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Exploring the evolution of professional identity formation in health professions education

Lindsey E. Moseley
Auburn University

Lauren McConnell
Auburn University

Kimberly B. Garza
Auburn University

Channing R. Ford
Jacksonville State University, channingford@jsu.edu

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This chapter provides a general overview of professional identity formation in health professions education, a summary of relevant theories related to professional identity formation, and a description of pedagogical models.

Exploring the Evolution of Professional Identity Formation in Health Professions Education

"He comes to think, act, and feel like a physician" (Merton, 1957, p. 5).

Professional Identity Formation, or PIF, represents the transformative process of a lay person into a professional during the formal education period. While the term PIF is relatively new, the internal and external struggle to attain a professional identity within health professions students is not (Cruess, Cruess, & Steinert 2019). Around the turn of the 21st century, medical school accreditation requirements were modified to ensure the inclusion of professionalism in curricula (Cruess et al. 2014). Common teaching and learning methodologies were developed and assessment of professionalism was addressed. However, the concept of PIF was not yet widely recognized or explored. The Carnegie Foundation Report on the Future of Medical Education in 2010 (Irby et al, 2010) highlighted the importance of this developmental process, stating that PIF should be the backbone of medical education (Cruess et al, 2016).

PIF is a fluid process which is internally constructed by the development of one's professional values, morals, beliefs, behaviors, and ambitions (Wald 2015). The formation of PIF is unique to each individual and is not linear. Rather, it evolves over time and at various rates. One's professional identity grows through mentorship, relationship building, self-reflection, and professional experiences, resulting in individualized professional identities and behaviors

(Cruess, Cruess, & Steinert 2019). Professional identity attainment is measured through progress, transition, change, and even periods of regression (Cruess, Cruess, & Steinert 2019). The boundaryless stages of PIF build on an individual's personal identity, which is created by normal developmental processes. Professional identity, in contrast to other identities, is largely informed by formal education, as students start to embody the essence of being a professional (e.g. doctor, nurse, pharmacist, etc.). As students start to be recognized as a professional, PIF growth increases exponentially (Cruess, Cruess, & Steinert 2019). This recognition and growth are crucial to the PIF process and help to create a sense of competence and belongingness within the profession, ultimately facilitating stability and longevity (Cruess, Cruess, & Steinert 2019).

PIF has received considerable attention in medical education, where it is addressed as a learner-focused curricular theme within doctoring and ethics courses (Irby and Hamstra 2016). While some professions have been evaluating PIF for a longer period of time, like medicine, as a whole, all health professions are challenged by ever-evolving disciplines and healthcare environments which results in continuously redefining what professional identity looks like. In 2020, Keller et al. proposed that even today, research in pharmacy graduates suggests an inability to "enact patient-centered ways of being a pharmacist" and that pharmacists do not have a strong sense of professional identity (1252). Morison and O'Boyle (2007) used a social identity approach to investigate nursing, medical, dental, and pharmacy students' perceptions of their professional identity within their respective disciplines. They found that, while nursing and medical students could clearly articulate what it means to belong to their profession, pharmacy and dentistry students explained professional identity by contrasting it with that of the medical profession. Potential contributions to identity dissonance in student pharmacists specifically could be associated with the heavy emphasis pharmacy places on practice setting (Atkinson et al.

2016) and historical roles (Keller et al. 2020); whereas by contrast, medical education focuses on specialty, which has been shown to foster PIF (Pratt, Rockman, & Kaufman 2006).

Professionalism. Professionalism, which varies from PIF, is the conduct, aims, attitudes, or qualities that characterize a professional (Hammer et al. 2003). Whereas PIF is an internal, perceptional process of development, professionalism is the outward display of professional behaviors. Like PIF, the term professionalism has various subjective meanings within different settings. There is not one definition to span all health professions, and further, some health professions have not thoroughly explored this area within their context. For example, some might depict professionals by the way they dress, speak, or carry themselves, whereas others may consider a professional by the number of degrees, certifications, or awards they hold. By becoming a professional and exhibiting professionalism, a health professions student agrees to an implied social contract with society (Holden et al. 2012). Society sees professionalism demonstrated through reliability, confidence, empathy, and communication (Holden et al. 2012).

