Appendix A

REPORT: NEEDS ASSESSMENT FOR EDUCATION LEADERSHIP DEVELOPMENT

Executive Summary

Faculty shortages threaten the future of physical therapist and physical therapist assistant education programs. Based on the mean age of current Program Administrators, it is expected that there may be a large turnover of education program leadership within the next 5-10 years. APTA convened a consultant group to investigate the need for continued focused leadership programs within physical therapy education in an effort to address potential issues related to future qualified leaders. This effort is consistent with Goals 11 and 5 of APTA's Education Strategic Plan.

A review of the literature suggests that leadership development programs are important for the future success of any profession/organization. Educational Leadership Institutes appear to be effective in developing educational leaders. The consultant group performed a needs assessment and the following information was obtained:

- A majority (57%) of respondents reported interest in an educational leadership institute.
- Eighty-four percent (84%) of respondents indicated a desire for a blended approach to content delivery, including online and on-site educational experiences.
- Eighty-three percent (83%) of respondents reported that the total cost of an educational leadership program range from $500-$2500 with most respondents recommending a shared responsibility for the cost of the program (cost shared between the individual, institution, and APTA).
- The survey sampling included physical therapist and physical therapist assistant program directors, academic faculty, ACCEs/DCEs, and clinical residency and fellowship directors from most states and all regions of the United States.

The consultant group has prepared the following draft report for the APTA to provide documented information about the need and interest for an educational leadership institute. The success of this institute would require the inclusion of educational leaders within the Education Section of APTA and the Academic Administrators Special Interest Group (AASIG) for content development and delivery with involvement of other interested parties/groups as relevant.

Preamble

Faculty shortages in physical therapy are threatening the capacity of the health professions educational infrastructure as reported by Academic Health Center CEOs[1]. This along with other compelling evidence supports the need for expanded leadership development within physical therapy education. The need for increased capacity of well-trained faculty is substantiated by workforce data, physical therapy program leadership demographics, anecdotal evidence derived from a large cross-section of stakeholders including the Education Section, AASIG, CAPTE, Academic/Clinical Education Affairs, and contemporary literature addressing global trends in higher education.

Recently, there has been a growing concern over the ever-increasing reports of a workforce shortage in healthcare and the physical therapy profession. A workforce shortage will require greater demands on the education community to produce increased numbers of qualified health care practitioners, specifically physical therapists and physical therapist assistants to meet this demand. Hence, the need for well-qualified faculty will increase as workforce shortages grow. The Department of Labor [2] reports that health care will generate 3 million new jobs between 2006 and 2016, more than any other industry. They attribute the growth to the increasing number of people in older age groups who are the largest consumers of health care,

technological advances that increase the survival rates of severely injured or ill people, and the shift from inpatient to less expensive outpatient and home health care.

For physical therapists and physical therapist assistants, recent evidence suggests that we are currently in a workforce shortage. Vacancy and turnover rates have been published in the literature, demonstrating relatively high rates (Table 1).

	Vacancy Rate (%)		*Turnover rate (%)*		
State	*PT*	*PTA*	*PT*	*PTA*	*year*
Alaska [3]	16.5	28.6	nr	nr	2007
Florida [4]	12	nr	8	nr	2006
Maryland [5]	18.5	12.6	14.5	12.1	2005
New York [6]	9.9	nr	12.8	nr	2007
North Carolina [7]	26	8	nr	nr	2006
Pennsylvania[8]	10.7	nr	nr	nr	2005
Rhode Island[9]	6.3	12.2	nr	nr	2004

Table 1: Vacancy and Turnover rates for Physical Therapists (PT) and Physical Therapist Assistants (PTA) (nr: not reported)

In addition, further evidence suggests that vacancy and turnover rates are increasing. The *Maryland Hospital Association 2005 Annual Survey*[5] of 50 hospitals reported that the physical therapist vacancy rate went from 10.2 % in 2003, to 16.2% in 2004, to 18.5% in 2005. This represents one of the largest growths in vacancy rates for all health care workers for that state. Interestingly, the average time to fill the open vacancy increased for physical therapists from 53.3 days in 2003 to 55.5 days in 2005. Likewise, vacancy rates grew for PTAs although less sharply from 10.3% in 2003, to 12.1% in 2004, to 12.6 in 2005. The time to fill those positions increased from 34.4 days in 2003 to 43.1 days in 2005.

