

**Towards a Developmental Approach to Pedagogy  
in Accounting Education**

**1999-2000 Committee on Pedagogy  
Teaching & Curriculum Section  
American Accounting Association**

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# **Towards a Developmental Approach to Pedagogy in Accounting Education**

## **Introduction**

Over the past fifteen years, accounting educators have undertaken numerous efforts to improve the quality of accounting education. As an ongoing part of those efforts, the Teaching and Curriculum Section of the American Section created a Committee on Pedagogy in 1999 (hereafter referred to as “Committee”). The Committee’s charge is to advance new/improved pedagogical techniques for accounting education.

It was initially believed that the best initial project for the Committee would be to investigate new pedagogical techniques related to technology, both as a subject and a tool in accounting education. The topic of technology was chosen because of its importance to accounting education and because many educators have expressed an interest in this area. Also, it was anticipated that the Big 5 public accounting firms would be able to offer innovative suggestions related to technology. However, there are two major reasons why the Committee did not pursue this topic. First, it was discovered that the AAA was working on a project related to technology in accounting education, and the Committee did not want to duplicate the AAA’s efforts. In fact, the AAA project resulted in the recent dissemination of a CD to all accounting educators during spring 2000. Second, the Committee’s initial discussions with Big 5 accounting firms suggested that those firms might not have significant, nonproprietary knowledge related to technology pedagogies that could be currently be shared with accounting educators.

After deciding not to pursue the topic of technology, the Committee considered various other pedagogies related to accounting education. Of particular interest were pedagogies aimed at the competencies described in the *AICPA Core Competency Framework for Entry Into the*

*Accounting Profession* (hereafter referred to as the “AICPA Framework”), which was published during 1999. However, the AICPA is currently sponsoring a task force to develop “best practices” for accounting education related to those competencies. In a desire not to duplicate efforts already underway, discussions have been held with the chair of that task force. In fact, the task force chair (Billie Cunningham) has agreed to serve as a member of the 2000-01 Committee.

For its 1999-2000 and 2000-01 projects, the Committee ultimately decided to adopt a project that will provide guidance to accounting educators on the development of competencies. The guidance will relate to competencies contained in the AICPA Framework, as well as any other competencies accounting educators wish to pursue. While the relation of this project to pedagogy may not appear obvious, in fact the project will provide important guidance related to a wide range of pedagogies. The following sections of this report: (1) motivate a developmental approach to pedagogies, (2) provide an initial investigation of the developmental complexity of competencies contained in the AICPA Framework, and (3) briefly describe the Committee’s plan for 2000-01.

### **Motivation for a Developmental Approach to Accounting Education Pedagogies**

The current interest in pedagogies for accounting education is driven partly by demands for improved educational effectiveness and partly by demands for new types of competencies among accounting graduates. Given these demands, educators have begun recommending a variety of new pedagogies for accounting education. Unfortunately, little empirical evidence currently exists about the efficacy of many types of pedagogies. This absence of empirical

evidence makes it difficult to justify widespread adoption of recommended educational strategies.

Recently, several accounting education researchers pointed out the need to conduct further empirical research on specific types of educational methods, including increased attention to the instructional context (e.g., Rebele, et al., 1991; Rebele, et al., 1998). To help with this task, accounting education researchers have begun providing better theoretical frameworks for designing both educational efforts and related research (e.g., Bryant and Hunton, 2000; Rama et al., 2000; Baril et al., 2000). Figure 1, from Rama et al. (2000, Figure 1) and adapted from Gainen and Locatelli (1995, 4), provides a very useful framework for thinking about how student competencies develop. This figure depicts how interactions among the following factors produce student outcomes: (1) intended student outcomes (i.e., desired student competencies), (2) student characteristics, and (3) the educational environment. Figures 1a and 1b illustrate that a higher (lower) degree of interaction leads to a higher (lower) level of student achievement. In other words, educators need to clarify their desired student outcomes and ensure that the pedagogies they adopt are specifically designed to address those outcomes. Educators also need to carefully consider student characteristics that might impact how students respond to a particular pedagogy or to the way it is implemented.