Due to the multitude of definitions of professionalism, and the way it is presented, it can be difficult for health professions students to learn how to properly develop professionalism (Hammer et al. 2018). In addition, it is also challenging to assess professionalism accurately. Relating to the inability to properly define and measure professionalism, there have been repercussions of poor professionalism within health professions students (Holden et al, 2012). Lapses of professionalism may be represented by a change in behavior, performance, attitude, accountability, or responsibility (Altirkawi 2014). Lapses of professionalism are also thought to be closely intertwined with poor PIF formation (Holden et al, 2012). Seeing as though PIF serves as a strong foundational component for the personal and professional development, health

professions students with deficiencies may improve their professionalism through practices which promote PIF.

PIF vs Professionalism. Health professions students do not become professionals merely by completing a professional program. Becoming a professional, exhibiting professionalism, and developing a professional identity are an interwoven, dynamic developmental process. The fluid relationship between professionalism and PIF can be difficult to define. How do you know which you obtain first? How can you measure what you cannot see? Based on the authors' ideologies and the influence of scholars (Frost er al, 2018, Cruess 2014), we created Table 1 to compare these two constructs to gain a better understanding of their similarities and differences.

Table 1: Comparison of Professional Identity Formation (PIF) and Professionalism

Professional Identity	**Professionalism**
Internal Manifestations	**External Representations**
• Attitudes • Values • Norms • Knowledge • Thinking, feeling, acting like a professional • Knowing what one stands for • Becoming aware of what matters most in practice • Values and interests that shape decision making • An assessment of professionalism • Grows with experiences and social interactions	• Behavior • Conducts • Performance • Acting like a professional • Demonstration of professional acts, dress, and communication • Taking responsibility for one's actions • Altruism • Adherence to ethical principles • Exhibition of the conduct of a professional • Social accountability

Professionalism and PIF are distinct, yet related entities. According to Forouzadeh, Kiani, & Bazmi (2018), professionalism behaviors are essential to developing a professional identity. Often times, simply acting like the person you are 'becoming' encourages assimilation into that

role. On the other hand, PIF serves as a strong foundation for the development of professionalism (Forouzadeh, Kiani, & Bazmi 2018). A sign that students are developing PIF is the natural display of professional behaviors. Both phenomena are rooted within the other, making it difficult to define boundaries between the two and express which aspect occurs before the other.

Scholars have proposed models which attempt to address how professionalism and PIF fit and function together (see Cruess, Cruess, & Steinert 2016 for information on Miller's Pyramid and Barhoorn, et al 2018 for information on the Multi-level Professionalism Framework). However, we propose an alternative model, a Möbius Strip (Figure 1), to depict an infinite, non-linear relationship, where professionalism and PIF constantly weave into the other. The model showcases this interplay: as the internalization process of PIF occurs, outward professional behaviors are displayed; and as one chooses to behave as a professional, their sense of identity blossoms.

Figure 1: The Boundless Relationship between Professional Identity Formation (PIF) and Professionalism

Summary of Theories and Constructs Relevant to Professional Identity Formation

Several theoretical frameworks help to conceptualize PIF and offer language to the developmental dimensions of identity. We acknowledge that there are a number of PIF-related theories within the literature; however, the theories discussed in Table 2 were chosen as they specifically aid in our understanding of PIF in health professions' education.

Table 2: Supported Findings from Selected Theories Relevant to Professional Identity Formation (PIF)

Theories	Authors and Year of the Initial or Seminal Publication of Theory	Brief Definition	Supported Findings	Relevance to Health Professions Education
Self-Authorship Theory	Robert Kegan in 1911, Baxter Magolda in 2001 (amended)	The process of transitioning to self-authorship is multidimensional, with four successive phases, (Johnson 2013): following formulas, crossroads, becoming an author of one's own life, and internal foundations. This transition requires an individual to recognize differences in knowledge, values, beliefs, and identity, pushing individuals to take responsibility for their own life, and working to build their own identity. This process encourages students to be constantly acting, reflecting, and improving to reach an evolving professional identity.	"Multiple theories of college student development suggest that many students have been socialized to depend on external others such as authorities and peers for their beliefs, identity, and relationship constructions. They often see knowledge as certain and accept authority's knowledge claims uncritically, which leaves them no internal basis for making judgements. Their reliance on peers and others for approval yields an identity that is susceptible to external pressure rather than one based on internally chosen values." (Magolda & King 2007, 493)	Self-authorship theory was constructed by evaluating college-aged students and is thus relevant for training students in the health professions. For health professions students, self-authorship helps to address an individual's attitudes, values, motivators, and professional maturity (Johnson 2013).
Self-Determination Theory	Edward Decci & Richard Ryan in 1985	Self-Determination Theory examines the developmental influences of an individual's sense of self, and how to maintain one's identity	"Professional identity development may be enhanced by giving students opportunities to be more autonomous and less	Self-Determination Theory has an important role in health professions education, by promoting strong motivators and fostering appropriate

