

Developmental Differences in the Understanding of Integral Theory and Practice: An introduction to the problem and the Developmental Maieutic approach

Zachary Stein¹

Developmental Testing Service
Harvard University Graduate School of Education

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In our view Integral Theory will only thrive insofar as valuable contributions to its criticism, clarification, application, and expansion come from many individuals working within its context...[individuals coming] from a committed place to improve Integral Theory by turning Integral Theory in on itself: an act of theoretical-applied self-reflection.

-Forman & Esbjörn-Hargens, 2008

When movements look in the mirror: on the application of Integral Theory to itself

This paper contains a set of working hypotheses about how to understand the development of reasoning skills in the domain of Integral Theory and Practice (ITP).² The reflections offered here are meant to set the stage for an empirical research project about developmental differences in how individuals understand ITP. Theo Dawson and I have been rationally reconstructing domains from leadership to physics (Dawson-Tunik, 2004c; Dawson-Tunik & Stein, 2004; 2004a; 2004b; 2006; Dawson & Stein, 2008). Roughly one year ago we were invited to join an ambitious project, headed up by Sean Esbjörn-Hargens, to research aspects of an M.A. program at JKFU in ITP. That is, we were invited to "do our thing" in the domain of ITP.

¹ I received invaluable help from Dr. Dawson, and from Katie Heikkinen, whose Integral eye oversaw my sprawling brainstorm.

² I use ITP to stand for approaches stemming from Wilber's work. But one hypothesis offered below suggests that a certain type of "post-conventionalism" characterizes the higher-levels of reasoning about ITP, i.e. as development unfolds, simple appeals to authority wane, and individuals justify their views in light of a polycentric network of thought-leaders.

As I will explain below, "doing our thing" means rationally reconstructing a domain in light of the developmental perspective we endorse (for an introduction to this perspective see: Stein & Heikkinen, 2008). Briefly, and to foreshadow, we characterize the *horizontal structure* of the domain in terms of different interrelated sub-domains, themes, and conceptual strands (i.e. the different *lines* in the domain). We also characterize the *vertical structure* of the domain in terms of the various *learning sequences* that unfold along the clusters of conceptual stands making up the key themes (i.e. the different *levels* in the understanding of key ideas). This is *empirical work*. But in this paper I am offering *speculative hypotheses*. The goal here is both to frame key issues for empirical investigation and to give a sense of the kind of knowledge about the domain of ITP that we will ultimately produce. Importantly, clarifying the horizontal and vertical structure (the *lines* and *levels*) of a domain can inform building assessments that can be used to generate focused psychographs, inform curriculum development, and feedback into the domain itself as a kind of self-reflective quality control mechanism.

This last point touches one of my real motives. I feel that ITP, as a complex field of endeavors and ideas, is reaching a critical point of self-awareness. There have always been calls for ITP to look at its *shadow*. But a call for ITP to look in the *mirror* transcends and includes this call for shadow work. Critical self-reflection is one key catalyst of growth. And to be fair we should apply *all* the same categories to ourselves that we use to evaluate and understand others. To get to the point: an approach that characterizes the world in developmental terms should be willing to characterize itself that way. If those engaged with ITP are willing to point out the developmental differences between individuals when it comes morality, politics, and religion, etc., then they should be willing to point out developmental difference between individuals when it comes to ITP itself. Of course, it goes without saying I hope, that the quest for *skillful means* is our motive for seeking conceptual clarity. As some Austrian farmers say, "weighing a pig does not make it grow."

Developmental Maieutics and the dynamics of development: Method, metric, and model

In essence our approach is simple. We have a broad *method* (Developmental Maieutics) based on a developmental *metric* (The Lectical™ Assessment System) and a developmental *model* (Dynamic Skill Theory). With these tools we aim to tie developmental research and assessment into educational practice, broadly construed. Here I will briefly provide an overview of each of aspect of our approach to frame the discussion and hypotheses about the domain of ITP that follow.

Kurt Fischer's (1980; Fischer and Biddell, 2006) Dynamic Skill Theory is the place to start. Important aspects of this model inform how we approach the rational reconstruction of domains. As Stein and Heikkinen(2008) explain:

To start, the concept of a *dynamic skill* is already a domain general one. In this context, we can think of *lines* as clusters of related skills. For example, the moral domain includes a variety of related skills, ranging from perspective taking to considerations of context. Thus, skill theory entails a fine-grained differentiation of abilities, suggesting there are as many types of skills as there are types of tasks. Because different tasks make different demands—understanding the context of a specific euthanasia dilemma is different from taking the perspectives of those involved—different skills occur *within* the same domain or line. Moreover, skills are sensitive to situations, which means that solving a problem in one situation does not ensure its solution in another. So, the image is of a web, not a ladder. We have numerous and multifarious skills developing at different rates, some in clusters according to type, topic, or situation, others isolated, or radically under-exercised, etc. But despite this diversity, all skills must be built. They don't come out of nowhere; they are constructed according to a process of differentiation and integration, and display increasing degrees of abstraction and complexity....

