Empathic education in design: Strategies for healthcare practitioners?

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REVIEW

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Abstract

The education of professionals, such as healthcare practitioners, involves an enculturation process that immerses individuals into the rites, rituals and values of the particular profession. Professionalisation, particularly in fields that have a long history, reinforces values that are inherent to the core skills and practices essential to the profession. Due to the complexity of enculturation, when a shortfall is discovered within the education of professionals, it can be challenging to shift the value system. This paper is a response to a growing body of research on how to develop stronger, more meaningful education on physician-patient relationships with a particular focus on developing the attribute of empathy.

The aim of this paper is to present five strategies for empathic education in design that may be used by healthcare educators towards developing stronger physician-patient relationships. The presentation of these strategies is a response to numerous studies on medical education that illustrate a decline in student empathy during the training process. In addition, studies in medical education have illustrated that teaching empathy is best done through the arts.

This paper presents five empathic education strategies in the form of case studies. The research strategies are qualitative by nature in order for one to understand the emotional, physical and intellectual needs and experiences of others.

The results illustrate benefits, challenges and unexpected outcomes that may occur while teachers and students engage in empathic education. Key results include stories about how empathic education strategies can push people outside their comfort zones. This can develop into a respect for others that could not be learned through exposure to theory alone.

Using empathic education strategies in learning environments provides rich input towards expanding the interpersonal skills and empathic horizons of individuals. Five strategies used in the design field are presented here in order to provoke and support healthcare professionals in the pursuit of creating a more humanistic-centered approach in the enculturation process.

Introduction

The education of professionals, such as healthcare practitioners, involves an enculturation process that immerses individuals into the rites, rituals and values of the particular profession. Professionalisation, particularly in fields that have a long history, reinforces values that are inherent to the core skills and practices essential to the profession. Due to the complexity of enculturation, when a shortfall is discovered within the education of professionals, it can be challenging to shift the value system. Interestingly, within two completely different fields – medical and design – the interpersonal skill of 'empathy' has been defined as being something of value, yet is not adequately supported.

There is a growing body of research that illustrates how empathic modelling can be used to take students outside of their personal experience so that they may develop a greater sensitivity to clients/patients. This paper offers a comprehensive set of strategies, that can be used by both healthcare and design educators, to help students engage with clients/patients with specialised needs. The implications of this study are that educators will reflect on, and have the opportunity to shift, the enculturation process involved in professionalising students within the medical and design fields.

Numerous researchers in the medical field argue for more humanistic-centred education that would aid in the development of empathy[1-5] and indicate that there is a strong connection to the humanities and arts because these engage people's emotions.[2, 4, 6] The argument for more humanistic-centric approaches to medical education are a result of the traditional enculturation into healthcare which includes "socialised amnesia",[7] a process of numbing students' empathic feelings towards others within a system that takes more technology- and science-focused approaches. Yet, at the same time medicine is considered to be at its core a human service profession.[8] Interestingly, within the design field a similar argument is made about it being a human-centred practice.

Although designers are not dealing directly with life and death issues, they do manage the needs, desires and expectations of clients/users by designing products and environments that have the potential to improve lives. As a result, designing in the 21st century is less about generating products, and more about shaping user experiences. Design education and practice have increasingly focused on client or users' experiences in both research and development, which is different than simply responding to a user's perceived needs.[9] Designers ensure more appropriate design outcomes by engaging and studying people in their personal environments to gain a deeper understanding of user behaviours and perceptions towards products. Within the design field, empathic education is emerging as a strategic way of understanding users and user experience toward the design of innovative products.[10]

While empathic educational strategies have been presented in the medical and design fields, these strategies differ considerably. This difference is largely the result of the two fields requiring empathic strategies for different purposes, yet it is clear that because both fields are practice-based and humanistically-oriented there is considerable potential for one to learn from the other. In the case of the medical field, the main contributions towards empathic teaching

strategies are Mohammadreza Hojat's 'ten approaches for enhancing empathy'[2] and Johanna Shapiro et al.'s description of literature-based coursework for medical students.[6] These strategies describe, for example, how improving interpersonal skills, studying literature and the arts, and watching theatrical performances contribute to developing the "empathic horizon"[11-13] of future practitioners. In the design field, empathic educational strategies rely on the end-user being an active partner with the designer throughout the designing process.[10]

A person's empathic horizon is defined as the boundaries of experience, knowledge and understanding in relation to other people. In design, using empathic education approaches involves collaboration with others who are different, such as those with disabilities. Students work directly with those who have disabilities to better design innovative everyday products. The empathic modelling presented herein recognises the 'normality' of doing things differently[14] as inspiration towards new products. Although the approaches to empathic education differ between the medical and design fields, the primary goal for each is to expand the interpersonal skills and empathic horizons of students to make them better practitioners. This unique approach towards empathic education in the field of design can be beneficial towards educating healthcare professionals as well.