[Insert Figure 1 About Here]

As pointed out by several accounting education researchers, a potentially important student characteristic is the stage of student cognitive development (Amernic and Enns, 1987; Wyer, 1987; Rodgers, 1992; Francis et al., 1995; Kimmel, 1995; Cunningham, 1996; Wolcott

and Lynch, 1997; Wolcott, 1998; Wolcott, 2000). Although different researchers have promoted use of different models of cognitive development, there are common themes.<sup>1</sup> In particular:

- ?? Any desired competency that entails higher-order thinking can be broken down in terms of the complexity required for adequate performance, based on the cognitive criteria summarized in Table 1:
  - ?? Lower complexity competencies that typically are developed at approximately the freshman or sophomore level
  - ?? Moderate complexity competencies that theoretically can be developed at approximately the junior or senior level, assuming the students already exhibit lower complexity competencies
  - ?? Higher complexity competencies that theoretically can be developed at approximately the graduate level, assuming the students already exhibit moderate complexity competencies

Students must develop less complex competencies before they can develop more complex competencies

Educational attempts to develop higher complexity competencies before students have achieved less complex competencies are likely to result in frustration and failure; students need sufficient time and practice to move from lower to higher levels of complexity

There is likely to be a range of stages of cognitive development exhibited by students in any given course, and average stages are likely to vary across courses and institutions (see accounting course data reported in Table 1)

Most undergraduate college students never achieve either moderate or higher complexity competencies (but theoretically these findings can be improved upon through developmentally-appropriate education)

[Insert Table 1 About Here]

In conjunction with Figure 1, models of cognitive development have the following important implications for both educators and educational researchers. First, the stage of cognitive development is an important student characteristic. Failure to consider this

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<sup>1</sup> For discussions in the higher education literature that compare and contrast developmental models, see Kurfiss (1988), Pascarella and Terenzini (1991), King and Kitchener (1994), Francis, et al. (1995), and Hofer and Pintrich (1997).

characteristic can lead to the failure of educational efforts or the inability of research methods to detect educational impact. Second, intended student outcomes should be specified at levels of complexity that are appropriate, given the students' stages of cognitive development. If intended outcomes are set at a level of cognitive complexity that is unreasonably high, it is unlikely that any pedagogy can be effective. If intended outcomes are set at a level of complexity that is too low, students may exhibit the competency regardless of the pedagogy used. Third, pedagogies and their implementation (i.e., the educational environment) should be designed to take into account the intended student outcomes as well as the likely responses of students, given their stages of cognitive development. Because students usually resist giving up their current ways of thinking, they need adequate support and guidance to help them take the risks needed to move from lower to higher levels of complexity.

The preceding discussion leads to questions about the selection and implementation of pedagogies. For example, are some pedagogies appropriate only for higher (or moderate or lower) complexity competencies? In what ways might pedagogies be adapted to different levels of complexity? While these are interesting questions, it might be premature to address them before evaluating the degree of complexity in the desired competencies for accounting education. The next section of this report provides a preliminary evaluation of the degree of complexity for competencies specified in the AICPA Framework.

### **A Preliminary Investigation of the Complexity of Competencies in the AICPA Core Competency Framework for Entry Into the Accounting Profession**

As discussed in the last section of this report, cognitive development models can help educators and researchers understand the level of complexity called for in any given competency.

This section provides a preliminary analysis of the level of complexity required for competencies in the AICPA Framework.