Variations exist in practice settings and geographical regions. In the *North Carolina: Allied Health Job Vacancy Tracking Report*[7], the vacancy rate for physical therapists in hospital settings was reported as 21% and in home health was 13%, yet for private practices the vacancy rate was only 7%. Physical Therapist Assistants vacancy rate was highest in rehabilitation centers (19%), followed by the hospital setting (16%), and then long term care institutions (13%). The American Physical Therapy Association[10-12] performed a national survey of acute care hospitals, skilled nursing facilities, and outpatient private practices to determine vacancy and turnover rates. Again, significant practice setting variations were reported. For acute care institutions, the vacancy rate for physical therapists was 13.8% and 12% for physical therapist assistants. The turnover rate in the same setting for full-time physical therapists was 15.9%. For skilled nursing facilities, the full-time physical therapist vacancy rate was 18.6% and 16.6% for physical therapist assistants. Alarmingly, the turnover rates were highest among full-time physical therapists at 85.2% with turnover rates of 82.4% among full-time PTAs. In addition, the time to fill these positions was significantly different with more than 7% of respondents indicating that it has taken them 10 years to fill a position. In outpatient private practices, the vacancy rates were lower compared to acute care institutions and SNFs and were reported as 13.1% for full-time physical therapists, and 8.8% for physical therapist assistants.

In examining current data from the 2007 Annual Accreditation Report[13], PT program directors' mean age is 53.8 years (range = 36-77 years) while PTA program directors' mean age is 48.8

years (range = 31-77 years). By 2010, 31% of PT program directors will be 60 years or older, which raises a concern about the need for succession planning and the development of new program directors. Additionally, 45% of PT program directors and 41% of PTA program directors are within the first 5 years of their current position. This number includes new program directors as well as program directors in new roles, which further reinforces the need for ongoing program director development.

Anecdotal evidence about the number of faculty vacancies and the length of time required to fill those positions suggests a need for an increased number of qualified faculty, program directors, and leaders in physical therapy education. This need for an increase in the number of faculty members is further reinforced by the fact that 33 new PTA and 2 new DPT programs are currently being developed.[14] In addition, academic programs report a slight increase in planned class size, especially in DPT programs. Pressure to increase class size is accentuated by the increasing number of qualified applicants to these programs. With increases in class sizes comes the need for additional faculty.[13] As program expansion and rapid turnover in physical therapy education leadership occurs, opportunities for developing critical mentoring relationships among available existing faculty and program directors is more limited than it has ever been. Feedback from novice program directors indicates the desire for enhanced skill development in program management, assessment, and leadership. The Education Section provides a new Faculty Development workshop that has been successful, however, continued advancement in the role of faculty as leaders is recognized as an ongoing need.

Review of the Literature

Leadership development is a challenge in contemporary society in which the leadership paradigm is changing. This change includes demands for future leaders to address the dynamic needs and demographics of learners, changing relationships with colleagues, new pressures on higher education, advancing technology, and the influence of global economy and learning communities.[15] A commonly accepted approach to leadership development is the creation of education leadership institutes. Model examples are offered by many health professions such as Medicine (AAMC)[16], Dentistry (ADEA)[17], and Speech-language-hearing pathology (ASHA)[18].

Urgency for Leadership Development

Consider that past measures of success in higher education may not be predictive of future successes. Margaret Wheatley[19] describes leading in a changing society. She suggests there is a paradox…gaining clarity about who we are as a group creates freedom that benefits the individual's contributions while enhancing the capacity for the organization. Wheatley emphasizes that to develop organizations of greater and enduring capacity; we must rely on the individuals within that organization by encouraging their creativity and commitment necessitating a change in how we lead.

Likewise, leadership development should be considered broadly within the context of higher education as it relates to state and federal government, local community, university and governing boards, and higher education administrators and faculty.[20] Leaders within higher education must provide the initiative, in conjunction with an array of other stakeholders, to create a stronger sense of community to meet the educational needs of learners in the 21st century. In addition to increasing costs, the public has grown largely disgruntled with the lack of measurable outcomes in higher education, fostering a sense of urgency for higher education to remain accountable.[21] Evidence for quality education stems from a lack of consensus on what constitutes evidence, let alone what constitutes quality. To meet challenges of the 21st century, higher education must change from a system primarily based on reputation to one based on outcomes performance. Higher education is challenged to create a robust culture of

accountability and transparency. These concerns are becoming increasingly more important to educational leaders in health professions including physical therapy.

