



A 20-year view of trying to develop emotional, social and cognitive intelligence competencies in graduate management education

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Abstract

Purpose – Development of competencies needed to be effective managers and leaders requires program design and teaching methods focused on learning. The paper presents an update and a view of 20 years of attempting to develop these competencies.

Design/methodology/approach – A total of 14 longitudinal studies of the impact of a particular MBA program on developing emotional, social and cognitive intelligence competencies are reviewed. Three new studies are to complete a 20-year perspective. This is a value added design. It asks how are the graduates different from when they entered the program?

Findings – Emotional, social and cognitive intelligence competencies that predict effectiveness in management and leadership can be developed in adults through a graduate management program. These improvements can sustain out as far as seven years. But this degree of value added can be eroded by a tumultuous organizational climate.

Research limitations/implications – It is a series of 17 longitudinal studies on one school. With support from four studies of a program for 45-65 year-old executives.

Practical implications – Competencies needed to be effective can be developed. But that development can be eroded without continuous improvement and renewal.

Originality/value – Few sets of multiyear, multi-cohort, multi-method, multitrait studies exist. This helps to build a new literature on learning and development, as well as focusing on development of competencies.

Keywords Emotional intelligence, Cognition, Competences, Graduates

Paper type Research paper

While billions are spent trying to develop competencies each year, the results have been less than satisfactory. This does not even measure the millions of person hours spent in pursuit of competency development through performance reviews, training programs, coaching sessions, or workshops and courses in graduate or executive education (Boyatzis *et al.*, 1995c). Some conclude from all this that effective leaders,

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managers and professionals cannot be developed (Boyatzis *et al.*, 1996; Boyatzis *et al.*, 2002). This conclusion leads to a belief that effective leaders, managers and professionals are either they are born that way or people should just focus on their current, evident strengths and find jobs, careers, and organizational settings in which they will be effective.

This paper is an extension of the earlier work last reported and summarized in Boyatzis *et al.* (2002). It brings a message of hope and humility in competency development. By building on earlier longitudinal studies (Boyatzis *et al.*, 1995c; Boyatzis *et al.*, 2002) and adding a few more cadres, we continue to show that emotional, social and cognitive intelligence competencies can be developed in adults. But the last two cadre of data reported here also show “cracks” and a breakdown of the effectiveness shown earlier, even dramatic success in developing these competencies can be eroded by destructive organizational practices.

Preparing people to be effective

One of the primary objectives of training and graduate management education is to prepare people to be outstanding managers, leaders, and professionals. To understand what graduate students may be learning requires that we need a model of human talent and to understand what the workplace needs for effective performance in terms of that mode.

It could be said that developing human talent breaks down into three categories: helping people learn knowledge, helping them develop what to do with that knowledge, and to learn why they would use their knowledge and competencies. Development of knowledge means helping people develop the functional, declarative, procedural, and meta-cognitive knowledge needed. Examples of these types of knowledge are, respectively, market segmentation for a new product, the time it takes a polymer to set, calculating the present value of a capital acquisition, and ethical principles as applied in international business transactions. This knowledge is necessary but not sufficient for the leader, manager, or professional to add value to organizations. In this sense, knowledge bases are threshold talents (Boyatzis, 1982; Kotter, 1982; Luthans *et al.*, 1988; Spencer and Spencer, 1993; Goleman, 1998).

To be an effective leader, manager or professional, a person needs the ability to use knowledge and to make things happen. These can be called competencies, which Boyatzis (1982) defined as, “the underlying characteristics of a person that lead to or cause effective and outstanding performance”. Whether direct empirical research is reviewed from other articles in this special issue or the past literature (Bray *et al.*, 1974; Boyatzis, 1982; Kotter, 1982; Thorton and Byham, 1982; Luthans *et al.*, 1988; Howard and Bray, 1988) or meta-analytic syntheses are used (Campbell *et al.*, 1970; Spencer and Spencer, 1993; Goleman, 1998), there are a set of competencies that have been shown to cause or predict outstanding leader, manager or professional performance. Regardless of author or study, they tend to include abilities from three clusters:

- (1) cognitive intelligence competencies, such as systems thinking;
- (2) emotional intelligence competencies, or intrapersonal abilities, such as adaptability; and
- (3) social intelligence competencies, or interpersonal abilities, such as networking.

Beyond knowledge and competencies, the additional ingredient necessary to outstanding performance appears to be the desire to use one's talent. This seems driven by a person's values, philosophy, sense of calling or mission, unconscious motives and traits (Boyatzis and Sala, 2004; Boyatzis, 2006). The motives and traits affect both the way a person sees the world, especially the perception of opportunities and challenges they perceive in the environment. But they also are persistent and generalized drivers. They arouse dispositional ways a person respond to his/her environment and create a focus for a person's behavior.

These three domains of capability or talent (i.e. knowledge, competencies, and motivational drivers) help us to understand what a person can do (i.e. knowledge), how a person can do it (i.e. competencies), and why a person feels the need to do it (i.e. values, motives, and unconscious dispositions). Our role in management education is to help people add value on each of these domains – to help them to prepare to be effective in their future jobs and careers.

In management training, there is no fundamental question about purpose. The aim of development efforts is to help people become more effective. It requires development of competencies, as well as arousal of the appropriate motivation and value drivers. The question is whether the methods are effective or not. Do they produce an improvement in the competencies in use at work?

Our observation is that many faculty members still see competency development as the responsibility of the career placement office or adjuncts hired to conduct non-credit workshops. So in universities, there is a double challenge. First, there is the question as to whether or not the methods yield graduates who can and will use the competencies to be effective. Second, are these competencies integrated into the curriculum. The second aspect raises the question, "Is it a main element in the program or school's mission?" In other words, if faculty adopt the challenge of developing "the whole person", competency development would be as fundamental to our objectives and methods as accounting.