This gives us a new view, building on Baldwin, Piaget, and Kohlberg, of what it means to analyze and understand development. In Baldwin's language, each skill is marked by a unique coefficient of control determining its content, whereas the growth of each skill is marked by common properties indicative of development. Even though different skills are built out of and in relation to *different stuff*, they are built via comparable processes of differentiation and integration (p. 144)

In the context of a discussion of what is domain general and what is domain specific Stein and Heikkinen point out that Skill Theory provides a very general model of the process of skill development. It is from this general model that our metric emerges. Stein and Heikkinen go on to explain how the Lectical™ Assessment System (LAS) was refined out of Fischer's substantive model:

Following Fischer's work, Michael Commons (1984; 1998) [and Theo Dawson (2001; 2002a; 2002b; 2003; 2004)] codified the construct of *hierarchical complexity*. This construct analytically clarifies just what it means for there to be *developmental levels* characterized by increasing complexity, abstraction, differentiation, and integration. Specifically, Commons, like Fischer, focuses on the idea of *task analysis* and the hierarchical organization of behaviors necessarily entailed by specific task demands. For example, the task of making a hypothetical conditional statement, such as an if/then statement (e.g. If it is raining, then I will bring my umbrella), is more hierarchically complex than the task of stating a simple proposition (e.g. It is raining). This is because the former *subsumes* the latter, which is to say, with reference back to Piaget and Werner: hypothetical conditionals *hierarchically integrate* simple propositions. In this process, the demands of higher-level tasks and performances *transcend and include* the demands of lower-level ones. By analyzing task demands and performances, we can determine how many sub-skills are transcended and included *within* the skill we are analyzing.

This kind of analysis, especially in the context of Fischer's skill theory, allows for fine-grained developmental assessments of very specific skills. Focusing on the hierarchical complexity of the *skill structure* allows us to do developmental analyses regardless of the *skill type*; that is, we can measure the hierarchical complexity of a performance in any skill domain, because we focus on the domain-general properties of its structure. Fischer has applied this type of skill analysis in a wide variety of domains including, mathematics (Fischer, Hand, & Russell, 1984), self-understanding (Fischer & Kennedy, 1997), epistemological reasoning (Kitchener & Fischer, 1990), and moral reasoning (Fischer, 1983). He has also demonstrated within-domain differences in skill by focusing on the effects of context on performance (Fischer & Biddel, 2006). It was out of this substantive body of empirical work that the general notion of a developmental ruler first emerged. And so, Fischer, Dawson, and Commons acknowledged that they were honing in on the domain-general *shape of development* (Dawson-Tunik, Commons, Wilson, & Fischer, 2005)..... we can align various skills along a common metric, and yet still admit they are "apples and oranges" with regard to their content. Baldwin first hit upon this, and we traced a line from him through Piaget, Werner, and Kohlberg down to Fischer, where we found an image of multifarious skills, each defined in terms of content and context, any of which can be measured in terms of a *common metric*, e.g. the general properties of the skill's structure. The LAS [Dawson, 2008] is an explication of this *common metric* implicit in the various models (p.115).

Figure 1 displays the core structure of the common metric targeted by the LAS as it lines up with a variety of other developmental assessment systems. This figure is provided only to help acquaint readers with the metric we employ. Given limitations of time and space we cannot go into the details about the validity and utility of the LAS here (for a thorough treatment see: Stein & Hiekkinen, 2008; Dawson, 2008).