As discussed previously, any given competency can be broken down according to the degree of cognitive complexity required for adequate performance. In Table 1, the categories are described as “lower,” “moderate,” and “higher” complexity. Table 1 also provides a brief description of the types of competencies that would appropriately be classified in each category. Lower level complexity entails an understanding that there is no single “correct” solution and also that certain types of uncertainties/ambiguities preclude a single “correct” solution. Moderate level complexity involves the ability to explore and understand connections among perspectives, evidence, and issues related to a problem. Higher level complexity requires the ability to address problems across perspectives (in particular, weighting and communicating across points of view) as well as the ability to understand and plan for the limitations of solutions. Below we illustrate how two different competencies in the AICPA Framework can be broken down according to these competencies.

***Illustration #1: Strategic/Critical Thinking***

Table 2 provides a description of the strategic/critical thinking competency and related elements from the AICPA Framework. From a cursory review of the description, it appears that adequate performance of the strategic/critical thinking competency requires performance at all levels of complexity—students must be able to understand underlying uncertainties; they must be able to explore a variety of connections among perspectives, information, and issues; and they must be able to reach and communication reasonable conclusions that encompass different priorities.

[Insert Table 2 About Here]

Table 3 provides a breakdown of the following element of the strategic/critical thinking competency: *Identifies and gathers data from a wide variety of sources to provide insightful interpretations for decision-making*. The breakdown was created by Baril, et al. (2000) as part of their recommendations for critical thinking development in accounting education. As Table 3 suggests, some of the sub-competencies can be developed relatively early in the curriculum, while other sub-competencies are not likely to develop until graduate-level courses.

[Insert Table 3 About Here]

### ***Illustration #2: Professional Demeanor***

Table 4 provides a description of the professional demeanor competency and related elements from the AICPA Framework. As in the last illustration, the description suggests that adequate performance of the professional demeanor competency requires performance at all levels of complexity.

[Insert Table 4 About Here]

Table 5 provides a breakdown of the following element of the professional demeanor competency: *Accepts professional development as a life-long process*. Professors are often dismayed by their students' apparent lack of focus on life-long learning. However, a review of the breakdown in Table 5 can help educators understand that adequate performance of any type of life-long learning competency—in this case professional development—requires the highest levels of cognitive complexity. Students must first understand underlying ambiguities, next learn to explore alternatives and perspectives, and then finally develop an understanding of life-long learning as a process.

### ***Implications of Breaking Competencies Down by Degree of Complexity***

Although the preceding subsections examined only two competency elements, a preliminary review suggests that virtually all of the AICPA Framework competencies require higher level complexity. Without the type of guidance provided in Tables 3 and 5, accounting educators would be likely to either ask students to perform at a level that is too far beyond their cognitive ability, or—given poor student performance—to believe that a given competency should not be addressed in their course at all. However, because the cognitive development literature makes it clear that competency development is slow, it is important for students to work on competencies early and repeatedly throughout the accounting curriculum. The types of breakdowns provided in Tables 3 and 5 provide guidance on ways to do this. By breaking competencies down by complexity and attending to student characteristics at different points in the accounting curriculum, educators are more likely to develop realistic expectations and utilize effective pedagogical methods. This, in turn, should lead to greater achievement of student outcomes, as depicted in Figure 1.

### **Outline of Plan for 2000-01 Committee on Pedagogy**

As discussed in the introduction to this report, the Committee plans to evaluate the degree of complexity for the competencies specified in the AICPA Framework. Following that evaluation, the Committee will offer recommendations for accounting educators on pedagogical implications. The purpose will be to advance a dialogue about not only appropriate pedagogies, but also about the ways in which pedagogies might optimally be implemented at different points in the accounting curriculum to work toward achievement of high-level competencies by the time students graduate.