Empathic modelling methods

Exposure to extreme experiences & clients

Graham Pullin, in his book *Design meets Disability*, quotes a personal communication with Derrick Kerr who says, "the only way to experience an experience is to experience it",[15] which is at the core of learning empathy. Using empathic educational strategies, whether through modelling or exposure to user-experts, requires exposing students to extreme experiences and/or clients. It is clear that the people with disabilities often have experiences that differ significantly than those of people without disabilities. We might even say that people with disabilities are best-case examples of extreme clients/patients because their experiences in accomplishing tasks takes more time and patience. They face challenges in the material landscape that those without disabilities may not even be aware of or may not even think to question. People without disabilities expect they will be able to enter, exit and move around unfamiliar venues easily whereas a wheelchair user may not even expect entrance to a public space.

The five empathic educational strategies presented represent pure empathic modeling or combined modelling with user-experts. Various empathic modelling strategies

have been explored, developed, and used by design educators to stretch the designing experience. One example is 'Designing in the Dark', a four-day workshop where students shadow people with visual impairment through experiential activities.[16] Other examples include using tools to simulate different disabilities, thereby allowing students to experience a particular disability.[17] What is most important is how these strategies function. That is, different strategies act towards impacting students on individual and/or social levels. Some strategies require independent engagement and reflection, while others are performed as group activities. The ideal situation is for students to engage in individual experiences prior to social experiences due to the added complexity in social situations.

The following five strategies are reported as case studies with rich descriptions and reflections on the successes, failures and potentials of each for teaching and enhancing empathy.

Strategy 1: Modelling orientation as a person who is blind or visually impaired (individual)

Two design educators metaphorically engaged in 'flying blindly' to evaluate the protocol of an educational exercise proposed to encourage empathy. They wanted to assess the level of risk to students who would be involved in the protocol, monitor the length of time it would take to complete the task, and assess whether the activity would enhance the student experience and lead to more in-depth understanding of those with visual impairments.

The specific 'out-of-comfort zone' activity planned was for students to work as a team. One person would be 'blinded' and asked to use a white cane, while the other person would direct and photograph the activity. The teams would navigate their way from the classroom building, across the campus to a store about half a mile away where they would stop for a snack to experience the urban environment of vehicle and pedestrian traffic. The students would then trade places and return to the classroom. The students could also use the local bus transit system. It was anticipated that the students could complete this exercise in approximately 45 minutes.

Figure 1: (a) Finding the railing, (b) encountering human-made barriers, and (c) discovering natural barriers.

Rapidly immersing in this strategy without training in the use of a white cane, the educator ventured outdoors and down a wooden ramp at the back of the building. She reached up to find the railing along the ramp by following the length of the cane with her free hand to find the rail (Figure 1a and b). As she passed from shade to sunlight, the temperature change on the railing became very apparent to her.

When the educators switched places, the newly blindfolded educator kept tapping at the edge of the sidewalk to keep close to one edge as a guide for walking straight. Immediately she noticed odours that were not apparent before. There were evergreen bushes close to the edge of the path (Figure 1c). Only moments before, walking past them fully-sighted, she had not noticed the scent. A person walking and a person on a bicycle moved past her in opposite directions. The 'blind' educator heard their approach, but had not identified what was happening until they had passed by.

This empathic exercise had taken an hour and the educators had travelled a distance of about 200 yards and back, which left both of them feeling mentally, emotionally and physically exhausted. So what did they learn? How was this exercise beneficial as an empathic educational strategy? It was disconcerting and disorienting, but not frightening. There was safety in the familiarity of the building and in being able to rely on a friend. There was a feeling that the other senses were amplified (e.g. hearing, sense of smell) to compensate for not being able to see. Most importantly, however, the 'flying blindly' exercise pushed the design educators outside their personal comfort zones, and helped to sensitise them, ever so briefly, to what life might be like with a visual impairment. Sound, touch, and smell became the means by which they were able to navigate through the environment.

