may include being part of an influential research group and maintaining contact with leaders in the field. For the pharmacy practice faculty members, social capital could take the form of productive relationships with other health care professionals and the development of innovative practice by working with others.

Bourdieu used the term "field" to describe the network of objective relationships, both historical and current, anchored in different species of capital. All fields involve "agents" who have a stake in the operation of the field. Pharmacy education and practice is a field determined by the position of the agents (faculty members and practitioners) within the field. For example, a policy that requires emphasis on a specific curriculum area will have consequences in terms of conflict and competition as agents try to gain monopoly of the most effective capital in their field. Bourdieu used the analogy of a magnetic field to describe his concept of a field, showing strong polarized forces and their effects.[7]

Bourdieu maintained that the field is influenced by a mental or cognitive system of structures he called "habitus." The term habitus expresses, on one hand, the way in which individuals "become themselves" by developing attitudes and dispositions and, on the other hand, the ways in which those individuals engage in practices.[8] Habitus is the embodiment of external social structures acquired by experience. Habitus can be collective in that it is similar in groups of people with shared aims. The habitus constrains a person but does not determine thought and action as it only disposes a person to act in predictable ways. Bourdieu suggested that we are influenced by "practical sense," not just by habitus. When our habitus is in tune with the field, we evolve in that we can react to a situation immediately as we are in tune with the situation. The 3 key Bourdieusian terms, with examples applied to pharmacy education, are summarized in Table 1.

The overall aim of this research was to explore how different pharmacy educators view pharmacy knowledge within the MPharm program and discuss these findings using a Bourdieusian lens. This type of theoretical insight into pharmacy knowledge is increasingly important in a multidisciplinary and integrated MPharm in the United Kingdom. The MPharm program is regulated by the General Pharmaceutical Council, which specifically states that pharmacy curriculum must be integrated.[9] In the United States (Accreditation Council for Pharmacy Education) and Canada (Canadian Council for Accreditation of Pharmacy Programs), curricular integration is a requirement for the accreditation of pharmacy programs.[10,11]

In Australian pharmacy education, one of the strong components is the "balance between, and integration of, the enabling sciences, applied pharmaceutical sciences, social sciences, and clinical education."[12] It is increasingly important within international pharmacy education to develop theoretical understanding of a culture of integration among different disciplines.

METHODS

This was a qualitative interview study that included 12 interviews with 4 faculty members from 3 different schools of pharmacy in the United Kingdom. These 3 schools were selected as they were representative of a newer school (N), an established teaching-based school (T), and established research intensive school (R), respectively. An invitation letter was sent to all faculty members at the 3 schools and 4 faculty members were selected from the respondents. The selection from the 29 faculty members who responded was based on an equal representation of science-based and practice-based faculty members, gender balance, and a range of experience within academia. All selected faculty members were contacted with full details of the interview process.

Before starting the interviews, 2 pilot interviews were conducted and evaluated at the researcher's institution before the interview schedule was finalized for the study. The semi-structured 1-hour interview schedule was designed to provide a greater insight into pharmacy knowledge in relation to professional practice. The interviews were all recorded using a digital voice recorder and held in a private area at the institution of the interviewee. Questions were drawn from 6 different domains: individual background, pharmacy as a knowledge-based profession, integration of the curriculum, scientific identity of the pharmacist, increasing the practice component of the curriculum, and how a pharmacist is viewed. The interviews followed a semi-structured format that consisted of a common interview schedule with flexibility to explore areas of interest that emerged as the interview progressed.

