Developmental differences in the understanding of Integral Theory

Theo L. Dawson & Zachary Stein
Overview

- Positioning our approach in the metatheoretical landscape
- Into the Model and the Metric—developmental levels
- Overview of the Method—developmental maieutics
- Example application to the domain of Integral Theory and practice
Positioning the LAS & Developmental Maieutics in the meta-theoretical landscape
• Peirce & Baldwin on the principled classification of the sciences—I-We-It

• Baldwin’s dictionary of philosophy and psychology—Genetic sciences
Baldwin’s Genetic sciences

- Evolutionary process, both socio-cultural and psychological (zones 2 and 4)
- Piaget inherited this idea
- We inherit it through Piaget
Operationalizing aspects of altitude

• 100 years of cognitive developmental research

• Metrics and models
  • unidimensional, content & context-independent trait
  • system for assessing the amount of the trait
  • method for evaluating the reliability and validity of the assessment
  • calibration (or standardization) of the measure

• The LAS is a metric
On Developmental Maieutics

- Peirce to Habermas: Theory and practice
- Habermas to Wilber: Revolutionary things
Summary

- The LAS is a metric honing in on the core of zone #2, placed within a broad methodology designed to catalyze educational reform at all levels.
Developmental levels
Dynamic skill theory

- Dynamic skill scale
  - 5 tiers (reflexes, actions, representations, abstractions, principles)
  - 4 (3) levels per tier (single elements, mappings, systems, systems of systems/single elements)
The developmental spiral

Sensorimotor Actions
Skill levels are orders of hierarchical complexity

- Each level represents a new **order of hierarchical complexity**—a new level of elaboration and integration
- This can be observed in the **logical structure** of **statements** and **concepts**.
  - Directly observable in statement structure
  - Indirectly observable in the meanings of concepts
The Lectical Assessment System (LAS)

- Using this system, analysts determine a performance’s
  - *explicit* logical structure, and
  - *implicit* conceptual structure.
- Taken together, they make it possible to accurately determine its level.
What is a good leader?

A good leader is in front.
What is a good leader?

A good leader is in front so she can show you the way.
What is a good leader?

A good leader will show you how is fun to have because she knows where to go and knows what to do and will show you how.

System
What is a good leader?

- A good leader is good with people
  - is fun
  - is helpful
  - is friendly
What is a good leader?

A good leader is in front, so she can show you the way.

A good leader is good with people, which makes them trust her intentions.
What is a good leader?

A good leader will show you how is fun to have because she knows where to go and knows what to do and will show you how.

A good leader is inspiring if she is trustworthy and arrogant without appearing competent.
What is a good leader?

A good leader is

- good with people
- fun
- friendly
- helpful

A good leader is

- a highly competent servant to her organization
- inspiring
- visionary
- deeply committed
### Some relatives of the dynamic skill scale

<table>
<thead>
<tr>
<th>Skill levels (Fischer)</th>
<th>GMHC (Commons)</th>
<th>Moral (Kohlberg)</th>
<th>Good (Armon)</th>
<th>RJ (Kitchener &amp; King)</th>
<th>SOI (Kegan)</th>
<th>LM (Piaget)</th>
</tr>
</thead>
<tbody>
<tr>
<td>single principles</td>
<td>meta-systematic</td>
<td>stage 5</td>
<td>stage 5</td>
<td>stage 5</td>
<td>interindividual</td>
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<td>abstract systems</td>
<td>systematic</td>
<td>stage 4</td>
<td>stage 4</td>
<td>stage 4</td>
<td>institutional</td>
<td>formal operations</td>
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<tr>
<td>abstract mappings</td>
<td>formal</td>
<td>stage 3</td>
<td>stage 3</td>
<td>stage 3</td>
<td>interpersonal</td>
<td></td>
</tr>
<tr>
<td>single abstractions</td>
<td>abstract</td>
<td>stage 2</td>
<td></td>
<td></td>
<td></td>
<td>concrete operations</td>
</tr>
<tr>
<td>representational systems</td>
<td>concrete</td>
<td>stage 2</td>
<td></td>
<td>stage 2</td>
<td>imperial</td>
<td></td>
</tr>
<tr>
<td>representational mappings</td>
<td>pimary</td>
<td>stage 1</td>
<td></td>
<td></td>
<td></td>
<td>pre-operations</td>
</tr>
<tr>
<td>single representations</td>
<td>pre-operational</td>
<td>stage 1</td>
<td></td>
<td>stage 1</td>
<td>impulsive</td>
<td></td>
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<td>sensorimotor systems</td>
<td>sentential</td>
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<td>sensorimotor systems</td>
</tr>
<tr>
<td>sensorimotor mappings</td>
<td>nominal</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>single sensorimotor actions</td>
<td>sensory-motor</td>
<td></td>
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</tr>
</tbody>
</table>
Developmental web

- Historical knowledge
- Enterprise knowledge
- Psychological knowledge

Decision making
Ethical reasoning
Strategic thinking
The LAS behaves like a “ruler”

- Scoring is content & context independent
- Scoring criteria are always the same no matter what kind of conceptual content one is looking at
- Content and context independent measures allow us to distinguish between “is” questions and “ought” questions
Content independence
Why is this ruler-like quality important?