Outcome assessment in higher education asks, "What are our students learning?" From an outcome perspective, that is the question as to what the added value of spending time in a graduate management program. The early results from such studies were sobering with only one clear conclusion- students graduating from our colleges were older than they were when they entered. Evidence was reported of knowledge acquisition, improvement in competencies, including critical thinking, and shifts in motivation, but these were far less frequent than was predicted or expected (Winter *et al.*, 1981; Mentkowski *et al.*, 2000; Pascarella and Terenzini, 1991; Banta, 1993).

Even before the humbling Porter and McKibbin (1988) report showed that MBA graduates were not fulfilling the needs of employers or the promise of the schools, the AACSB started a series of outcome assessment studies in 1978. They showed faculty to be effective in producing significant improvement of students with regard to some abilities (Boyatzis and Sokol, 1982; Development Dimensions International-DDI, 1985). Boyatzis and Sokol (1982) showed that students had significantly increased on 40 percent to 50 percent of the competencies assessed in two MBA programs, while DDI (1985) reported that students in the two MBA programs in their sample had significantly increased on 44 percent of the variables assessed.

But, they also decreased significantly on 10 percent of the variables in the Boyatzis and Sokol study. When the overall degree of improvement in these abilities was

calculated (Goleman *et al.*, 2002), these studies showed about a 2 percent increase in emotional and social intelligence competencies in the one to two years students were in the MBA programs.

To address program impact, as of the early 1990s, only a few management schools had conducted student-change outcome studies which compared their graduates to their students at the time of entry into the program (Albanese *et al.*, 1990). Today, many schools have conducted other types of outcome studies, namely studies of their alumni or studies with employers and prospective employers (Kridel, 1998). Some schools have examined the student-change from specific courses (Bigelow, 1991; Specht and Sandlin, 1991). Student-change outcome studies have been a focus in undergraduate programs (Astin, 1993; Banta, 1993; Pascarella and Terenzini, 1991; Mentkowski *et al.*, 1991; Winter *et al.*, 1981), but still relatively little has been documented about the effects of graduate programs.

This leaves the major question: Can MBAs and participants in executive education develop competencies that are related to outstanding managerial, leadership, and professional performance? A related question is how any institution can improve their impact and/or sustain their impact.

Methods

Overall design

This study is an update of earlier published studies. It continues and builds on the earlier studies (Boyatzis *et al.*, 1995b; Boyatzis *et al.*, 1996; Boyatzis *et al.*, 2002) using a combination of cross-sectional and longitudinal, time series data collected as part of a 50-year longitudinal study of multiple cohorts of MBA students at the Weatherhead School of Management (WSOM), Case Western Reserve University. The longitudinal study focuses on the impact of the MBA program on the development of cognitive, social, and emotional intelligence competencies. Since 1990, entering data have been collected during a required course called Leadership Assessment and Development (for a detailed description of the course and the longitudinal study, see Boyatzis, 1994, 1995, 2006; Goleman *et al.*, 2002; Boyatzis *et al.*, 2002). The course leads a student through assessments and activities about their dreams and aspirations, current behavior, strengths and gaps as a manager and leader, and culminates in the writing of a learning plan. Students pursue the learning plan through the remainder of the program and afterward.

Data collected during the years of 1987-1989 reflect the results of students' development prior to revisions in the MBA program and are considered baseline samples. Many of the results of the 1987-1996 studies have been reported in conference presentations, books, and journal articles. Boyatzis *et al.* (2002) summarized all of these 12 prior studies and added results for 2000 and 2001. This paper adds results from 2004, 2005, and 2006. The result is a set of data from 17 cross-sectional and longitudinal studies.

The samples used in the earlier studies, as well as the additional samples first reported here are described in Table I. For clarification of sampling in each of the earlier years, see Boyatzis *et al.* (2002).

Instruments

All of the instruments used in these studies assessed competencies. In the earlier studies, five instruments were used. The Learning Skills Profile (LSP) is a card-sort

No. of MBAs Cohort	<i>n</i> Entering	<i>n</i> Tested	No. of students Graduating	<i>n</i> Tested	% Female	Average Age	USA News	FT Ranking
1987 FT	100	72	61	27 ^a	31	26		
1988 FT	89	70	71	17 ^a	31	26		
1990-1992 FT	124	108	96 ^b	71	37	27		
1991-1993 FT	105	83	71 ^b	58	30	27		
1992-1994 FT	137	104	127 ^b	58	45	27		
1993-1995 FT	140	125	146	77	35	27		
1998-2000 FT	186	89	191	56 ^c	25	29	31	
1999-2001 FT	171	142	169	80 ^c	35	27	44	39
2000-2002 FT	202				32	28	34	56
2002-2004 FT	162		164	108	36	27	51	77
2003-2005 FT	130		113	104	28	27	63	64
2004-2006 FT	109		136	104	38	28	56	84
2005-2007 FT	104				18	28	58	49
2006-2008 FT	66				31	27	58	63
2007-2009 FT							75	82

Notes: ^a Assessment was considered voluntary, but not everyone appeared at the orientation program for the full-time students. for the randomly selected samples; participation was voluntary, so all assessed had given their permission; all randomly selected samples were comparable with the populations from which they were drawn as to age, gender, GMAT, undergraduate GPA and percentage international students; ^b Some entering students did not graduate due to working toward a joint degree (e.g. MBA/JD) or transferring to the part-time program. Of those that permitted their data to be included in the study, some students were dropped from the final sample due to various unforeseen circumstances (e.g. incomplete assessments); ^c Samples for those graduating in 1997, 1998 and 1999 were lost due to a series of computer crashes. The 2003 graduating sample was lost due to data-entering errors. In 1997, participation in exit assessment near graduation became a required part of the program for full-time students. Part-time students were not approached for exit assessment