		(Mylrea, Gupta, & Glass 2017). This theory describes three motivators that help to form and maintain an identity: amotivation, external motivation, and internal motivation. This theory also suggests that there are three humanistic needs that are nourished through motivation, which include competence, relatedness, and autonomy. Competence is the desire to feel indispensable and to have confidence in one's ability to do work. Relatedness is the desire to feel a sense of belongingness within a group and/or community. Autonomy is the opportunity to act under one's own discretion, without overarching direction or instruction (Ten Cate, Kusurkar, & Williams 2011).	controlled by academics in their approach to learning" (Mylrea, Gupta, & Glass 2017, 6). "Early patient contact and participation in professional workplaces, such as during experiential placements, particularly enhanced student competence, relatedness, and autonomy." (Mylrea, Gupta, & Glass 2017, 6)	growth of competence, relatedness, and autonomy (Mylrea, Gupta, & Glass 2017). Applying SDT to health professions students encourages the growth of a professional identity and provides the student with the guidance, encouragement, and independence to do so. Through this approach, students are allowed to form their professional identity and begin to feel, think, and act like their profession.
Social Learning Theory	Albert Bandura in 1963 and 1977 Shochet, Colbert-Getz, Wright in 2015 (amended)	Social Learning Theory postulates that people learn by watching others (Horsburgh & Ippolito 2018). The environment in which an individual is in plays a distinctive role in the quality of learning that is achieved. The theory proposes that learning is	"Bandura's social learning theory describes learning through observation of others, such as the behaviors of peers and role models and may be applicable in efforts to optimize the learning that occurs during such	Caring for patients and collaborating within an interprofessional team is a highly social experience. Therefore, the social environment surrounding a professional-in-training provides exclusive interactions to help aid in the formation of