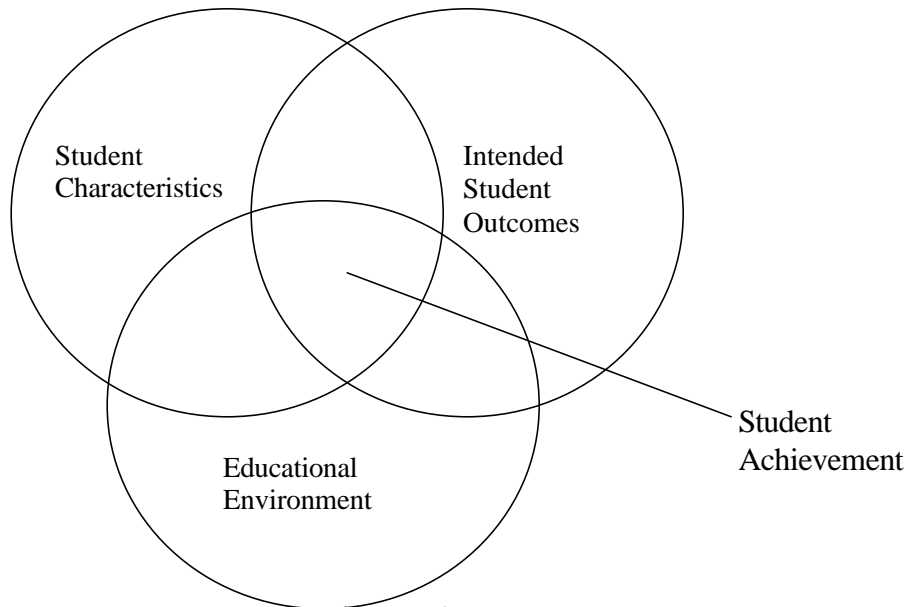
The Committee has not yet decided which dissemination outlet(s) it will seek for its work. Possibilities include publication of materials on the AICPA Core Competency Framework and/or AAA web sites, publication of an accounting education journal article, publication of a monograph or CD (perhaps in conjunction with other authors providing pedagogical applications), and presentations at accounting education conferences.

**Figure 1**

**Factors Influencing Student Achievement of Intended Outcomes**  
(Source: Rama et al., 2000; adapted from Gainen and Locatelli, 1995, 4)

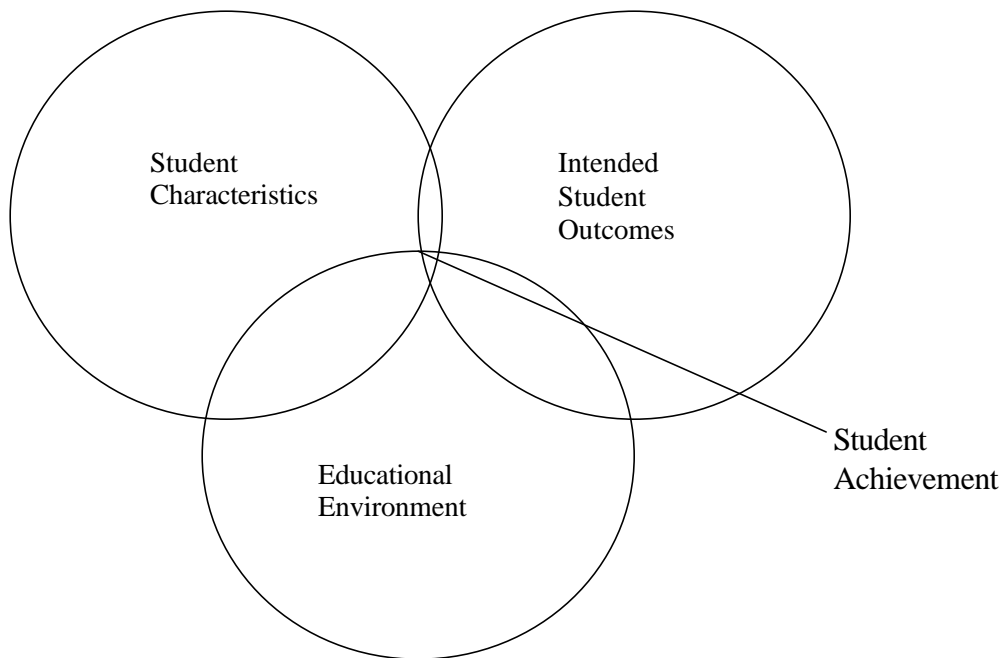
**Figure 1a**

Student achievement when there is a *higher* degree of interaction among intended outcomes, student characteristics, and the educational environment.