Table I.
Description of the
samples and populations
for the cohorts in this
study

based on experiential learning theory (Kolb, 1984; see Boyatzis and Kolb (1991, 1995) for a discussion of the instrument's reliability and validity). The Critical Incident Interview (CII), which is a one-hour, audiotaped interview (Flanagan, 1954; Boyatzis, 1982; Spencer and Spencer, 1993) coded for the competencies. The Group Discussion Exercise (GDE) is a 45 minute, videotaped simulation, coded for the competencies. The Presentation Exercise (PE) is an assessment of an individual's Oral Communication ability, also coded for the competencies (Boyatzis, 1998). For all of the coded from qualitative sources, two or three people independently coded the interviews and videotapes. In this research, the coders averaged 89-90 percent inter-rater reliability on 16 of the competencies.

The Self-Assessment Questionnaire (SAQ) is a 73-item questionnaire in which the participants are asked to assess the frequency with which they demonstrate each behavior. The External Assessment Questionnaire (EAQ) is the informant, or 360, variation of the SAQ. In 2002, five of the cognitive competencies were dropped because they did not predict effectiveness in management, leadership or professional jobs. They were threshold competencies, predicting average from poor performance (Boyatzis, 1982).

In the late 1990s, the SAQ and EAQ were expanded and adapted to more directly assess emotional and social intelligence competencies (Boyatzis and Sala, 2004). The new

test was called the ECI. A special version of it, called the ECI-U, WSOM Version was used in the new outcome studies. The ECI-U, WSOM Version assessed several of the cognitive competencies most directly linked to effectiveness in leadership, management, and professional jobs. The ECI-U, and its base test, the ECI and ECI-2 showed reliability and validity in numerous studies (summarized in Boyatzis and Sala, 2004).

The ECI-U, WSOM Version had 75 percent of items that were the same or very close in wording to the original SAQ/EAQ. All of the 17 scales in the SAQ/EAQ were included in the ECI-U. Eight new scales were added. The scales that were the same on the SAQ/EAQ and ECI-U WSOM version (71 percent of the ECI-U WSOM Version) were: Achievement Orientation (earlier called Efficiency Orientation, Planning was folded into Achievement Orientation); Adaptability (earlier called Flexibility); Emotional Self-Control (earlier Self-Control); Self-confidence; Empathy; Conscientiousness (earlier called Attention to Detail); Initiative; Conflict Management (earlier called Negotiating); Communication; Developing Others; Influence (earlier called Persuasiveness); Building Bonds (earlier called Networking); Teamwork (earlier called Group Management); Cultural Awareness (earlier called Social Objectivity); Systems Thinking; and Pattern Recognition. The following scales were added in the ECI-U: Emotional Self-Awareness; Accurate Self-Assessment; Trustworthiness; Optimism; Organizational Awareness; Service Orientation; Inspirational Leadership; and Change Catalyst.

Results

Findings reported in Boyatzis *et al.* (2002) are summarized in Tables II and III for full time MBAs.

As shown in Table IV, students statistically significantly improved on each of the 21 competencies as viewed by others with the EAQ in the 2001 sample and all 16 competencies assessed in the 2004 sample. Using the Self Assessment Questionnaire, students significantly or near significantly improved on 15 of the 21 competencies in the 2001 sample and improved on all 16 in the 2004 sample.

As shown in Table V, students significantly improved on competencies in both years, as viewed by others: Accurate Self-Assessment, Initiative, Adaptability, Emotional Self-Control, Achievement Orientation, Optimism, Empathy, Cultural Awareness, Communications, Conflict Management, Influence, Building Bonds, Systems Thinking and Pattern recognition. They did not improve, as viewed by others in either year on: Self-confidence, Organizational Awareness, Inspirational Leadership, Change Catalyst, Developing Others and Teamwork. They improved in their own eyes from 2003 to 2005 but not in 2004 to 2006 in: Emotional Self-Awareness, Trustworthiness, Conscientiousness, nor Service Orientation. Building Bonds was the only competency others saw their improvement in 2003-2005 but not in 2004-2006. They saw themselves, in these two cohorts improving most of the competencies. They did not improve in either cohort in Emotional Self-Awareness and Teamwork. They improved in 2003-2005 but not in 2004-2006 in: Achievement Orientation and Conscientiousness. They did not improve in 2003-2005 but saw themselves improving in 2004-2006 in: Optimism, Empathy, Organizational Awareness, and Cultural Awareness.

Table II.
Summary of the Time
Series results of learning
skills for full-time MBAs^a

Evidence of value-added	1987-1989 Program		1990-2001 Program	
	Self-management	Relationship management	Self-management	Relationship management
Strong improvement ^b	Self-confidence	Information analysis Theory building Quantitative analysis Use of technology	Goal setting Action Initiative Self-confidence	Sense making Information gathering Information analysis Theory building Quantitative analysis Use of technology
Some improvement ^c	Action initiative	Information gathering Sense making Leadership Relationship Helping	Relationship	
No improvement	Goal setting			

Notes: ^a Adjusted for native English-speaking as well as the entire sample; ^b Strong Improvement is classified as significant or near significant improvement on 0.666 of the cohorts assessed; ^c Some Improvement is classified as significant or near significant improvement on 1 or more up to 0.333 of the cohorts assessed

Evidence of value added	Self-management	Relationship management	Cognitive
Strong improvement ^b	Efficiency orientation Planning Flexibility Self-confidence Self-control Initiative	Empathy Networking Oral communications Group management	Pattern recognition System thinking
Some improvement ^c	Attention to detail	Negotiating Developing others Persuasiveness (in 2)	Social objectivity
No improvement Decrease		Persuasiveness (in 1)	

Notes: ^a Results from coding of behavior shown in audiotapes of the CII, videotapes of the GDE and Presentation Exercise, adjusted for native English-speaking sample as well as the full sample; ^b Strong Improvement is significant or near significant results on 0.66 or more of the cohorts with 1 measure or 0.33 to 0.5 of the cohorts on all measures; ^c Some Improvement is significant or near significant results on 1 cohort on 1 measure

Table III.
Summary of the results
from direct behavioral
measures for full time
MBAs up to 2004^a

Discussion

To aid in the comparison, results of the competency development, or the lack thereof, is shown in Table VI for 1987 through 2006 for full-time MBAs at WSOM.