The design educators recognised that using a white cane effectively was more complex than intuition. They understood that learning how to use the cane would make them better guides for their students. More importantly, it sensitised them to an empathic modelling activity they were planning for the students and that they should consider redesigning the student exercise. This rapid immersion was an appropriate method for the educators, but not for a class of 24 students within the constraints of a class period.

Figure 2 illustrates two significant moments during the 'flying blindly' activity. The first photograph (2a) illustrates one of the educators walking from the interior towards the outside doors. This image represents how completely alone

she felt during this moment in time, on her own navigating the public space. The second photograph (2b) provides a much more comprehensive view of the space and the overall context. Students surrounded her, but she was not aware of them.

Figure 2: Walking blind – (a) feeling alone, (b) yet surrounded.
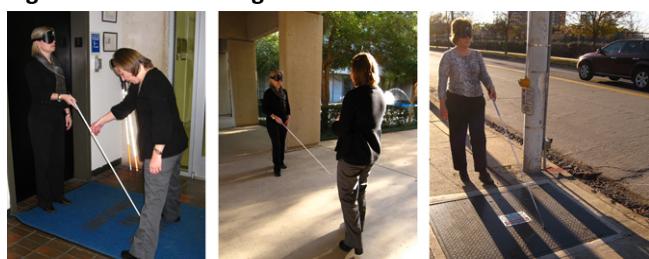
Strategy 2: Modelling orientation training using a white cane as a person who is blind or visually impaired (individual)

The design educators then took structured training in the use of the white cane at the Dallas Lighthouse for the Blind in Texas. Nancy Perkins is the president of this organisation, as well as a professional industrial designer. Her experience at the Dallas Lighthouse, working with employees with visual impairment, has changed her perception of what she considers well-designed products. She says that "all designed products need to incorporate solutions for people with low vision".[18]

The main difference between 'flying blindly' and structured white cane training is that they were taught specific tactics on how to use the cane to guide themselves. Here the design educators received tutoring in alternative ways of holding a white cane, different canes available, techniques for walking in a straight line, and the importance of sound as a navigation tool. In addition, unfamiliar interior and exterior environments were experienced under one-to-one supervision.

The design educators were taught to centre themselves spatially with a known object and to hold and move the cane in ways that would provide them with the 'visual' data of the space (refer to Figure 3).

Figure 3: Authors being trained to walk with a white cane.

They learned safe techniques for finding and moving through doorways and negotiating stairs. They again noted the key role of sound, acoustics and spatial awareness that plays into navigation when vision is impaired. For example, the echoes in the enclosed lobby space provided feedback to help locate the door. This was clearly audible when it was pointed out. As in the previous strategy, one educator was blindfolded while the other educator was the photographer of the activity. Moving outdoors into a courtyard, the blindfolded educator moved tentatively, wanting to put her free hand out to help locate herself in relation to structural objects. The sounds of a slight breeze and a water fountain in the courtyard provided visual cues to her mind's eye. A group of blind people passed by her, walking unassisted with their own canes as they exited the building at the end of their day's work; their canes tapped in unison on the pavement as they navigated the space efficiently and effectively.

An experienced trainer will generally work with a visually impaired person in an indoor setting for several sessions before heading into an outdoor environment. With a sense of boldness inspired by their expert trainer and the restriction of limited time, they left the building, heading out onto the walkway next to a main thoroughfare. Trusting the voice of the trainer who was walking backwards in front of her, the second educator stretched her comfort zone and tried to walk at what seemed to be a brisk pace, which was still significantly slower than her natural pace. When they reached a crosswalk, it seemed as though they had covered several blocks, but in reality had only traversed about a hundred yards. The sidewalk was extremely uneven, broken in places, and included several metal grates. The traffic was heavy and without the presence of the trainer as a guide, the sounds of the traffic would have been overwhelming and frightening. The design educator could feel the ground surfaces through the soles of her shoes. Only afterward could she tie the sensorial to the visual. It was easy to walk past these ground variations without noticing them before her vision was impaired, however, they became significant features for navigation when she was blindfolded (refer to Figure 4).
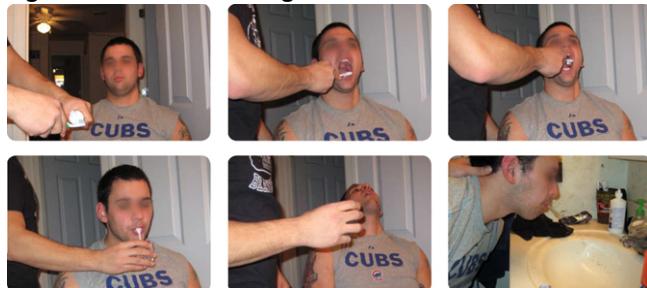
Figure 4: Unobserved ground surfaces