**Figure 1b**

Student achievement when there is a *lower* degree of interrelationship among intended outcomes, student characteristics, and the educational environment.



**Table 1**  
**Complexity of Competencies and College Course Level**  
**at Which Competencies Are Most Likely to Develop**

	<b>Lower Complexity (Typical Freshman/Soph. Level)</b>	<b>Moderate Complexity (Typical Junior/Senior Level)</b>	<b>Higher Complexity (Typical Graduate Level)</b>
<b>Sub-Competencies (Beyond Content Knowledge) That Underlie Professional Competencies<sup>1</sup></b>	?? Recognize and understand uncertainties/ambiguities  ?? Understand why many problems have no single “correct” solution	?? Recognize and control for own biases  ?? Understand alternative points of view  ?? Qualitatively evaluate evidence and assumptions  ?? Organize information meaningfully	?? Develop and utilize overarching principles to evaluate/prioritize across potential solutions  ?? Communicate appropriately for a given setting and audience  <b>Highly Advanced Students:</b> ?? Understand and explain limitations of own solution  ?? Develop appropriate plans to monitor and modify strategies
<b>Percent of Students Unable to Adequately Perform at This Level of Complexity:<sup>2</sup></b>			
Sophomore (N=31)	28%	83%	97%
Sophomore (N=17)	6%	59%	77%
MBA Night (N=24)	17%	67%	88%
MBA Day (N=48)	15%	86%	94%

<sup>1</sup> Degrees of cognitive complexity required for adequate performance are built on the ideas presented in Wolcott (1998, 2000) and Lynch, et al. (2000); based on the reflective judgment model of adult cognitive development (King and Kitchener, 1994) and dynamic skill theory (Fischer and Bidell, 1997).

<sup>2</sup> The sophomore student data is reported in Wolcott & Lynch (1997) and is higher than typical sophomore-level performance according to the body of reflective judgment research reported in King and Kitchener (1994). The MBA student data is based on a work in progress and is typical of master-level performance according to the body of reflective judgment research reported in King and Kitchener (1994).

**Table 2**  
**AICPA Core Competency Framework for Entry Into the  
Accounting Profession: Strategic/Critical Thinking**

***Definition of Strategic/Critical Thinking:***

Critical thinking encompasses the ability to link data, knowledge, and insight together from various disciplines to provide information for decision-making. Being in tune with the "big picture" perspective is a necessary component for success. Individuals entering the accounting profession should be able to communicate to others the vision, strategy, goals, and culture of organizations.

***Competency Elements Include:***

- ?? Articulates the principles of the strategic planning process
- ?? Identifies strengths, weaknesses, opportunities, and threats associated with a specific scenario, case, or business activity
- ?? Identifies and gathers data from a wide variety of sources to provide insightful interpretations for decision-making
- ?? Transfers knowledge from one situation to another
- ?? Analyzes and prepares strategic information (e.g., market share, customer satisfaction, competitor actions, product innovation, etc.)

Source: AICPA (1999) *Core Competency Framework for Entry Into the Accounting Profession*

**Table 3**  
**Illustration of Developmental Approach: AICPA Strategic/Critical Thinking Competency**

	<b>Lower Complexity (Typical Freshman/Soph. Level)</b>	<b>Moderate Complexity (Typical Junior/Senior Level)</b>	<b>Higher Complexity (Typical Graduate Level)</b>
<p><b>Sub-Competencies That Underlie the AICPA (1999) Strategic/ Critical Thinking Competency Element (Table 2):<sup>1</sup></b></p> <p><i>Identifies and gathers data from a wide variety of sources to provide insightful interpretations for decision-making</i></p>	<p>Identifies and gathers data from different sources</p> <p>Explains why different sources are likely to contain different types of data</p> <p>Explains why there are uncertainties about different types of data</p>	<p>Generates a variety of data interpretations that include different points of view</p> <p>Identifies strengths and weaknesses in different types of data</p> <p>Relates different pieces of data to different aspects of a decision-making scenario</p>	<p>Determines which pieces of data are likely to be most important for decision-making</p> <p>Determines which interpretations of data are likely to be most insightful for decision-making</p>