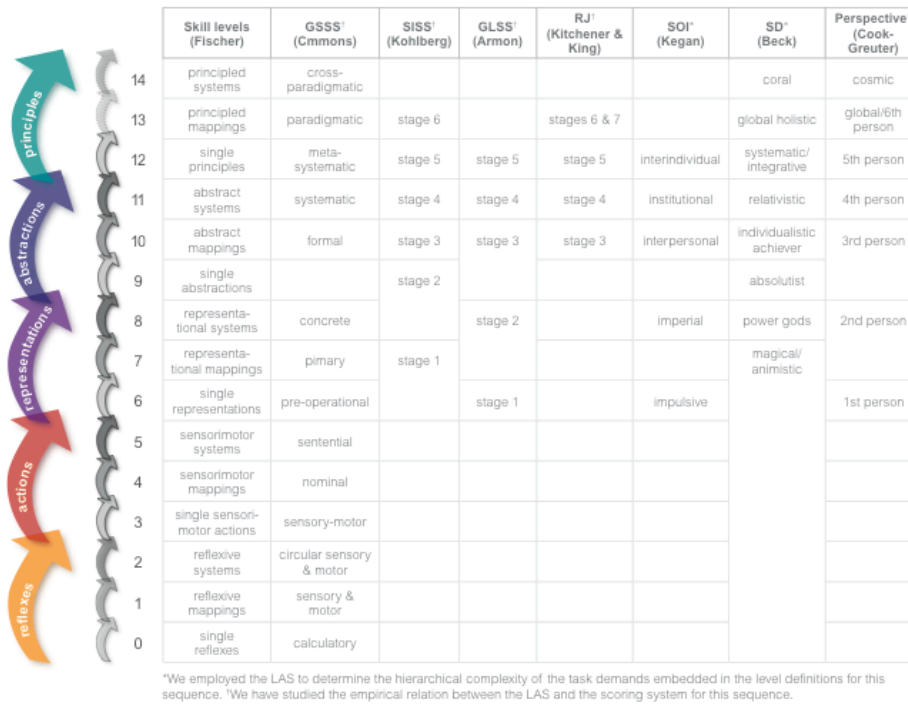


Figure 1: Displaying how the LAS lines up with other systems

Based on the combined insights and affordances of Fischer's *model* and Dawson's *metric* we have built a general and broad *method* for applying these tools in real world context of research and practice. Developmental Maieutics (Dawson & Stein, 2008) involves cycles of research and application using the LAS as a developmental assessment and Skill theory as a developmental framework. As Dawson and Stein (2008, pp. 91-92) explain:

A set of key cognitive developmental themes are implicated in [the method of *Developmental Maieutics*]. The broad contours of our methodology address issues regarding the relationship between psychology and pedagogy that date back to the birth of psychology (James, 1899). Interestingly, these issues are also concomitant with birth of the cognitive developmental approach. Early on, Piaget (1932) suggested that the psychology of the laboratory could not simply be imported for use in the classroom. Instead, he suggested that only experimentally implemented educational initiatives could generate the kind of psychological knowledge teachers could use. Over three decades later, Piaget (1965) expands on this point, remaining convinced that the findings produced by psychologist are of value to educators only if they can be integrated into some kind of experimental pedagogy (p.20).

As explained below, developmental maieutics is a provisional methodological framework addressing the marriage of research and practice in education. Baldwin (1906) and Piaget (1978) were both guided by philosophical and psychological interests when they pioneered their genetic epistemologies. They were not educationists. And although they spawned a cognitive developmental approach that has proven itself as framework for conducting educational research and affecting educational practice (Fischer & Biddell, 2006; Griffin et al., 1994) it is clear that theoretical models of cognitive development need to prove themselves useful in education by being put to the test. However, as of yet, there are no fully explicated frameworks for facilitating the generation of usable knowledge at the interface between cognitive developmental theorizing and educational practice. This is one of the goals of developmental maieutics.

Another key issue in cognitive development that is central to our approach is the idea of learning pathways. This notion has a history that can be traced back to Baldwin (1906), who offered a speculative model of cognitive development in which several different modes of thought developed through a sequence of hierarchical stages. For Baldwin different abilities developed along different pathways. A similar idea was expressed by Werner (1948) who outlined a model in which numerous and heterogeneous psychological processes developed in a non-synchronic fashion, but according to common processes of differentiation and integration. Again the image is of different abilities developing along different pathways. Most would assume that Piaget thought nothing of the sort. But as Chapman (1988) demonstrated, Piaget's views regarding the structure of the whole are far from clear, and his books are filled with research tracing the distinct developmental trajectories of very specific concepts, such as causality and justice.

In any case, it was Fischer and his colleagues (Fischer & Biddell, 2006) who brought this idea to the forefront of cognitive developmental theorizing. Research on a variety of fronts has yielded a dynamic picture of cognitive developmental processes where context sensitivity and variability are key (Rappolt-Schichtmann et al 2007). The acquisition of skills in any domain involves a set of possible learning pathways along which individuals show differentiated, dynamic, and non-synchronic development trajectories. It is in this tradition that we understand the construction of the learning sequences that form a fundamental part of the approach we offer. When the two themes outlined above come together, there emerges an educationally oriented cognitive developmental perspective in which the promotion of optimal learning involves understanding:

- the developmental pathways through which concepts typically and optimally develop;
- the particular sub-concepts required to construct increasingly adequate understandings at each new developmental level;
- the range of sub-concepts required for an optimal understanding of a given concept;
- effective methods for developing these concepts; and
- accurate and reliable assessments of conceptual development that can be employed by classroom teachers.

In this light we have designed an iterative methodological approach designed to accomplish all of these goals. We call this methodology—represented in the spirals shown in Figure [2]—developmental maieutics. This...methodological framework...attempts to improve...learning by collaborating with teachers and schools to (1) conduct basic research on the developmental pathways through which students learn...concepts, (2) design and disseminate curricula and assessments informed by these findings, and (3) enhance teachers' practice by providing opportunities for them to (a) add to their content knowledge, (b) improve their understanding of students' conceptual development, and (c) learn pedagogical practices that promote conceptual development.