Development over time

Year of testing

Critical thinking
Decision making
Strategic thinking
Ethical reasoning
Developmental pathways and institutional demands

levels of institutional demands

levels of competencies

skills
Workplace demands vs. performance

<table>
<thead>
<tr>
<th>Skill levels</th>
<th>Management levels</th>
<th>Development over time</th>
</tr>
</thead>
<tbody>
<tr>
<td>elaborated single principles</td>
<td>12:3 Senior level 2</td>
<td></td>
</tr>
<tr>
<td>unelaborated single principles</td>
<td>12:2 Senior level 1</td>
<td></td>
</tr>
<tr>
<td>transition into single principles</td>
<td>12:1 Senior level 2</td>
<td></td>
</tr>
<tr>
<td>highly elaborated abstract systems</td>
<td>11:4 Mid-level management</td>
<td></td>
</tr>
<tr>
<td>elaborated abstract systems</td>
<td>11:3 First line supervision</td>
<td></td>
</tr>
<tr>
<td>unelaborated abstract systems</td>
<td>11:2 Pre-supervision</td>
<td></td>
</tr>
<tr>
<td>transition into abstract systems</td>
<td>11:1</td>
<td></td>
</tr>
<tr>
<td>highly elaborated abstract mappings</td>
<td>10:4</td>
<td></td>
</tr>
<tr>
<td>elaborated abstract mappings</td>
<td>10:3</td>
<td></td>
</tr>
<tr>
<td>unelaborated abstract mappings</td>
<td>10:2</td>
<td></td>
</tr>
</tbody>
</table>

Critical thinking
Decision making
Strategic thinking
Ethical reasoning

Year of testing
2 4 6 8 10 12 14
The maieutic spirals

developmental analysis

design and assessment

establish collaboration

design instruments, collect data

jointly identify research goals

describe learning progressions

analyze texts

merge analyses

concept analysis

complexity

developmental analysis
Developmental differences in the understanding of Integral Theory
Rationally reconstructing the domain

Theory

Application

AQAL core theory
Integral life practice
Integral spirituality
Integral education
Integral ecology

Quadrants
Levels
Lines
States
Types
<table>
<thead>
<tr>
<th>Level</th>
<th>Reasoning about the quadrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>At this level, reasoning about the <em>quadrants</em> involves a differentiation between their use as simple categories and their use as lenses or perspectives. Appeals are made to the theorists, methods, and personal pronouns identified with each quadrant, which begins a focus on the quadrants as <em>perspectives</em>. Attention is typically brought to the practical efficacy of applying the quadrants, in personal practice, business, and academia. The internal consistency of Integral Theory as a whole is treated as a given…</td>
</tr>
<tr>
<td>10</td>
<td>At this level, the <em>quadrants</em> are treated as simple categories into which different objects or events can be placed. Classic dichotomies are established in terms of the quadrants. Generally the quadrants are taken as representing the existence of different kinds of <em>stuff</em>. And Integral Theory is taken as a comprehensive map of what there is…</td>
</tr>
</tbody>
</table>
### Hypothesized levels

<table>
<thead>
<tr>
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<th>Reasoning about the quadrants</th>
</tr>
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<tbody>
<tr>
<td>13</td>
<td>At this level, reasoning about the quadrants 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…</td>
</tr>
<tr>
<td>12</td>
<td>At this level, reasoning about the quadrants 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…</td>
</tr>
</tbody>
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## Hypothesized levels

<table>
<thead>
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<tr>
<td>11</td>
<td>At this level, reasoning about <em>levels</em> involves giving some primacy to the construct of <em>altitude</em>, which frames and organizes a variety of developmental models. Persons are understood in terms of their development in various <em>lines</em>, which are identified with the different developmental models and theorists. The relation between levels and other aspects of Integral Theory becomes explicit; the relation between <em>states</em> and levels complicates the simple notion that spirituality is &quot;at the top.&quot; Generally, there are elaborate ideas about how developmental levels are implicated in all kinds of issues…</td>
</tr>
<tr>
<td>10</td>
<td>At this level, developmental levels are treated like simple stereotypes. Whole persons are classed as being at a level, which is typically understood in terms of a single developmental model. Development is understood as a kind of simple &quot;growth to goodness&quot;, 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…</td>
</tr>
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### Hypothesized levels