The US ranks 12th among major industrialized countries in higher education degree attainment, a strong indicator of this nation's shortfall in higher education.[15] Given global competition in higher education, and the fact that a nation's wealth will be measured in part, by its intellectual capital and the capacity to educate, attract, and retain citizens, higher education and its leadership must be able to work smarter, learn faster, create new alignments, be active in public policy, and provide evidence of ongoing change.[21] Higher education as a mature enterprise is risk averse and slow to change. It is slow to address the need for transforming programs and institutions to address our knowledge economy, rapidly evolving technologies, increasingly diverse and aging population, and a contemporary marketplace with new needs and new paradigms. The call is that higher education demonstrate greater flexibility and innovation to accommodate the needs of new learners.[15]

To enable higher education to demonstrate change will require capable leaders developed within our educational ranks. Leaders in physical therapy must work seamlessly with other leaders across the institution and be pioneers and ambassadors for a changing vision within higher education. When leaders embrace a culture of continuous innovation and quality improvement and risk developing new pedagogies, curricula, and technologies to improve learning, learners will have access to high quality and affordable education and lifelong learning opportunities.

Leadership Program

Contemporary leadership involves widely distributing responsibilities widely among members of a group rather than defining them by hierarchical positions, control, command, or personal characteristics. Distributing accountability results in greater efficiency and reduction in overall costs.[22,23] Ford[10] describes four roles for the contemporary leader – direction setter, change agent, spokesperson, and coach. Additionally, contemporary leaders are visionary and have the capacity to think in the longer term beyond the day's.[22,23]

Leaders may occupy many roles in higher education, not simply those "at the top". The issues most organizations face today demand an expansion of the definition of leadership to include those not traditionally labeled as "leaders". With increasing change, a demand for multi-factorial leadership behaviors is required of many rather than a few. A new definition of leadership describes a process rather than people. In today's world, there is a difference in the roles of a "positional leader" versus "leaders as students of organizational behavior and change". Leaders empower others, are egoless, allow others to do what they aspire and what they need to do with the assistance of the leader.[22]

Leadership development programs should consider:

- development of leadership behaviors rather than the organizational position or personal characteristics,
- facilitating distributed accountability for facing and resolving mutual challenges,
- refusal to create human casualties among a few so that many are not inconvenienced,
- facilitation and protection of both organizational and individual health, and
- fostering learning at all levels.[22]

Leadership succession, the challenge of letting go, moving on, and planning for one's own obsolescence, is the last challenge. Sustainable leadership is not achieved by charismatic

leaders but rather spreads beyond individuals in chains of influence that connect the actions of leaders to their predecessors and successors.[23]

Education Leadership Institutes

Given the information about leadership development and leadership programs, one of the more effective and popular approaches that higher education and health professions rely on to develop educational leaders are *leadership development institutes*. Some of the more prominent programs include Higher Education Resource Services Wellesley Institute (HERS), Harvard Institute for Higher Education, Executive Leadership in Academic Medicine (ELAM), Center for Creative Leadership, AAMC Institute for Senior Women in Medicine, AAMC Institute for Department Chairs and Associated Deans, Harvard Program on Conflict Resolution and Negotiation, and ADEA Leadership Development, and Leadership Education in Neurodevelopmental and Related Disabilities (LEND), etc. These programs have been successful and offer models that can be modified and customized to meet the needs of physical therapy.

In comparing our examination of the above literature with the results of the 2008 APTA Education Leadership Institute Survey, the data is rich with evidence of the need for leadership development in physical therapy education.

Purpose of the Needs Assessment

Given the information provided above, the ever-changing academic and health care environments, and the rapid evolution of our profession it is essential for the profession to urgently address current and future educational leadership needs. This evidence correlates with two specific goals of APTA's Education Strategic Plan, developed by education community stakeholders to address the issues of education leadership. These specific goals are:

- Goal 11: Develop leaders in physical therapy academic and clinical education and research with established roles and influence in prominent national and international agencies.
- Goal 5: Advocate for the physical therapy educational community in the context of social, governmental and regulatory practices and policies.

In response to the above goals and concerns raised by the education community (particularly with respect to the current faculty and potential program director shortage), a Consultant Group was formed. The aims of this group are to clarify further the current and future leadership needs within the education community and to identify strategies to respond to those needs. The consultant group represents individuals with diverse experiences, from varied academic environments (geographic, private/public, research intensive/teaching intensive), and different roles (program administrators, academic faculty members), including both PT and PTA stakeholders.