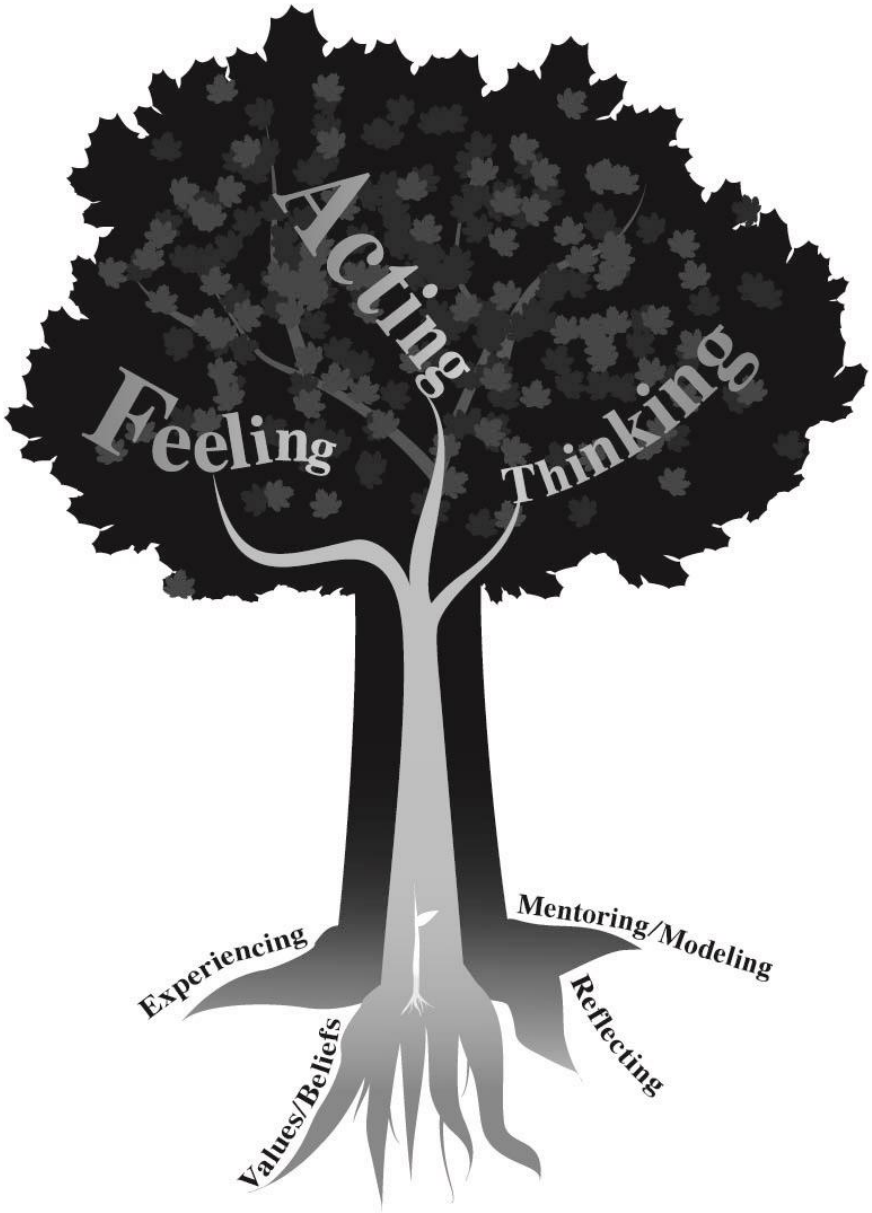
		a four-step process: attention, retention, reproduction, and reinforcement (Ten Cate, Kusurkar, & Williams 2011). Building off of the work of Bandura, Shochet and colleagues explained how this process of social learning relationships and environments strongly influence professional identity achievement among health professions students.	experiences" (Holden et al, 2012, 249).	an individual's professional identity (Wald 2015).
Social Identity Theory	Henri Tajfel in 1979	Social Identity Theory refers to the societal group(s) for which an individual characterizes themselves as a member. Individuals are able to discover and grow their individual identity based on the group(s) of society that they feel they best belong. The process of evaluating oneself for group membership is broken down into three processes: categorization, social identification, and social comparison (McLeod 2019).	"The social identity approach may aid understanding of professionalism by allowing norms to be viewed as dynamic and constructed in specific contexts. This may help us to understand why 'unprofessional' behaviors and attitudes are learned or maintained, despite the virtuous intentions of professionalism teaching" (Buford 2012, 146).	Achieving professional identity is an extension of a student's social (personal) identity. At this point in the student's journey, they have classified themselves as a member of a health professions and they begin to socially identify with other professionals. Students then start to do as other members of their societal group does, and they work to earn a professional status (Buford 2012). The ability of a health professions student to feel comfortable in defined roles within a group allows the achievement of a professional identity and helps the student

				embody professional behaviors and attitudes.
Social Constructivism Theory	Lev Vygotsky in 1978	Within social constructivism theory, individuals construct knowledge from real-life experiences. Meaning making results from human interaction, thus fostering the construction of reality by integrating new interactions within existing knowledge (McLeod 2019).	Social constructivism is thought of as an active process. It involves knowledge of existing practices, skills to search for new information, effectively moving beyond routines, rethinking key ideas to evolve with changing situations. Constructivist pedagogy is holistic, thought to engage learners in knowledge construction in a cooperative and collaborative environment based largely in a real-world context. This makes learning more relevant and integrated into day-to-day life of the learner. (Alt 2016, 375)	Within health professions, learning is a highly collaborative enterprise. Meaningful learning takes place when students engage in interaction and collaboration (Amineh & Asl 2015). The placement of students in collaborative, interprofessional settings, allows the learner to build upon their current knowledge, construct new knowledge, and to strengthen their interprofessional understanding of their role in society (Mann et al, 2009). Specifically, health professions students must be given the opportunity to be a part of a "practice community" to construct knowledge from real-life experiences, practitioners, preceptors, and other learners.