In contrast to earlier studies, it appears that MBAs can develop emotional intelligence and cognitive competencies crucial to effectiveness as a manager and leader during their program. The research question posed in this paper is supported by the multi-method, multi-trait, multi-cohort data offered. The results are from the eleven cohorts of full-time MBAs.

The summaries show a dramatic improvement over the impact of the baseline program in all three clusters. As mentioned earlier, the baseline impact of the WSOM MBA program was consistent with earlier AACSB studies (Boyatzis and Sokol, 1982; DDI, 1985) and the Porter and McKibbin (1988) study – MBA programs primarily improve a person’s analytic ability. While these results are important to managerial and leadership effectiveness, they are only part of the recipe for outstanding performance and contribution to organizations. Many faculty discussions, prior to implementing aspects of a program to work on the emotional and social intelligence competencies involve some faculty’s fears that improvements in emotional and social intelligence abilities would detract from the improvement of cognitive abilities. The earlier studies showed that was not the case, and even enhanced development of critical thinking ability.

The differences between the impact of the program shown in Table VI reveals some difference between self-report and changes behaviorally observed by others. This could be the result of different standards, perceptions, or developmental progress. That is, the difference between the behavior others see and what a person senses within himself/herself may be a function of different processes. For example, it is possible that a person feels he/she has changed a great deal, but the change is too small to be apparent to others. In addition, some competencies are easier to observe than others.

Another possibility is that the person senses a change in himself/herself before he/she shows this in their behavior, or shows it consistently enough for others to notice.

Table IV.
Comparison of full-time entering and graduating MBA students' scores on the EAQ and SAQ

Skill scale	EAQ 1999-2001		EAQ 2002-2004		SAQ 1999-2001		SAQ 2002-2004	
	n = 80	t	n = 108	t	n = 71	t	n = 91	t
Efficiency orientation	2.3-3.3	-10.0****	3.3-3.4	-5.6****	3.0-3.0	-1.1**	3.0-3.2	3.9****
Planning	2.3-3.2	-8.6****	3.3-3.4	-4.8****	2.8-2.9	-1.7**	3.0-3.20	-3.0****
Initiative	2.0-3.0	-10.8****	2.8-3.1	-7.9****	2.4-2.7	-2.6**	2.4-2.9	-6.0****
Attention to detail	2.4-3.2	-8.3****	3.3-3.4	-1.6**	2.7-2.9	-2.3**	2.9-3.0	-3.9****
Self-control	2.1-3.0	-10.0****	3.2-3.3	-3.4****	2.6-2.8	-2.8**	3.0-3.2	-2.8****
Flexibility	2.2-3.1	-8.6****	3.1-3.2	-4.1****	2.9-3.0	-2.1**	2.8-3.2	-5.2****
Self-confidence	2.1-3.1	-8.9****	3.2-3.4	-3.8****	2.5-2.7	-2.9**	2.8-3.1	-2.8**
Empathy	2.3-3.2	-9.5****	3.2-3.3	-2.2**	3.1-3.2	-2.0**	3.2-3.4	-2.9****
Social objectivity	2.1-3.1	-10.0****	3.1-3.2	-4.5****	3.0-3.0	-0.6	2.9-3.3	-5.7****
Persuasiveness	2.1-3.0	-10.1****	2.8-3.0	-4.5****	2.7-2.8	-2.6**	2.7-3.0	-5.5****
Networking	2.3-3.3	-8.6****	3.2-3.4	-5.2****	2.9-3.0	-0.9	3.0-3.3	-4.8****
Negotiating	2.1-3.1	-9.2****	3.0-3.2	-5.2****	2.8-2.9	-1.5*	2.8-3.1	-4.7****
Group management	2.2-3.1	-11.1****	3.2-3.3	-3.2****	2.7-2.8	-0.9	2.9-3.2	-4.3****
Developing others	2.2-3.1	-9.5****	3.1-3.2	-2.6**	2.7-2.7	-0.8	2.8-3.1	-3.8****
Oral communication	2.3-3.3	-10.5****			2.9-3.1	-4.4****		
Use of concepts	2.2-3.1	-9.8****			2.7-2.8	-1.6*		
Systems thinking	2.1-3.1	-8.6****	3.0-3.3	-5.6****	2.6-2.7	-0.8	2.7-3.0	-3.5****
Pattern recognition	2.0-3.0	-10.1****	3.0-3.2	-7.3****	2.5-2.7	-2.9****	3.0-3.2	-4.0****
Quantitative analysis	2.0-3.2	-7.8****			2.4-2.8	-2.8****		
Use of technology	2.0-3.0	-7.7****			2.3-2.5	-1.5*		
Written communication	2.4-3.4	-10.2****			3.0-3.2	-3.9****		

Notes: Matched-pair *t*-tests were run with the “*t*” reported because a longitudinal design was used; significance levels are one-tailed: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; **** $p < 0.001$