<table>
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</tr>
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<tbody>
<tr>
<td>13</td>
<td>At this level, reasoning about <em>levels</em> involves the adoption of a post-metaphysical stance toward the task of evaluating people. The provisional, bounded, and multi-perspectival nature of all models is admitted and a set of meta-theoretical principles guides a recursive process of continually refining developmental theory and practice. An explicit philosophical discourse comes to supplement evaluate discussions concerning the notion of &quot;growth to goodness,&quot; as the human potentials that characterize the highest levels and the future of civilization are seen as collective constructions for which we are responsible…</td>
</tr>
<tr>
<td>12</td>
<td>At this level, reasoning about <em>levels</em> 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. The idea of &quot;growth to goodness&quot; is problematized both by complexities of theory, method, and application, which temper and complicate speculation on how developmental levels are implicated in a broad range of problems…</td>
</tr>
</tbody>
</table>
Diachronic general

- Core theory
- Practice

Months
Synchronic focused

12 = single principles
11 = abstract systems
10 = abstract mappings
An open, collaborative, broad methodology

- We envision a network of professionals interested in designing and broadly disseminating developmental assessments in various content domains
- We have one piece of the puzzle
- We promote a metrological pluralism
Find this presentation at:

Describing the development of leadership skills
Describing the development of leadership skills

- Over 200 interviews of managers’ and students’
- Scored with the LAS
- Analyzed for their conceptual content
  - Coding
  - Identifying themes
- Reintegrated skill level and content within thematic strands
Results

- Identified 8 themes: emotion, cognition, communication, social skills, personality, ethics, style, and skills (other)
- Constructed descriptions of 4 phases per theme: 10:2-10:3, 10:4-11:1, 11:2-11:3, 11:4-12:1, corresponding to estimated task demands of 4 management levels (L0-L3).
## Example: Communication

<table>
<thead>
<tr>
<th>Concept</th>
<th>10:2-10:3</th>
<th>10:4-11:1</th>
<th>11:2-11:3</th>
<th>11:4-12:1</th>
</tr>
</thead>
<tbody>
<tr>
<td>communicating well</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>answering questions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>asking for feedback</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>communicating the vision</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>providing the big picture</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>soliciting counsel</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>adapting to audience</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>handling miscommunication</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>integrating diverse perspectives</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>maintaining open discourse</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
### Example: Communication

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>11:4-12:1</strong></td>
<td>Focus on the ways in which the organizational environment fosters or interferes with the development of communication skills. Coordinate systems of abstractions, sometimes in terms of overarching conceptions or general principles. Conceptions such as <em>democratic communicative environments</em> and <em>managing conflicting perspectives</em> subsume systems of abstractions and facilitate their coordination.</td>
</tr>
<tr>
<td><strong>11:2-11:3</strong></td>
<td>Focus on multidimensional skills, incorporating psychological and organizational insights. Concepts like <em>open environment</em>, <em>receiving and soliciting counsel</em>, and <em>handling miscommunication</em> are coordinated with other concepts in a structure that specifies multiple relations between the conceptions.</td>
</tr>
<tr>
<td><strong>10:4-11:1</strong></td>
<td>Focus on a broader set of communication styles such as <em>accessibility</em> or the ability to <em>solicit perspectives</em> or <em>feedback</em>, <em>communicate the vision</em>, and <em>summarize information</em>. These are combined into sets, groups, or lists, and most commonly coordinated with other concepts in linear arguments, but may also be observed in unelaborated multivariate structures.</td>
</tr>
<tr>
<td><strong>10:2-10:3</strong></td>
<td>Focus on basic, stereotypic communication skills: the ability to <em>communicate well</em>, <em>answer questions</em>, and <em>request input</em> are related to other concepts in a linear manner, forming propositions comprised of a few logically related abstractions.</td>
</tr>
</tbody>
</table>
Setting standards
Setting standards

• Describe 5 levels of competency for 13 manager skills (such as decision-making, leading change, strategic thinking, communication)

• Employ these in the design of developmentally informed curricula and assessments for the National Leadership University
Building assessments
Building the next generation of assessments

• Most large-scale assessments
  • examine content knowledge,
  • provide either a percentage correct score or a percentile score, and
  • allow us to compare people with one another.

• They do not tell us
  • how well people think,
  • how an individual has progressed in his or her learning, or
  • what that individual needs to learn next.
Building the next generation of assessments, cont.

- Assessments of skill level can help fill these gaps
  - First, they can tell us how well people think about what they know.
  - Second, once developmental pathways in a knowledge area are well-understood, determinations of skill level can be combined with conventional assessments of what people know to help determine what comes next in learning.
Tower of Babble
Is there a developmental Tower of Babble?