The approach begins with (A) the establishment of a collaborative relationship with teachers, with whom we (B) select...topics/concepts with which they and their students are struggling. We then (C) identify the concepts that are essential for mastery of a given...concept; and based on existing knowledge, design and implement (1) activities intended to promote the development of the concept, and (2) developmental assessments that can be used to evaluate students' conceptual understanding. These developmental assessments are administered to learners before and after they engage in the learning activities, so we can (D) trace their development within individual learners and evaluate the effectiveness of the learning activities. The method employed to describe the pathways through which concepts are acquired is

represented in the small sub-spiral on the right of the figure. The maieutic approach to identifying sequences of conceptual development involves submitting interview data to at least two forms of qualitative analysis. First, interview texts are independently analyzed for (1) their developmental level and (2) their conceptual content. Then the results of these analyses are examined together to identify trends in conceptual development. To conduct the developmental analysis, we evaluate the hierarchical structure ... and degree of elaboration of reasoning performances. To conduct the content analysis, we examine the specific meanings expressed in the same performances. Using this method, we have described developmental sequences for conceptions of leadership, good education, epistemology, learning, morality, and the self, as well as for critical thinking, decision-making, and problem-solving (Dawson, 2008; Dawson-Tunik & Stein, 2004; 2004a; 2004b; 2006).

Based on our findings, we then (E) refine the learning activities and assessments designed in steps 2 and 3, above. At this point, our level of understanding of the development of a chosen concept is such that we can design high quality online assessments for teacher use. These online assessments also allow us to monitor student performance and teacher coding behavior, providing data for their ongoing evaluation (F) and refinement (G).



Figure 2: the *Developmental Maieutics spiral*

Rationally reconstructing the domain of Integral Theory and Practice

With this brief overview of the approach we take to developmental research, assessment, and application it should be somewhat clear what we plan to do in the domain of ITP. We are looking to collaborate with students, teachers, and educational institutions in the domain of ITP in order to generate usable knowledge about key learning sequences and thus re-tool practitioners with assessments and information that can inform educative efforts on all fronts. That means we are looking to generate empirically grounded rational reconstructions of the vertical and horizontal structure (i.e. the *levels and lines*) of the domain in order to build assessments that can be used to generate focused psychographs targeting the key themes of ITP. Both the assessments and the rational reconstructions will be useful for a variety of

purposes. In this section I will lay out some initial hypotheses concerning the general shape of the rational reconstructions we will be researching empirically. These hypotheses are meant to serve two functions. On the one hand, they serve as preliminary and tentative suggestions about what we might find. On the other hand, they serve as examples of the kind of usable knowledge we will produce after we have undertaken the first round of data collection and analysis. Following these speculations I will return to discuss certain practical applications and limitations of this approach.

The horizontal structure

Figure 3 displays the overarching horizontal structure of ITP as a domain. It is worth noting a few things about this way of conceiving the domain and about this figure. Generally when we approach a domain in order to rationally reconstruct its horizontal structure we aim to explicate at least three degrees of specificity: *sub-domains*, *themes*, and *conceptual strands/learning sequences* (see: Dawson & Stein 2004; 2004b; 2008). Even when these divisions are empirically grounded there is nothing fixed or final about this way of slicing up the key dimensions of a domain. The task is fundamentally pragmatic and problem-focused. The idea is to explicate the implicit structural differentiations in a domain of knowledge so that we can build targeted assessments of *relatively* independent clusters of concepts and skills. The question is not about whether this is *the* actual structure of the domain (could such a question ever be answered in domains of knowledge that shift and evolve?). Rather, the question is whether this is a useful way of dividing up the domain for purposes of assessment and pedagogy.

The specific structure sketched in Figure 3 is extremely provisional. Future empirical work will flush out the details, particularly where things get most specific. The question of what the key *conceptual strands* and *learning sequences* are is almost entirely an empirical question. We need to bootstrap these dimensions of the domain out of actual performances of understanding by individuals at various levels as they reason about key themes in ITP.