Cluster	Scale	Other		Other		Self		Self	
		2003-2005 <i>n</i> = 104	<i>t</i>	2004-2006 <i>n</i> = 104	<i>t</i>	2003-2005 <i>n</i> = 92	<i>t</i>	2004-2006 <i>n</i> = 74	<i>t</i>
Self-awareness	<i>Emotional self-awareness</i>	4.0-4.1 ^a	-1.9***	4.0-4.0	-1.2	3.9-4.0	-0.6	3.9-4.0	-1.1
	<i>Accurate self-awareness</i>	4.1-4.2	-1.4*	4.1-4.2	-2.4***	4.0-4.2	-2.6**	3.9-4.1	-2.4***
	Self-confidence	4.1-4.1	-0.8	4.2-4.2	-0.9	3.8-3.9	-2.1**	3.8-4.0	-1.8**
Self-management	Emotional self-control	4.0-4.1	-3.6***	4.0-4.1	-2.8***	3.7-3.9	-2.6**	3.7-3.9	-3.4***
	Achievement orientation	3.9-4.0	-3.5***	4.0-4.0	-2.7***	3.7-3.8	-2.0**	3.7-3.8	-1.3
	Initiative	3.7-3.9	-7.3***	3.6-3.8	-6.3***	3.4-3.7	-4.1***	3.4-3.5	-1.8**
	<i>Trustworthiness</i>	4.0-4.1	-1.4*	4.1-4.1	-1.2	3.8-3.9	-1.4*	3.7-3.8	-1.8**
	Conscientiousness	4.3-4.4	-1.9*	4.4-4.4	-0.7	4.0-4.2	-2.3***	4.1-4.2	-1.0
	Adaptability	4.0-4.1	-4.5***	4.0-4.1	-2.8***	3.7-3.9	-2.4***	3.6-3.9	-3.04***
	<i>Optimism</i>	4.2-4.3	-1.9**	4.2-4.3	-1.7**	4.0-4.0	-0.1	4.0-4.2	-1.5*
Social awareness	Empathy	4.0-4.1	-2.3***	4.0-4.0	-1.8**	3.9-4.0	-1.3	3.9-4.0	-1.8**
	<i>Service orientation</i>	4.2-4.3	-1.4*	4.2-4.2	-0.6	4.0-4.2	-2.4***	3.9-4.1	-2.0*
	<i>Organizational awareness</i>	4.2-4.2	-0.7	4.2-4.2	-1.1	3.8-3.9	-1.1	3.9-4.0	-1.6*
	Cultural awareness	4.1-4.1	-1.9**	4.1-4.2	-2.0***	3.9-4.0	-0.6	3.9-4.0	-1.4*
Relationship management	<i>Inspirational leadership</i>	3.9-3.9	-0.7	3.9-3.9	-0.7	3.5-3.7	-2.7***	3.6-3.8	-2.8***
	Communication	3.9-4.0	-2.9***	3.9-4.0	-3.0***	3.5-3.9	-4.2***	3.6-3.8	-2.4***
	Conflict management	3.7-3.8	-3.9***	3.6-3.7	-1.8*	3.5-3.7	-2.3**	3.4-3.6	-2.1**
	<i>Change catalyst</i>	3.8-3.9	-1.2	3.8-3.8	-0.1	3.5-3.7	-2.0**	3.5-3.7	-2.1**
	Influence	3.8-4.0	-4.0***	3.9-4.0	-2.9***	3.7-3.9	-2.4***	3.7-3.8	-1.5*
	Developing others	3.9-3.9	-0.4	3.9-3.9	-1.0	3.7-3.9	-2.5***	3.7-3.8	-1.7***
	Building bonds	4.1-4.2	-1.0	4.1-4.2	-3.4***	3.8-3.9	-1.4*	3.8-4.0	-3.3***
	Teamwork and collaboration	4.3-4.3	-0.4	4.2-4.3	-1.18	4.0-4.1	-1.3	4.1-4.2	-1.3
	Systems thinking	3.8-3.9	-2.5***	3.8-3.9	-1.9**	3.5-3.7	-3.9***	3.4-3.6	-2.3**
	Pattern recognition	3.8-4.0	-5.4	3.9-3.9	-2.4	3.8-4.0	-3.3	3.6-3.7	-2.2

Note: Matched-pair *t*-tests were run with the “*t*” reported because a longitudinal design was used; Significance levels are one-tailed: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; **** $p < 0.001$; ^a Entering and graduating scores were rounded to one decimal point. This created visual anomalies in significance reported

Table V.
Comparison of full-time entering and graduating MBA students’ scores on the ECIU (scales in italics were added and did not appear in the SAQ/EAQ)

Table VI.
Summary of competency
improvement from 1987
to 2006 in full-time MBAs

Competency	Self-assessment					Behavioral through other (360 informants)					
	Pre-1990	1990-1996	1999-2001	2002-2004	2003-2005	2004-2006	1990-1996	1999-2001	2002-2004	2003-2005	2004-2006
Emotional self-awareness	na	na	na	na	na	✓	na	na	na	✓	✓
Accurate self-assessment	na	na	na	na	na	✓	na	na	na	✓	✓
Self-confidence	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Emotional self-control	na	na	na	na	na	✓	na	na	na	✓	✓
Achievement orientation	~	✓	✓	✓	✓	✓	na	na	na	✓	✓
Initiative	~	✓	✓	✓	✓	✓	na	na	na	✓	✓
Trustworthiness	na	na	na	na	na	✓	na	na	na	✓	✓
Conscientiousness	na	na	na	na	na	✓	na	na	na	✓	✓
Adaptability	na	na	na	na	na	✓	na	na	na	✓	✓
Optimism	na	na	na	na	na	✓	na	na	na	✓	✓
Empathy	na	~	na	na	na	✓	na	na	na	✓	✓
Service orientation	na	na	na	na	na	✓	na	na	na	✓	✓
Organizational awareness	na	na	na	na	na	✓	na	na	na	✓	✓
Cultural awareness	na	na	na	na	na	✓	~	na	na	✓	✓
Inspirational leadership	na	na	na	na	na	✓	na	na	na	✓	✓
Communications	na	na	na	na	na	✓	na	na	na	✓	✓
Conflict management	na	na	na	na	na	✓	~	na	na	✓	✓
Change catalyst	na	na	na	na	na	✓	na	na	na	✓	✓
Influence	na	na	na	na	na	✓	~	na	na	✓	✓
Developing others	na	na	na	na	na	✓	~	na	na	✓	✓
Building bonds	na	na	na	na	na	✓	na	na	na	✓	✓
Teamwork	na	na	na	na	na	✓	na	na	na	✓	✓
Systems thinking	na	na	na	na	na	✓	na	na	na	✓	✓
Pattern recognition	~	na	na	na	na	✓	na	na	na	✓	✓