Analysis of the interviews used the following staged process. The voice recording was transcribed and the initial draft of each transcript was compared against the audio recording for accuracy. Any personal identifiable information of the participant, such as references to institutions and named colleagues, was removed. Sections of the written transcripts were coded according to the 6 domains. A recoding process then took place using framework analysis. The sort function of Excel was used to display the interview narrative in different formats. For example, each code (with associated identifiers), transcript extract, comments, and researcher memos were viewed in different orders. This process supported the thematic multivariate analysis of the material as the columns related to respondent background, subject discipline, or institution could be arranged according to the area being investigated. The final stage involved a consideration of all of the interview data and reflexive analysis by the researcher. The reflexive analysis included both theoretical perspectives and reflective engagement of the researcher with the transcript, which resulted in 3 major themes. This study was approved by De Montfort University, Faculty of Health and Life Sciences Research Ethics Committee.

RESULTS

Themes that emerged from the work were: scientific identity; integration of pharmaceutical science and pharmacy practice; and description of pharmacy knowledge. The science-based respondents revealed a strong scientific identity demonstrated particularly by a statement from respondent N1 from a new school of pharmacy who indicated a strong personal alignment to his subject area: "My background is in biochemistry, I did my PhD at the University of X in biochemistry. I finished in the mid XXs. I then did a post doc at Y, where I started to learn a bit about molecular biology and its application, which is basically what I am." This personal identification with the scientific curriculum and associated capital was also made explicit by N3: "Analytical chemistry is very important....I think of aspects of physical chemistry in terms of drug formulation. That's where I sort of come in, that's what I teach so I suppose I would think that's important." Respondent N1 was keen to explain the underlying importance of chemistry and how a background in science is linked to education as opposed to training: "But you can't really understand pharmacology unless you have a reasonable understanding of organic chemistry and three dimensional chemistry, at the end of the day drugs are three dimensional models that fit into receptors. So if you want to educate a pharmacist rather than just train them..." Overall, a scientific identity was seen by all respondents as fundamental to the role of the pharmacist in terms of knowledge of drug action and how this could be translated into personalized health care and choice of medicine for the individual.

All respondents viewed pharmaceutical science as an important area of the MPharm curriculum and defended the high science content of the program. They also all emphasized the usefulness of a curriculum based on scientific principles. Respondent R2, a teacher-practitioner, would "hate the degree not to be considered as a science degree" and was also keen to justify the science content in terms of future practice: "Yes when I think about things the students will do when they go into practice they will

see reps they will come in and they will show them papers, this shows this. And they have got to be able, you know, to question and critique, I think that is fundamental."

Respondent T4 was candid about the pragmatic reason for not losing any more of the scientific curriculum: "Well there is the obvious worry that people think if we haven't got any lectures we are not going to have any jobs. So people are protecting their own corner as well ..." However, a link to economic capital was not expanded on, and this respondent was attempting to justify the scientific content of the curriculum by explaining that students found this more relevant to future practice as they progressed through the program. This respondent also indicated that there should be no further loss of science from the curriculum: "I think we have got to be strong and say no there is a certain level that we shouldn't go below. And I don't think we are particularly heavy on core science compared to other courses we don't do hugely too much. Maybe some of the practicals could be streamlined a bit more so we do less examples to make room for more placements. But I think the core understanding should stay..."

Having explained that the pharmaceutical chemistry content of the MPharm program has gradually been reduced over a number of years, respondent T3 explained the value of this subject area within a pharmacy program: "What I am trying to do is get over general chemical principles of how people try and fit molecules to the receptor, or how they improve drug molecules . . . And the most important thing we do in pharmaceutical chemistry is the partition theory. And because that is all about when drugs dissolve, if they dissolve, where they dissolve, and can they be absorbed or excreted and can they be transported around the body."

Science was seen by the respondents as a fundamental part of the armory that supports pharmacists in their claim to professional status. One of the main reasons respondents thought science was essential to pharmacy was the application of knowledge and the contribution the pharmacist could ultimately make to patient care. An outcome from the research is that there was a certain amount of tension for the pharmacy practitioners engaged in academic practice as they recognize the power of their own scientific knowledge but were not directly involved in the delivery of academic science. For the scientists, this tension was less acute as they were more engaged in a total scientific paradigm and able to compartmentalize practice as an area that science can be applied to.