Domain

Integral Theory & Practice

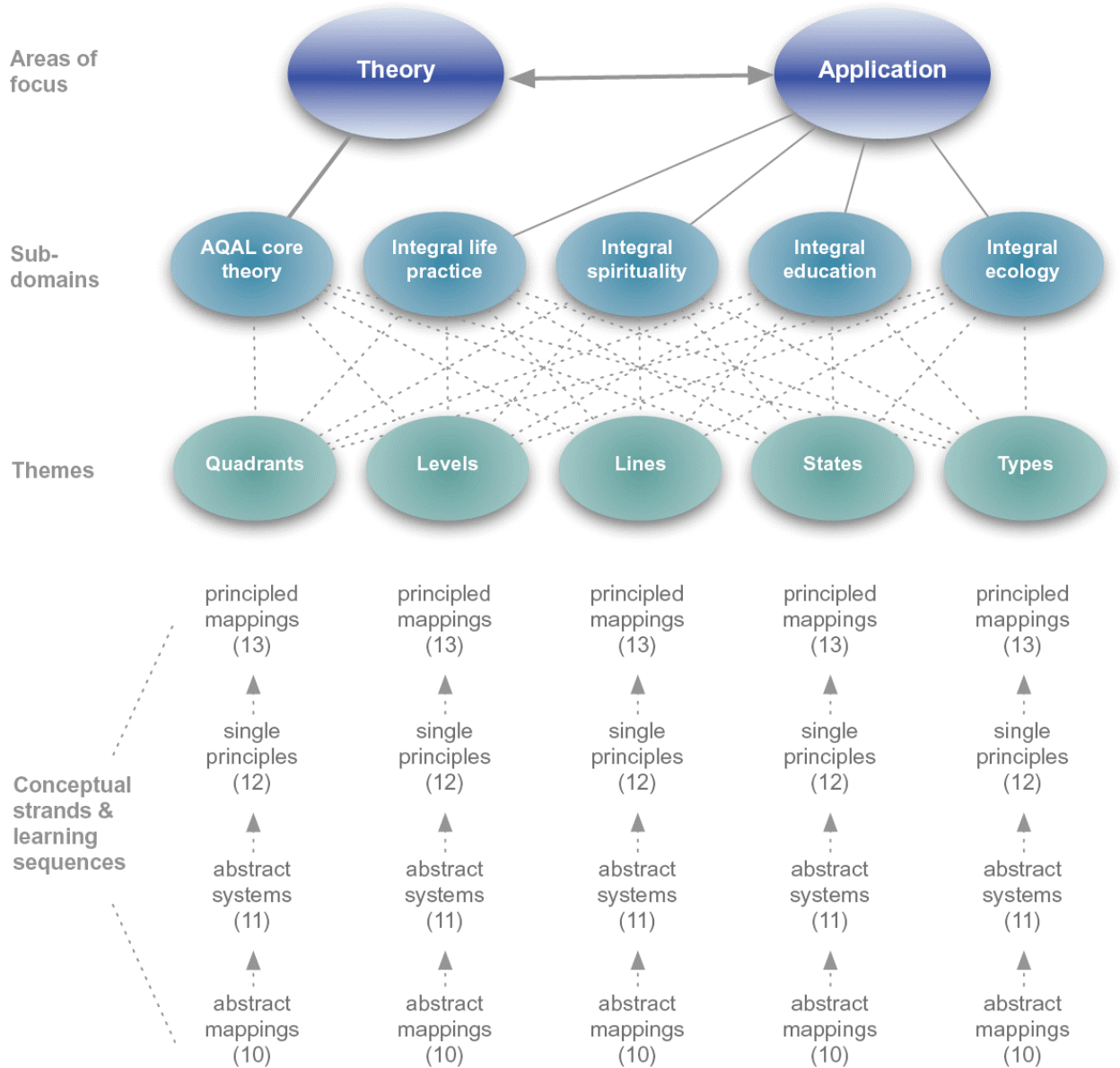


Figure 3: A tentative model of the domain of Integral Theory and Practice. Important and interrelated areas of focus (theory and practice) can be further differentiated into key sub-domains. Sub-domains are differentiated into themes. Development unfolds differentially across themes according to specific learning sequences, which contain conceptual stands.

The learning sequences

Given this general structure we can hone in on sets of specific conceptual strands falling under each theme, which unfold as learning sequences. The table below presents two hypothetical learning sequences for the themes of *quadrants* and *levels*.