Notes: na = not assessed; ~ = some evidence among that assessed; blank entries = significant or near significant evidence on all or most of the measures assessed for that competency

Rhee (1997) interpreted this as a sensitization effect. He studied 22 of the full-time graduates of the 1995 cohort by interviewing and testing them about every six weeks throughout their two-year program. His sample showed dramatic improvement on all of the scales in the Learning Skills Profile and direct behavioral results slightly less than the overall 1995 sample, which were considerably less dramatic than the self-report results.

The disparity could have been the result of the Hawthorne Effect, or the result of cognitive dissonance reduction. An MBA might say to himself/herself, "I have spent all this time and money, I must have changed." But that would cause a self-justifying distortion in the self-report data, not the direct behavioral data. Regardless of the causes of the observed differences, the multi-method, multi-cohort results provide increased confidence when we observe results from both self-report and measures directly assessing behavior demonstrated in audiotapes of work samples and videotapes of their behavior in simulations.

There may also be cohort effects. For example, the class graduating in 2005 appeared to improve on fewer of the competencies than the 2006 cohort in their own view. But in the view of others, they improved more than the 2006 cohort.

Another source of confusion in monitoring impact over the 20 years is the occasional change in tests. Although this results from a desire to improve tests and evolution of methods, it makes comparisons across many years more difficult. As was described earlier, the shift to a 360 was a dramatic change in method to one considerably less labor intensive. The shift from the SAQ/EAQ to the ECI-U was a slight shift in the items, with eight scales added. The 17 scales that were the same used items that were, on the whole, either identical or had slight wording changes.

The increased impact of the program shown in the time series results may have been the result of factors other than the curriculum change. A review of the full-time faculty teaching in the school showed that from 1988-1989 to 1993-1995, 67 percent of the faculty were the same. Although the program did not change its admissions procedures and criteria during this period, as the new program became known it resulted in applications and enrollment by students with higher scores on measures like GMAT, undergraduate GPA, the percentage of females in the program, and higher scores on some of the competencies measures used across the cohorts in the time series. Even with this increase in entering ability, the improvements noted after the program changed were significant and dramatic. So these aspects of the school and program did not appear to have an impact on competency improvement up to 1996.

As shown in Table I, the full time MBA program at WSOM grew in numbers (i.e. enrollment) as well as national (*US News and World Reports*) and international (*Financial Times*) rankings up to 1998/1999. Then a series of internal changes created an atmosphere of tumultuous change. Following the departure of a charismatic Dean, there was a succession of succession of 3 interim Deans, interspersed with 3 relatively short-term Deans between the Summer of 1998 and the Summer of 2006. The decrease in domestic full time MBA enrollments nationwide, along with decreases in international students due to financial crises in their home countries, 9/11, SARS, visa difficulties and opening of hundreds of MBA programs in other countries affected WSOM. WSOM suffered from dramatic decreases in part time MBA and EMBA enrollments, and a downturn in custom, executive education. Morale among the faculty

dropped while most staff were reassigned in the University or laid off. Full time faculty decreased by over 33 percent while staff levels were cut in half.

What caused these dramatic improvements in cognitive and emotional intelligence competencies from the MBA program of the 1980s? Unfortunately, we did not have a research design in place to make specific attributions. But the components of the MBA program that were changed from the earlier program included:

- an explicit philosophy of education and pedagogy (Boyatzis *et al.*, 1995c);
- a course on Leadership Assessment and Development using Intentional Change Theory as the basis for its design (Boyatzis, 1994, 1995; Goleman *et al.*, 2002; Boyatzis, 2006);
- a focus on specific competencies in selected courses while addressing course material, such as the marketing course that assessed students on the presentation skills or the operations management course using group projects assessing their group process competencies;
- a dramatic increase in the percentage of courses requiring field projects in companies, group work, and student collaboration; and
- opportunities to participate in voluntary activities, such as a chapter for Habitat for Humanity and functional clubs, like the marketing club (which the part-time students did not have the time nor inclination to participate in).

Our interpretation has been that the leadership course and the wide range of learning activities integrated into the MBA program caused the results.

What caused the decrease in impact of the full time program in 2005 (15 percent of the competencies assessed in earlier years did not improve in 2003-2005) and even worse (25 percent of the competencies assessed in earlier years did not improve in 2004-2006) in 2006 from earlier years? The results were alarming, but looked worse because of the addition of a lack of improvement on 3 and 5 of the new competencies assessed in the ECI-U. Although we cannot be sure, we suspect the dramatic drop in morale among the faculty and staff, as well as continuing fall in the national and international rankings invaded the classrooms, student-faculty-staff interactions, as well as donor support and employer interest. From a positive case study of how to improve the impact of an MBA on competency development WSOM became a case study in erosion.