The second theme, integration of pharmaceutical science and pharmacy practice across teaching teams, was important among all respondents. Respondents from the newer school (N) described how their "blank sheet" status provided a stronger position to achieve this ideal than the more established schools. However, the modular design of degree courses was viewed as a barrier to integration. Respondent N2 said "Our course is modular so everything is divided into modules so we don't help ourselves. We are saying we are an integrated course but because we deliver modules we then separate it out. And that creates a false division and that is just to do with teaching teams, you know, this module will be run by people from pharmacology, this will be run by . . . and I think that's very dangerous." School N respondents indicated that individual modules could be integrated, and this could be seen in areas such as linking of cell biology theory and the mechanism of action of antibiotics. However, they acknowledged that for some areas, integration of science and practice seem strained and links could appear artificial, particularly with more theoretical principles of physical science and everyday practice. Respondent N2 stated that integration was a challenge but could be overcome by studying the same area repeatedly within different disciplines. For example, the theory of local anesthetics could be looked at from physiological, biochemical, and pharmacological viewpoints: "In the first year, they do local anesthetics, they will do it in physiology, they will do it in chemistry and they will do it in biochemistry. So they will do the same area in three different domains. And of course that's the beauty of being a new department, because rather than we have always done this, actually there was none of that it was this is how we are going to do it across, and it is good."

The assumption made by respondents from the new school was that they were in a stronger position to achieve integration as there were fewer established teaching teams and a greater likelihood of individuals working together. There was some hesitation from respondent N4 when asked about the integration of the program: "Yes, no, we've got, actually it works quite well. We've got a pharmaceutics team and a chemistry team and then the practice team's the biggest. But it works quite well because we, most modules we have maybe one or somebody from another part of, like all of the medicines and professional practice have somebody from a different discipline included to ensure it's a sort of a holistic practice." Respondent N3 said that scientists and practitioners did not always understand the role of their colleagues: "I think as far as kind of the process of running modules and teaching and things yes we are on the same page. But our career paths are very different and sometimes I think we may not have an appreciation of what the other one does as much. . ."

Overall, the respondents agreed that integration was an important direction, but it also raised a number of problems. For example, some parts of the science curriculum were more difficult to integrate with practice than others. Respondent R1 said: "I think the key areas are

probably around pharmaceutics those are the easy bits, and I think some of our science topics can be difficult ... we do want them to get an understanding of these groups and functional groups of a molecule but that can be difficult I think to see."

Respondent R2's answer regarding integration was more negative, and the division of scientific and practice identity was more obvious: "Currently it's not, I work in practice, and I do help out with some microbiology. . .that's about the only integration I have come across." This respondent expanded by explaining the value of working with colleagues from different disciplines but held the view that it could be a difficult process. Science-based respondent R3 also had some reservations about integration: "I think it is where appropriate. I think there are some, I can see there are probably some areas that it might be difficult to do it, and it would be wrong to force that integration where it's not natural. I think there are some areas you can see a natural affinity." The concept of "forced" integration describes a recognized division between disciplines and suggests the need for a more natural and organic approach to integration. The use of the term "force" in relation to integration also appeared in the narrative from practice-based respondent R4: "And I think we're kind of forcing it here, that's my kind of impression."

An important subtheme that emerged in the discussion of integration was that integration involves integrating people and was not simply about integrating different subject disciplines. Respondent R4 said: "Because I think we can't just put the blame on the scientists and say but they don't teach our students and show them how it relates to practice, because actually they might find it hard to see all of those links. So by bringing two or a number of people from these two areas together I think we can work together and so oh this is where the links are, this is, you know you may find this helpful, why don't you use a pharmacy example rather than a pure chemistry example when you teach that particular thing..." The emotive reference to "blame on the scientists" reinforced the difference between the practice and science teaching teams. Respondent R1 commented on improved integration by the inclusion of practice faculty in developing a science-based module or a scientist having an input into a practice-based module.