Level	Reasoning about the Quadrants	Reasoning about Levels of Development
Principled Mappings	At this level, reasoning about the <i>quadrants</i> involves a radical and quasi-transcendental multi-perspectivalism, which is made explicit in terms of a widely applicable post-metaphysical mode of meta-theoretical argumentation. In light of this background, attention is brought to the provisional nature of all methods and models, especially meta-theoretical ones. Integral Theory is broadly construed as a polycentric and evolving network of ideas catalyzed by certain highly normative principles and practices (e.g. IMP, <i>non-exclusion</i> , <i>enactment enfoldment</i> , etc.).	At this level, reasoning about <i>levels</i> involves the adoption of a post-metaphysical stance toward the task of evaluating people. The provisional, bounded, and multi-perspectival nature of all models and methods is admitted and a set of meta-theoretical principles guides a recursive process of continually refining developmental models and methods in terms of both theory and practice. A broad and explicit philosophical discourse comes to supplement evaluate discussions concerning the notion of "growth to goodness," as the human potentials that characterize the highest levels and the future of civilization are seen as collective constructions for which we are responsible.
Single Principles	At this level, reasoning about the <i>quadrants</i> involves an emphasis on their world-disclosing and epistemological significance. They are taken as representing deep-seated aspects of human thought and practice. Explicit appeals are made to various comparable frameworks and the quadrants are thus understood in terms of a broad historical and evolutionary context. Thus Integral Theory is seen as the leading edge of a socio-cultural movement emphasizing comprehensive approaches to pressing problems and the integration of science and religion.	At this level, reasoning about <i>levels</i> involves explicit ideas about the limits and affordances of different developmental methods and models, which are framed in terms of arguments about the conditions enabling their valid use (i.e. scoring systems, interview procedures, etc.). The idea of "growth to goodness" is problematized both by concerns over issues of horizontal health and intra-personal variability, and by concerns about the accuracy of different assessment methods. These complexities of method and application temper and complicate speculation on how developmental levels are implicated in a broad range of global problems.
Abstract Systems	At this level, reasoning about the <i>quadrants</i> involves a differentiation between their use as simple categories and their use as lenses or perspectives (i.e. <i>quadri-va</i>). Appeals are made to the theorists, methods, and personal pronouns (I-WE-IT) identified with each quadrant, which begins a focus on the quadrants as <i>perspectives</i> . Attention is typically brought to the practical efficacy of applying the quadrants, in personal practice, business, and academia. Creative application is common. Also, the complex ways in which the quadrants frame other core elements of Integral Theory are elaborated; the internal consistency of Integral Theory as a whole is treated as a given.	At this level, reasoning about <i>levels</i> involves giving some primacy to the construct of <i>altitude</i> , which frames and organizes a variety of developmental models. Persons are understood in terms of their relative development in various <i>lines</i> , which are identified with the different developmental models and theorists. The concept of a <i>center of gravity</i> supplements this differentiated view and justifies whole person assessments. The relation between levels and other aspects of Integral Theory becomes explicit; the relation between <i>states</i> and levels complicates the simple notion that spirituality is "at the top." Generally, there are elaborate ideas about how developmental levels are implicated in all kinds of issues (politics, religion, ecology, etc.).
Abstract Mappings	At this level, the <i>quadrants</i> are treated as simple categories into which different objects or events can be placed. Classic dichotomies are established in terms of the quadrants: Science is on right, Religion is on the left; Reason on the right, Feeling on the left; Body on the right, Mind on the left, etc. Generally the quadrants are taken as representing the existence of different kinds of <i>stuff</i> (i.e. they are read as an ontology). And Integral Theory is taken as a comprehensive map of what there is.	At this level, <i>developmental levels</i> are treated like simple stereotypes. Whole persons are classed as being <i>at a level</i> , which is typically understood in terms of a single developmental model (e.g. Spiral Dynamics). Development is understood as a kind of simple "growth to goodness", with ignorance at the bottom, science in the middle, and spirituality at the top. Particular levels gain more attention than others and function as more or less entrenched stereotypes, expressing preferences that are not necessarily developmental (e.g. "you are so green").

True learning sequences are empirically grounded rational reconstructions tracing the development of key sets of conceptual strands and skills. As explained above, we generate learning sequences by employing a multidimensional methodology to analyze performances of understanding regarding key themes (i.e. interviews, written essays, etc.). This method is one part developmental assessment (using the LAS), one part conceptual coding, and one part inductive reconstructive technique. The learning sequences presented above are based entirely on the third moment of this methodology, i.e. they are inductive reconstructions based on my familiarity with the discourse surrounding ITP. Nevertheless, they are accurate enough for our purposes here. They provide a sense of the *range* of possible understandings about these key themes in ITP. Of course, the idea is that for every theme we'd describe sequences across the wide range of issues in ITP. Thus, in light of our view of development, the domain is very complex and dynamic with a variety of learning sequences along which individuals can progress at different rates (see figures 4, 5, & 6 below).

It is important to understand that learning sequences are *distilled* out of the complex dynamics of actual developmental processes. They present development in terms of discrete levels and differentiated lines, when in reality lines interweave and development across levels is non-linear and messy. So, the learning sequences presented above should be understood as *woven* into the broader fabric of reasoning about ITP. Thinking horizontally, it is hard to say where reasoning about the *quadrants* starts and reasoning about *IMP* ends, or where reasoning about *levels* sets in and reasoning about *lines* phases out. Likewise, thinking vertically, the inter-animation of different sequences is a function of level, with new sequences emerging as development unfolds and connections between existing sequences becoming available as more complex capacities come on-line, etc. In light of this dynamism, I think it is a mistake to set out looking for *the* actual structure (vertical and horizontal) of the domain. I think we need to proceed in a problem-focused manner (Dawson, Fischer, & Stein, 2007), and hone in on the

best way to reconstruct the domain for our purposes. What we are looking to do is build assessments that can inform educative efforts on all fronts at all levels.

The psychographs

The assessments we envision would, roughly speaking, generate a variety of *focused psychographs* (for the types of psychographs that can be generated using this method see: Stein & Heikkinen, 2008). Figures 4, 5, & 6 give a sense of the kind of psychographs that would ultimately result from this trajectory of research and application.