Understanding the Process of PIF

PIF can be defined as the act of feeling, thinking, and acting like a professional (Merton, 1957; Cruess, et al. 2019). The complexity of PIF is challenging to graphically depict. To represent this dynamic and evolving process, we designed the SAPLING Model (Strategically Assessing ProfessionaL IdeNtity Growth) in the form of a multi-dimensional tree. See Figure 2. At the center of the model is a light gray sapling, representing a lay person at the beginning of their professional development process. As the sapling grows, its branches and roots extend, thus representing how a student's experiences throughout school, community practice, and interprofessional collaboration foster development. Each learning opportunity, in the forms of experiences, mentoring/modeling, reflection, and refinement of values/beliefs, contributes to the flourishment of students' PIF, just like the soil nourishes a tree. As students continue to grow and strengthen their PIF, they start to feel, think, and act like a professional, which is the outward display of PIF, just like a canopy on a tree. A student's PIF continues to evolve and grow throughout their professional careers much like a tree continues to grow throughout its lifespan.

Figure 2: SAPLING Model: Strategically Assessing ProfessionaL IdeNtity Growth



Pedagogical Models. The role of professional identity formation within learners is key to ensure that upon graduation students are prepared to think, feel, and act as a practitioner (Dall'Alba 2009). To achieve this daunting goal, educators must first recognize how experiential

learning, mentoring/modeling, and reflection impact a student's PIF (Wald 2015). In the following sections, we will explore how each pedagogy fosters PIF.

Experiential and Immersive Education. Experiential education provides trainees with an opportunity to practice under a preceptor's close supervision in an actual practice setting, creating an authentic learning environment which are more likely to impact PIF (Mylrea et al. 2015). This closely supervised environment offers students opportunities to experiment and receive feedback on their emerging identities (Wald 2015), and may provide more consistent exposure to the profession through longitudinal engagement with mentors compared to one-off exercises integrated into the didactic curriculum (Wald 2015). Experiential placements expose students to diverse healthcare environments, often for the first time, in which they begin to feel, think, and act like a practitioner, in addition to being recognized as one. PIF in this setting is contingent upon students' interactions with others, such as patients, staff, and other healthcare providers (Noble et al. 2019). Contact with patients prompts quick evolution of identity as future practitioners, though organizational aspects of clinical settings can pose challenges to PIF (Wilson et al. 2013). This may create dissonance for the learner, particularly if the experience lacks congruence with what has been taught in the formal curriculum (Noble et al. 2014). Therefore, it is vital to address these discrepancies when students return to the classroom following clinical encounters. Additionally, students entering clinical environments for the first time may feel intimidated, have low self-efficacy, or experience fear of failure when initially introduced to this phase of their training. Educators should consider the effect of low levels of confidence in clinical competency in early years of training, which can make PIF more complex and challenging.

The transition from acting like a member of a profession through experiential learning to becoming a post-graduation professional requires a collaborative mentoring environment (Wald 2015). Immersive education experiences, such as residencies and fellowships, occur post-graduation and allow early career health professionals to practice under the supervision of a mentor, albeit in a more autonomous role, whereby the trainee is responsible for much of the clinical decision-making, and mentors serve more as a safety net (Sawatsky et al, 2020). At this stage, trainees feel more confident in their clinical knowledge and communication skills, perhaps contributing to solidifying their professional identities. Though professional identity continues to develop over the course of a career, immersive experiences may be a critical anchor for this process. However, health professions differ in their requirements of these experiences to practice or hold a license. For instance, medical professionals are typically required to complete at least three years of post-graduate residency, followed by a fellowship for those who specialize. Pharmacy does not require residency nor fellowship to practice as a license pharmacist; however, an increasing number of pharmacy school graduates are choosing to complete one or more years of post-graduate residency or fellowship training. Likewise, although not required, some dental school graduates complete a residency experience post-graduation. Nursing does not typically offer residencies or fellowships, yet there are several opportunities to extend training beyond the basic degree requirements.

Co-curricular experiences offer opportunities for development of professional identity in much the same way as formal experiential education, like rotations and post-graduate training. Co-curricular opportunities allow students to interact with the healthcare environment via health fairs, educational offerings, attendance at professional meetings, and other activities outside the

classroom (Welch et al. 2017). These experiences offer further development of identity through authentic practice experiences and engagement with mentors.