- Many languages for describing cognitive development
- Not as bad as it sounds
  - many cognitive developmental theories
  - several converge on a similar scale
- Worse than it sounds
  - much work has been done that shows how useful a good developmental scale can be
  - little has been done to put it to work in real-world contexts
The developmental spiral

Sensorimotor Actions

Representations

Abstractions

SSmS  SR
SmS
SmM
Designing curricula
Designing curricula

- Managerial decision-making
  - study how skills develop within the skill area
  - score and document the content of decision making texts
  - use results to “map” the decision-making domain
  - describe learning goals for 4 broad themes and three levels of management
The decision making domain

- Intersubjective skills
- Decision-maker qualities
- Cognitive skills
- Values
The decision making domain

- Decision maker qualities
  - Psychological capabilities
    - Discipline
      - focus
      - emotional regulation
      - motivation
    - Adaptiveness
      - intuition
      - tolerance for complexity
      - initiative
    - Creativity
      - tolerance for risk
      - discipline
      - emotional regulation
      - motivation
  - Personality traits
    - Leadership and character
      - vision
      - responsibility
      - resolve
      - self-confidence
Decision making domain breakdown

- Describe the competencies required for L1, L2, & L3
- Describe appropriate learning activities for each level; and
- When possible, link activities to particular texts.

Decision maker qualities

Psychological capabilities

Adaptiveness

- Intuition
- Tolerance for risk
- Tolerance for complexity

Psychological capabilities

- Tolerance for complexity
- Intuition
- Tolerance for risk

Adaptiveness
Evaluating curricula
Evaluating the decision making curriculum

- Sample
- 65 managers
  - Level 1 = 12
  - Level 2 = 15
  - Level 3 = 38 (2 classes)
- Instrument
  - Workplace dilemma
  - Solution and defense
  - Map of decision-making process
Results

• Developmental change (in phases)
  • 14 of the 65 students showed no advance;
  • 1 individual advanced 4 phases;
  • 1 advanced three phases;
  • 32 advanced two phases; and
  • 17 advanced one phase.

• Average gains were greater than one phase.

• Average gains for two traditional curricula were 1/4 to 1/2 of a phase.
Example 1: Phases 11:1 and 11:2

Time 1

- Do nothing/ask to leave
  - if no...
    - if no...
      - if no...
        - Invest more?
          - if yes...
            - if no...
              - if no...
                - Made more promotable?
                  - Develop/provide exposure
                    - Is TD interested in promotion?
                      - Is TD valuable to org?
                        - Time 2
                          - Confirm that you are working on the right problem/understand problem space well
                            - Define desired outcomes
                              - What are the possible courses of action? Be exhaustive. Think creatively.
                                - How well does each alternative meet the objectives?
                                  - Select the right path. If no one path meets all of the objectives, compromise or blend alternatives so as to maximize the degree to which objectives are achieved
                                    - Consider: uncertainties, risk, tolerance, and links between decisions
                                      - Keep in mind that this process is usually iterative and not linear
                                        - Success!
Example 2: Phases 12:1 and 12:2

**Time 1**

Balance needs of individual with those of the organization

Options and constraints → Decision maker (personal strengths/weaknesses) → Factors to consider

Environment → Organization → People

Influences and considerations

**Time 2**

Q1: I
Values, beliefs, morals, ethics

Q3: Us
K+S+C Behaviors

Q2: We
Vision, strategy

Q4: Them
Processes, measures

Internal

Subjective

External

Objective
Aligning skills and task demands
Comparing managers’ level of skill to the task demands of their jobs

- Describe the task demands of management positions
  - Interview managers about the task demands of their jobs
  - Examine job descriptions
  - Determine the complexity range of the management-related task demands of each management level
Management hierarchy

CEO

senior

upper

middle

entry

pre
Task demands vs. performance

L3 (n=28)
L2 (n=46)
L0 (n=24)

Feelings
Problem-solving
Epistemology
Self as leader
Good leader
Good employee

L1 (n=13)
Complexity of management level task demands.
Scoring system
A good leader is 

inspiring

if she is 

trust-worthy

and 

competent 

without appearing 

arrogant

A good leader will show you 

how

to have 

because she 

knows where 

to go 

and 

knows what 

to do 

and 

will show you 

how
Validity and reliability

- Construct validity
  - Comparison with scoring systems designed by Armon, Kohlberg, Perry, and Kitchener & King
  - Modeling studies showing evidence of hierarchical integration

- Reliability
  - Over several studies, statistical reliabilities consistently in the range of .85 to .95
  - Inter-rater agreement rates at or above 85% within 1/3 of a level.
What psychometric models tell us

- For domain specific systems that have been validated longitudinally, skill level explains approximately 85%–95% of the variance in score distribution.

- There is more noise in domain specific systems than in the LAS.

- Lectical™ levels act more like progressions that involve state changes.