Amid all of the changes in the school during the 1998 to 2006 period, one was not paying as much attention to the strategic threats and opportunities identified in the two earlier strategic plans, in 1990 and 1995. The irony is that the faculty foresaw the drop in enrollments and had planned for alternative ways to grow the school. It included the need to continually innovate in the MBA program. Although many attempts were made during this period, they did not arouse nor meet with the enthusiasm of the late 1980s through mid 1990s. Faculty and staff became defensive and many narrowed our focus to “our courses, students, and research.” Successive strategic plans did not have the commitment of the majority of the faculty. It seemed that coalitional protectionism infected the school. And then, for some faculty who had been involved and drivers of many earlier innovations, they just gave up trying. So while other schools and programs continued to innovate and stretch the boundaries of what can be done to advance learning, we were falling behind – we were not keeping

up with our competition. One conclusion is that we did not renew ourselves or our program sufficiently.

In Chapter 10 of Boyatzis *et al.* (1995c), the importance of maintaining the “vigil” and continuing to innovate and assess the effectiveness of experiments was emphatically stated. We claimed that regressive forces of stress alone could cause a school and its programs to slip (for a more detailed description of this process of creeping dissonance, see Boyatzis and McKee, 2005). But, added to the stress of the work, the threat of decreasing enrollments were new levels of competition and alternatives for students. The value of an MBA has been called into question (____). All of these forces are regressive, provoking a defensive response that inhibits innovation, creative thinking and healthy degrees of organizational cooperation (Boyatzis and McKee, 2005).

With continuing international distinction for our Masters in Organization Development, Supply Chain, Executive Doctorate in management, EMBA (the latter reversed the enrollment erosion in 2005), and undergraduate programs, and a new popular Dean, the faculty and staff began to revive the spirit that drove the dramatic improvements in the early 1990s during the Summer of 2006. There is a belief that since we reversed our misfortune once, we can do it again. Time will tell!

What if learning were the purpose of education?

Borrowing from the title of Chapter 10 of Boyatzis *et al.*'s (1995b) book for the subtitle of the implications section of this paper, we can offer a promising answer. An MBA education can help people learn the cognitive, social and emotional intelligence competencies needed to be outstanding managers and leaders. But we cannot use the typical lecture and discussion methods with their focus on knowledge acquisition only. The other major message of this update to the earlier studies is that it is difficult for an institution to sustain that contribution over time and an atmosphere of continuous improvement sufficient to stay abreast of a prospective student's alternatives (i.e. our competition).

A more holistic approach (i.e. developing knowledge, competencies and values) can help dramatically improve our impact and the relevance of an MBA to their future work organizations. Even here there is some doubt as to the knowledge retention of MBAs. In one study, professors administered the final example from the required course in accounting following the regular taking of the exam (Specht and Sandlin, 1991). They reported the half -life of knowledge was six weeks. And we also need healthy organizational environments within our schools. We are not immune to the same things we criticize in other organizations.

One implication of these results should be to encourage schools to conduct outcome assessment studies to determine what their students are learning. Another implication is to be wary of the threatened distraction from our mission of preparing people to manage and lead. This wariness should result in a focus on renewal, adaptation and resilience in our institutions.

References

- Albanese, R., Bernardin, H.J., Connor, P.E., Dobbins, G.H., Ford, R.C., Harris, M.M., Licata, B.J., Miceli, M.P., Porter, L.W. and Ulrich, D.O. (1990), “Outcome measurement and management education: an Academy of Management task force report”, paper presented at the Annual Academy of Management Meeting, San Francisco, CA.

-
- Astin, A.W. (1993), *What Matters in College? Four Critical Years*, Jossey-Bass, San Francisco, CA.
- Banta, T.W. (Ed.) (1993), *Making a Difference: Outcomes of a Decade of Assessment in Higher Education*, Jossey-Bass, San Francisco, CA.
- Bigelow, J.D. (Ed.) (1991), *Managerial Skills: Explorations in Practical Knowledge*, Sage, Newbury Park, CA.
- Boyatzis, R.E. (Ed.) (1982), *The Competent Manager: A Model for Effective Performance*, John Wiley & Sons, New York, NY.
- Boyatzis, R.E. (1994), "Stimulating self-directed change: a required MBA course called Managerial Assessment and Development", *Journal of Management Education*, Vol. 18 No. 3, pp. 304-23.
- Boyatzis, R.E. (1995), "Cornerstones of change: building a path for self-directed learning", in Boyatzis, R.E., Cowen, S.C. and Kolb, D.A. (Eds), *Innovation in Professional Education: Steps on a Journey from Teaching to Learning*, Jossey-Bass, San Francisco, CA, pp. 50-94.
- Boyatzis, R.E. (2006), "Intentional change theory from a complexity perspective", *Journal of Management Development*, Vol. 25 No. 7, pp. 607-23.
- Boyatzis, R.E. and Kolb, D.A. (1991), "Assessing individuality in learning: the learning skills profile", *Educational Psychology*, Vol. 11 Nos 3/4, pp. 279-95.
- Boyatzis, R.E. and Kolb, D.A. (1995), "Beyond learning styles to learning skills: the executive skills profile", *Journal of Managerial Psychology*, Vol. 10 No. 1, pp. 3-17.
- Boyatzis, R. and McKee, A. (2005), *Resonant Leadership: Renewing Yourself and Connecting With Others through Mindfulness, Hope, and Compassion*, Harvard Business School Press, Boston, MA.
- Boyatzis, R.E. and Sala, F. (2004), "Assessing emotional intelligence competencies", in Geher, G. (Ed.), *The Measurement of Emotional Intelligence*, Nova Science Publishers, Hauppauge, NY, pp. 147-80.
- Boyatzis, R.E. and Sokol, M. (1982), *A Pilot Project to Assess the Feasibility of Assessing Skills and Personal Characteristics of Students in Collegiate Business Programs*, report to the AACSB, St Louis, MO.
- Boyatzis, R.E., Cowen, S.S. and Kolb, D.A. (Eds) (1995a), *Innovation in Professional Education: Steps on a Journey from Teaching to Learning*, Jossey-Bass, San Francisco, CA.
- Boyatzis, R.E., Renio-McKee, A. and Thompson, L. (1995b), "Past accomplishments: establishing the impact and baseline of earlier programs", in Boyatzis, R.E., Cowen, S.S. and Kolb, D.A. (Eds), *Innovation in Professional Education: Steps on a Journey from Teaching to Learning*, Jossey-Bass, San Francisco, CA.
- Boyatzis, R.E., Stubbs, E.C. and Taylor, S.N. (2002), "Learning cognitive and emotional intelligence competencies through graduate management education", *Academy of Management Journal on Learning and Education*, Vol. 1 No. 2, pp. 150-62.
- Boyatzis, R.E., Leonard, D., Rhee, K. and Wheeler, J.V. (1996), "Competencies can be developed, but not in the way we thought", *Capability*, Vol. 2 No. 2, pp. 25-41.
- Boyatzis, R.E., Baker, A., Leonard, D., Rhee, K. and Thompson, L. (1995c), "Will it make a difference? Assessing a value-based, outcome oriented, competency-based professional program", in Boyatzis, R.E., Cowen, S.S. and Kolb, D.A. (Eds), *Innovating in Professional Education: Steps on a Journey from Teaching to Learning*, Jossey-Bass, San Francisco, CA, pp. 167-202.
- Bray, D.W., Campbell, R.J. and Grant, D.L. (1974), *Formative Years in Business: A Long Term AT&T Study of Managerial Lives*, John Wiley & Sons, New York, NY.