Interprofessional Education. Interprofessional education (IPE) is defined as the creation and fostering of a collaborative learning environment in which educators and learners from two or more professions work together to "develop knowledge, skills, and attitudes, that result in interprofessional team behaviors and competence" (Buring et al. 2009, 2). IPE plays an important role in socialization of students to their profession, as well as to that of other professions in juxtaposition to their own. Dual identify formation occurs through the interaction with other health professionals, whereby learners identify as a member of a professional group as well as to an interprofessional community (Joynes 2018). Work in multidisciplinary teams gives specialists an opportunity to contribute to patient care, with the goal of team members pooling knowledge to solve complex healthcare cases involving multiple professional domains. Being able to contribute to such complex cases with their respective and unique expertise often prompts a sense of pride in team members' own professions, which is itself a consequence of strong professional identity (Molleman & Rink 2015).

Mentoring and Modeling. Studies have found that mentorship, coaching, and role modeling are critical for PIF; however, they must be meaningful (Noble et al. 2014; Schafheutle et al. 2012; Matthews et al. 2019). It is essential that learners have the opportunity to observe professional behaviors in a clinical environment for mentorship and role modeling to be effective, but these observations must also be reinforced with feedback and reflection (Noble et al. 2014; Noble et al. 2019). These practice behaviors can also be modeled through role-playing experiences, but these must be authentic to be meaningful and include feedback to promote further reflection by the student (Noble et al. 2014).

Yet, we, as educators of health professions' students, must consider expanding our mentor definition to include those individuals who are instrumental in the learning and assessment process but may not hold a traditional role within the organization. With the integration of performance-based assessments, role-playing activities, or simulated learning experiences, the utilization of standardized persons (SPs), graduate students, or peers may be critical to ensure that students receive feedback following these experiences.

It is not uncommon for SPs to provide directed and focused feedback to students following a simulated learning experience (Woodward and Glivia-McConvey 1995; Talwalkar, Cyrus, and Fortin 2020; Miller 1990). While the role SPs play in these types of experiences vary across programs and institutions, it is becoming more common to see their integration into classroom and lab activities (Ford and Kleppinger 2020; Talwalkar, Cyrus, and Fortin 2020).. Using close peers and graduate assistants to grade or provide feedback has long been in practice in higher education as a means of evaluating student progression (Ford, Wilkins, and Groccia 2018; Miller, Groccia, and Miller 2001; Wagner 1982). The inclusion of these collaborators within the feedback and mentoring process is essential as studies have found that students are often more receptive to feedback or coaching from peers than of instructors (Topping 2005; Yu et al 2011). Utilization of these groups within PBAs, classroom activities, or experiential learning has the ability to add another vital layer to a student's professional identity formation and should be considered as new learning activities are being developed and implemented.

The Dark Side of Modeling, the Hidden Curriculum. What is taught by example on a day-to-day basis through modeling, known as the "hidden curriculum," may lead to unplanned negative influences that undermine positive messages delivered in the formal curriculum (Manhood 2011). This dissonance can also erode respect for other health professions when role

models are heard deriding those in other disciplines or specialties. Mentor relationships can be strained by the mentor's diminished interest in training, shortened training periods, and increasing demands on time in non-training related activities (Wald et al 2015). A qualitative study by Silveira et al. (2019) revealed three ways that PIF is negatively impacted by the hidden curriculum: (1) lack of awareness of PIF as a result of repetition without reflection ("speeding up"); (2) emotional dissonance that results from negative role-modeling; and (3) conflicts between professional and personal lives, where medical practice is seen as a duty, rather than a potential source of joy and fulfillment (198).

Reflection. While key components of PIF include experiential learning and mentoring, these experiences are not enough to foster the overall formation of professional identity. As professional identity is established over time, the inclusion of active reflection will foster this developmental process, helping to shape and reshape the learner's professional identity as they process their transition from learner to practitioner (Cruess et al. 2016). Also, the inclusion of intentional reflection will support an educator's ability to track student development in this area which is key to ensuring PIF is occurring (Cruess et al. 2016).