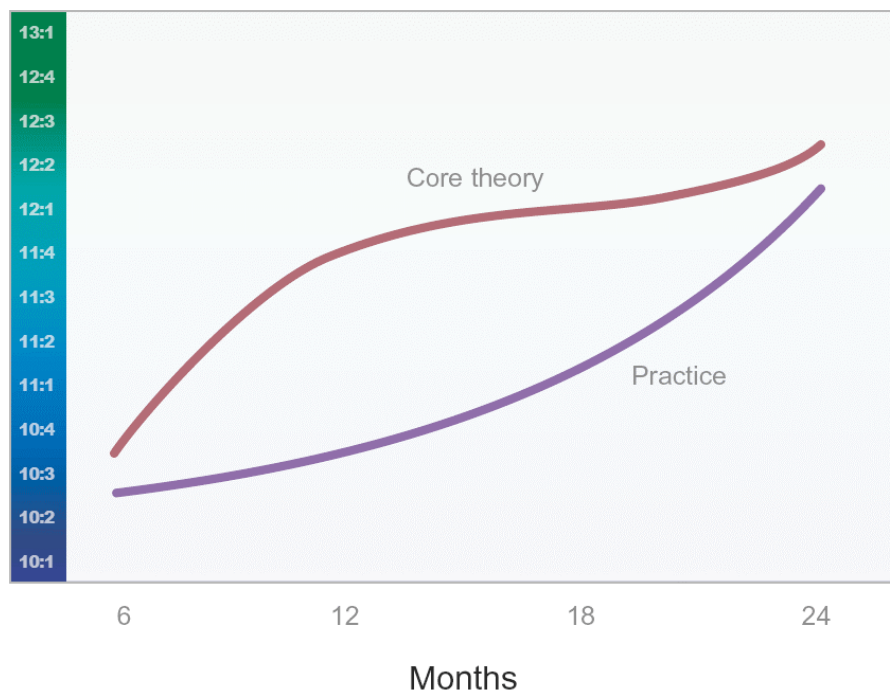


Figure 4: Diachronic psychograph focused on areas of Core Theory and Practice in domain of ITP

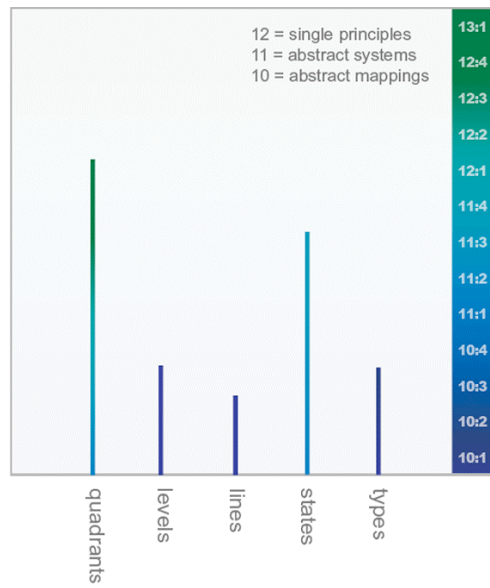


Figure 5: Synchronic psychograph focused on a set of themes in Core Theory

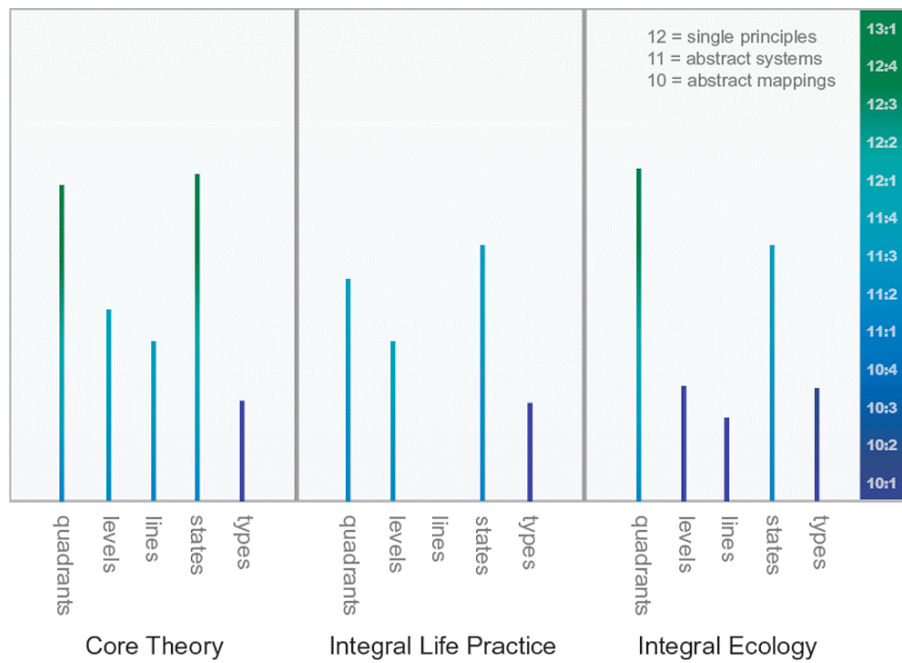


Figure 6: Synchronic psychograph focused on set of themes in both Core Theory and two applied contexts