<sup>1</sup> Degrees of cognitive complexity required for adequate performance are built on the ideas presented in Wolcott (1998, 2000) and Lynch, et al. (2000); based on the reflective judgment model of adult cognitive development (King and Kitchener, 1994) and dynamic skill theory (Fischer and Bidell, 1997).

Source: Baril et al. (2000)

## **Table 4**

### **AICPA Core Competency Framework for Entry Into the Accounting Profession: Professional Demeanor**

#### ***Definition of Professional Demeanor:***

The accounting profession is committed to maintaining a public reputation for excellence in the performance of important roles in business and society. Individuals entering the accounting profession should behave in a manner that is consistent with the character and standards of the discipline of accounting, as well as the norms of the environment in which they interact. This competency involves demonstrating objectivity, integrity, and ethical behavior. It also includes a commitment to stable work performance, as well as a commitment to continuously acquire new skills and knowledge.

#### ***Competency Elements Include:***

- ?? Cultivates growth in personal conduct and capabilities
- ?? Diagnoses the need for change and takes appropriate action to gain competencies
- ?? Measures oneself against evolving standards and meets or exceeds those standards
- ?? Accepts professional development as a life-long process
- ?? Performs reliably under changing demands
- ?? Evaluates information in a manner free of distortions, personal bias or conflicts of interest
- ?? Recognizes situations where professional ethical standards apply and behaves accordingly
- ?? Conducts oneself with honesty
- ?? Respects confidentiality
- ?? Commits to quality and efficiency
- ?? Manages stress and adapts to unusual demands with composure
- ?? Objectively considers others' professional criticism or evaluation
- ?? Adheres to a level of personal appearance appropriate to the environment
- ?? Identifies and prioritizes career and personal goals and is accountable/learns from mistakes

Source: AICPA (1999) *Core Competency Framework for Entry Into the Accounting Profession*

**Table 5**  
**Illustration of Developmental Approach: AICPA Professional Demeanor Competency**

	<b>Lower Complexity (Typical Freshman/Soph. Level)</b>	<b>Moderate Complexity (Typical Junior/Senior Level)</b>	<b>Higher Complexity (Typical Graduate Level)</b>
<p><b>Sub-Competencies That Underlie the AICPA (1999) Professional Demeanor Competency Element (Table 4):<sup>1</sup></b></p> <p><i>Accepts professional development as a life-long process</i></p>	<p>Identifies and gathers information about professional development</p> <p>Identifies uncertainties about the nature of professional development</p> <p>Explains reasons why professional development is never complete</p>	<p>Explores own attitude about professional development</p> <p>Relates professional development to the needs of the accounting profession</p> <p>Describes and applies various professional development methods and issues to specific professional situations</p> <p>Explains adequately why professional development might reasonably differ from individual to individual</p>	<p>Determines and explains which aspects of professional development are most important</p> <p>Develops and adequately communicates to a particular audience own plan for professional development</p> <p><b>Highly Advanced Students:</b> Identifies and discusses important limitations of a given plan for professional development</p> <p>Describes ways in which a plan for professional development might change in the future as part of a life-long process</p>

<sup>1</sup> Degrees of cognitive complexity required for adequate performance are built on the ideas presented in Wolcott (1998, 2000) and Lynch, et al. (2000); based on the reflective judgment model of adult cognitive development (King and Kitchener, 1994) and dynamic skill theory (Fischer and Bidell, 1997).

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