Further, reflection is the critical mediator between experience and identity (De Weerdt, Bouwen, Corthouts, & Martens 2006). This is because reflection facilitates the ability to actively make meaning from one's experiences, to self-identify learning needs, to intersect personal beliefs and values within the context of professional culture, and to integrate new knowledge within existing understandings (Mann, Gordon, MacLeod 2009; DeWeerdt et al 2006). The outcome of reflective practice and capacity is a professional who is more self-aware, and thus able to promote self-development (Laireiter and Willutzki 2003).

Recognizing that reflection is central to professional competence (De Weerdt, et al 2006), reflective practices are emerging as educational components in professional programs (Mann et al 2009). The literature for supporting the incorporation of reflective pedagogies is largely theoretical, due to the challenges of assessing the utility and effectiveness of an intrinsic and fluid process, like the influence of reflection on identity development. However, empirical work does exist demonstrating that reflective pedagogy shows promise for developing students into professionals (Leung et al. 2005; Boenink et al. 2004; Mamede and Schmidt 2004; Pee et al. 2002). Another barrier is the variability in defining reflection across multiple contexts. Based on De Weerdt et al. (2006) and Mann et al. (2009), the authors offer the following definition of reflection: the shaping of self by the active and intentional exploration of how experiences and insights offer new understandings, promote critical appraisal of one's belief system, and cultivate one's ability to self-assess personal and professional development.

Reflection is a deliberate process, and the benefit of incorporating reflective pedagogy in health professions education is that learners build this capacity over time. Although not a uniform practice, reflective capacity is important because active reflection informs practice (Mann et al. 2009). Active reflection in health science education should ask students to consider how their perceptions of a profession are shaped over time, the type of practitioner they hope to be upon entry into practice, and how interacting with current practitioners and mentors shapes their values, beliefs, and expectations. With these core questions in mind, reflection can take on various forms to include intentionally developed reflective assignments within a curriculum or co-curriculum, hidden components of an existing experience or assignment, or through one's own self-directed initiatives. Despite the format, scholars have found that the intentionality of self-reflection is critical, as it ensures that students are able to transition to a critical thinking

mindset, allowing them to see how learning experiences are directly linked to practice and development (Cruess et al. 2019; Cruess et al. 2016). In sum, health professions educators should require active reflection of their students and themselves.

Self-Directed Learning. As PIF evolves over time, educators should strive to challenge learners by incorporating self-directed learning opportunities within their curricula to foster student abilities to identify learning needs and how to address those deficits. These learning opportunities should encourage students to identify needs and learning goals, identify resources, and implement appropriate learning strategies. As a final step, students should evaluate whether they achieved their proposed learning outcomes (Conradie 2014; Skiff & Beckendorf 2009).

Current Landscape of PIF in Healthcare Education

The formation of professional identity continues to be theoretically and conceptually complex. It could be perceived by faculty that incorporating PIF strategies into curricula is an additional step; however, we believe that many PIF-related teaching, learning, and assessment approaches are already in place in most learning environments. Many faculty likely do not realize that minimal refinement to current practice will maximize the potential for professional identity development. As the ensuing chapters will describe, programs are increasingly more intentional about harnessing PIF-generating practices and assessments.

As a first step, faculty need to acknowledge their role as educators and role models in student PIF, as faculty are integral to the process whether they want to recognize it or not. Role modeling is not always comfortable for faculty because it requires vulnerability. Further, due to the availability of personal information on the web, faculty also suffer from a lack of privacy and such exposure can be challenging to navigate professionally.

Cruess, Cruess, and Steinert (2019) discuss the need for faculty development of PIF for immersion into PIF-related language and to understand the importance of associated learning objectives. This immersion facilitates development of stronger PIF strategies in the learning environment, in addition to pushing faculty to re-evaluate their own professional identities, which often results in their recommitment to the profession.

Helpful instruments for student evaluation of PIF exist, but evidence to support psychometric soundness of such instruments remains underdeveloped (Matthews et al. 2019). To create instruments to assess PIF, reliability and validity of such tools is critical to ensure the outcome is accurately evaluated. Further, due to the complexity of PIF, measuring it with one instrument is not realistic. In the absence of well-established PIF tools, we agree with Holden et al. (2015) that PIF should be assessed with multiple formative assessments and mixed method approaches. An educator's goal should be to utilize these findings to provide feedback, to mentor, and to support identify development, rather than to assess it summatively at one point in time.

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