Strategy 3: Modelling everyday activities as a person with a disability (individual or social)

The third empathic educational strategy involves carrying out individual specific task activities at home while modelling specific categories of impairment. Students simulated a range of disabilities (e.g., visual impairment, lack of mobility in hands and/or feet) that were randomly selected. Some of the disabilities meant that everyday tasks could be accomplished independently, while other disabilities required the assistance of another person. Each student was asked to choose and record a personal everyday activity such as personal grooming, preparing food or doing laundry. Once the activity was selected, the student needed to simulate their physical disability while doing and experiencing the activity. The students recorded their activity photographically in storyboards in order to reflect on their experiences and present encountered challenges to their peers. Figure 5 illustrates one student's experience.

**Figure 5: Student cleaning his teeth with assistance**
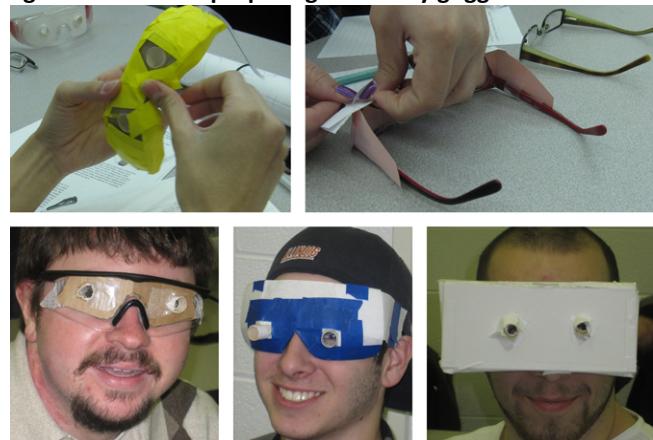
In sharing their rationale, the chosen task and personal experience began to help them develop a shared language to communicate and express the complex emotions that they experienced. Overall, the students expressed how time-consuming everyday tasks were when performing with a physical disability. They expressed amazement that such a simple exercise could be so powerful in helping them understand another person's experience.

Strategy 4: Modelling a disability & working with a user-expert while engaging in a group activity (social)

The fourth empathic educational strategy required students to model a disability within a group of peers. In the previous exercise as the students modelled a disability in their private environment there was safety in knowing that others were not observing them. In this exercise there was a different kind of safety because the students were part of a group, however, there was also a level of vulnerability because group interaction was required. In addition, the activity took place in a public space where others might question and stare at what was going on.

Figure 6: Students preparing 'disability goggles'

This exercise began with a user-expert[19] explaining to the class what it is like to live with a degenerative visual disability, such as retinitis pigmentosa (RP). The user-expert, also a student in the class, is legally blind (low vision) and uses a guide dog. The students then made goggles or customised glasses that restricted their peripheral vision in order to simulate RP.

It was only when the students, wearing their disability goggles, attempted the relatively straightforward task of walking to a coffee shop in an adjoining building to order a drink and then return to the classroom, did the experience resonate with them. This task took approximately 30 minutes, but the students were required to keep their disability goggles on for a further hour until the end of the class time to extend their experience (refer to Figures 6 and 7).

Immediately after the activity, the students shared their impressions, thoughts, comments, feelings and written reflections. The student with visual impairment wrote this comment: *"This experience was really enlightening in that I found many people asking questions about how I function on a day-to-day basis, how long my vision has been this way and so on. I hope that this experience will help the students gain understanding of a different life experience."*

Figure 7: Students conducting empathic modeling of RP – exiting the elevator, visiting the coffee shop, pausing for a group photo, and reflecting on their experience.