The perception of pharmacy knowledge by the 2 different types of educator demonstrated differences of disposition from these players in pharmacy education. An example of conflict between a science-based respondent N1 and practice-based colleagues was articulated in the following statement from N1: "Rational, unfortunately I am afraid there are some community pharmacists who even in this school think it is perfectly appropriate to teach homoeopathy for which there is absolutely no evidence we, and I am afraid for a chemist that is sort of red rag to a bull."The "objective" scientific culture was not far from the surface of the interview narrative and was in direct contrast to a practice culture, where a range of social factors was seen as important in the way that medicines are perceived and taken by the public. The issue of conflict within the academic community was raised by respondent N1 when he stated that there were essentially two cultures present in the room: "I think there is some difference because there are two cultures in pharmacy, of which basically those two cultures are in this room ie, you and me, the scientific culture and a social community culture." The science-based respondent N3 summarized the difference as having "a different way of thinking, because we are trained in a way to think very black and white. And in pharmacy practice I think it can be very colorful in how perhaps you interpret things, it's not always right and wrong, a spectrum. And I think sometimes in science we try to know, it's either yes or no."

DISCUSSION

A limitation of this study is that it is based on the perception of pharmacy educators in the United Kingdom and the specific emphasis on integration within the UK MPharm program. From an international perspective, the cultural and historical distinction between science and practice in pharmacy education is possibly more obvious in a European, Middle East, and Far East context and less pronounced in the United States. While recognizing this limitation, the research did identify key differences between scientist and practitioner faculty members in how they view pharmacy knowledge.

The scientific emphasis on a large, unique, and broad body of knowledge that could decay contrasted with the practitioner view that knowledge was more fluid and must be easily accessed rather than remembered. This difference in viewpoint may impact how curriculum content is designed, delivered, and assessed. For the scientist, there was an emphasis on a certain body of knowledge deemed essential by the scientific community. By contrast, the practitioner was more comfortable with the future pharmacist being able to access but not necessarily retain a detailed body of knowledge. However, the practice-based respondents also portrayed a positive view of science as seen in Table 2, which highlights the unique scientific offering of the pharmacist and the dangers associated with reducing scientific curriculum content.

When describing pharmacy knowledge, the difference between the scientific and practice view was particularly obvious. For the scientist, knowledge was often equated with memory, and a certain amount of learning

Table 2. Themes Derived from Practice-Based Respondents on Their View of Science

Theme	Quote
Strong scientific identity	R2: "I would hate the degree not to be considered as a science degree. I think like a scientist so I call myself a scientist, but when you are actually out there doing the job and you are practicing it's a balancing act."
Unique offering	N2: "Certainly in hospital you know knowing a great deal about formulation in terms of getting medicines into mentally ill people that's a unique offering I would say. We have got to sacrifice the solubility in order to....., who else on a team could offer that other than a pharmacist."
Dangers of reducing scientific content	T2: "And eventually there is going to be a tipping point when we have knocked off so much science from the curriculum that the practice doesn't have any foundation to stand on, and the students don't end up being able to function properly."
Scientific rigour	N2: "...do you remember we would always be titrating and pipetting and all of that, but actually we have never done that, we have not done that for ever. But actually that rigor that absolute rigor was something that you know permeates through everything that a pharmacist does."

Respondent codes: 4 respondents from 3 different types of school of pharmacy
N=new school of pharmacy N1, N2, N3, N4
R=research-intensive school of pharmacy R1, R2, R3, R4
T=teaching-based school of pharmacy T1, T2, T3, T4

was seen as essential before being able to apply and use knowledge to develop a subject. There was the suggestion of trying to make pharmacy students run before they could walk, by asking students to make applications before they had sufficient underpinning knowledge. The practice view was more about knowledge as a discovery process and how current pharmacy practice is unrecognizable when compared to the respondent's own experience of qualifying as a pharmacist. Some of the key differences that emerged between scientists and practice-based faculty are described in Table 3.