The Consultant Group first convened in November 2007 to review pertinent literature, available data, and leadership programs for other health professions faculty. Although needs were identified, additional information was required. Discussion turned to identifying the purpose, goals, needs, structure, potential educator expectations, challenges, and important collaborative relationships necessary for leadership development in physical therapy education.

In addition, the group identified certain assumptions to be considered in developing appropriate strategies to address identified needs. Strategies should:

- foster participation and input from the education community (both from within physical therapy and within the global education community at large).

- support activities or offerings of APTA's Education Section.
- be sufficiently broad to allow individuals, regardless of their role, to benefit from leadership training.
- be visionary and address leadership throughout one's career in education.
- prepare physical therapy educators to be involved in strategic partnerships and alliances with internal and external stakeholders.
- prepare faculty to lead physical therapy education toward greater influence and leverage within higher education.

Based on the group's initial discussion, it was determined that a needs assessment would be beneficial for identifying the preferences of the physical therapy education community for structure and content of a leadership program. In spring 2008, a web-based survey was sent to all PT and PTA program directors (N= 447) with a request to share with their deans and PT and PTA academic faculty. In addition, the survey was sent to all PT and PTA ACCE/DCE, CAPTE Commissioners and Non-PT Site Visitors (N= 68), and clinical residency (N=38) and fellowship directors (N=21).

A review of the survey results supports the anecdotal evidence and the literature that there is a need for a leadership development program. It is also clear that the focus of this type of program would need to be expansive requiring the involvement of multiple existing content expert groups. We provide the survey summary below in an effort to create a framework for discussion about collaborative efforts to meet the leadership development needs of physical therapy educators.

Results of the Needs Assessment Survey on an Education Leadership Institute

Results are organized by the following sections

- Respondent demographics
- Needs assessment
- Participation or interest
- Preferred program structure and format
- Costs and institutional support

Demographics

Program directors, academic faculty, ACCEs/DCEs, clinical fellowship and residency directors/educators, and CAPTE commissioners and non-PT site visitors were invited to complete a web-based survey on the education leadership institute faculty needs assessment.

A total of 282 responses were received from 105 Program Directors, 94 Academic Faculty, 40 ACCE/DCE, 15 Clinical Residency Directors/Educators, 5 Clinical Fellowship Directors/Educators, and 14 other (not applicable). In aggregate, respondents to the survey represent 46 states/jurisdictions (71% female; 29% male). Age of respondents ranged from 20 to 69 years with a median age range from 50-59. The primary role of respondents was that of program director with faculty status of either assistant or associate professor. Respondents included physical therapists (90%), physical therapist assistants (6%) and other (4%). The majority of respondents teach in a physical therapist professional program (64%). Forty-four percent of respondents have been involved in academic education for 6-15 years with 31% of respondents have been in their current position for one to five years. Consistent with CAPTE data, survey respondents reported that 45% of PT program directors and 41% of PTA program directors are within the first 5 years of their current position. Forty-two percent of respondents

have completed a PhD or equivalent degree. Fifty-six percent of respondents served in the role of program director or chair with an additional 21% of respondents stating they would consider serving in the role of program director or chair. Ninety-three percent of respondents have served as an academic faculty member with another three percent stating they would consider serving in the role of academic faculty. Sixty-five percent of respondents reported they never participated in a leadership development program.

Needs Assessment

The survey asked respondents to rate the importance of 55 skills/attributes associated with leadership and higher education to physical therapy educators using a Likert scale ranging from 1=Not at all important to 4=Very important.

The topic areas identified as "Important" to "Very Important" by **≥90%** of the respondents were:

- Advocacy (within and external to an organization)
- Building collaborative partnerships, alliances, and networks
- Business and financial management in education including alignment of faculty and financial resources
- Characteristics of effective leaders
- Communication styles and understanding how to influence
- Creating mentoring programs and relationships
- Curriculum design for a contemporary society*
- Facilitating academic excellence in faculty (teaching, service, and scholarship)
- Faculty identification and development (i.e., new, adjunct, and current)
- How to lead and facilitate change
- Identifying emerging opportunities and challenges
- Moving an organization from "good to great"
- Negotiation and conflict resolution
- Program evaluation and outcome measures
- Recruitment and retention*
- Quality improvement and accreditation
- Strategic planning and team building
- Strategic thinking and decision-making