One unexpected outcome from this activity was how another student who has a hearing difficulty responded. She became extremely distressed and anxious. Living with deafness is an everyday challenge for her, but to have her vision impaired (even temporarily) was overwhelming for her. The sounds in the coffee shop were undefined and troubling noises to her. She separated herself from the group in order to try to find a quiet place. With some difficulty and determination, she completed the task as planned. After the activity, her verbal expressions were documented: *"I get extremely anxious and panicky around a lot of people all the time, so when I cannot see them to move to an open space I freak. This mixed with not being able to hear much became overwhelming. I realized how much I rely on visual cues from people to be able to understand them."*

One week later the students were asked to speak about and document their feelings again. This was meant to emphasise their experiences through further reflection. With a little distance from the experience, student comments were more objective and less emotional: *"Simulating retinitis pigmentosa combined with my hearing impairment resulted in a strong emotional reaction I had not expected. It made me feel very anxious due to the lack of senses especially since I have claustrophobia around people. I felt that since I could not see them I could not get away from them, so I mostly stayed in a comfortable corner until someone came to rescue me."*

Further student feedback from the 'disability goggles' experience included comments such as: *"The purpose of it was most likely to examine the successes and failures of*

product designs, but I think we also succeeded in getting to look at things from other people's perspectives."*

Two different students indicated their feelings about their social awareness: *"Immediately, I felt lonely. For some reason losing my peripheral vision, left me feeling like everyone left too."* And: *"I found myself listening to the surroundings more, and identifying people more by their voices than their appearances."*

Another wrote about how he felt within his body: *"I felt that my hearing was amplified."* This connection to the senses within one's body was further elaborated on by a different student who said: *"Despite the fact that I was able to still see a fraction of the room I now realize how dependant one must be on sounds, walls, light, and people to guide them around. I believe that through this many can obtain a greater insight into this obstacle that many face their lives."*

Yet another student connected raw emotion with the experience. *"This experience made me feel extremely insecure. I was depressed and mad at the same time, because I felt like I could not do things right. I was worried because I did not want to knock things over."*

Overall, the students indicated that speaking with the user-expert, and the empathic modeling experience, immediately sensitised them to some of the daily struggles others may experience. This opened up a dialogue that connected them to one another in a very different way. They discovered new words and phrases to describe their personal emotional experiences, which supported a deepened connection within the group and also with their user-expert. This activity also helped to connect their emotions and experiences to their book knowledge.

Strategy 5: Modelling everyday activities longitudinally as a parent of a new baby (individual and social)

The final empathic educational strategy was related to a project on sudden infant death syndrome (SIDS). A graduate student engaged in longitudinal modelling over the course of a week where he attempted to gain a deeper understanding of how it felt to care for an infant. The empathic exercise was an attempt to model what it felt like to engage in the work of being a new parent, though not with the emotional connection that a parent has with their child. The emotions relating to being a new parent ranged from feeling joyful with emotional highs to feeling exhausted from lack of sleep. Figure 8 shows the student modelling what it is like to care for a baby, specifically while carrying the baby with all of the associated paraphernalia

(diaper/nappy bag, portable crib), and other personal belongings such as a workbag.[20]

Figure 8: Designer recreating travelling with an infant.

Modeling of everyday activities in a longitudinal way provides another kind of immersion in another person's reality. In this case, the student monitored the emotional and physical toll he experienced while he was encumbered with a small infant 24-7. He indicated that although he likely could not engage in this kind of empathic strategy for every client he would design for, by engaging in this activity he knew how to observe things in more depth and ask different kinds of questions. In addition, the student expressed that he had learned just as much about himself as he had about others.

Empathic educational strategies

This paper presents and reflects on five empathic education strategies that can be used in educating medical practitioners. In the design field it is important to empathise with others because designers are not designing for themselves. Medical practitioners need to understand and empathise with their clients/patients in order to promote patient and physician satisfaction and to improve collecting information about the patient towards diagnosis[5] with the ultimate intention to help prevent/alleviate pain and suffering.[8]

Empathy, is defined by medical field researchers as "recognizing what the suffering of the patient feels like"[21] and requires reaching out to others and imagining their "inner world experience".[21] Empathic educational strategies dictate that people cannot rely solely on their own experiences and skill capital as they provide services and create objects/spaces for the wider population. While scientific research relies on objectivity, empathic strategies build on the synergy of individuals developing relationships[22] and embracing subjectivity for its positive values while recognising its limitations. Unlike traditional scientific research, developing empathy is about honing interpersonal skills towards aiding others.