These psychographs are relatively self-explanatory, but I will note a few things about them before moving on to address larger issues of research, assessment, application, and the future of Integral Education. The diachronic psychograph (Figure 4) is admittedly vague. But the point should be clear. Development is dynamic and progress in some learning sequences will out-pace progress in others. The implicit hypothesis presented in figure 4 (and figure 6) is that understandings of Core Theory set the pace for the progress of understandings in applied contexts. And the hypothesis implicit in all three figures is that, regardless of the area, development unfolds differentially across different themes, i.e. that individuals will be at different levels in their understanding of different conceptual strands in ITP. Both of these hypotheses are amenable to future empirical validation. And I think they will be shown to be more or less correct. In my experience most individuals involved with ITP are more developed in their understanding of the *quadrants* than they are in their understanding of *levels* and *states*, for example, and they more developed in their understanding of theoretical issues than issues in applied contexts.

In any case, as sophisticated as these psychographs appear, they are relatively straightforward to generate given the requisite research and the building of appropriate assessments. Comparable psychographs are available now in a variety of domains thanks to efforts at the Developmental Testing Service (go to: www.devttestservice.com). Of course, assessments can be put to use in different ways. As I discussed above, the *Developmental Maieutic* approach is predicated on our beliefs about the necessity of wedding developmental research and assessment with educational interventions and reforms. This leads us to a few reflections about the trajectory of this broad method as applied to the domain of ITP.

Conclusions:

Let's return briefly to the content of the learning sequences presented above. The types of developmental differences outlined there are clearly significant. There are real differences between individuals who understand the *quadrants* as parts of a new worldview created by a *Wizard*, and individuals who understand the *quadrants* as a provisional explication of certain meta-theoretical principles that are a contemporary expression of perennial philosophical themes, or echoes of *the mighty dead* reverberating through a polycentric network of contemporary thought-leaders. Likewise, there are real differences between individuals who understand developmental *levels* as value-laden stereotypes for ranking people, and individuals who understand *levels* as methodologically disclosed and error-prone characterizations of a radically complex space of possibilities and potentials, with non-obvious evaluative and prescriptive import. While we should not dismiss the moments of truth in the lower-level conceptualizations in either learning sequence, we must nevertheless grapple with this *range* of conceptions about the ideas in the domain of ITP.

From where I sit, the implications of all developmental differences should be understood in the context of education. That is, merely weighing a pig does not make it grow. And we want to promote growth. So we should tie assessments into our educative efforts at all levels. This is the broad vision of the *Developmental Maieutic* approach and it is justified methodologically, pragmatically, and ethically. If we admit the provisional and error-prone nature of all developmental assessment methods then we must employ them with one eye on issues of quality control and a desire to engage in the continual self-correction of our methods and metrics. This is a point about the theoretical and methodological *need* for iterative problem-focused and practice-oriented developmental research in which assessments and educational interventions mutually inform one another. If we take up a post-metaphysical view, then applying a metric requires remaining open to the continual need to improve that metric in light of the contingences encountered in the field. We disclose the world, then enact a change, see what

happens, and are made aware of the limits of our world-disclosing framework. So we re-tool and try again. There are complex methodological techniques for doing just this, which stem from and can be justified in terms of post-modern psychometric theory (see: Fisher 2004; 2005).

But there are also ethical and pragmatic reasons for wedding developmental research to educative efforts. For over a century philosophers, psychologists, and educators have been saying that improving the effectiveness of educational endeavors at all levels requires a radical symbiosis of practice, theory, and research. It is hard to disagree when one looks at the ineffectiveness of so much education and the lack of real-world traction that hinders so many developmental theories. If we combine this insight with the simple moral imperative (a version of the BMI) that we should work to promote the greatest development for the largest number of people, then it is hard to see why we would build developmental assessments *just* to rank people (say, for hiring and firing purposes). We should do developmental research and build developmental assessments in order to find better ways to promote development.

In the domain of ITP these efforts are just getting underway. Of course, as this movement looks in the mirror, developmental issues are only one small part of the self-critical autoresearch that should be taking place. For example, our measurements of understanding need to be supplemented by measures of action; we can measure the *talk*, but what about the *walk*. Likewise, there are a variety of other dimensions to this endeavor, including organizational dynamics, contemplative practices, and the health of the body, etc. Multiple research efforts need to be underway. But we must not just narcissistically gaze at ourselves, indefinitely. The reason to use a mirror is to straighten your self up and sort your self out before heading out into the world, making sure you've got matching socks on and that nothing is stuck in your teeth.

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