*Identified by Program Directors Only

The topic areas identified as "Important" to "Very Important" by 75%-89.9% of the respondents were:

- Changing the culture of physical therapy within the academy
- Communication and media relations
- Creating mentoring programs and relationships
- Cultural competence in physical therapy education
- Curriculum design for a contemporary society*
- Delegation
- Developing policy and procedures
- Embracing evaluation
- Entrepreneurial thinking
- Finding balance in professional and personal life (stress, burnout, and renewal)
- Fundamental principles of human behavior associated with leadership development
- Higher education structure
- Interacting with the next generation of learners

- Leadership (theory, application, assessment) versus management (theory, application, and assessment)
- Leading meetings
- Legal, ethical, and regulatory issues in higher education
- Linking leadership development to physical therapy and higher education
- Maintaining credibility
- Managing faculty workload
- Managing and taking risks
- Motivational strategies
- Organizational behavior and development/group dynamics
- Partnership and collaboration
- Perils and pitfalls in leadership
- Public relations and marketing
- Recruitment and retention*
- Reflection and self-assessment
- Technology in education
- Walk the talk – modeling

*Identified by the Aggregate Group Only

The topic areas identified as "Important" to "Very Important" by 50%-74.9% of the respondents were:

- Benefits and rewards of leadership
- Entrepreneurial thinking
- Fundraising
- Higher education structure
- Making your personal development active and functional
- Personal and interpersonal growth and development
- Succession planning
- Tapping into the right brain; thinking creatively
- Visionary and global thinking
- What is failure in academia?
- When to celebrate small successes

The topic areas identified as being "Important" to "Very Important" by <50% of the respondents were:

- Gender-based leadership issues
- Global environment

<u>Preferred Program Structure and Format</u>

Eighty-four percent of respondents indicated a desire for a blended curricular approach, incorporating both online and on-site educational experiences. Most respondents recommended a combination of synchronous and asynchronous online experiences. With regard to the on-site component, the majority of respondents chose two to four on-site sessions. Seventy-six percent of respondents selected three to five days as the optimal length of each session. Forty percent of respondents preferred that the onsite component of a leadership program be offered in conjunction with national APTA conferences; while 40% preferred separate onsite leadership experiences. Ninety-seven percent of respondents indicated a leadership program should be less than a year in length. When asked "what should be offered at the completion of the institute," the majority of respondents selected continuing education units and a certificate of completion.

Participation or Interest

Fifty-seven percent of respondents indicated that they would be interested in participating in an educational leadership institute if offered.

Costs and Institutional Support

Thirty-one percent of respondents indicated they might be interested in participating in a program with qualifying comments indicating cost, format and curriculum content would need to be defined before making that determination. Eighty-three percent of respondents reported that total costs of an educational leadership development program should range from $500-$2500, with many accepting shared responsibility for cost. Sixty percent of respondents indicated they were willing to share in the cost of a leadership program (25% individual; 50% institution; 25% APTA). Forty-seven percent of individuals indicated their academic program would be willing to share in the cost of the program with 47% of respondents indicating their academic program might be interested in covering a portion of the cost of the program after considerations of budget and cost, format and curriculum content.

Given the information that has been provided regarding evidence, literature, and data in support of a leadership development program, the following questions are raised as a springboard to begin our discussion**.**

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Appendix A

Discussion Questions in Developing Curriculum

1. Are there additional questions that need to be posed or topics that need to be addressed to respond to the community's needs and to the contemporary literature?
2. How would you set priorities for curricular content?
3. Can these topics be categorized?
4. What strategies are available to respond to these needs?
5. How might we partner/collaborate and with whom would we partner to respond to the education community's need?
6. What resources are available to respond to these needs?
7. What outcomes would you like to see achieved?
8. What are the next steps and approaches to respond to these needs?