In Strategies 1 and 2 the design educators first needed to attempt the empathic modelling exercise by doing exactly what they proposed for the students. Walking down the corridor of a familiar building became a new experience once the blindfold was in place; floor mats in the hallway and gaps between floor sections, which normally went unnoticed became unanticipated problems (refer to Figure 9). The empathic experience went beyond the actual activity as the design educators reflected on the experience with the trainer. They realized that walking with a white cane requires significant skill, pacing, and confidence.

Figure 9: Discovering changes in the floor with a walking cane.

For students, exploring the experiences of clients who are significantly different from them is an extremely useful practice. Our activities focused on taking the design educators and students outside their personal comfort zones and allowing them to be flexible in understanding cultural cues in the user context.[10] As future practitioners, these students are closer to gaining insights, awareness, and empathy for others as a vital skill. Added to this, students are less prone to assigning generalised stereotypes and negative connotations to those who are different from them.[23]

It is clear that empathic strategies provide only a brief glimpse into another persons' perspective. Exposure to empathic strategies deepens a person's core belief system by emphasising that others, while different from self, have deep feelings and experiences that should be considered. It is acknowledged that developing true empathy takes time and exposure to a range of human experience. Through exposure to a variety of empathic strategies, students are taught the essentials of empathy including good listening skills, taking time with others, acknowledging others, and communicating personal emotions with others.

Through the descriptions of our five empathic strategies it is apparent that these kinds of activities can support major shifts in how one person regards another. The emotional connection in the modeling experience provides empathic

understanding, resonance, deeper appreciation, and helps students develop empathy. One student wrote that: *"I could listen to a lecture about disability for an hour, but I wouldn't have learned as much as [I did] by putting on the [disability] goggles for a few minutes."*

The empathic educational strategies have an impact on both students and educators. The educators have observed that these activities have encouraged the students to reflect on their emotions, to confront their feelings and values about others. While exploring empathic educational strategies, the focus shifts away from physical skill development to emotional skill development where students learn to express their emotions, ask questions about the other and generally hone their interpersonal skills.

Integrating empathic educational strategies into an educational environment has both benefits and drawbacks. It takes significant time and effort to plan meaningful activities, yet it is impossible to predict how the students will respond both physically and emotionally. Taking the students outside their comfort zones is a risk that is often met with resistance due to the lack of understanding of the relevancy of the activity. Due to the uncertain nature of quantifying empathy and the involvement of people (students, teachers, user-experts) in the strategies, it is impossible to measure what tangible information is taken from the empathic strategies. Furthermore, there is some concern that empathic modeling has the potential to create negative stereotypes of how people who do things differently are perceived: *"…we want to be careful and mindful of how we present and execute simulated activities … as they sometimes can backfire and perpetuate stereotypes rather than diminish them, even with good intentions"*.[23]

Conclusion

At its core, empathic modelling is an expansion of students' personal empathic horizons to include a breadth of clients with various experiences, needs, wants and desires. Designer educators use empathic educational strategies to expose students to extreme experiences and clients while sometimes bringing them together with user-experts. Empathic educational strategies are about going beyond the norm and stretching the current rituals and values embedded in the educational process.

In the case of the design field, using empathic strategies is a way of encouraging the development of more meaningful products for users. In the medical field, there is a potential to use empathic educational strategies to further develop

and deepen the humanistic-centered approach in educating healthcare practitioners. Although it is recognised that medical students need to maintain a certain degree of detachment, it does not follow that they should be focused only on "dead bodies and living cells".[24] Researchers in the medical field have evidence for concern through numerous longitudinal studies that illustrate the decline of empathy during the educational process.[1, 2, 4, 5] The five empathic educational strategies presented herein may be viewed as a proposition or challenge for educators to explore the notion of broadening students' empathic horizons, deepening their interpersonal skills and shifting how future healthcare practitioners are encultured into their profession.

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