The common ground between scientist and practitioner responses was the translation of scientific principles into practice. The challenge presented by this assertion aligns with the argument that pharmacy has the knowledge base to control the symbolic transformation of the pharmacological entity (the drug) into the social object (the medicine).[13] The pharmacy educator plays a key role in ensuring that the future pharmacist works towards this goal and aims to live out this identity within future practice. An important challenge for pharmacy educators is that they achieve sufficient understanding and interaction between disciplines to facilitate this ideal.

The interview narratives also offered some insight into individual perspectives, which can be more readily understood by drawing on Bourdieu's concept of individual habitus. The polarization of the "scientific" and "practice" viewpoints was evident, and there was an indication that the scientist and the practitioner had a different habitus and mode of operation within their field. For example, the term "knowledge decay" used by respondent N1 indicated a culture of objective knowledge whereas the practitioners more fluid descriptions of knowledge resonated with mode 2 transdisciplinary knowledge as defined by Gibbons.[14] Mode 2 knowledge is knowledge created within a broader, transdisciplinary social and economic context (as opposed to Mode 1 knowledge, which is generated within a disciplinary, primarily cognitive context).

From a Bourdieusian perspective the integration of science and practice is a challenging ideal as the scientific subject specialist and pharmacy practitioner occupy different spaces within the pharmacy education field. In other words, the habitus of the teacher-practitioner is different from that of the laboratory research scientist. Consequently, the unconscious accumulation of social, cultural, and knowledge capital is different for these players. Many of the moves to integrate science and practice within the pharmacy curriculum, such as scientists and practitioners teaching as a team outside their own subject area and the combination of science and practice content within modular schemes, do not fully address the challenge of integration. A more proactive approach to integration could be achieved by a greater awareness of the habitus of individuals within the field.

In Bourdieusian terms, the increased prominence of a practice-centered approach to the curriculum is ultimately transferring capital from the scientist to the practitioner. Negative issues associated with an increased practice emphasis are that the MPharm curriculum may become too focused on skills-based training, and there may be forced integration and commodification of knowledge. A more positive perspective on increased practice content is that contextualization is important as it aligns learning to the profession and supports more innovative approaches such as the creation of a community of practice.[15] Guile and Ahmed suggested the development of

Table 3. Differences in How Knowledge is Viewed Between the Scientist and the Pharmacy Practitioner

Scientist	Practitioner
Knowledge decay (Knowledge is acquired and decays)	Knowledge is ongoing and utilized according to the requirements of practice (Continuing Professional Development)
N1: "Their knowledge of chemistry will start decaying as soon as they have graduated, and in five or ten years down the line they probably won't remember very much."	N4: ".... I have known lots of people that used to come along to a workshop that really should not have been practicing but because they thought by coming to a workshop that, and they got that certificate and they've stuck it on their wall, that they were somehow very knowledgeable, but I don't think they could apply it."
Large unique and broad body of knowledge	Importance of being able to access rather than learn a body of knowledge
T3: "Pharmacists do actually have a tremendous body of knowledge. We have a breadth of knowledge that nobody else has, you will find chemists who can tell you more about synthesis of drugs or analysis of drugs, and they will often seem to have a greater depth of knowledge. But you will then find they don't have the pharmacology, they don't have the understanding. You have pharmacologists who have very deep detailed knowledge of the action and use of specific groups of drugs, they are not as good at other things."	R1: "As a school here we have focused heavily on knowledge and knowledge was a big part of our curriculum. I have been arguing for some time that . . .. and it's not that knowledge is unimportant but I think that there is a lot of knowledge which is available and readily available but a big part is being able to access it, that is actually very difficult."
Common ground: Application of knowledge (the translation of scientific principles)	
T1: "Somebody came in one time, it was 3 or 4 years ago now, and asked why the dose of his atenolol at 25 milligrams was 10 times the dosage of his bendroflumethiazide, and he was an engineer. Now I am not convinced that our students could handle that..... And if a doctor was to come and ask that same question, which they easily could, I am wondering how many of our students would fare."	T2: "I think where pharmacy is different from most other degrees in that it's also a sort of an apprenticeship, it's quite a practical subject and you do need to apply pretty much all of it. And the students need to know things when they leave that they didn't even know existed when they started. So from that point of view it's definitely an education. They also need to have practical skills and the ability to apply the knowledge they have got which is more of a training issue. But I don't think it's either/or those, I think its holistic. . .it's a five year apprenticeship for doing something rather than a four year education and one year training."