-
- Campbell, J.P., Dunnette, M.D., Lawler, E.E. III and Weick, K.E. (1970), *Managerial Behavior, Performance, and Effectiveness*, McGraw-Hill, New York, NY.
- Development Dimensions International (DDI) (1985), *Final Report: Phase III*, report to the AACSB, St Louis, MO.
- Flanagan, J.C. (1954), "The critical incident technique", *Psychological Bulletin*, Vol. 51, pp. 327-35.
- Goleman, D. (1998), *Working with Emotional Intelligence*, Bantam, New York, NY.
- Goleman, D., Boyatzis, R.E. and McKee, A. (2002), *Primal Leadership: Realizing the Power of Emotional Intelligence*, Harvard Business School Press, Boston, MA.
- Howard, A. and Bray, D. (1988), *Managerial Lives in Transition: Advancing Age and Changing Times*, Guilford Press, New York, NY.
- Kolb, D.A. (1984), *Experiential Learning: Experience as the Source of Learning and Development*, Prentice-Hall, Englewood Cliffs, NJ.
- Kotter, J.P. (1982), *The General Managers*, Free Press, New York, NY.
- Kridel, J. (1998), personal communication from the Director of Professional Development Programs for the AACSB, St Louis, MO.
- Luthans, F., Hodgetts, R.M. and Rosenkrantz, S.A. (1988), *Real Managers*, Ballinger Press, Cambridge, MA.
- Mentkowski, M. (2000), *Learning that Lasts: Integrating Learning, Development, and Performance in College and Beyond*, Jossey-Bass, San Francisco, CA.
- Mentkowski, M., Rogers, G., Deemer, D., Ben-Ur, T., Reisetter, J., Rickards, W. and Talbott, M. (1991), "Understanding abilities, learning and development through college outcome studies: what can we expect from higher education assessment?", paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- Pascarella, E.T. and Terenzini, P.T. (1991), *How College Affects Students: Findings and Insights from Twenty Years of Research*, Jossey-Bass, San Francisco, CA.
- Porter, L. and McKibbin, L. (1988), *Management Education and Development: Drift or Thrust into the 21st Century?*, McGraw-Hill, New York, NY.
- Rhee, K. (1997), "Journey of discovery: a longitudinal study of learning during a graduate professional program", unpublished dissertation, Case Western Reserve University, Cleveland, OH.
- Specht, L. and Sandlin, P. (1991), "The differential effects of experiential learning activities and traditional lecture classes in accounting", *Simulations and Gaming*, Vol. 22 No. 2, pp. 196-210.
- Spencer, L.M. Jr and Spencer, S.M. (1993), *Competence at Work: Models for Superior Performance*, John Wiley & Sons, New York, NY.
- Thornton, G.C. III and Byham, W.C. (1982), *Assessment Centers and Managerial Performance*, Academic Press, New York, NY.
- Winter, D.G., McClelland, D.C. and Stewart, A.J. (1981), *A New Case for the Liberal Arts: Assessing Institutional Goals and Student Development*, Jossey-Bass, San Francisco, CA.

Further reading

- Ballou, R., Bowers, D., Boyatzis, R.E. and Kolb, D.A. (1999), "Fellowship in lifelong learning: an executive development program for advanced professionals", *Journal of Management Education*, Vol. 23 No. 4, pp. 338-54.

Barlow, D.H. (1988), *Anxiety and Disorders: The Nature and Treatment of Anxiety and Panic*, The Guilford Press, New York, NY.

Dewey, J. (1938), *Experience and Education*, Kappa Delta Pi Series, Collier Books, London.

Leonard, D. (1996), "The impact of learning goals on self-directed change in management development and education", unpublished doctoral dissertation, Case Western Reserve University, Cleveland, OH.

Wheeler, J.V. (1999), "The impact of social environments on self-directed change and learning", unpublished doctoral dissertation, Case Western Reserve University, Cleveland, OH.

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