Appendix A

References

1. Moskowitz, MC. Academic Health Center CEOS Say Faculty Shortages Major Problem. *Association of Academic Health Centers*, 2007, accessed July 15, 2008: http://www.aahcdc.org/policy/reports/AAHC_Faculty_Shortages.pdf
2. Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2008-09 Edition*, Health Care, http://www.bls.gov/oco/cg/cgs035.htm
3. Alaska Center for Rural Health – Alaska's AHEC. 2007 Alaska Health Workforce Vacancy Study Research Summary. http://nursing.uaa.alaska.edu/acrh/index_downloads/workforce-summary_final.pdf, accessed September 16, 2008.
4. Florida Hospital Association. 2006 Workforce Staffing Survey Findings. http://www.fha.org/06nursestaffingreport.pdf, accessed September 16, 2008.
5. Maryland Hospital Association. MHA Hospital Personnel Survey Calendar Year 2005. http://www.mdhospitals.org/mha/News_Publications/Press_Releases/2006/MHA_Hospital_Personnel_Survey.2005.pdf, accessed September 16, 2008.
6. Healthcare Association of New York State. Falling Short: A Workforce in Decline. Workforce Advocacy Survey Results. Nursing and Allied Health Professionals. http://www.hanys.org/members_only/workforce/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=114215, accessed September 16, 2008.
7. Fraher Erin P, Summers Phillip, Gaul Katie, Rutledge Stephen. Allied Health Job Vacancy Tracking Report. http://www.shepscenter.unc.edu/hp/publications/AHvacancy_fall06.pdf, accessed September 16, 2008.
8. The Hospital & Healthsystem Association of Pennsylvania. Facts About Pennsylvania's Allied Health Workforce. http://www.pennsylvaniaprosperity.org/hap/allied.pdf, accessed September 16, 2008.
9. Labor Market Information Unit. Rhode Island Department of Labor and Training. Rhode Island Job Vacancy Survey, Spring 2008. Summary Results from the Health Care & Social Assistance Job Vacancy Survey. http://www.dlt.ri.gov/lmi/pdf/hcsasummary.pdf, accessed September 16, 2008.
10. American Physical Therapy Association. Physical Therapy Workforce Project: Physical Therapy Vacancy and Turnover Rates in Skilled Nursing Facilities. http://www.apta.org/AM/Template.cfm?Section=Research&CONTENTID=47294&TEMPLATE=/CM/ContentDisplay.cfm, accessed September 16, 2008.
11. American Physical Therapy Association. Physical Therapy Workforce Project: Physical Therapy Vacancy and Turnover Rates in Outpatient Private Practices. http://www.apta.org/AM/Template.cfm?Section=Research&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=48979, accessed September 16, 2008.
12. American Physical Therapy Association. Physical Therapy Workforce Project: Physical Therapy Vacancy and Turnover Rates in Acute Care Hospitals. February 28, 2008. http://www.apta.org/AM/Template.cfm?Section=Physical_Therapy_Workforce&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=46601, accessed September 16, 2008.
13. Mary Jane Harris. Department of Accreditation. 2007 Annual Accreditation Report. Alexandria, VA. July 15, 2008.
14. Department of Accreditation. Number of PT and PTA Programs, July 8, 2008. accessed: http://www.apta.org/AM/Template.cfm?Section=CAPTE3&CONTENTID=45221&TEMPLATE=/CM/ContentDisplay.cfm
15. US Department of Education. A test of leadership. Charting the future of US higher education. *A Report of the Commission Appointed by Secretary of Education Margaret*

Spellings. Washington, DC. 2006. http://www.ed.gov/about/bdscomm/list/hiedfuture/reports/final-report.pdf
16. Association of American Medical Colleges. National Leadership Development Programs – Faculty Development and Leadership Programs. Washington, DC May 2005. http://www.aamc.org/members/facultydev/
17. American Dental Education Association. ADEA Leadership Institute. Washington, DC http://www.adea.org/ADEALeadershipInstitute/Pages/About%20the%20ADEA%20Leadership%20Institute.aspx
18. American Speech-Language-Hearing Association. Leadership Development Institute. Rockville, MD. 2007. http://www.asha.org/about/publications/leader-online/archives/2008/080122/080122f.htm
19. Wheatley M, Goodbye, Command and Control, *Leader to Leader*, July 1997. Accessed: http://www.margaretwheatley.com/articles/goodbyecommand.html
20. The National Center for Public Policy and Higher Education. *Engaging higher education in societal challenges of the 21st century.* April 2008:1-11.
21. Isaacson N, Ford PJ. Leadership, accountability, and wellness in organization. *Journal of Physical Therapy Education*. 1998;12(3):31-38.
22. Edmonds MM. The call for nurturing leaders for the rapidly changing, diverse, global society of the 21st century. *Journal of Physical Therapy Education*. 1998;12(3):39-46.
23. Hargreaves A, Fink D. The seven principles of sustainable leadership. International Centre for Education Change. Ontario Institute for Studies in Education. University of Toronto. 2003.