Respondent codes: 4 respondents from 3 different types of school of pharmacy
N=new school of pharmacy N1, N2, N3, N4
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a pharmaceutical identity, where the unique contribution of the pharmacist to patient care should be more explicit within the teaching and learning community, rather than a feature taken for granted.[16] This observation is challenging and encourages pharmacy educators to clarify their vision of the end product of a pharmacist and what it implies for the curriculum.

Overall, this research stimulates theoretical questions about the nature of knowledge and professionalism and the importance of a more philosophical discussion when considering the design and content of the pharmacy curriculum.[17] One of the key areas of consideration in relation to professional identity is the inaccessible nature of knowledge to the lay person.[18] There is a tension regarding knowledge locked into a profession and, therefore, inaccessible to a wider audience. The inaccessibility elevates professional status and knowledge, which is made more explicit and applicable to a practice context, thus lowering professional status.

The contextualization of pharmacy knowledge can be viewed as a means of practitioners gaining more capital within the academic pharmacy field. The move towards a more practice-based curriculum also opens up questions of how this direction can affect the status of a profession closely aligned to scientific identity. Among respondents, there was a demonstration of Bourdieu's description of agents working in a field to increase specific cultural (knowledge) capital of the academic community of educators. This movement is particularly apparent in Bourdieu's *Homo Academicus*, where he examined the

boundaries between scientific knowledge and commonsense knowledge within the academic community.[19]

This research also demonstrates the importance of language when discussing contextualization of pharmacy knowledge as this has a different set of meanings for different agents within the field. The ideal of intersubjective agreement between people and active dialogue moving toward consensus as defined by Habermas is not evident within the interview transcripts.[20] At a school of pharmacy, there may be a pretence of communication through collegiality and a harmonious relationship between different disciplines. However, more awareness of individual habitus is needed to successfully implement curriculum changes.

CONCLUSION

Pharmacy has been described as multidisciplinary and this characteristic is a strength but also a challenge when tensions arise between different agents in the field. [21] The interview narratives describe an underlying scientific rigor where science permeates all that a pharmacist does, which is a strong image that emerged from this research. This viewpoint links to a technical rationality as a dominant epistemology as described by Schön.[22] The increasingly blurred edges of science and practice and the way in which the autonomy and position of science is threatened by social interests is described by Bourdieu in "*Science of Science and Reflexivity*."[23] This work offers useful insights into the discussion of knowledge integration in a culture dominated by a scientific identity. An awareness of Bourdieu's forms of capital can be applied to a bi-directional model of integration where science faculty emphasize the value of clinical relevance and clinical faculty revisit the original discovery, whilst emphasizing the importance of scientific principles within a clinical setting.

Achievement of the higher levels on the integration ladder when considering curriculum design as described by Harden is a growing area of interest amongst pharmacy educators.[24] The obstacles to curricular integration such as "signature pedagogies" within disciplines, time required for integrative learning and limited interactions between scientists and clinicians are well documented.[25] A deeper insight into how pharmacy knowledge is viewed by the academic community using Bourdieu's theoretical framework is a useful tool to progress this ongoing discussion.

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